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CHAPTER I

HIGHER EDUCATION

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CONTENTS.—Human product of the colleges—High schools and the colleges—College cooperation and consolidation—Special periods and services—College religious and social life—Improvement of instruction—Research and graduate work—Financing higher education

HUMAN PRODUCT OF THE COLLEGES

The manufacturer shapes his raw material in order to create a product that will meet a definite demand. He modifies his product in quick response to changes in demand and tries to anticipate such changes whenever this is possible. He markets his product himself or through a related organization. To insure proper use and to make repairs in case of breakdown, he "services" it after it is in the hands of the consumer. In other words, the business process is controlled by the necessity of getting the product into use and by its behavior in use.

The colleges, which by analogy may be regarded as manufacturers of a human product, have in the past largely neglected many of these processes. They have, to a large extent, contented themselves with shaping their materials by traditional patterns. They have not been highly sensitive to the fact when these patterns became or threatened to become obsolete. Even in the professions and technical fields of education relatively less attention has been paid to the life occupation of students than the manufacturer pays to the services that his product will render. The arts college has frequently repudiated all concern with the means by which its graduates shall earn their living. More important still, the colleges have seldom studied the society in which the student will live in order to determine the elements of knowledge and character which, in his world, will make for personal happiness, rich experience, and social usefulness. They have rested content in the faith that studies derived from the medieval period are still necessary to make life useful and happy in an age of cheap printing, swift transportation, machine production, and universal public education.

There would be no excuse for these statements in a survey of recent tendencies in higher education if it were not clear that the colleges and universities are now recognizing these facts and are taking measures to adjust their work to present conditions of living and of employment.

University leaders themselves are most emphatic in the statement of their realization of these maladjustments. Dean Hawkes, of Columbia University, for instance, sums up his critical judgment of colleges: "There is no doubt in my mind that the American college has failed more signally in relating the student's education to the kind of life that he is going to live than in any other direction." President Hall, of the University of Oregon, in his study of the relations of the university to the State, reports: "I repeatedly encountered criticism from our alumni that we were not doing our full duty by them in helping to locate them in positions when they graduated and in helping the men located in backward communities into better jobs after they have developed their capacity for promotion." Expressions of this kind might be multiplied, and analysis would show that they are almost equally divided between the obligation of the college to train and place its graduates in positions where they may earn a living and the responsibility of the college to provide these graduates with the knowledge and attitudes of mind which will make their lives full and useful in any community in which their lot is cast.

It is easily possible to prove, backward as the colleges have been in realizing their full usefulness, that four years of college work will enable the college graduate to make many thousands of dollars more during his life than the high-school graduate can make. This fact, however, is of no more significance than if the manufacturer should state that his profits were \$100,000 a year when they might have been \$1,000,000 if he had improved the usefulness of his product, his marketing methods, and the service given after the product was sold. Colleges are therefore now beginning to study seriously the world in which their graduates will live in order to prepare them better to earn their livelihood in that world, and to adjust themselves happily and usefully from the personal and social standpoints.

Everywhere increased interest is being manifested in the life occupations of students. Washington and Lee, to choose but one example, has made a case study of the choices of occupation by its students and the modification of these choices that result from college training. The New York College of Agriculture of Cornell University, the Minnesota College of Agriculture, and Iowa State College have recently made careful studies of the occupations of their graduates, in order to measure, to a degree, the suitability of the educational program to life interest after graduation. No element

of the survey of the land-grant colleges, now being conducted by the Bureau of Education, has attracted more attention and hearty cooperation from the institutions than the portion dealing with the occupational history of their graduates and ex-students. This interest may, in part, arise from the desire of the institutions to justify what they have been doing, but in large part it comes from the hope that a careful study of these matters may serve to direct emphasis in the construction of educational programs.

Such studies are open, of course, to the charge that educational processes lag behind shifts in occupational activity, that the program to be most useful must anticipate demand for services by the world in which the students will live. Nevertheless, it is characteristic of progressive thought in the higher educational world that it is keenly desirous of harmonizing its activities with the practical and social situations of the world outside college walls.

Placement and employment services have, of course, been offered by the colleges in more or less haphazard fashion for many years. Systematic services of this kind are now developing at a precipitant rate. Such services, even though highly developed and rendering excellent aid, may be carried on without any reference to the educational program. The process may consist merely of attempting to find positions for the product as it is, without any apparent effort to modify the process or the form of the educational offering to meet the needs of the positions in which graduates are placed. It is, therefore, especially significant that, in many instances, educational and vocational guidance and placement of students are being closely related to the activities of the college curriculum. Such efforts range from the attenuated relations implied by the creation by Middlebury College of a new office which combines the functions of director of admissions and alumni secretary to the formation of bureaus similar to the bureau of educational records and guidance at the University of Wisconsin. President Frank, of the University of Wisconsin, describes the purposes of this bureau as follows:

The bureau of educational records and guidance will go beyond the mere keeping of grades to the assembling of a wide range of information respecting the life and work of the students as the background and basis for the development of an effective service of counsel and guidance to the students—an end that is not always achieved by the prevailing system of advisers.

The bureau likewise will be the assembly point for a richly detailed fund of information regarding the nature and results of the educational processes to which the students are subjected. This will provide facilities that will make it possible for the university to keep up a continuous study of the results of its enterprises and to take its own educational pulse.

The content of instruction given in the colleges, as well as in the lower schools, has been largely imposed upon students without any very real reference to the student's own conception of values. This

is perhaps unavoidable to a degree. On the other hand, the usefulness of much material studied is so remote and unreal that the colleges themselves have had difficulty in making out a case for it. An attempt was made at Vassar two years ago to determine why college students study. The most important factors were interest in the subject and realization of the value of the work for the future. No one doubts that understanding by the student of the economic and personal usefulness of his work would transform his attitude toward his college course. Since the colleges now wish to take advantage of this factor in the teaching process, we may expect further studies of the life activities of our present social order which will result in profound modifications of both curricula and methods.

Tendencies in this direction are evident here and there. The University of Michigan Medical School has developed a plan to attach medical students in the interval between the junior and senior years to practitioners, in somewhat the same relationship as apprentices to craftsmen. Dean Cabot, of the medical school, makes it clear that the medical schools have emphasized the science of medicine from the standpoint of analyses by the chemist and bacteriologist and the physiologist, and have neglected the art which the product of the schools will be called upon to practice. They have neglected "the art by which the physician, in actual contact with the patient, estimates him as a personality rather than a laboratory animal and brings to bear upon his ailment the evidence of his senses, his judgment, and finally his scientific knowledge."

It is the attitude of the medical college rather than the specific device to which attention is here directed. A similar outlook is evident in studies made by the Iowa State College. Graduates of the engineering college were given full opportunity to criticize the education to which they had been subjected and to suggest means by which the educational program might be better adapted to the needs that they have found in actual experience. Such concern might be expected from work so definitely occupational as engineering, but similar inquiry has been made by the College of Liberal Arts of Boston University with reference to a program designed primarily to provide adjustment of personal life to society outside the occupational field.

Nor are the colleges content with increased concern over the occupational and personal needs which graduates will meet upon their entrance into the world outside. In the past the attitude of the colleges has been largely that while the student is on the campus the college owes a duty to him, but that upon graduation the relationship is reversed and the alumnus is under obligation to render service to his alma mater. At best during the college period there has been

a degree of mutual responsibility while thereafter it becomes a one-sided affair with the burden on the graduate. Colleges and universities are now recognizing that what they give the student during the years of undergraduate and graduate or professional residence is not a reservoir adequate for the needs of a lifetime. They are coming to recognition of their responsibility to the student after graduation and throughout his life.

University extension services have in the past given some educational aid to graduates. For many years the University of Wisconsin has offered postgraduate courses by extension to the medical men of the State. The regents of the University of Michigan plan by various means to keep practitioners in touch with the school and abreast of medical progress. The University of Minnesota has offered several intensive courses for dental practitioners. Similar aid through general extension has been given to graduates whose lives are not cast in the professional mold. But these services have never been systematically and consciously directed in all of the fields to which graduates go, for the purpose of maintaining the usefulness of the institution to students after they leave the campus. It is encouraging that the president of the University of Michigan announces a plan by which every alumnus shall be enrolled in something, and that the Carnegie Corporation has made a grant to the Adult Education Association to study thoroughly the obligations of the institution to the alumni.

Of necessity the facts cited in this discussion are scattered and incomplete, but anyone who has taken the pains to follow educational direction and administrative action during the past two years will recognize that one of the most important current tendencies in higher education is the desire to obliterate the sharp distinction between college life and life thereafter. The educational program is being directed to service continuously throughout the life of the alumnus. Higher institutions are becoming increasingly the source to which the alumnus turns when he discovers that he needs further training to improve his economic condition or to enrich his personal life.

HIGH SCHOOLS AND THE COLLEGES

It is as important that the college adjust itself to the life and education of the student before college entrance as that it shape its educational program to meet the economic and personal needs of the student after college graduation.

Not so many years ago by formal regulation and by general consent, the colleges dominated the high schools. Standards of admission were determined by the colleges and promulgated, theoretically at least, for the high schools to take or leave as they chose. We still

hear occasionally that colleges dictate to the public schools. As a matter of fact, this apparent dictation was never so serious as the formal requirements seemed to indicate. The colleges were so desirous of attendance that only in the most extreme cases did the formal requirements actually serve to exclude students. "Exceptional cases," special courses, preparatory departments, and "equivalents" provided an abundance of loopholes for admission. As college attendance has increased, this laxity in the enforcement of requirements has been stopped, and the requirements themselves made more exacting. The colleges are now in a position to refuse applicants, and they are doing so to a considerable extent.

The limitations of enrollment secured by various rules and selective processes are, however, by no means due solely to desire for educationally high standards. Before the present pressure for admission every new student meant an increase of income without a corresponding increase of expense. The point of diminishing returns has now been reached and in many instances the increase in student fees does not compensate for the increased cost to the institution. In other words, financial pressures and limitations rather than educational theory account for restrictions by the great majority of institutions. It is true that theoretical reasons have been set up, such as theories of the educational effectiveness of units of some specific size, but it may be doubtful whether these theories would be taken seriously if the expense item were not so ever present. Under these conditions a logical inference would be that the colleges might show a more decided desire than in the past to dominate the offerings of the high schools. Facts do not warrant this conclusion.

Failure to assume larger influence in controlling high-school offerings is largely due to the fact that the high schools themselves have become stronger, more self-reliant, more firmly entrenched as a respected and fundamental part of our social system. The professional spirit has developed in the secondary field to a remarkable degree. This spirit is based upon a high standard of technical knowledge concerning the teaching processes and the administration of schools. Practical experience and theoretical knowledge of educational problems are probably wider in the secondary field than in the college field. Secondary-school men no longer look upon the fact of college employment as evidence of superiority. High-school folk are more inclined to look to their own organizations and to the public department of education for aid and guidance than to accept college opinion as authoritative. An interesting example of this changed attitude of mind on the part of the public secondary schools is afforded by the recommendations of a committee of high-school men in Virginia. The group requested that "the college records of a particular high

school should operate as only one factor in the accrediting of the high school by the State board of education." In a further recommendation by the same group one may perhaps detect some reflection of resentment toward the common charge, formerly received humbly and as a matter of merited reproof, that college freshmen fail because of poor high-school preparation. This statement recommends "that the colleges having accepted high-school students on the basis of graduation from a public accredited high school shall assume responsibility therefor."

In brief, the high schools are better able than formerly to pursue their true task and responsibility of meeting a variety of objectives in the education of their pupils. Preparation for college is only one of these objectives.

Advances in elementary education, the firm establishment of public-secondary education, and the desire of the colleges to adjust their programs to the needs of the life which students will live have all contributed to lack of confidence in the old plan of 7 or 8 years in the grades, 4 years in high school, and 4 years in college. The entire educational organization from the sixth grade to the attainment of the master's degree is in process of readjustment. The reconstruction of this period of education now under way has theoretical and psychological bases, but practical and immediate necessities account for the fact that theory is being given an opportunity to express itself in actual reorganization. The development of the elementary schools, of the junior high schools, and of 3-year senior high schools has compelled readjustment of college entrance requirements. Even in the East among the conservative women's colleges this is true. Wellesley, in announcing a new plan of admission in 1925, stated, "the rapid development of the junior high school movement has been one of the considerations of the college in the adoption of a more flexible scheme of admission." Previous biennial surveys by the Bureau of Education have called attention to specific and widespread evidence of such adjustment. It is not necessary to repeat the facts again.

The junior-college movement, which takes away the first two years from the traditional four-year college course and assigns them to the secondary field, has been especially significant in making the college conscious of its responsibility to the high school. Theoretical considerations place the junior-college period and program in the secondary field. The Association of Junior Colleges has affiliated itself with the National Education Association in the Department of Secondary Education. Further, actual tendencies of development align the junior colleges with public-school authorities and incorporate them with the high schools as part of one secondary education period. The most significant fact in this growth is the rapid increase in the

number of students enrolled in junior colleges for purposes other than preparation for the university.

In spite of these factors which contribute to the dignity and independence of the public high school there is no indication of desire to repudiate as one of its obligations that of preparing students for college. This of necessity must be so when in States like South Carolina, two-thirds of the graduates of accredited high schools go to higher institutions. On the other hand, the college is more willing than formerly to meet to the full limits of its abilities, the situations created by high-school determination and the obligation to accomplish its own independent purposes. The tendency is to seek common consideration of the problems of college and high-school relationships with full recognition that adjustment to high-school conditions must in large part be made by the college. This attitude is reflected in such studies as that made of the records of high-school students entering Georgia colleges and normal schools and published by the University of Georgia at the request of the Georgia College Association. The report is designed to enable high schools to determine in what departments their students show up best and weakest in their college work. But it is at the same time careful to point out that college faculties may secure aid in determining whether the work required of freshmen is above or below the normal working capacity of high-school graduates and to indicate the possibility of other adjustments to the needs of the high-school product when it is received in college. In Michigan the university has welcomed and is cooperating actively with a committee of the high-school teachers' division of the Michigan State Teachers' Association, in considering modification of the university's admission system. We have such developments as that of the bureau of school service of the University of Kentucky, under the direction of Dr. Floyd W. Reeves, designed to assist the public schools, and doubtless also hoping to learn from them. Altogether the biennium shows a much better relationship developing between the colleges and the high schools than would be expected if the independent position attained by the colleges by reason of the large number of applicants for admission were alone considered.

Although the colleges find themselves in a position where they feel that they must limit attendance, and although this limitation may take the form of setting a definite maximum enrollment and imposing selective processes in addition to submission of the ordinary 15 or 16 units of high-school credit, the colleges are attempting on the whole to enforce these restrictions in such a way as to contribute to, rather than to obstruct the attainment of high-school objectives.

During the biennium the number of colleges imposing arbitrary limitation of numbers has increased considerably. Whether such lim-

itation arises from financial stringency, as is most frequently the case, or from theories of an especially efficient size for the college unit, it is most common among private institutions. When this is true, selection of candidates is, of course, necessary if the number of applicants exceeds the limit set. This is frequently the case. Middlebury College, for instance, admitted in 1927 only 73 of 411 applicants. Although Middlebury College is an extreme example, admission of only one-half of those who apply is by no means uncommon. As a result, some concern has been felt lest educational opportunity is thus denied to capable and desirable students. Careful studies that have been made in New England and elsewhere tend to show, however, that these rejections are by no means as serious as they appear on the surface. Parents and students have heard so much of the difficulty of obtaining admission that they apply for entrance to several different colleges. In other words, the number of applications rejected by individual institutions is no real measure of the number of students excluded from college attendance.

Few public institutions set an arbitrary limit to the number that they will admit. Rhode Island State College, however, has been able to admit only one-half of the applicants under a rule imposed by financial necessity. The fact that all of the applicants measured up to the required 15 units is not regarded so seriously by public-school authorities in Rhode Island as it would be in the Middle West or Far West where the public is so thoroughly convinced of the State's obligation to provide higher education to those who satisfy the graduation requirements in the secondary field. State institutions apply selective processes much less willingly than is generally the case in private institutions. Dependence upon public taxation for support makes them more willing to accept the product of the public-school system, and in some States they are required to do so. Public taxation, of course, gives to these institutions an opportunity to increase resources more quickly than private institutions. Legislative authority must bear the burden of responsibility for failure to provide this opportunity for the citizens of the State. There is a decided difference, therefore, between the relationships of the high schools to an institution such as Vassar, for instance, and the relations to a public university such as that of Minnesota or Kansas. The president of Vassar can say what State university presidents would hesitate to proclaim—"Preparation for colleges like Vassar is so small a part of the total plan of study (in high school) that special arrangement can be made only with difficulty." Vassar indicates its desire to meet this situation by changing somewhat its admission requirements. The public institution desires and is compelled to organize curricula that will constitute a continuation of almost any high-school course. The public institution is making ad-

justments of its offerings constantly. The University of Akron presents an interesting example.

The graduates of the commercial curriculum of the city high schools in Akron had not been admitted to this municipally supported university because they did not have in their high-school work the regular college-entrance subjects. The university now proposes to meet this situation by establishing a number of short courses of study two or three years in length that will enable the graduate from the high-school commercial course to continue his work upon a college level. Such attempts to secure closer articulation with the needs of the local community, urban or State, frequently take the form of additional offerings outside the traditional 4-year college course.

One of the most interesting recommendations of the Virginia conference of secondary schools and colleges, called by the State department of education in 1927, has a direct bearing upon the coordination of high-school and college curricula. In effect the recommendation is that the colleges set up specific requirements for entrance into curricula rather than general requirements for entrance into college and that "only those requirements be made for entrance that are essential for successful progress in that curriculum." The decreasing conservatism of the colleges in limiting admission to those who satisfy traditional prerequisites is being accelerated by high-school demands such as one also made by the Virginia conference. The colleges are called upon to provide a general course, admission to which is not based on geometry, advanced algebra, and foreign language. Although in some of the middle western and western universities curricula of this character have been provided for some years, it is significant that the educationally conservative South should make a demand of this character. It doubtless reflects the infusion into an agricultural region of industrial and commercial life.

Those who are satisfied that present available methods of predicting success and of determining ability are conclusive regard careful selection of college students as essential. The selective processes used include intelligence tests, examinations, and investigations by personnel specialists, but actual admission is usually determined upon the basis of some arbitrary mathematical computation. A very common one is that of restricting admission to the upper quartile of the high-school class, but the process may become somewhat involved, similar to that of the University of Chicago, which adds to the high-school passing mark two-fifths of the difference between the passing mark and 100 per cent.

Many educators believe that failure to make careful selection of college students by these and other devices is unfair both to the

student and to the institution. President McVey, of the University of Kentucky, reflects this attitude in his statement that "the chaff must be winnowed out, else the entire system of higher education in the United States will break down." On the other hand, those who have less confidence in the final validity of our judgments based upon information now obtainable, view this tendency to selection with considerable disquiet. The president of Franklin and Marshall College, in describing the work of his own institution, says:

No attempt has been made to discriminate in the selection only of students of superior quality so as to eliminate or reject those who have been less fortunate in early training and opportunity, provided they meet the test of scholarship and character in the requirements for admission. The greatest danger in modern education is not that the gifted student may be dwarfed or hindered in his development, but rather that the one of mediocre ability may be neglected and not given a fair chance to stimulate all that is best in him. No college that is worthy of its privilege can arbitrarily drop those in the lower quarter who have acceptably passed the intellectual standards without shirking responsibility inherent in the charter of the institution.

President McVey represents a State university and the president of Franklin and Marshall College represents a private institution. These two quotations serve to emphasize that the difference of opinion is not one drawn upon public and private college lines. Alumni of the private colleges as well as of the public ones are beginning to resent exclusion in certain instances as going beyond all reason. Naturally they raise questions when they discover that their alma mater, as is true of one institution, has only 9.5 students per teacher and yet succeeds in graduating only 45 per cent of students admitted from the upper quartile of the high-school classes.

Few State university administrators are willing to place their institutions in the position of refusing to admit any very large number of graduates from accredited high schools. Nevertheless they recognize that in many cases four years of college may not be best for all who have qualified by a high-school course for admission to the university. In the past they have met this situation by the application of drastic and in some cases cruel processes of elimination after admission to the college. During the biennium a marked increase of dissatisfaction with this process may be observed in the comment of presidents and deans. The tendency is apparently to turn to the development of junior colleges or lower divisions and of other terminal curricula shorter than the traditional 4-year course, and to provide for the shifting of the students whom guidance programs failed originally to assign properly.

The outstanding tendencies with reference to high-school and college relations during the biennium have been recognition on the part of the colleges of the strength of the position of the public high schools, willingness to consider adjustments on the basis of facts

rather than upon the basis of theoretical or traditional curricula, and the cooperation of both high school and college in the creation of new units of organization and instruction in the field that lies between the junior high school and the senior college.

COLLEGE COOPERATION AND CONSOLIDATION

In harmony with the current desire of the colleges to conduct their work as part of one educational process with the high school and to look to the needs and desires of the outside world for guidance in the development of their educational programs are the closer cooperating relationships among the colleges themselves. One of the striking tendencies of the biennium is the increase of such cooperation.

Of course, there have always been contacts between colleges and cooperative activities through professional associations, through exchange of professors and students, and by means of interchange of publications. Recent tendencies, however, go further. In the past the association of colleges has consisted largely of common counsel for the purpose of deriving information and suggestions which each might carry back for the solution of its own problems. The tendency now seems increasingly to be toward association for the purpose of undertaking together common educational projects. In the past the competitive attitude has made it difficult to secure real cooperation for joint attack upon common objectives. Apparently there has developed recently greater desire to analyze the tasks of higher education in order to determine the responsibility of specific institutions for the performance of special functions and willingness to relinquish to and to assist other institutions in the performance of obligations outside chosen fields. The correspondence of the Bureau of Education indicates a striking growth of interest in these matters. In view of the frequent tendency of theses to lag behind actual movements in education it is perhaps especially significant that in the University of South Carolina, a Ph. D. thesis on the subject of consolidation of higher institutions is in course of preparation. The new spirit is expressed in cooperative ventures and in actual consolidation and affiliation of organizations.

It must no doubt be admitted that part of this cooperative attitude of the colleges has resulted from the abundance of student material and consequent financial pressure. But anyone familiar with the situation will recognize that changes in the entire educational organization from the elementary to the college period have contributed to this movement. Probably also the attitude and interest with reference to these matters are due in part to changes in the intellectual and social convictions of the college world. The view-

point is less individual. Scholarship cuts across and spreads over ever widening geographical and institutional areas.

It is impossible for colleges to avoid recognition of their common interest when studies like those of George R. Moon, of the University of Chicago, show that a large proportion of the students who drop out during the freshman year do so to attend other institutions; when the Western College for Women publishes the fact that its large losses at the end of the sophomore year are due to the desire of students to enter coeducational institutions; when all the colleges find that a large proportion of their students leave the regular college course at the end of the sophomore year to undertake specialization in their own institution or elsewhere. In the past, institutions have been preoccupied with attempts to prevent such shifting of students in order to preserve their own attendance at the largest possible number and to secure credit for carrying a large percentage of students through to completion. As soon, however, as the higher institutions recognize as a fact and as a desirable condition the possibility of accomplishing certain life objectives in less than four years, the values of wider student experience, and the impossibility for every institution to provide specialization in every field, the measure of the effectiveness of an institution ceases to be the proportion of its freshmen that it can graduate and becomes the ability of the program offered to meet the needs of the students it has.

It is necessary to mention but a few examples of cooperation between colleges and universities to indicate the spirit that controls a large proportion of our institutions at the present time. In Minnesota, 50 freshman scholarships are granted by the university, but these scholarships, under the regulations, need not be taken in the University of Minnesota. The university indicates to the high-school students entitled to receive the 50 scholarships that their purpose will be served quite as well if they attend any reputable higher institution of learning. In Ohio, 12 arts and science colleges in the State have an understanding with the Ohio State University whereby graduate work in certain fields is left to the university. Seven private women's colleges in the East combine to present the claims of women's colleges for financial support. Even on this most delicate subject of competition for funds there seems to be willingness to abide by the results of presentation of a common cause. Another striking instance is the case of Miami University and the Western College for Women. For various reasons, which in no way reflect upon the character of the work offered by these institutions, large numbers of students leave at the end of the sophomore year. As a result the upper classes in both institutions are small. Instruction in these classes, therefore, becomes expensive. The proposal has been made that certain classes be conducted in common, thus enabling each institution to reduce its

expenses without reducing the variety of its offerings or the excellent character of its instruction.

It is not the purpose of this statement to multiply examples of cooperation. Examination of the detailed history of higher education during the past few years will show that such arrangements have been increasing with regularity. Administrative devices have been invented for their accomplishment, and the scope of such arrangements extended to include matters that a few years ago would have been regarded as outside the field of cooperation.

It seems worth while to call attention somewhat more specifically to instances which indicate a tendency to actual consolidation and affiliation. The Bureau of Education issues annually a directory of colleges and universities. Each institution makes a report which is used in compiling this directory. The reports show that actual consolidations of institutions have been notably frequent during the past two years. Very little information has been available which would indicate the significance of these consolidations. In some cases, such as the consolidation of Newberry College and Sunderland College in South Carolina, it has been the purpose to meet the requirements of a regional association. Probably similar purposes have controlled the affiliations of the Missouri Wesleyan at Cameron, Mo., and Baker University at Baldwin, Kans., and that of Duchesne College and Creighton University. In some cases affiliations have taken place in order to secure concentration of resources. This is probably the case with Erskine College and the Woman's College of Due West, S. C.

More interesting than these examples of affiliation to meet formal standards or to increase financial strength are affiliations for specific educational purposes. Dental schools have frequently consolidated as a result of desire for higher standards and the wish to affiliate with medical schools. The example of the medical center idea, which brings together medical schools, hospitals, nursing schools, schools of dentistry and pharmacy, would seem to be spreading to other lines of activity. One interesting case of affiliation for a specific purpose is that of Western Reserve University and the Case School of Applied Science, which have jointly established an evening college in Cleveland to carry on adult and part-time activities. An affiliation for a similar purpose is that of the Sheffield Scientific School at Yale and the New Haven Branch of Northeastern University. Yale permits the use of classrooms and laboratories for the evening classes of the Northeastern University, thus serving its local community and furthering the interests of the other college.

One of the most interesting proposals is the Claremont College scheme. The purpose seems to be that of obtaining the benefits of the small college unit and at the same time securing the advantages

from the increased facilities which association provides. Thus the library, certain laboratories, graduate work, and extension activities may be carried on as common projects while each constituent college will have its own objectives and program, its own trustees, faculty, and endowment. It is a definite attempt to set up a college federation.

President Nicholas Murray Butler describes another tendency with reference to his own institution that is by no means confined to Columbia :

It is quite within the bounds of possibility that during the next generation both Columbia University and other universities that have the inestimable advantages of an urban situation may find themselves surrounded by a whole group of junior colleges that have sprung up as the result of their several influences and inspirations. The administration and oversight of a group of such junior colleges would present no serious difficulties and their teaching positions would naturally be filled, chiefly at least, by men and women trained at the university under whose auspices they had been brought into being. Junior colleges, wherever they are, will do well to seek university affiliation.

New York University, Boston University, the University of California, Vassar College, Rutgers University, and others, perhaps, have entered into arrangements of affiliation with junior colleges or are undertaking the development of junior colleges as branch institutions.

In some instances this relationship of the junior college to central institutions has developed or tends to develop from the extension activities of the institution. Extension classes are established in various centers. As they develop and the programs become extensive and the attendance large, the economical thing is to establish them as affiliated resident junior colleges.

The branch institution is, of course, no new thing. The University of Idaho has for many years had a branch junior college at Pocatello; the Texas Agricultural and Mechanical College has branch colleges; the Agricultural College of Utah conducts a branch junior college at Cedar City; both the Colorado Agricultural College and the University of Colorado have participated in the establishment of affiliated branches. Instances of this kind might be multiplied.

In some cases affiliated junior colleges tend to become 4-year institutions without destroying the relationship. Few instances have arisen, however, in which a 4-year college has been adopted by a larger institution and maintained as a separate unit. The merger of St. Stephen's with Columbia University, therefore, is especially interesting. St. Stephen's College is located 90 miles from New York City and has been successfully operated in affiliation with the Episcopal Church for many years. Columbia University limits its attendance in Columbia College to 2,000. It has over three times

that number of applicants for admission each year. One of the purposes of the merger of St. Stephen's with Columbia is to enlarge the field of undergraduate education without affecting the limits placed upon Columbia College. St. Stephen's will enable Columbia to conduct another unit of very different character from Columbia College. St. Stephen's will have the advantages of a small country college limited to 250 students.

Columbia University and Union Theological Seminary have been affiliated to a greater or less degree for many years. Recently, however, owing to the fact that the State department of education would not extend the privilege of granting the master's and doctor's degrees to the seminary, this affiliation has been made closer. It is very important for missionaries and for women who teach the Bible in denominational schools in this country to have the master's and doctor's degrees. They secure the training for their special work in the seminary. Columbia and Union have recently made an arrangement whereby the university will grant advanced degrees for work carried on in the seminary.

Attention has been called in previous biennial reports to the tendency of various groups to affiliate and consolidate their work. Examples of this kind are the merger of the Catholic colleges in and near St. Louis with the College of Arts and Sciences of St. Louis University. The autonomy of the several affiliated colleges is preserved but the degrees are granted by the university. The Arkansas Methodist Educational Commission has adopted a proposal to unify the work of the colleges under its control. It is proposed to establish a central university and to reduce the three Methodist colleges—Hendrix, Galloway, and Henderson-Brown—to the rank of junior colleges. The institutions will be under a single board of trustees. Competition for students will thus be reduced.

Church boards are increasingly employing educational advisors and supervisors for their groups of schools who will serve to render aid and to guide the development of the individual institutions in harmony with the common purposes of the group and in such a way as to prevent undesirable duplication and competition. Surveys of entire groups of church institutions and continuous surveys under competent central direction are enabling small institutions to obtain the advantages of self-knowledge which have in the past been largely confined to large colleges and universities.

A recent development is of special interest as indicating the affiliation of institutions for the purpose of rendering a common community service in an effective manner. New York City has had two colleges—the College of the City of New York and Hunter College—both in the borough of Manhattan and each with its own board of

trustees. The demands upon these two institutions tended to exceed their capacities. Every borough of the five in New York City therefore demanded a college similar to the College of the City of New York or Hunter. Bills for five new colleges were before the legislature in 1924, which, if granted, would have given the city seven colleges with seven separate boards of trustees and seven groups applying to the city for funds. In response to these demands and in order to prevent the evils of competition and expenditure which would result from such an arrangement, a board of higher education has been set up in which ultimately all the boroughs will be represented. This board will administer the whole situation and is proceeding to set up a system of colleges which will be known as the College of the City of New York, although each constituent portion will have a distinctive name.

Although little comment has been aroused, these attempts at cooperation and affiliation have been effected in sufficiently scattered portions of the United States and upon a sufficiently large scale to indicate that a new form of organization is being developed in higher education. The tendency to association and affiliation seems to be developing for the purpose of perfecting the selective processes of the stronger institutions and for the purpose of serving as feeders to their advanced work, for the purpose of strengthening the faculties and prestige of the weaker elements, and, above all, for the purpose of covering the entire demand for higher education in an economical and efficient manner.

SPECIAL PERIODS AND SERVICES

To most people college work means study pursued nine months each year for a period of four years. This conception is entirely inadequate to cover the present day activities and services of universities and colleges. The variety of periods, courses, and services which do not harmonize with the popular idea of the activities of the university, is startling to anyone unfamiliar with developments during the past 15 or 20 years. Summer schools, research bureaus and stations, conference groups, short courses, institutes for special groups of interest from child welfare to tax problems, municipal reference bureaus, reading and club service, and many other forms of educational and expert aid are given as a result of the assembly of personnel and equipment for the education of resident undergraduate and graduate students.

The desire of the universities to utilize these resources for wider usefulness has led to considerable confusion. The place of these services in the institutional organization is not clearly defined. The administration and the offerings are not regularized or standardized.

Participation of college faculties in these activities is frequently not regarded as on the same basis as is "regular" class and laboratory work or research. Financing is usually a thing apart from the financing of other activities of the institution. It is not the purpose of this discussion to treat of the summer session as such but it serves conveniently as an example of a highly developed educational period and service of the character under consideration. It has attained a development that presents characteristics which may indicate tendencies in the development of other special periods and services. The summer school perhaps most clearly represents the present tendency in the adjustment of these "extra" activities to what is known as "regular" work.

From the standpoint of institutional organization and function, summer school is in a stage of transition. In spite of attempts to make it so, it has not been placed upon the same basis as the regular quarter or term. Even in the institutions in which the summer school is formally designated as a fourth quarter, administration frequently continues to be special; the faculty in large part is assembled for what is regarded as an extraordinary purpose; offerings, even when regular resident courses are reproduced, are supplemented by special offerings; and the regular offerings themselves are modified to a considerable degree to meet the more concentrated efforts of a different class of students. The summer quarter, therefore, still retains its character of a special period offering special work for groups with basic interests different from those of the "term time" resident graduate and undergraduate student body.

The student body of the summer school is, of course, largely made up of teachers and other types of workers who are free for a relatively short period. The school for women workers in industry, which has been running at Bryn Mawr for several years, a similar school recently inaugurated by Barnard, and the International Institute conducted at Williams, are examples of other types of special summer session service. Special periods and courses are primarily intended to render educational service to those who are actively employed, and to those who wish to correct deficiencies of past educational experience.

All of these services have experienced a tremendous growth within recent years. The increase in attendance at summer school is illustrative, although probably even less remarkable than participation in the benefits of some of the other activities under discussion. The summer school at the University of Michigan has almost trebled in the past 10 years; from 1918 to 1927 the attendance increased from 1,301 to 3,811. Everywhere attendance in summer schools has increased more rapidly than general attendance upon the regular sessions of the institutions, although the growth of the latter has been

so remarkable as to constitute the starting point for much of the educational discussion of the past few years.

One feature of summer-school attendance is especially significant—the increase in the proportion of graduate students. In Michigan over one-fourth of the summer-school students in 1927 were securing graduate credit. The percentage of summer enrollment in the graduate school increased from 11 per cent in 1918 to 27 per cent in 1927, and the per cent with college degrees increased from 21 per cent in 1918 to 41 per cent in 1927. Similar increases in the graduate field are shown in the University of Minnesota where the growth has been from 11.6 per cent in 1924 to 16.2 per cent in 1927.

In the graduate and professional phases of extension activities large gains have also taken place. Extension work was formerly regarded as of subcollege, or at best, of junior college level. The increased emphasis upon professional service has already been illustrated in connection with medical and dental courses for practitioners and similar work has been growing rapidly for teachers and business men. This change of emphasis in the work offered in summer schools and other special periods is significant in that it is evidence of larger desire to render service to alumni and to establish closer connection with the needs of the world outside college walls.

Support of these special periods and services presents many problems. In general they tend to become more nearly self-supporting or even profitable than is the work of the accredited undergraduate institution. This is illustrated again by the financing of summer schools. They sometimes establish credit items upon the institutional accounts. Thus the summer school at Middlebury College operated in 1926 at a profit of more than \$2,000, and in 1927 it showed a credit balance of more than \$10,000. The latter figure should be reduced by the \$7,250 allowed for use of college buildings and the work in the general college offices, but still a balance of more than \$2,500 is shown. These amounts are, of course, insignificant as sources of income for the institution, but that any balance should be obtained from the activity of an educational institution not conducted for the purpose of profit is a new thing in education. In many respects the summer school, from the financial standpoint, may be regarded as comparable to the utilization of idle land by the erection of a building which serves as a "taxpayer," or by the practice of a manufacturer in taking on contracts during slack seasons which do not pay a profit but pay the carrying charges of the plant and serve to maintain the organization intact. Idle college plants deteriorate rapidly. The spectacle of a great educational institution standing relatively empty and unused during practically a quarter of the year is not conducive to support either from legislative assemblies or private

benefactors. President Hall, of Oregon, advances this argument in his proposal to double the budget of the summer school. He argues that to expand the summer work will utilize the plant during the fourth quarter, thus increasing the capacity of the institution one-third.

There is danger in the tendency to require research units and similar activities, which are here regarded as a type of special service to meet the entire cost of their maintenance. Research units and activities set up to accomplish specific studies in the field of industry may, of course, properly be borne by the industry itself. Such support is not undesirable unless it tends to distort the spirit of research and scientific study. Research in the social and general economic fields is, however, an activity that does not directly contribute to a going business in the same sense that research in the scientific fields may. Since research in the social fields is not directly a business matter, Government and private donation would seem to be justified in their support. Self-support of industrial research may tend to distort the scientific viewpoint; social research can not expect to become self-supporting.

The greatest need in connection with the special periods and services under discussion is recognition of these services as proper and valuable to the institution as well as to those served. To be sure, not all of the services now carried on should be continued indefinitely as college functions. In some cases it is perhaps merely the function of the institution to develop the service with the idea of turning it over to a more appropriate agency as soon as possible. Further definition and assignment of function with reference to these services should take the place of present somewhat haphazard inauguration. Indications are that this definition is now in process of formulation, not upon the basis of traditional conceptions of college functions, but from the standpoint of the relationship of the institution to the individual who does not attend college, and to the individual who continues to have problems which educational service may solve after he has left college.

Parallel to the need for further definition is determination of how far the State or regular institutional funds should be devoted to the support of these activities. Some standardization of relationship is perhaps desirable in order to prevent important phases of this work from being regarded as excrescences or asides in the life of the institution. The tendency naturally, in view of the active discussion centering about the idea that the college student should pay more of the cost of his education, is to make adults who take advantage of these services pay all the expense. Institutions that will not accept the principle of education at cost for resident students are frequently willing to promote special periods and services at a profit. Whether

one principle should control regular work and another work of the type under discussion, may be questioned, but the tendency is to make some such distinction.

COLLEGE RELIGIOUS AND SOCIAL LIFE

The meaning of religion to the individual or to any group is always difficult to measure. This is especially difficult in the colleges and universities. Many factors serve to confuse judgment. On the one hand, organized effort tends to magnify the significance of religion in college life, and on the other, young people to-day in college and out tend to regard matters of this kind as more largely personal than social. Probably the conception of religion that is representative of college student opinion is that it is decency, personal and social altruism, personal self-reliance and responsibility, rather than a magical means of salvation, a series of observances such as church attendance, or a body of theological conviction. The tendency to magnify personal independence and individual responsibility may, in religious as well as in moral issues, tend to develop either intelligent tolerance or a wishy-washy attitude upon problems of personal conduct and social obligation. On the other hand, theological dogmas about which much feeling and earnest discussion centered in the older generation, may be formally accepted by reason of early training without real conviction. If this attempt to summarize discussion and comment is reasonably correct, the college attitude on religious questions differs little from that of a large proportion of the general public.

Anyone seeking to evaluate the place of religion in the colleges would naturally expect enlightenment in the report of the national student conference held in December, 1926, and published as *Religion on the Campus*. Examination shows, however, that this conference concerned itself in large part with the subject matter of religion rather than with the campus problems of religious life. The report creates the impression that it might have been just as well a conference of theological seminary students for the purpose of discussing certain technical points of their contemplated profession.

As an indication of the trend of student thought upon religious matters, the participation of students in defeating the bill introduced into the Minnesota Legislature for the purpose of preventing the teaching of evolution seems more significant. The discussion before the legislative committee did not, of course, concern the merits of the case for and against evolution, but was confined to discussion of the question as to whether legislation upon such matters was appropriate subject matter for consideration by a political body.

The students were, with rather surprising unanimity, opposed to the legislation, not upon the grounds of religious doubt or disbelief, but upon the grounds of social and individual principles, which maintain the right of the individual to examine all aspects of thought and of the university to present for their consideration all types of thinking. President Coffman's argument against the bill did not touch the religious question at all, except to assert that the bill should fail because "it will stifle learning, cripple research, destroy intellectual integrity, doom the university to mediocrity or less, and it will not make students more religious." College students have for many years been regarded by their elders as especially prone to resent compulsion both of formal law and social pressure. It is among youth that the belief is strongest that progress may be made by challenging the exercise of authority and the enforcement of conventional practices and beliefs. The attitude of the students in the Minnesota discussion probably reflects this viewpoint of young people even more than it reflects the effect of university teaching.

When Yale abolished compulsory chapel the fears expressed on the part of those who are interested in religious life were given much publicity. Similar action by other institutions has been taken, yet no disastrous results can be noted. The president of Vassar is satisfied that voluntary chapel attendance at that institution has been a success. The number who go to chapel has been greatly reduced but there has been a complete change in the attitude toward the service and in the response to its value by those who attend.

When one turns from questions of student belief and attitude in regard to matters of religion and attempts to find an objective measure of religion in the colleges, the instruction offered in religion and related subjects, such as Biblical literature, naturally seems to offer some basis for judgment. Several studies have been made recently in regard to the opportunity for study of religious subjects in the undergraduate colleges. It is rather surprising to find the richness of the offerings in State universities and nondenominational institutions, although, as may be expected, they offer fewer semester hours in the field of religion than is the case of the denominational institutions. Inasmuch as some of the denominational colleges undertake to train religious teachers and missionaries and offer special inducements to those who contemplate entering the ministry, it becomes more significant that the offerings in these subjects in the State universities and nondenominational institutions so nearly approach those of the denominational colleges. Indeed, it would seem that the variety of offerings is probably greater in State and nondenominational colleges than in the denominational. This is, of course, accounted for in part by the fact that the denominational colleges are smaller and have not at their command the resources of

the larger universities. It is also interesting to note that the non-denominational colleges allow a maximum of free electives in religious subjects in practically the same proportion as the denominational.

It has been said that it is difficult to distinguish between the religious tone of institutions upon any basis that can be traced to the religious connection or nonconnection of the institution. Various inquiries would seem to indicate that there is more difference in regional attitudes than between denominational and nondenominational institutions in the same region, if great national institutions, such as Harvard, Princeton, and Chicago, are omitted from consideration.

Drinking in the colleges of the United States has received much discussion. Attention to drinking in the colleges has been given an amount of attention all out of proportion to student consumption of liquor as compared to that by the general public. From the standpoint of the social experiment which the United States is now trying, this is probably as it should be, since the future generation of leaders will come from the colleges and the success or failure of the experiment will depend more largely upon this group than upon the general public. From the standpoint, however, of the impression given of American college life and of present conditions as compared with those of the past, the emphasis creates a distorted view. Probably no single thing has done more to correct these impressions than the poll taken by the Literary Digest with reference to drinking in the colleges. Two hundred and thirteen college presidents replied to the questions of the magazine and were almost unanimous in saying that drinking, as they have observed it, is on the decrease. One hundred college editors replied, and as one account expresses it, "the majority of them agree with the opinion of the college presidents that youth is giving up the bottle." Drinking seems to be going out of fashion among college students. Those who knew conditions in the colleges 20 or 25 years ago have little reason for concern. While we may have lost something of our inside view of what is going on, ordinary intelligent observation is all that is required to prove the difference. In some sections of the country, for instance in large portions of the Middle West and the South, drinking is in much the same category as opium eating. It "isn't done" by college students.

It is encouraging, also, that discussion of the tone of college magazines and other publications is receiving considerable attention. Most educators have been more concerned about the uses of print than about sumptuary observances. College papers, with the growth of interest in training for journalism, have improved in make-up

and literary style and frequently in content. The public knows little about this development. Its knowledge of college papers is derived from a few comics and jokes of the salacious or near salacious type. The Illini Weekly, of the University of Illinois, summarizes the situation briefly:

Most of these humorous magazines are quoted in anthological publications and screen digests and newspapers, and sporadically one or another of the journals, by blaspheming one or another sacred cow, erupts into the staid and sober press agencies of the country. By these means the country at large is aware that these facetiously titled "humorous" magazines exist.

The country identifies each of the publications with the college from which it issues, which is fairly important, and identifies all of them with the colleges of the country * * * which is much more important. The great American people * * * look on these humorous publications as barometers of the undergraduate intelligence and morals. The barometer is falling.

From the administrative standpoint, college publications have always been a source of disturbance and distress. The tendency to be daring in social, governmental, and administrative matters, the desire to shock authority in one fashion or another, and to disturb smug respectability is no new thing. In general, however, college administrations and the editorial staffs themselves are taking more frequently the position that activities of this kind, when freely self-directed, have a larger educational value than has been usually recognized, or than they can have when subjected to close administrative supervision. The belief is not simply one of the psychology of learning, but faith that students themselves through public opinion will correct and prevent abuses. The importance of individual instances, mistaken zeal, or of moral shiftlessness should not be exaggerated.

It is usually recognized that the social life of large universities is to a degree unified by common enthusiasm for athletics and other "activities." But few commentators give sufficient emphasis to loyalty to the organization and "personality" of the university itself. Probably much of the feeling of allegiance to the university, as such, arises from a certain possessive sense that may be identified in large part with the accident of residence comparable to loyalty to "my State," "my town," and "my neighborhood." The cohesive power of these loyalties is frequently strong and the source of much personal satisfaction to students. Nevertheless they do not usually satisfy the gregarious instincts of students or provide full opportunity for group activity and expression.

Class loyalty, which in part meets these needs in the smaller colleges, is relatively insignificant in the larger universities. Common intellectual interest centered about a subject-matter field or a professor creates a unity of thought and of activity that is sometimes

minimized by those who discuss college life, but is of great influence and weight. The growing importance of student professional and technical organizations and activities demonstrates this unmistakably.

The measures taken by university administrations to facilitate student intercourse and welfare—personal guidance, faculty advisors, commons and dormitories for freshmen, student unions, and similar devices—are often impersonal and do not create a single group that within itself provides for the activities and interests, the congenialities and comradeships, that self-made human circles do in the world outside. Large dormitories and immense dining halls tend to prevent the development of the group consciousness that arises from the intimacies of living and eating.

Fraternities offer one solution of some of these problems of university and college social life. As student organizations they have the advantages of being self-formed groupings and self-directed in large part. Even though there may be a degree of artificiality in their formation and conduct, this is probably no more true than with other groups organized to serve social needs. They combine the benefits of common housing and dining, of social life, of guidance in activity, and even in study. Condemnation of fraternities and their faults must be considered in the light of these advantages and of certain material facts.

There are 3,429 active fraternities and sorority chapters in nearly 700 colleges in the United States not including chapters of honorary and semihonorary fraternities. Almost 2,600 of these have college homes of which nearly 2,000 are owned by the chapters themselves. The investment is approximately \$64,000,000. Almost one-tenth of the entire college student body of the country is housed and fed in fraternity houses. The burden thus taken from the institutions is, therefore, considerable.

Many of the evils that arise in connection with college fraternities have been due to institutional assumption of too little responsibility and authority in aspects of fraternity activity other than those connected with housing. In recent years, however, in cooperation with national fraternity headquarters, the colleges are exercising a greater degree of legitimate control and discovering means of utilizing the fraternity organization to handle details of discipline and maintenance of scholastic standards. Reports of grades of fraternity men in comparison with those of the general student body and of non-fraternity men are now quite commonly made annually and published by the colleges. Studies of national groups and of large numbers of colleges tend to show that fraternity scholarship compares very favorably with that of other groups.

IMPROVEMENT OF INSTRUCTION

The quality of teaching in the colleges is receiving ever greater attention. The denunciation of college instruction continues. The president of Washington and Lee University summarizes in a brief statement the features of responsibility that have received most attention and the standpoint from which interest arises: "The annual waste heap of college failures . . . is, in my judgment, a severe indictment of the curriculum enforced, the methods of instruction employed, and the campus atmosphere allowed to form in the undergraduate department of our American institutions."

The bureau's biennial report on higher education for 1924-1926 describes in some detail the efforts being made to improve college teaching. These efforts arose in large part from increased interest in the individual student and were expressed chiefly in administrative measures intended to arouse the interest of the faculty and to call their attention to the development of teaching theories and practices in secondary education which appeared to be applicable to college instruction. The devices adopted to accomplish this purpose include: (1) Requirements of professional training in education as a prerequisite to employment; (2) experience in teaching as prerequisite for employment; (3) courses in education designed for college faculties; (4) faculty meetings for the discussion of the problems of teaching; (5) the formation of institutional committees for study of problems of teaching; and (6) analyses of the content of courses and statement of course objectives.

Studies of this kind are still being made and should continue to be made, although knowledge of their value is now quite widely disseminated. The more or less routine measure of the extent to which administrative devices of these types are being or have been adopted is being carried forward by a study conducted by a committee of the National Society of College Teachers of Education. This study covers general organization or administration, organization and administration of classes, methods of supervision, and changes in curricula.

Although no attempt can be made here to describe the specific measures taken during the biennium to make adjustments in the administrative field for the purpose of improving the instruction given to students, it is worth while perhaps to call attention to three or four experiments and studies in this direction.

Harvard has adopted a plan whereby departments may be permitted to discontinue lectures and other classroom work during two periods of two and one-half weeks each during the year. Both students and instructors are required to be in attendance at the institution during these periods. The purpose is to give students

opportunities to carry on systematic reading and self-directed study activities without the interruptions and restrictions of daily schedules. Although it is stated that the arrangement is designed to give the teacher more opportunity for writing and research as well as to give the student a better opportunity for study, the readjustment is of importance also as an experiment in modifying present teaching conventions.

Under a somewhat similar although less general plan, Cornell University has extended the privilege of informal study to about 50 sophomores. Under the Cornell plan the maximum number of class hours will be 15, but in addition 3 hours for informal study will be demanded in order to satisfy the requirements for graduation. Great freedom is allowed to the student in selecting the field to which he shall devote himself during the period of informal study and in determining how he shall attempt the task.

The experiment in conducting a summer school for engineering teachers which was financed by the Carnegie Corporation in the summer of 1927 has been continued during the summer of 1928 and will be continued in the summer of 1929. Schools were held during the summer of 1927 at Cornell University and at the University of Wisconsin. The work of the first school centered about the teaching of mechanics and covered the organization and content of such courses as well as the methods of presentation and testing. On the whole those who attended or participated in the work were very favorably impressed. The benefits derived seem to have been difficult to formulate but judgment by the teacher students was almost universally favorable. The second summer school held at Massachusetts Institute of Technology and the University of Pittsburgh was also successful. From the two experiences it is interesting to discover that comment and criticism indicate that more valuable results were obtained from informal exchange of experience and opinion than from the formal lectures and discussions. It was difficult to secure men professionally trained in education who could make specific applications to engineering teaching or even to college teaching. Little actual experimentation in the problems of engineering college education has been carried on. The body of knowledge, therefore, upon which to base applications and conclusions is very limited, much more so than is true of the teaching of Latin or mathematics in the high school. The practical experience of successful engineering teachers was of necessity, therefore, the most interesting and helpful source of information with reference to the problems with which the summer schools were designed to deal. Some commentators, at any rate, are of the opinion that controlled experiments in the field of college teaching of engineering will have to be carried on over a period of

years before a body of information can be collected which will serve as a real basis for the instruction of engineering professors.

An attempt has been made at the University of Chicago to set up "an informal means of self-appraisal and development of balanced excellence in instruction." The method used in determining a standard¹ which the quality of instruction might be judged is exceedingly interesting. Two things were sought: First, what an instructor should do; and, second, the qualities which he should possess. The members of the committee, consisting of four members of the faculty and of five students, first prepared a list of the qualities desirable in instructors conducting lecture-discussion classes in the junior college. These suggestions and others were then tabulated and classified and submitted to 31 instructors in the junior college with the request that they indicate additions, omissions, and revisions. Upon the basis of the suggestions received the committee reclassified and revised the list which was then submitted to educational experts for suggestions. Five classifications were made in the self-appraisal form. In the order of ranking, knowledge and organization of subject matter is assigned first place; skill of instruction, second; personal qualities, third; professional development, fourth; and university cooperation, fifth. If there is validity in this order based upon the judgment of students and of faculty members, it is interesting to note that professional development and university cooperation, the factors upon which the colleges have been in the habit of placing most emphasis in their estimate of teachers, are at the bottom of the list. Of the subdivisions under knowledge and organization of subject matter, possessing a broad and accurate knowledge of the subject is given first rank, while pointing out the relations between the materials of the course and other subjects and between these materials and current affairs is fifth and last among the points listed. If the arrangement of the 11 points which characterize skill in instruction can be accepted, getting the point of view of the students and adjusting to the students' power of comprehension is assigned first ranking. Managing routine affairs efficiently, such as seating students, recording attendance, meeting and dismissing classes, and returning papers promptly, is eleventh in order. Of the 10 personal qualifications listed for self-rating by the instructor, interest in the subject and interest in teaching are the two that head the list, while freedom from personal idiosyncrasies is regarded as the least important. Probably such a rating scheme does not provide a very practical mechanism for judgment but it repays study and should prove suggestive to the teacher who wishes to improve his work. If the plan of investigation might have rested upon a

somewhat broader student base than was the case in this special instance, its force would be even greater.

Administrative devices and studies of procedure, such as those described above, lead naturally to increasing emphasis upon study and experimentation in actual teaching. During the biennium growth of such work has been remarkable. A fairly satisfactory measure of such interest is afforded by reports collected by the Bureau of Education showing the studies in education in progress but not completed during the year 1927-28. Of 800 studies 105 were in the field of higher education. Of these approximately one-fifth were concerned directly and primarily with content, aims, and methods of instruction in various subject-matter fields. No similar record is available for the first year of the biennium covered by this review nor for the studies completed in the second year, but examination of the 247 studies in higher education reported to the bureau as completed in 1926-27 shows that almost one-seventh deal with similar problems of teaching. This number would have been considerably increased if the studies in content and method of courses of professional character conducted by teacher-training institutions had been included. These were omitted since it was so frequently impossible to determine that they were directly applicable to college instruction, although undoubtedly they were in many cases. As may be expected, schools of education and other teacher-training agencies are the most active in attacking their own problems of teaching by the use of methods which they have promoted in the study of elementary and secondary school problems. Mention may be made of two or three of the studies bearing directly upon the problems of college instruction.

The University of Akron in attacking the problem of student mortality has attempted to get at basic reasons for student deficiency and progress rather than to rest content with processes of exclusion or upon other administrative devices which relieve the institution of responsibility. The committee appointed to study this matter found that one student could read and understand to the extent of 100 points in a fixed time, while another could read and understand the same material only to the extent of 20 points. On this basis the scope and extent of the work which may profitably be assigned to students will vary widely. One of Minnesota's subcommittees on research, that on the teaching of science, undertook in 1926-27 to study the prevailing methods of science instruction in the various departments of the University of Minnesota. The study included the use of textbooks, research technique, conscious changes of methods on the part of instructors, and the formulation of experimental projects in teaching. The State University of Iowa in 1925-26 made a case study in

elementary psychology of the results of two methods of instruction, the lecture conference and the individualized method. The experiment was carefully controlled and supervised. The procedures adopted and the account of the study should be examined in detail by all college teachers who are desirous of conducting experiments along these lines. The results of the experiment conducted at the University of Iowa led to the tentative conclusion that these two methods are equally effective in teaching this particular subject. The advantages of either method must therefore be sought in differences of expense and of administrative difficulties. It is true, however, that the tests applied do not measure adequately differences of growth in character and initiative on the part of the students in the two types of activity.

One publication that has great immediate practical suggestion for the individual college dean or teacher who wishes to attack the problems of college teaching is a little book edited by Prof. Sidney L. Pressey, of Ohio State University, called "Research Adventures in College Teaching." The studies reported vary in seriousness and importance. None is so extensive or so difficult, as to discourage repetition or improvement by any college faculty which wishes to obtain first-hand information on its own problems of teaching. The studies reported are not without considerable value in the results obtained, but their greatest importance and their real contribution consists in the demonstration of what can be done with very little expense and with relatively small effort in experimentation looking to improved instruction in the colleges.

If an attempt were made to summarize the tendencies during the last biennium looking to better college teaching methods, three points would certainly be included. First, there is greater emphasis upon willingness to try out plans for self-conducted activity on the part of the student; second, a much greater emphasis in instruction is placed upon making the student realize that certain elements of work done are merely providing tools for future activity; third, there is decidedly less satisfaction with the cramming process and more willingness to accept as the objective of instruction the stimulation of the student's own intellectual interest and activity.

Methods of instruction that are now receiving most attention all lead to the library. Of course, the library has always been considered an important element in the college, but consciousness of its central importance has lagged somewhat behind the developments which now tend to make it in truth the heart of higher education. New methods of instruction have been very important in centering attention upon college library service. In addition, the development of graduate and research work in many fields by many institutions has thrown a much greater burden upon the library. Textbook-lecture

emphasis in college instruction is giving way to emphasis upon student reading, project development, and self-directed activity on the part of the gifted student. Review of all literature, wide reading, and other methods which characterize research procedures may have been overemphasized in undergraduate instruction, but it is unquestionable that great gains have been made in the resulting departures from cut-and-dried methods.

The study of a selected group of college and university libraries made for the Association of American Universities by George Allen Works and published by the American Library Association is an important and, on the whole, a successful attempt to bring forward for consideration some of the problems of college and university libraries which relate to library educational service rather than to problems of technical library procedure. Although a list of 18 of the better-known and larger institutions was selected for study, most of them known for the size and variety of their book collections, reading of the report gives as its most obvious impression the conviction that even these excellent institutions and libraries are surprisingly short of information with reference to their library service. This is true even though the study confines itself for the most part to elements of service susceptible of objective measure. The author was able to develop surprisingly little that had direct application to the coordination of the work of the student and teacher with the service of the library. In other words, it would seem that college and university libraries have, under the leadership of the American Library Association, shared with other libraries in the thorough development of the technique of handling books which so strikingly distinguishes American library service from similar service in Europe. However, few seem to know much about the larger aspects of library administration. The facts in regard to the cost of services are not available. The organization of the staff imitates that of the public library without very much conscious adaptation to the very different service of higher educational institutions. Library technique is of higher quality than college library administration. Both technique and administration have, however, made more progress than conscious and systematic coordination of teaching functions and library service.

The survey of negro colleges and universities, made by the United States Bureau of Education during 1927-28, emphasized the library service in these institutions. The development of a high type of instruction by these institutions is clearly and unmistakably dependent upon a prior development of an adequate and intelligent educational library service. This problem was made the subject of a conference on negro libraries called by the American Library Asso-

ciation in February, 1928, and participated in by representatives of the Rockefeller Foundation, the Carnegie Corporation, the Bureau of Education, and representatives of college and State library services. In so far as the conference concerned negro college libraries, the most important conclusion reached was that the relatively undeveloped condition of both negro libraries and of negro higher education affords an especially promising field for experiments in the coordination of library service with instruction and with curricular development. These institutions provide a field for experiment which might bring results of tremendous value to other institutions.

RESEARCH AND GRADUATE WORK

Any attempt to describe current conceptions of research and of graduate work in the colleges and universities is confronted by a dilemma whose horns are multiplied like those of the beast in the Apocalypse. A multitude of questions about research and graduate work in the institutions are being asked. Three questions, however, probably afford starting points for discussion which covers a large proportion of the problems involved. First, is it the function of an educational institution to sponsor and conduct research apart from its teaching program? Second, upon what basis should an institution determine the nature and scope of its graduate offerings? and, third, what should be the relationship between the research carried on by an institution and its program of graduate work? These questions can not be discussed conveniently as isolated problems. They are intimately interrelated and overlapping.

The justification for research work detached from teaching functions is not clear-cut. The public in general regards the college or university as a teaching institution. It may recognize the value of the results of research but does not see clearly what the relationship is to the main function of the institution. It may be doubted whether many institutions are prepared to present to the public from this standpoint conclusive arguments for all the types of research carried on. When special research units, such as the engineering experiment station, the agricultural experiment station, and similar organized units with limited research functions are set up, there is, of course, no difficulty in making the defense and selling the idea to the public. The case can not so clearly be made for research carried on by the instructing staff without definite financial provision. Usually defense of this phase of the research activities of an institution takes the form of assertion that it provides service to the State and Nation, adds to wealth and social welfare, and is necessary in order that instructors may be kept alive. A conclusive argument seems to be that research provides subject matter for

instruction. Usually undergraduate instruction is most prominently referred to.

Research by undergraduate college teachers is presented as an essential element of their activity, but is seldom rewarded by specific remuneration, and provision is infrequently made for it in the schedule of teaching assignments. The common expression in regard to research by undergraduate instructors is that it is "a by-product of teaching." Just what this means is difficult to determine. Much the same situation exists with reference to teachers who are also carrying on graduate instruction, although there is more recognition in pay and in allowance of time for research activities on the part of these instructors. In both cases institutions tend to expect research of the teacher upon much the same basis as they expect him to maintain his health and respectable standing in the community. The college or university in fact sponsors and makes itself responsible in only the slightest degree for the research work of the individual. Under this plan the institution gets credit for productive and creative activity of research character at a minimum of expense. Even when a certain amount of time is allowed the extent of the institution's support of individual research is ill-defined and the actual cost of carrying on research activity is impossible to determine. When an institution's research work is in large part merely individual research, the work is scattered and the different phases of such activity little related. In other words, there is in fact no program, and duplication of effort results within institutions and between institutions. These conditions tend to prevent the development of institutional specialization in specific research fields.

Common usage links research and graduate work together, but the actual connection is vague and the relationship not clearly formulated in theory or in practice. Lip service is rendered to research, but the tendency is to emphasize graduate work and to measure its value in terms of numbers and in terms of the rigidity of the processes of a formal character through which the graduate student is compelled to pass. While it is recognized that graduate work should and sometimes does have some of the characteristics of research, this is not taken too seriously and in few cases does any large proportion of the graduate work contribute to an institutional program of research.

Graduate work as now carried on is subject to two criticisms: First, it is assumed that anyone who has gone through the academic process leading to an advanced degree, preferably the Ph. D., is competent to conduct graduate work. Even this formal standard, however, is not always strictly maintained. Although condemned by formal

standards, graduate instruction is too frequently regarded as merely a continuation of course work similar to that given in the undergraduate years. Commonly, of course, a higher degree of specialization is required and various devices of method and procedure seldom characteristic of undergraduate instruction are introduced into the graduate course work. In this way some of the processes and tools of research may be acquired, but there is the minimum of the spirit of research developed. Second, when the institution's research work is largely dependent upon individual effort without specific support, the professor tends to regard graduate students as an imposition and nuisance. There is some justification for this feeling. Why should an activity that is so largely personal and conducted during time stolen so often from leisure or from possible profitable employment be exploited by the institution for the sake of its own reputation as a graduate school? This attitude is sometimes shared by units especially set up for research purposes. Their job is research. Teaching graduate students is from their standpoint beside the point. The desire of the institution to enroll graduate students sometimes burdens the research units with care of graduate students to an extent that actually interferes with their research activities. In other words, admission to graduate work in the fields of formally organized research is not determined by the number that can be used profitably in carrying on the research undertaken.

The institutional defense of its position under these conditions is difficult in the case of organized research units. In the case of individual research the institution seems placed in an even more difficult situation, especially when individual research is carried on as an extra leisure-time occupation. The institution may defend its position legitimately enough by maintaining that association in the university provides the individual professor with the atmosphere of scholarship, and that the university's equipment is made available for his work. Further, the university may well contend that even the professor with a full-time schedule of teaching does not have an overburdensome load. He is left with considerable leisure which he would not have in commercial employment. In addition, the institution is always willing that the professor have full credit for his own work and will frequently promote knowledge of such activity in a way to enhance the reputation of the individual. This is not always true of commercial organizations. Nevertheless these arguments are defensive of practice, not elements of constructive policy with reference to institutional research. They do not satisfy the professor whose position is a full-time teaching one according to accepted standards. He feels that he is being exploited to a certain extent when his personal research work leads the institution to press grad-

uate students upon him. This resentment is increased by the current emphasis upon research as a basis of employment and promotion. As has been many times pointed out, this tends to make the product of research, rather than the human student product, the more important activity in the professor's mind. The field for a wide variety of creative activity tends to be narrowed to only one type, that of research. The result is that the forms rather than the spirit of research control.

Two types of solution for the problems involved in the relationship of research and graduate work are offered. President Butler eloquently summarizes the first of these plans:

A master scholar, with his own grand and well-conceived problem before him for solution, will, if he is wise, associate closely with himself a group of advanced students who, first as hewers of wood and drawers of water, and afterwards as associates and fellow laborers, will light their lamps of scientific and scholarly endeavor at his altar and will gain the inexhaustible stimulus which comes not only from mere training in method, but from association with the rich and fine guiding personality. They will gain the inestimable benefit of being collaborators with their master upon a great central, dominating task, to which they will always look back with satisfaction and admiration.

This proposal is idealistic. It does not provide a method whereby institutions may continue to increase their graduate enrollments. It fails to take into consideration the fact that much research to-day and probably the most far-reaching is not the product of a master mind working alone with its assistants, but the product of a group of master minds attacking various phases of the same problem in cooperation and coordination. Nevertheless, President Butler's statement does indicate the necessity for relating graduate work to research and emphasizes the central position that, in the opinion of many, research should occupy with reference to the development of graduate activity.

Another proposal is that the institution definitely set up an institutional program of research and limit admission of graduate students to those who can be employed profitably in furthering this program. Limitation of the number of graduate students, such as that of Princeton, which will admit only 200, is arbitrary and apparently based on a theory of a correct proportion between the number of undergraduates and graduates rather than upon the requirements of a definite research program. Purdue University in its engineering research approaches more nearly the plan proposed. Upon the basis of the research carried on the number and the quality of the graduate students is determined. In spite of pressure the university refuses to admit graduate students in connection with this research who could be employed only in doing routine testing and noncreative labor, even though such testing and labor may employ the

methods of research. The Columbia University faculty of pure science has established a research committee "to be charged with consideration of the needs and opportunities for research in the fields represented by that faculty, and constituting that committee a supervisory committee for such researches as might be undertaken upon its recommendation." This has many of the elements involved in setting up an institutional program of research. In much the same way the graduate council of the University of Minnesota has at its disposal funds with which it can assist in specific researches. If these funds are, as is frequently the case, devoted to those projects and individual proposals which are related to a specific university program, the plan tends to develop an institutional program of research. In neither the case of Columbia nor of Minnesota, however, is the relationship to graduate work clearly developed. Similar conditions exist with reference to bureaus of business research, such as that of the University of Michigan, the educational research bureau of Ohio State University, and the biological stations at Minnesota and elsewhere. Some of the agricultural experiment stations have worked out the idea with decided success. At the University of Minnesota, for instance, investigations which constitute a true series in the field of plant, animal, and entomological studies provide a program of research, and the admission of graduate students is confined to those of such quality as can contribute to solution of these related problems.

One difficulty is determination of what the program shall be. In some cases, in harmony with President Butler's statement, the program may be determined upon the basis of the institution having in its staff a man of outstanding ability and qualifications. The graduate work of the University of Maine is largely determined upon this ground and its scope and offerings vary as the staff changes. On the other hand, the proposal is being made with increasing frequency that the scope of an institution's work may be determined for specific fields by national group consultation which will set up a series of related researches. Under this plan a national program would be divided among the institutions best qualified by equipment and personnel to undertake the research. Graduate students interested in one or the other phase of this program would be turned to the institution which undertakes to work out its own special aspect of the problem.

The whole problem of graduate and research work is intimately related to the problem of support. Under present conditions no one has a very clear idea of how much the institutions are spending for research or for graduate work. It has been stated that the average State university in America devotes 5 per cent of its income to re-

search and that the average in Western State universities is 10 per cent. The basis for this determination is not clear. Certainly it does not cover the individual research carried on in leisure time for which the institution makes only vague provision. Before the research and graduate program can be made more satisfactory, separation of the costs of research and of the costs of graduate instruction from the costs of undergraduate teaching must be worked out. This is a difficult problem and is being attacked in very few places.

The survey of land-grant colleges now being carried on by the Bureau of Education has attempted a somewhat elaborate fact-finding inquiry with reference to the costs of research analyzed into its various types. The success of this inquiry will be dependent upon institutional ability to furnish information. It is practically certain that these figures will be very unreliable for many institutions, but it is hoped that the nature of the inquiry will lead to some better bookkeeping system from the standpoint of determining these costs.

FINANCING HIGHER EDUCATION

Discussion of college and university support by those who are familiar with education and competent to deal with the problems involved continues, but upon an entirely different plane from that of the popular material with which for the most part the newspapers and magazines deal. This informed discussion consists largely in further initial definition of the problem and of action designed to provide funds in specific cases.

President Cowling, of Carleton College, has contributed to a definition of the problem by attempting to set forth the main items of expense needed to provide for a liberal arts college with 1,000 students; and Richard R. Price, director of university extension in the University of Minnesota, has analyzed some of the problems of support for the State university.

President Cowling attempts to determine the faculty requirements of a liberal arts college of 1,000 on the basis of accepted standards and the special study of 25 leading American colleges. In the same way he analyzes the plant and equipment needs of such an institution. Upon the basis of the figures thus obtained he estimates that a fund of approximately \$8,400,000 would be required to provide income to meet current expenses, annual additions to permanent equipment, payment of scholarships, and a revolving fund for student loans. In addition \$3,600,000 would be required to provide the plant and equipment, together with a reserve for current uses. In other words, an investment of \$12,000,000 would be required to provide education for 1,000 liberal-arts students, exclusive of those activities such as dormitories and research, which may be made self-supporting

or the object of special gifts. He estimates that the annual expense would amount to \$589,000 or to \$589 per student. This does not include an interest charge on \$3,500,000 invested in grounds and educational buildings and equipment which would amount to \$210 per student. The total cost per student would be therefore approximately \$800 per year in President Cowling's estimate. Of this amount he proposes that \$250 be paid by the student in the form of tuition.

President Cowling's estimate is extremely interesting and is a valuable contribution to the discussion of the subject. His terms are carefully defined and it is thus possible to modify and adjust his figures to meet the specific situation of any college if it is desired to do so. Probably the statement will be subject to criticism from the standpoint that the estimates are theoretical and that the figures therefore do not correspond to any specific situation. This is hardly fair criticism, since President Cowling would be the first to disclaim any intention of setting up an absolute standard. His service consists primarily in analyzing the elements of expense clearly and simply and in presenting, subject to considerable variation for specific instances, estimated amounts. He has erred on the side of generosity it is because he has based his estimates on educational needs, tone, and ideals which are now frequently sacrificed to financial pressures.

Doctor Price briefly reviews the beginnings of support for State universities, and, upon the basis of figures collected by the United States Bureau of Education, estimates that 2.77 per cent of our national income would pay the cost of all support for public education. Of this amount a relatively small proportion goes to the support of higher education. The percentage of this support from various sources is analyzed by Doctor Price and each of the means of support discussed in some detail with reference to possibilities of increase. He emphasizes, in conclusion, the need for a careful budgeting system in order to control "unsymmetrical developments," economy in construction of buildings, and reform of taxation policies.

Gifts to the support of private institutions have continued to provide examples of extraordinary generosity and to emphasize the interest of alumni in the institutions in which they obtain their training. These sources of support are handicapped, according to President Murlin, formerly of DePauw University, by increased demands upon alumni for support of institutional activities that are not strictly educational in character. President Murlin calls attention to the fact that, while fraternity houses make a real contribution to the needs of the university student body, the amount invested in this way is large and that the source of a large part of these funds is con-

tributions from the students and alumni.- Since this is so, it is difficult for the university to appeal to the same group for gifts that directly contribute to the financing of the educational program of the institution. Similar demands are made upon alumni in support of athletic programs and to a lesser degree for support of other activities. If, as seems probable, the independent solicitation of funds of this kind interferes with requests for educational funds from the same sources, the need for university and institutional control of these related activities is emphasized.

Increase of tuition and of other student fees continues, although at a somewhat slower rate than during the preceding biennium. In this connection the increase of fees by the Massachusetts Institute of Technology from \$300 to \$400 is noteworthy inasmuch as the corporation is taking cognizance of the burden which this increase places upon needy students of good ability. The authorities of the institution have favored turning back part of the tuition into a loan fund from which such students may borrow at a low rate of interest. It is interesting to note that the \$400 fee will place a much larger proportion of the burden of operating cost upon the student than is proposed by President Cowling in his analysis of the cost. Horace S. Ford, bursar of the Massachusetts Institute of Technology, states that the actual operating cost per student is \$790. With the \$400 student fee the proportion borne by him will slightly exceed 50 per cent.

The number of treasurers' reports emanating from private institutions that show, during the biennium, an actual profit from the sale and purchase of securities in which endowments are invested demands notice. The significance of these facts can not be accurately determined. It may be that better and more careful management of institutional funds accounts for profits of this character. If this is true it is an encouraging sign, since low return on institutional investment has been due frequently to lack of knowledge of the more profitable market which has a sufficiently large degree of safety. However, the number of cases in which institutions report profits of this kind makes possible the conclusion that the general rise in market prices of securities has been felt by the institutions without any special effort or virtue upon their part. If this should prove to be the case, it is highly desirable that the institutions recognize the fact. Increased return from endowment investment, under conditions of the securities market which have prevailed during the past two years, may very easily lead to commitments and budgeting of expenditures which can not be maintained if a period of depression should be encountered. The seriousness of the situation is probably not so great as the figures indicate, since reports

of profits from increased market values do not usually show a corresponding increase of income from investments apart from these profits. It is, of course, highly desirable that no speculative management of endowment funds creep insensibly into college finance.

Several interesting developments have taken place in connection with support of higher institutions by taxation. It is impossible to summarize all of these changes, but a few may be mentioned. In 1927 in Florida legislation was enacted which provided for a tax upon gasoline and other petroleum products. Of the amount yielded two-thirds will be placed in a special fund to be known as the public free school fund and one-third will be placed in a special fund to be known as a permanent building fund for State institutions of higher learning, experiment stations, and other institutions under the management of the State board of control. In addition a tax of one-fourth of 1 mill upon the dollar is levied upon all assessable property in the State, and of the returns from this tax one-third is also to be placed in the same special building fund. Further, one-third of the interest collected on State funds deposited in the banks of the State is placed in the same fund. These taxes are intended to provide adequately for a building program for the higher institutions in Florida.

In this connection the long campaign of Rhode Island State College to secure money for an adequate building program has been successful through approval by a State referendum of a bond issue for \$600,000. This proposal is of special interest, since of the seven bond propositions which were submitted to the people of the State the affirmative vote for the Rhode Island State College issue was larger than for any other of the bond proposals, except that for a bridge in Providence which practically every citizen in the State is compelled to use. This popular approval for the State college constitutes a recognition of the work of this publicly supported higher institution, which is encouraging to the cause of public higher education in Rhode Island.

The mill tax as a method of support for higher institutions continues to be advocated, although experience has shown that it frequently does not operate according to the theory. The failure of the mill tax to provide funds adequately has in large part been due to failure to increase assessments on property in accordance with actual increase in value. Part of the failure has also been due to the growth of intangible property and the failure of the mill tax to reach this class of wealth. In Oregon this condition is being corrected by legislation. In Michigan, where the university has for many years enjoyed the mill tax, the operation of the tax was limited in 1923 by imposing a maximum of \$3,000,000 a year. In 1925 the maximum

was raised to \$3,700,000. Under this plan of limitation the theory that support for the university would increase in accordance with the increase of wealth of the State was, of course, defeated. In 1927, however, this limitation was removed and the mill tax is permitted to work as it was intended. With the increase of assessment on taxable property, the mill tax in 1927-28 produced \$4,625,000, which provided an increase of \$925,000 in the operating income of the university.

One of the interesting developments in the relations of the university to the State is President Frank's procedure and policy in presenting the needs of the University of Wisconsin to the legislative joint finance committee. Two points are of special interest. President Frank emphasized that for the preceding year only 52.2 per cent of each dollar the university received came from the taxpayers. The remainder came from grants from the Federal Government, gifts, interest, student fees, dormitories, and similar activities. The true situation has been obscured in Wisconsin because income from sales and fees are paid into the State treasury and appear as new appropriations. This gives the public the impression that the entire amount is derived from taxes. Over \$900,000 is thus returned annually by the university to the State treasury. The second point emphasized by President Frank in the presentation to the committee is the fact that the university is not a self-promoting enterprise but is developed from the demand of the people themselves. In other words, the responsibility for the support of the university and its activities rests fundamentally, not with the president or the regents, but with the legislature itself. The legislature must recognize its responsibility to the people for this enterprise and render accounting to the people for the conduct of the university.

A matter deserving special attention in connection with the relations of the university to the State concerns the control of policy by State authorities. In Minnesota the State government organized a commission on administration and finance which was set up by law with a department of administration and finance. Apparently the law endowed the commission with full power to require a pre-audit of all moneys belonging to any institution, agency, or department of the State, and after the money had once been appropriated it was endowed with power to prevent any expenditures except with the consent of the commission. Thus the department of administration and finance became a kind of superboard over the regents of the university and might question the expenditure of money for purposes to which the board of regents allotted it. It would thus be in a position to define both the policies and procedures of the board of regents and what it might and might not do. The

board would become a board without power, for as soon as "the board of regents can not longer administer the income of the university in ways which the board believes will best promote the interests of the university, it becomes impotent." Since the University of Minnesota is established by constitutional authority and the board of regents is created and its powers defined by the Constitution, the question was taken into the courts. The decision recently returned held that the act of the legislature in setting up the commission on administration and finance was unconstitutional in so far as the university was concerned. Inasmuch as the funds of the university are not derived solely from State appropriations but are also derived from the Federal Government, student fees, income from trust funds, gifts, and service enterprises, control by such a commission on administration and finance would seem extremely difficult. This decision is significant for other State institutions which have felt or are feeling the attempts of political powers to determine university policy by control of the purse strings.

CHAPTER II

MEDICAL EDUCATION

By N. P. COLWELL, M. D.

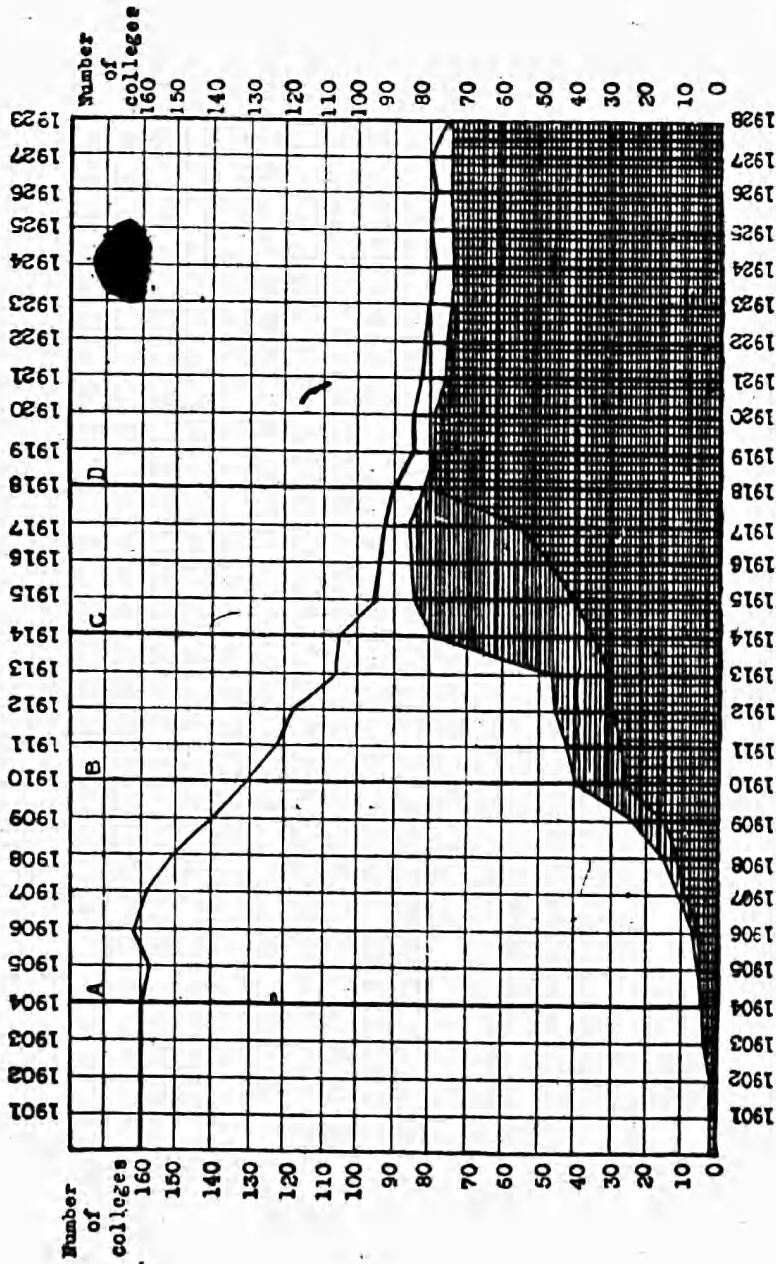
Secretary of the Council on Medical Education and Hospitals of the American Medical Association

CONTENTS.—Medical students—Medical graduates—Ages of graduates, class of 1928—Medical students who did not graduate—Negro medical students—Enlargement of medical-school plants—Saving time in medical education—Relative supply of physicians in the United States—Supply of physicians in the various States—Medical-school finances, 1926-27—Graduate medical education—Experiments in medical teaching—Hospital internship—Specialization—Investigation regarding medical education—Investigation regarding the cost of medical care.

During the past two years the number of medical schools recognized by the American Medical Association has been reduced from 80 to 74. The charters of two medical schools, the Kansas City College of Medicine and Surgery and the St. Louis College of Physicians and Surgeons, were revoked on June 23, 1926, and May 23, 1927, respectively, on the grounds that they had been convicted of selling medical diplomas. Although institutions under new names were promptly chartered, information indicated that they were to be conducted under the same control or in the same manner as their predecessors.

Four other medical schools, the College of Physicians and Surgeons, Boston, the Middlesex College of Medicine and Surgery of Cambridge, Mass., the Kansas City University of Physicians and Surgeons, and the Chicago Medical School, are omitted from the list inasmuch as official reports show that they are not recognized as medical schools by the medical licensing boards of 47 States and the Territory of Alaska, and because they were deemed by the Council on Medical Education and Hospitals of the American Medical Association to be unworthy of being recognized as medical schools.

A new medical school not yet recognized by the American Medical Association was opened rather precipitately in the fall of 1928 by the University of Southern California, Los Angeles. In the fall of 1930, the new School of Medicine of Duke University, after extensive preparation, is to be opened, which will raise the present total to 76.



TWENTY-EIGHT YEARS OF MEDICAL EDUCATION IN THE UNITED STATES
 (Fewer medical colleges in number since 1900 but of improved standard. A. Council on Medical Education created. B. Report of the Carnegie Foundation for the Advancement of Teaching issued. C. Minimum entrance requirements for class A medical schools raised to one year of college work. D. Two years of college work required for admission to all class A medical schools.)

Admission requirements of medical colleges, 1901-1928

Year	Colleges requiring—			Total number of medical colleges	Year	Colleges requiring—			Total number of medical colleges
	High-school graduation	1 year of college	2 years of college or more			High-school graduation	1 year of college	2 years of college or more	
1901	158		2	160	1915	12	44	40	96
1902	158		2	160	1916	10	38	47	95
1903	157		3	160	1917	10	30	56	93
1904	156		4	160	1918	9	1	80	90
1905	153		5	158	1919	6		79	85
1906	156	1	5	162	1920	6		79	85
1907	148	2	9	159	1921	7		76	83
1908	135	5	11	151	1922	6		75	81
1909	116	8	16	140	1923	6		74	80
1910	91	13	27	131	1924	6		73	79
1911	80	14	28	122	1925	5		75	80
1912	72	16	30	118	1926	5		75	79
1913	60	16	31	107	1927	5		75	80
1914	24	44	34	106	1928			74	74

MEDICAL STUDENTS

Reports to the American Medical Association show that the enrollment of medical students has been increased from 18,840 in 1926 to 20,545 in 1928, an increase in the two years of 1,705 students.

Various reports during the past several years have made it appear that many qualified students were finding it impossible to obtain enrollment in medical schools. An investigation made by Dr. Burton D. Myers, of Indiana University,¹ in the fall of 1926 showed that the 8,500 individual applicants made altogether 20,093 applications, or each applicant on the average had applied to two and one-half medical schools. Of the applications received 6,420 were accepted, but when the session began, only 5,020 students were actually enrolled, indicating that 1,400 students had applied and been accepted by two or more medical schools. Thus, at the beginning of the college year of 1926-27, there were 1,400 vacancies still existing, or one-fourth of the entire first-year capacity. Fortunately, the medical schools had waiting lists, so that 989 of these vacancies were filled since later reports showed that 6,009 students had been admitted.

The report of the investigation stated also that of the 3,480 not accepted, 2,622 were rejected because of unsatisfactory qualifications.

Again, in the fall of 1927, it was found that 11,282 students sent in 23,590 applications, some having applied to as high as 19 different medical schools. Of those rejected in 1926, 1,340 reapplied in 1927 and 750 were accepted, most of whom had secured additional pre-

¹ Bulletin of the Association of American Medical Colleges, vol. 2, No. 2, April, 1927, p. 97.

liminary qualifications. The statistics reveal, what is apparently true, that most of those rejected were students having unsatisfactory qualifications.

The fact that larger numbers of students are being accepted by medical schools each year shows that the medical schools are gradually adding to their teaching staffs, equipment, and hospital facilities so that larger numbers of students can be enrolled. The opening this year of the medical school of the University of Southern California and, next year, of the School of Medicine of Duke University leads to the belief that adequate provision will be made whereby all properly qualified students can secure enrollment.

TABLE 1.—Enrollment of medical students during the past 10 years

College year	Total	College year	Total	College year	Total
1918-19.....	12,930	1922-23.....	16,960	1926-27.....	19,662
1919-20.....	13,798	1923-24.....	17,728	1927-28.....	20,545
1920-21.....	14,466	1924-25.....	18,200		
1921-22.....	15,635	1925-26.....	18,840		

MEDICAL GRADUATES

During the past two years the number of students graduating from medical schools has been increased from 3,962 to 4,262, an increase of 300 in the two years.

TABLE 2.—Graduates of medical schools for the past 10 years

Year	Graduates	Year	Graduates	Year	Graduates
1919.....	2,656	1923.....	3,120	1927.....	4,035
1920.....	3,047	1924.....	3,562	1928.....	4,262
1921.....	3,192	1925.....	3,974		
1922.....	2,529	1926.....	3,962		

Between 1904 and 1919 the number of graduates each year decreased from 5,747 to 2,656, which represented, under normal conditions, the lowest ebb in the number of graduates due to the raising of entrance requirements of medical schools and to the mergers by which the number of medical schools was reduced from 162 to 85. Thereafter the number of students increased steadily each year. Also, the number of graduates would have continued to increase except for the smaller class enrolled in 1918 due to the war, which accounts for the fact that only 2,529 students graduated in 1922.

The percentage of medical-school graduates who were graduated from class A medical schools, however, has increased from 94.2 to 96

per cent, while the proportion holding baccalaureate in addition to medical degrees has increased from 60.3 to 63.6.

AGES OF GRADUATES, CLASS OF 1928

For the students who graduated in 1928 a special tabulation was prepared which gave the average age at graduation from the 4-year medical course as 26.8 years. Or, counting the fifth year of hospital internship, the average age was 27.8.

TABLE 3.—Ages at graduation, medical graduates of 1928, exclusive of internships

Age	Graduates	Age	Graduates	Age	Graduates
21.....	22	28.....	387	35.....	45
22.....	37	29.....	243	36.....	21
23.....	201	30.....	205	Over 36.....	58
24.....	573	31.....	114		
25.....	758	32.....	97	Total.....	4,187
26.....	797	33.....	77		
27.....	502	34.....	66		

Grouped by ages and excluding the interne year the largest number, 797, graduated at the age of 26, followed by 758 at the age of 25, 573 at the age of 24, and 502 at the age of 27. Note, therefore, that 2,874, or 68.6 per cent, of all graduates for whom the age was known graduated at the age of 27 years or less.

MEDICAL STUDENTS WHO DID NOT GRADUATE

From the Medical Students' Register, which was established in 1910 by the American Medical Association, it is found that, in the past 16 years, out of 67,198 students enrolled, 55,476, or 82.6 per cent, graduated. Of the 11,722 who did not graduate—mainly because of low scholarship—7,688, or 65.6 per cent, dropped out during the first year; 2,647, or 22.6 per cent, dropped out during the second year; 1,059, or 9 per cent, dropped out during the third year; and 328, or 2.8 per cent, dropped out during the senior year. It is interesting to note, therefore, that 10,335, or 88.2 per cent, of those who discontinued medical study did so during the first two years of the medical course. This is as it should be, since the student's time is not wasted if his disqualification for medicine is discovered early and he can more promptly enter on some other line of activity.

TABLE 4.—*Medical students who do not graduate*¹

Year	Medical students dropping out—					Number graduating
	First year	Second year	Third year	Fourth year	Total	
1907-08.....	350				350	
1908-09.....	371	149			520	
1909-10.....	873	291	218		1,382	
1910-11.....	710	388	153	9	1,260	4,273
1911-12.....	704	227	129	48	1,108	4,483
1912-13.....	664	217	91	27	1,009	3,981
1913-14.....	658	107	68	33	956	3,594
1914-15.....	359	147	52	25	583	3,536
1915-16.....	345	129	55	29	558	3,518
1916-17.....	344	92	36	17	489	3,379
1917-18.....	342	77	30	19	468	2,670
1918-19.....	321	99	30	10	460	2,656
1919-20.....	362	126	34	25	547	3,047
1920-21.....	377	101	26	6	510	3,192
1921-22.....	455	119	25	19	618	2,529
1922-23.....	453	137	29	13	632	3,120
1923-24.....		151	53	15	219	3,562
1924-25.....			30	13	43	3,974
1925-26.....				10	10	3,962
Total.....	7,688	2,647	1,059	328	11,722	55,476
Per cent of all students leaving before graduation.....	65.6	22.6	9.0	2.8	100.0	

¹ Total number of students registered, 67,198.

ENLARGEMENT OF MEDICAL SCHOOL PLANTS

During the past 20 years new medical school buildings or enlarged teaching hospitals have been erected in at least 48 medical schools, of which 24 were new and complete medical teaching plants. No less remarkable improvements have been made at the medical schools of Canada. Within the past two years the greatly enlarged plants previously reported as under way at Columbia University and the University of Colorado have been completed, as have also new buildings at Howard University, and the State Universities of Iowa, Kansas, and Tennessee, and at Johns Hopkins. Thus the capacity of medical schools is continually being increased, which is making it possible to enroll constantly increasing numbers of medical students.

NEGRO MEDICAL STUDENTS

Statistics regarding the negro medical students and graduates show that during the past five years 2,644 students have been enrolled and 586 have received medical degrees. Of the students, 2,193 were enrolled and 475 were graduated from the two negro colleges, while 451 students and 111 graduates obtained their medical training in other medical schools in the United States and Canada. On the average, during the five years, there have been 529 students enrolled each year, of whom 117 graduated.

TABLE 5.—Negro medical students

NEGRO COLLEGES

Institution	1923-24		1924-25		1925-26		1926-27		1927-28		Totals	
	Stu- dents	Grad- uates	Stu- dents	Grad- uates	Stu- dents	Grad- uates	Stu- dents	Grad- uates	Stu- dents	Grad- uates	Stu- dents	Grad- uates
Howard University.....	228	26	245	71	226	54	218	49	233	55	1,150	255
Meharry Medical College..	172	38	206	34	225	47	229	55	211	40	1,043	20

OTHER COLLEGES

Boston University.....	2	1	3	1	1				2	1	8	3
Chicago Medical College ¹			19	5	24	3	20	7	20	4	83	10
College of Medical Evan- gelists.....	1	1	1		1		2		2		7	1
Columbia University.....			2		1		1		3	1	7	1
Harvard University.....	4		4		7	2	3	3	4		22	5
Indiana University.....	2	2			5	1	3	1	6		16	4
Jefferson Medical College	1										1	
Long Island College Hos- pital.....			1		1		1		1	1	4	1
Loyola University.....					15		2		1	1	18	1
Northwestern University...	12	3	6	1	10	3	4	3	2	1	34	11
Ohio State University.....	6	1	10	2	4		3	2	2		25	5
Rush Medical College.....	5	4	6	2	14	2	5	2	14	5	44	15
Syracuse University.....	2		1	1					1		4	1
Temple University.....	6		7	4	2	1	1		1	1	17	6
Tufts College.....			2	1	4		5	2	3		14	3
University of Buffalo.....	2	2									2	2
University of California.....	1	1	1		1		1	1			4	2
University of Kansas.....					1						1	
University of Michigan.....	19	5	4	1	3	2	5		7	1	38	9
University of Nebraska.....	1		1		1		1		1		5	
University of Vermont.....	2	1									2	1
Women's Medical College of Pennsylvania.....	5		3	2	1				1	1	10	3
Western Reserve Univer- sity.....			1	1	1				2		4	1
Dalhousie University.....					4	4	3		2	1	9	5
McGill University.....			20		16	3	11	1	8	3	55	7
Queen's University.....							1		1	1	2	1
University of Montreal.....									2	1	2	1
University of Toronto.....					6		7	3			13	3
Total.....	471	85	643	126	574	122	526	129	530	124	2,644	586

¹ A class C college.

SAVING TIME IN MEDICAL EDUCATION

During the past two years the idea of a more continuous method of medical instruction, usually given under the so-called quarter system, has been strongly advocated, whereby a student can complete the four required college years of medical education of eight or nine months each in three calendar years. Under this plan any three consecutive quarters of completed work would count as a "college year." Indeed, the avowed adoption of this plan by the new school of medicine of Duke University has given fresh impetus to the movement and shows that the plan is feasible, even in the warmer climate of the Southern States. The quarter system is already in effect, or readily possible, in the following medical schools: Stanford University School of Medicine, San Francisco; University of Chicago, Rush Medical College; Loyola University School of Medicine,

Chicago; University of Minnesota School of Medicine, Minneapolis; Marquette University School of Medicine, Milwaukee.

It will be put into effect in the fall of 1930 at Duke University School of Medicine, Durham, N. C., and is also contemplated by Tulane University School of Medicine, New Orleans, and the University of Tennessee School of Medicine at Memphis.

RELATIVE SUPPLY OF PHYSICIANS IN THE UNITED STATES

Since the biennial report of 1924-1926 more complete statistics from foreign countries showing the supply of physicians in proportion to population as compared with the United States has been obtained and is given in the accompanying table.

TABLE 6.—Relative supply of physicians in the United States and abroad

Country ¹	Physicians per 100,000 population	Physicians per 100 square miles	Relative position of countries ²	Country ¹	Physicians per 100,000 population	Physicians per 100 square miles	Relative position of countries ²
1. United States.....	126.59	4.94	19	22. Irish Free State.....	52.60	6.20	16
2. Austria.....	113.89	22.98	5	23. Portugal.....	39.97	6.79	15
3. Great Britain.....	111.35	52.85	1	24. Sweden.....	34.57	1.21	25
4. Iceland.....	85.00	.21	36	25. Brazil.....	33.76	.28	33
5. Switzerland.....	79.93	19.44	7	26. Poland.....	30.41	6.00	18
6. Spain.....	77.16	8.64	13	27. Bulgaria.....	29.54	4.06	21
7. Japan.....	76.85	17.00	8	28. Finland.....	24.71	.65	28
8. Cuba.....	75.81	6.11	17	29. Mexico.....	23.57	.43	31
9. Hungary.....	73.15	17.21	9	30. Costa Rica.....	20.89	.51	30
10. Estonia.....	71.78	4.35	20	31. Lithuania.....	20.61	.78	27
11. Italy.....	71.27	25.08	4	32. Chile.....	19.70	.23	35
12. Denmark.....	70.07	13.99	11	33. Venezuela.....	16.65	.12	39
13. Argentina.....	64.47	.56	29	34. Yugoslavia.....	13.41	-1.83	24
14. Germany.....	64.43	22.15	6	35. Peru.....	12.63	.10	38
15. France.....	58.88	11.28	12	36. Honduras.....	12.27	.19	37
16. Czechoslovakia.....	58.51	14.67	10	37. Salvador.....	12.18	2.38	23
17. Greece.....	57.97	7.54	14	38. Guatemala.....	8.78	.36	32
18. Norway.....	56.88	1.20	26	39. Bolivia.....	6.57	.04	40
19. Netherlands.....	30.95	30.95	3	40. Siam.....	5.08	.24	34
20. Belgium.....	54.90	4.05	22	41. Persia.....	2.50	.04	41
21. Bulgaria.....	53.76	35.73	2				

¹ The countries are arranged in the order of the number of physicians in ratio to the population.

² The numbers in column 3 show the relative position of the countries of column 1 were they arranged in the order of the number of physicians per 100 square miles.

Note that although the United States has a greater percentage of physicians to population than any other country, it has a smaller number to each 100 square miles than 18 other countries, but a larger number than 22 other countries.

SUPPLY OF PHYSICIANS IN THE VARIOUS STATES

In Table 7 is given the supply of physicians in each State in proportion to each 10,000 people, as well as the number for each 100 square miles. District of Columbia, comprising the city of Washington, leads in both.

TABLE 7.—Supply of physicians in the United States shown by States

State	Population (estimate)	Area, square miles	Number of physicians	Physicians per 10,000 population	Physicians per 100 square miles
1. District of Columbia.....	540,000	62	1,848	34.22	2,980.64
2. California.....	4,433,000	155,652	8,854	19.97	5.69
3. Colorado.....	1,074,000	103,658	1,805	16.81	1.74
4. Nevada.....	77,407	109,821	129	16.66	.12
5. New York.....	11,423,000	47,634	18,634	16.31	39.10
6. Missouri.....	3,510,000	69,727	5,713	16.28	8.31
7. Vermont.....	352,428	9,124	529	15.01	5.90
8. Maryland.....	1,597,000	9,941	2,387	14.95	24.01
9. Illinois.....	7,296,000	56,043	10,893	14.93	19.44
10. Massachusetts.....	4,242,000	8,039	6,242	14.72	77.65
11. Oregon.....	890,000	95,607	1,225	13.77	1.28
12. Iowa.....	2,425,000	55,586	3,302	13.62	5.94
13. Nebraska.....	1,396,000	76,808	1,846	13.22	2.40
14. Florida.....	1,363,000	54,861	1,787	13.11	3.26
15. Indiana.....	3,180,000	36,045	4,164	13.09	11.55
16. Maine.....	793,000	29,895	1,029	12.98	3.44
17. New Hampshire.....	455,000	9,031	584	12.83	6.47
18. Kansas.....	1,828,000	81,774	2,296	12.56	2.80
19. Ohio.....	6,710,000	40,740	8,287	12.35	20.34
20. Tennessee.....	2,485,000	41,687	3,016	12.14	7.24
21. Connecticut.....	1,636,000	4,820	1,966	12.02	40.79
22. Pennsylvania.....	9,730,000	44,832	11,405	11.72	25.44
23. Kentucky.....	2,538,000	40,181	2,971	11.71	7.39
24. Washington.....	1,562,000	66,830	1,807	11.57	4.49
25. Michigan.....	4,490,000	57,480	5,145	11.46	8.95
26. Texas.....	5,397,000	262,398	6,123	11.35	2.33
27. Minnesota.....	2,686,000	80,858	2,982	11.10	3.69
28. Rhode Island.....	704,000	1,067	779	11.07	73.01
29. Arkansas.....	1,923,000	52,525	2,103	10.94	4.00
30. Louisiana.....	1,934,000	45,409	2,039	10.55	4.49
31. Delaware.....	243,000	1,965	251	10.33	12.77
32. Oklahoma.....	2,384,000	69,414	2,458	10.31	3.54
33. West Virginia.....	1,696,000	24,022	1,747	10.30	7.27
34. New Jersey.....	3,749,000	7,514	3,755	10.02	49.98
35. Wisconsin.....	2,918,000	55,256	2,896	9.92	5.24
36. Utah.....	522,000	82,184	516	9.88	.63
37. Wyoming.....	241,000	97,548	238	9.87	.24
38. Virginia.....	2,546,000	40,262	2,566	9.84	6.22
39. Mississippi.....	1,790,618	46,362	1,680	9.38	3.62
40. Georgia.....	3,171,000	58,725	2,935	9.26	5.00
41. New Mexico.....	392,000	122,503	357	9.11	.29
42. Alabama.....	2,549,000	51,279	2,254	8.85	4.40
43. South Dakota.....	699,000	76,868	603	8.66	.78
44. Arizona.....	459,000	113,810	393	8.56	.35
45. North Carolina.....	2,807,000	48,740	2,328	8.04	4.89
46. North Dakota.....	641,192	70,183	497	7.75	.71
47. Idaho.....	543,000	83,354	401	7.39	.48
48. Montana.....	714,000	146,131	507	7.10	.34
49. South Carolina.....	1,845,000	30,495	1,309	7.09	4.29
Total United States.....	118,127,645	3,026,791	149,521	12.65	4.94

Although California is next in line, having 20 physicians for each 10,000 population, it has only 5.59 for each 100 square miles, as compared with 75.51 for each 100 square miles in Massachusetts, showing that in California the population is not nearly so dense as it is in Massachusetts.

MEDICAL SCHOOL FINANCES, 1926-27

Reports received from 63 of the 74 medical schools give a total income of \$11,983,783 and a total expenditure of \$11,308,800—an average income per school of \$190,219 and an average expenditure of \$179,505. The 63 colleges reporting had a total enrollment during 1926-27 of 16,042 students, who paid in fees a total of \$4,057,304. The average amount paid by each student, therefore, was \$254, as compared with the average expenditure of \$704 for each student.

TABLE 8.—Medical school finances, 1926-27

Institution	Income				Expenditures					Other ex-penditures	
	Total	Students' fees	Endow-ments	State or city	Other sources	Total	Full-time teachers	Part-time teachers	Wages		Mainte-nance
1. Harvard University.....	\$834,666	\$100,266	\$559,337		\$114,983	\$675,943	338,309	(1)	\$84,410	\$125,212	\$118,012
2. Johns Hopkins University.....	697,933	52,928	528,390		86,615	697,933	500,064	(1)	184,788	(1)	13,081
3. Cornell University.....	692,035	80,162	197,450		414,423	692,035	183,327	\$10,565	19,954	45,011	433,148
4. Rush Medical College.....	550,670	165,000	246,170		139,500	550,670	281,500	(1)	90,000	(1)	179,170
5. Vanderbilt University.....	431,067	46,207	254,560		149,950	311,872	125,905	2,000	16,615	40,863	126,489
6. University of Illinois.....	402,510	22,510	19,000	\$380,000	233,879	380,000	93,400	77,000	77,020	132,860	49,000
7. University of Pennsylvania.....	398,379	145,500	50,684		381,008	398,379	215,116	(1)	67,975	66,288	102,282
8. Ohio State University.....	381,008	50,357	209,946	283,359	46,945	381,008	51,381	84,758	33,377	109,210	97,264
9. Western Reserve University.....	370,839	68,357	1,282	50,000	92,536	370,839	214,144	(1)	17,656	42,375	
10. University of California.....	356,279	52,187	43,000		252,810	288,322	162,573	(1)	71,124	54,625	
11. University and Bellevue Hospital Medical College.....	315,500	218,000		250,751	54,500	314,672	102,561	31,800	247,811	57,752	122,559
12. University of Minnesota.....	292,361	41,610	119,254		128,500	292,361	(9)	(9)	100,390	44,550	
13. University of Oregon.....	280,479	42,725	161,877		41,524	183,642	(9)	(9)	87,252	87,252	
14. University of Cincinnati.....	281,130	105,739	67,635		83,725	281,130	201,624	34,600	10,800	10,897	57,819
15. Tulane University.....	257,099	22,300	30,000	234,625	5,000	256,925	113,200	(1)	36,340	35,370	18,675
16. University of Wisconsin.....	232,785	30,000	9,000	197,795	50,000	232,785	102,800	39,900	39,260	50,835	37,800
17. University of Texas.....	228,235	210,487				228,235	114,455	24,300	29,269	23,049	34,886
18. St. Louis University.....	215,159	120,608		65,500	4,672	194,402	69,000	25,840	22,356	55,076	63,722
19. Long Island College.....	197,484	186,524			4,544	185,033	45,600	(1)	30,438	(1)	
20. Medical College of Virginia.....	191,068	119,800		50,150	2,400	172,350	40,520	32,350	27,480	62,456	72,000
21. Jefferson Medical College.....	172,350	77,500	2,000	87,033	50,000	169,533	67,030	4,185	30,862	(1)	
22. University of Maryland.....	164,533	27,500	5,575	15,000	7,500	170,000	118,300	(1)	3,740	44,950	3,000
23. University of Colorado.....	170,000	77,500	5,575		90,965	166,821	49,820	16,595	23,346	54,465	20,555
24. University of Pittsburgh.....	156,086	25,195	62,600		130,893	156,086	(9)	(9)	122,520	16,677	16,891
25. Indiana University.....	151,775	79,375	86		9,800	151,775	42,950	10,400	40,372	14,196	48,657
26. Leland Stanford University.....	151,775	149,434			783	125,489	52,414	(1)	2,072	13,003	58,000
27. Marquette University.....	149,308	118,803	17,114		13,391	138,848	54,200	6,836	14,280	29,298	34,244
28. Tufts Medical College.....	147,973	13,341	17,476	94,100	23,056	139,027	55,100	8,540	35,596	36,791	3,000
29. New York Homeopathic Medical Col-lege.....	144,683	114,803	29,880		37,250	144,683	57,700	16,450	32,555	16,480	21,488
30. University of Georgia.....	140,873	103,623		82,332		140,873	58,725	13,539	5,822	21,033	41,754
31. University of Buffalo.....	139,358	57,026		128,242		139,358	66,977	10,725	15,156	46,500	
32. Loyola University.....	129,242	1,000				128,242	78,415	7,500	3,000	39,327	
33. University of Nebraska.....	124,006	62,618				124,006	(9)	(9)	89,467	(1)	31,539
34. Medical College of South Carolina.....	120,989	42,067	17,612		61,290	120,989	82,133	1,899	13,521	3,914	19,476
35. College of Medical Evangelists.....	116,113	41,059	38,985		36,029	77,514	21,700	13,317	9,160	4,695	31,642
36. Emory University.....											
37. Memory Medical College.....											
38. George Washington University Med-ical School.....	111,417	81,323	5,400		24,694	98,392	61,280	7,125	3,908	7,620	18,459

39. University of Virginia	109,750	59,000	42,750	8,000	109,750	63,625	20,350	11,420	14,356	29,000
40. Hahnemann Medical College	99,216	86,100	86,912	1,116	99,216	52,160	5,320	12,736		
41. University of Oklahoma	95,545	8,633			95,545	67,412	10,000		18,133	
42. Boston University	95,350	63,500	14,100	17,750	95,350	30,100	17,850	21,300	26,100	
43. University of Tennessee	94,306	48,306	45,808		94,306	39,902	4,250	5,165	14,960	29,929
44. Georgetown University	92,102	77,917			92,102	24,067	24,645	5,578	13,673	7,871
45. University of Arkansas	91,145	23,345	67,800		91,145	47,000	12,000	14,472	3,016	4,000
46. Albany Medical College	86,806	30,077	41,444	5,375	86,806	45,180	2,100	7,782	(^c)	26,930
47. Baylor University	80,238	77,544		2,694	70,959	55,929	(^c)	21,035		17,782
48. Woman's Medical College	77,609	26,503	21,749		77,609	29,419	18,400	11,150	854	
49. Temple University	74,120	45,000	25,030		77,606	35,700	13,619	6,631	17,801	
50. Syracuse University	73,608	51,478	25,000	4,120	73,608	30,217	(^c)	4,397	5,018	3,376
51. University of Missouri	71,573	11,353	60,220	20,562	71,573	42,500	7,500	7,325	14,248	
52. Creighton Medical College	62,876	34,187		28,689	62,876	32,379	2,300	11,201	3,393	13,603
53. University of North Carolina	61,361	15,000	46,361		61,361	40,000	(^c)	2,500	18,861	
54. University of West Virginia	57,150	15,575	41,575		57,150	42,900	(^c)	3,000	400	10,600
55. Howard University	57,000	44,000	4,500	4,000	55,000	28,427	(^c)	40,000	10,535	15,200
56. University of Alabama	55,684	19,653	25,000	11,031	55,684	29,325	(^c)	4,636		14,449
57. Dartmouth Medical College	40,240	10,650	36,050	29,560	40,240	24,750	(^c)	3,000		10,915
58. University of Utah	36,050	(^b)			36,050	4,380	(^c)	3,000		4,000
59. Chicago Medical School	28,265	28,265		2,400	30,250	12,468	1,318	6,034	2,512	7,918
60. University of Mississippi	28,640	4,140	24,500		28,640	21,040	360	(^c)	(^c)	7,280
61. University of North Dakota	21,920	2,750	19,200		21,920	16,070	400	1,500		4,880
62. University of South Dakota	21,300	(^b)	21,300		21,300	8,200	7,600	390	4,000	
63. Wake Forest College	20,149	6,300	13,849		20,149	14,200	1,650			3,900
Total	11,983,873	4,057,304	2,574,973	2,567,069	11,308,800	4,790,036	670,158	2,068,300	1,642,201	2,099,063

* Total sum reported was for full-time and part-time teachers.

* Report of 1925-26.

* Maintenance included under wages.

* Estimates.

* Total sum reported for full-time and part-time teachers and wages.

* In these figures are included income and expenditures for university students not registered in medical school.

* Maintenance included under other expenditures.

* No charge is included for rent, water, lights, or janitor service and other general overhead that is provided by the general university budget.

* These financial data cover period from Sept. 1, 1926, to June 1, 1927, the fiscal year ending Aug. 31, 1927.

† Fees not available to medical school.

‡ No record kept separate from university account.

‡ Give only first 2 years of the medical course.

Note that of the total expenditures, \$5,469,214, or 48 per cent, was expended for instruction, an average of \$86,812.92 per college.

GRADUATE MEDICAL EDUCATION

Statistics regarding graduate medical education for 1927-28 published recently² showed that 3,472 students were enrolled during the year, of whom 2,336 were in the 41 approved graduate medical schools³ and 1,136 were taking higher internships—better known as residencies—in 272 approved hospitals.

Statistics for 1922 gave, altogether, 3,556 graduate students, of whom 2,915 were in 25 unsupervised postgraduate medical schools and polyclinics and 641 were residents in 285 unsupervised hospitals. The figures for 1927 did not include students who may have been enrolled in the few unapproved graduate medical schools, or to physicians who were residents in hospitals which had not been approved for residencies although, of the latter, a careful record is kept. Although the enrollment of graduate students in 1927 was smaller, nevertheless, it represents improved conditions since all reported were enrolled in institutions approved by the Council on Medical Education and Hospitals.

EXPERIMENTS IN MEDICAL TEACHING

During the past several years there has been a tendency on the part of certain schools to try new methods in medical teaching, some of which appear to be objectionable. For example, a few have over-emphasized research in the undergraduate medical schools, and some have granted higher grades to the students undertaking certain assigned experimental work. Certain others have provided an extreme degree of elective work, and placed an unjustified degree of responsibility on the individual student, apparently without providing the essential supervision through consultants or advisory committees, such as are usually provided for graduate students. Institutions adopting such extreme methods should not overlook the first duty of a medical school—that of providing its students with a thorough grounding essential for every practitioner of the healing art. Another danger in some medical schools is the too early drift by the student into some narrow specialty and his failure to obtain the broad training which is fundamental to any specialty. Without this essential foundation the physician is not in position to make a satisfactory or dependable diagnosis from the general practice point of view.

² Journal of the American Medical Association, 91: 482, Aug. 18, 1928.

³ A copy of this approved list will be sent, on request, by the American Medical Association, 535 North Dearborn Street, Chicago, Ill. Inclose 4 cents for postage.

HOSPITAL INTERNESHIP

The physician's undergraduate training should be such as will provide him with a thorough knowledge whereby he can intelligently examine any patient coming to him, make a reliable diagnosis of his trouble, and prescribe or apply reasonably efficient treatment. Such a training should include or be followed by a year's internship in a general hospital, where he comes into contact with all varieties of diseases and can put his general knowledge into practice.

Experts in graduate medical education now agree that such an internship, to round out the student's undergraduate medical education, should be completed before the young graduate enters on his preparation for any specialty.

SPECIALIZATION

The trend toward specialization in medicine has perhaps reached its highest degree of acceleration, due largely to the public idea regarding "specialists," and, probably, to the larger fees which the specialist is usually able to command. A more justifiable reason, however, is the physician's belief that he can render a better service in a special field and become more expert in both diagnosis and treatment. The increase of hospitals in both numbers and capacity during the past 15 years has added impetus to the trend toward specialism, because, in the organization of hospital staffs, they are commonly divided into departments representing the several specialties. To secure admission to a hospital staff, therefore, the physician is induced to limit his work to the specialty of the department to which he is assigned.

In the long run it is believed, however, that the physician who has acquired a good, comprehensive knowledge whereby he can accurately diagnose and provide fairly efficient skill for the great majority of ailments which come to him will prove to be of greater service to the public and more successful than the physician who limits his practice to a narrow specialty.

INVESTIGATION REGARDING MEDICAL EDUCATION

In 1925 a commission on medical education was appointed,⁴ with funds donated from several agencies interested in the subject, to carry on a 5-year investigation of medical education. The commission has issued three annual reports, of which the third calls particular attention to: (a) The tendency to prolong unnecessarily the student's period of preliminary and professional education. Such

⁴ Under the auspices of the Association of American Medical Colleges.

shortening of existing courses as may be possible and the saving of time by the use of overlong summer vacations is strongly urged. (b) The overcrowding of the curriculum with nonessential details; the overemphasis placed on laboratory procedures; and the unnecessary duplication of teaching through a failure to correlate laboratory work with clinical teaching; (c) the undue emphasis in medical teaching which is laid on the separate organs and systems which make up the human body rather than considering man as a complete living human being. This is resulting in a marked and dangerous trend toward specialization; (d) the need of more and better systematized instruction in preventive medicine; (e) the hindrances to medical education resulting from unwise legislation or rulings of boards or agencies which in effect assume prerogatives belonging to the medical schools; (f) the desirability of providing the student with more time to think and to use the library in reviewing current and reference literature; and (g) the advisability of more electives in the curriculum.

INVESTIGATION REGARDING THE COST OF MEDICAL CARE

An important investigation by a special committee on the cost of medical care was begun in 1928. The modern trend toward specialization and the public belief that the best treatment can be obtained only from "specialists" and hospitals, has necessarily added to the cost of medical care. It is well known that for the more intricate methods of treatment which have been developed in recent years the hospital has become increasingly important as a place where such treatment can be more efficiently and safely applied. For all cases where surgical procedures are required, as well as when serums, antitoxins, blood transfusions, and other modern methods are utilized, the hospital is the best place. The urgent problem, therefore, is to ascertain how the benefits of modern medical care can be brought within the reach, both physically and financially, of the greatest possible proportion of the people. This 5-year study, therefore, is of vital importance both to the public and to the future practice of medicine.

CHAPTER III

LEGAL EDUCATION

By ALFRED Z. REED

Staff Member of the Carnegie Foundation for the Advancement of Teaching

CONTENTS.—Organization of the legal profession—Aims and methods of law schools—
Bar admission requirements—Progress in law school requirements

In the last discussion of legal education that was published by the bureau, covering the period 1909-1925,¹ four different aspects of the topic were distinguished. These were, first, the organization of the legal profession considered as an influence in the formulation and enforcement of proper standards by the law schools and by the bar admission authorities; second, the divergent aims and methods of different groups or factions of law schools; third, the varying requirements established by the bar admission authorities of 48 States and of the District of Columbia; and, fourth—as a result of all the preceding and of still other factors—the extraordinary diversity among the schools as respects the value of their law degrees, when measured by the amount of time which students devote to their studies. It was shown that, while the standardizing activities of the medical profession were rapidly killing off substandard medical schools, similar efforts by the legal profession had no apparent effect in reducing the number of law schools and served merely to make these schools more and more unlike one another. It was suggested that it might some day be advisable to reconsider the present orthodox program of reform on the basis of experience and a broad view of the many educational and political factors involved. It is as important to recognize the points of essential dissimilarity as it is the points of resemblance between the problems of medical and of legal education.

In the present survey the developments of the past three years will be discussed in the same order as for the preceding period.

ORGANIZATION OF THE LEGAL PROFESSION

Voluntary and more or less selective associations of lawyers and law teachers clearly constitute the mechanism through which what

¹ Recent Progress in Legal Education, by Alfred Z. Reed. Biennial Survey of Education, 1922-1924, pp. 123-152. (U. S. Office of Education Bulletin, 1926, No. 8.)

is at present a rather hit-and-miss occupation is being slowly restored to the dignity of a genuine profession or group of professions. The precise manner in which these associations are to operate and to cooperate has still to be determined. For the moment, their very abundance breeds confusion. Local bar associations, State bar associations, and the American Bar Association exist side by side with numerous organizations dedicated to particular reform activities or to specialized branches of practice. Competing membership drives reduce the prestige of any one of these associations before the body of lawyers as a whole. Divergent policies impair their authority with the public at large. Lawyers and the community alike suffer from this excess of uncoordinated organization.

STATE AND LOCAL BAR ASSOCIATIONS

Efforts to improve the organization of lawyers have taken two broadly distinguishable forms: Attempts to bring existing bar associations into some sort of organic relationship with one another; and attempts to set up more inclusive organizations, with greater legal powers. The first method, commonly referred to as that of "affiliation," has proved signally successful in the case of the medical profession; and when it is combined, as it is there, with the representative principle, is clearly in harmony with the general spirit of our institutions. Much remains to be done in extending this movement, but, viewing the country as a whole, it shows a steady advance. Some 15 States have already been affected by it, in greater or less degree. The following types of organic connection may be distinguished:

I. *Membership connection only.*—(A) The State association continues to elect its own members, but restricts its choice, in general, to those who are already members of local associations (New Jersey, Maryland, West Virginia). (B) The entire membership of affiliated local associations may become members of the State association by paying its dues, which in such cases are sometimes reduced, especially if responsibility for collecting them is assumed by the local association (Washington, South Dakota, Wisconsin, Mississippi).

II. *Representative connection only.*—(A) Representatives of local associations participate in the meetings of the State association on the same terms as its regular members (Colorado). (B) One or more "conferences" or "federations" of local associations provide an opportunity for discussion and possible cooperation with the State association (New York, Ohio, Florida). (C) Combination of (A) and (B) (Illinois). (D) The body of delegates of the local associations is accorded a measure of real control over the activities of the State association (Pennsylvania).

III. *Both membership connection and representative connection.*— I (A) and II (D) (Minnesota). I (B) and II (A) (Oregon).

These different types of affiliation reflect the difficulty of adjusting the relative interests and rights, not only of the State association versus the local bodies, but also of large urban as against small county associations.

The second method of improving the organization of lawyers is through the device variously described as the self-governing, the inclusive, the incorporated, the official, or the statutory State bar. Action by the State legislature is needed to introduce this reform. As in the case of the first method, the movement antedates the 3-year period now immediately under review, but the event which has brought it to the fore as a topic of discussion throughout the country is the success achieved by its sponsors, in March, 1927, in the State of California. The five other States which—with much variation of detail—now possess an official, inclusive bar are North Dakota, (in rudimentary form), Idaho, Nevada, New Mexico, and Alabama.² The device has its origin in the incorporated law societies or self-perpetuating lawyers' guilds of Canada and Great Britain, and in its original form would have been a challenge to the well-established American principle that as a matter of policy, if not of constitutional law, the courts should exercise a certain amount of direct control over the admission of lawyers into practice. The legislation that has actually been enacted, however, has preserved this principle in one or more of several ways. If the court does not continue to appoint the examining board, or if it does not retain the power of excluding applicants recommended to it by this board, it at least is specifically authorized to disallow such rules or regulations with regard to these matters as the lawyers may adopt. At present, accordingly, the principal obstacle to the spread of this reform is the suspicion that it may imperil the standing and opportunities for usefulness of existing voluntary associations. Although it need not necessarily have this effect, it is significant that the movement has made no headway in the Eastern States, where the oldest bar associations are found. There is no inherent incompatibility between the establishment of closer contacts among existing voluntary associations and the creation, side by side with them, of an official organization comprising all lawyers practicing in the State, but as a practical matter it is difficult to push both reforms simultaneously.

NATIONAL ASSOCIATIONS

Turning now to the national organizations, the American Bar Association's subordinate section or Conference of Bar Association

² Add by legislation enacted in June, 1929, Oklahoma.

Delegates continues to function as a useful, even though anomalous, liaison with State and local bodies. For the most part, however, cooperation between the various organizations is fostered, not by organic affiliation, but by cumulative individual holdings of offices or memberships. Thus the American Law Institute, in addition to a limited list of elective members, includes, ex officio, not only higher judges but also the heads of bar associations, of law schools, members of the Association of American Law Schools, and of such special societies as the American Institute of Criminal Law and Criminology, the American Branch of the International Law Association, the American Society of International Law, the National Conference of Commissioners on Uniform State Laws, and the American Judicature Society. The same individual functions as secretary of the American Judicature Society and of the Conference of Bar Association Delegates; at a recent meeting of the Judicature Society, members of the Law Institute attended in large numbers and were addressed by representatives of both organizations and of the American Bar Association. The director of the American Law Institute became, in 1927, the chairman of the American Bar Association's Council on Legal Education and Admissions to the Bar. Finally, an outstanding development of the past three years was the appointment, by this council, of a salaried official, comparable with the professional secretary who has made the American Medical Association Council the power that it is. This professional "adviser," as he was termed—really inspector of law schools—during 1927-28 was the honorary secretary, and during 1928-29 the president of the Association of American Law Schools.

Although an engineering expert would doubtless observe that, as a device for securing greater operating efficiency, this interlocking of the many cogs in the machinery of professional supervision leaves much to be desired, it is at least better than to have each wheel spin independently on its own axis. Notably, the continuing labors of the American Law Institute have been a powerful influence in fostering mutual understanding and respect between the more scholarly law schools on the one side and judges and practitioners on the other. The two points of view of the academic theorist and of the hard-headed practitioner have constantly confronted one another in friendly discussion both by correspondence and on the floor. The initial attitude of many practitioners was that some of the scholarly specialists were in danger of restating the law in unusual language that would hardly be serviceable for actual use in the court room. The initial attitude of some of the scholars was that many practitioners were too ignorant of fundamentals to make their criticisms worth while. This difference in attitude is inevitable and beneficial. It has not disappeared, but it has been greatly tempered on the one

sidé by realization of the enormous amount of labor that the specialists have put into their work, and on the other side by the discovery that even the most careful closet production benefits to a greater extent than the producer might anticipate by the acute criticism of able minds. The law school men have shown the humility that is the mark of the genuine seeker after truth and have thus themselves earned the respect of practitioners and judges.

The intimate relations between the American Bar Association and the Association of American Law Schools have not worked out so happily. Within the first-named organization, there has been considerable criticism of the apparent abdication of its control over legal education in favor of an independent organization comprising only a minority of law schools. Representatives of institutions that have not been approved by either association constitute one element of discord; they are reinforced by reformers who are disappointed that the movement for higher standards that was launched in both associations in 1921 has not produced even greater results than it has, or who do not regard the associated program itself as in all respects ideal. Any constructive proposal is vulnerable, but dissatisfaction with the outcome of cooperative activities is no valid ground for demanding that cooperation cease. The American Bar Association and the Association of American Law Schools are certainly not to be blamed for trying to work in harmony. It would be a great misfortune if they were not. Nor could a better choice have been made for "adviser" of the council than one who had shown his competency for the task of inspecting law schools by practical experience as secretary of the Association of American Law Schools. The real weakness of the present machinery of cooperation has lain in the fact that the council has been controlled by schoolmen, rather than by practitioners. It has thus presented the appearance of being committed to a predetermined program, instead of having been won over on the basis of arguments in the committee room. There is abundant evidence, in State and local bar associations, that the superficially logical device of turning the committee on legal education over to law school men does not work out well. Such a committee should, of course, listen to law teachers, and listen in a somewhat humble frame of mind, with the respect due to experts in legal education. But if it is to plead its cause effectively before an association of practicing lawyers, and secure their sincere and enthusiastic support, it must itself represent the point of view of informed practitioners. The experience of the past three years has demonstrated that the same is true of the American Bar Association. Fortunately, this weakness is by way of being remedied. Recent additions to the council are all either bar examiners or practitioners who have no official connection with any law school.

THE CARNEGIE FOUNDATION STUDY OF LEGAL EDUCATION

The Carnegie Foundation for the Advancement of Teaching must be mentioned in this connection, because, although it has no member of the legal profession on its staff, its work would be quite impossible without the cooperation of lawyers, especially law teachers and bar examiners. It represents the point of view of no group or faction of the legal profession, but rather of the public at large, with perhaps this distinction, that it is somewhat more sympathetic toward lawyers and their problems than laymen are apt to be. Its recent publications include a volume of 600 pages, *Present-Day Law Schools*, of interest to specialists in legal education.³ In addition, the briefer pamphlet which, under various titles, it had published annually since 1913, has appeared, beginning 1927, under the caption *Annual Review of Legal Education*. The scope of this periodical has been gradually expanded. The issue for 1928, numbering 50 pages, included a 6-page summary of *Present-Day Law Schools*, a comparative digest of the bar admission requirements now in force in each of the 60 American States or Canadian Provinces, a discussion of the essentials of a sound bar admission system, a complete list of degree-conferring law schools in the United States and Canada, and other information of interest both to those who administer and to those who seek to improve our present system of legal education. The principal merit claimed for the Carnegie publications by those who are finally responsible for them is that their presentation of basic facts is not colored by desire to prove a point or to push a reform to the extent that almost necessarily occurs in discussions of professional problems by lawyers.

AIMS AND METHODS OF LAW SCHOOLS

In the survey for the period 1909-1925, it was pointed out that the originally acrimonious controversy between the partisans and the opponents of the case method was tending to give way to agreement that the conditions under which law is taught determine the method that can be profitably used. Schools where conditions are appropriate for the case method are coming more and more to utilize it, while other schools, which do not and should not use it, are ceasing to pretend that they do. Even its loyal adherents are coming to

³ Published as Bulletin No. 21, 1928. Three other bulletins (extended discussions) of legal education and cognate matters have been published by the Carnegie Foundation: No. 8, The common law and the case method in American university law schools, by Josef Redlich, 1914; No. 13, Justice and the poor, by Reginald Heber Smith, 1919, 3d edition, 1924; No. 15, Training for the public profession of the law, by Alfred Z. Reed, 1921. Copies of all publications of the foundation not out of print may be had without charge upon application to its office, 522 Fifth Avenue, New York City.

realize that it does not contain within itself all the elements needed to give students adequate preparation for the practice of the law. Finally, the establishment of the American Law Institute is evidence of a different kind of service that the faculties of case-method law schools are peculiarly qualified to render, namely, legal research having as its immediate objective not the training of students but scholarly production.

THE CASE METHOD AND SCHOLARLY RESEARCH

During the past three years, these general tendencies have been accentuated. The extent to which the once-derided innovation of the Harvard Law School has established itself as orthodox appears from the following figures. Of 60 law schools, situated in continental United States, that were members of the Association of American Law Schools at the beginning of the academic year 1928-29, 47 (78 per cent) were certainly genuine case-method schools. An additional 6 claimed in their catalogues to be using this method, although the composition of their faculties suggests that they may depart from it to a greater extent than they are themselves aware. In all but 1 of the remaining 7 schools, at least a minority of the faculty had been trained in this method. Out of the entire group of 60 schools, only 2 explicitly claimed in their printed announcements to be using, as the basis of their system of instruction, something other than the case method.

These case-method schools are those that have been mobilized, through the machinery of the Association of American Law Schools and of the American Law Institute, for the purpose of restating our at present chaotic common law, in such form as will make this law easier both to practice and to teach.⁴

On the other hand, in addition to the schools, usually of the part-time and mixed type, where conditions are not favorable, an increasing number of Harvard's followers are beginning to differentiate themselves by adding something to the original formula. Under the stimulus provided by the American Law Institute, there is also occasionally observable a tendency to elevate research from a subordinate, even though highly important, activity of the faculty, to the main purpose for which the school exists. From this point of view, law schools may now be roughly divided into four groups. Precision of figures is impossible when the ideas of the faculties are

⁴This is the principal immediate objective of the institute. Under its broad stated aims "to promote the classification and simplification of the law and its better adaptation to social needs, to secure the better administration of justice, and to encourage and carry on scholarly and scientific work," a draft code of criminal procedure is also being prepared.

still not fully crystallized, but their underlying attitudes toward legal education are beginning to assume shape somewhat as follows:

SCHOOLS CONCERNED ONLY WITH TRAINING PRACTITIONERS

First are the schools—most of those that hold sessions in the evening or late afternoon, and a few full-time schools as well—that do not pretend to be doing anything more than to prepare students to practice law. In their aims, and on the whole, also—though less obviously—in their methods, these stand nearest to the early law office from which all American law schools are descended.

RESEARCH SUBORDINATED TO TRAINING OF PRACTITIONERS

Second comes the important group of full-time schools that have followed the leadership of Harvard in regarding legal research and scholarly production as an important, and yet still a subordinate, function of the American law school. Cultivation of the science of law is to proceed *pari passu* with preparation for its practice, not only because scholarly research leads to results of value to the profession and to the community, but also because scholarly researchers are desirable agents to carry out what is still the main purpose of the school, namely, to train future practitioners. No American law school has so proud a record as Harvard, either in scholarly production or in the preparation of law teachers who have carried its gospel into other universities,⁵ yet Harvard in its current announcement⁶ unequivocally proclaims itself as, above all things, a professional school:

The school seeks as its primary purpose to prepare for the practice of the legal profession wherever the common law prevails. It seeks to train lawyers

⁵ In 1928 the 60 law schools, members of the Association of American Law Schools, situated in continental United States, contained 681 teachers, of which 106, or nearly one-fourth, had received their professional training, in whole or in part, at the Harvard Law School. The number of law faculties, other than its own, which included at least one Harvard-trained man was 50, as against a corresponding figure of 34 for its nearest competitor, the law school of the University of Chicago (originally organized under Harvard auspices), 27 for Columbia, 24 for the University of Michigan, and 23 for Yale (all of which have adopted the Harvard case method). The total number of teachers thus sent out into other law schools by Harvard, and still in service, was 139, a number nearly as large as the combined figures for Chicago (56), Yale (46), and Columbia (43). Michigan had trained 30 such teachers.

The total number of law faculties containing at least two members trained at the Harvard Law School was 40, or more than the combined figures for Chicago (14), Yale (10), Columbia (10), and Michigan (5). The total number of law faculties containing at least three members trained at Harvard was 26, as against corresponding figures of 7 for Yale, 5 for Chicago, 4 for Columbia, and 1 each for Michigan, George Washington, Georgetown, and Catholic University of America—the number teaching in the school of origin being in all cases excluded. Of 60 deans, 13 had received their professional training wholly and 5 partly at Harvard, 7 wholly and 1 partly at Columbia, 4 wholly and 3 partly at Yale, 2 wholly and 2 partly at Chicago and at Michigan; no other single school trained more than 2 deans, in whole or in part.

⁶ March, 1928, p. 7.

in the spirit of the common legal heritage of English-speaking peoples. Along with and inseparably connected with this purpose are two others, namely, the training of teachers of law, and the investigation of the problems of legal adjustment of human relations and how to meet them effectively.

With possibly some difference in phrasing, this may be taken to represent the ideals of many other law schools.⁷

Not all of these schools have followed Harvard blindly. Under the original formula certain acquisitions or accomplishments, that are undeniably of the greatest value to the future practitioner, are regarded as none the less outside the proper province of the law school itself. Such are, for instance, familiarity with the leading cases and the principal legal rules in all the important divisions of the general or common law; knowledge of peculiarities of the supplementary local law in force in the particular jurisdictions where the individual student intends to practice; and practical expertness of the sort that can be gained only from experience in meeting actual clients. If, even at Harvard, many students go far in such matters, this is because they are stimulated to take advantage of their incidental opportunities; as regards formal requirements for the degree, this kind of training is largely ignored in favor of "provision only for those things which a law school can do best," namely, "to direct study to the authoritative materials, so that the student may learn to use them with the traditional technique of the common-law lawyer and in view of the received ideals of the law."⁸ Some law schools take the position that, without sacrificing this as the main end of a professional law curriculum, it still is possible to render certain incidental services to the student more systematically than Harvard thinks worth while. Thus, they may prescribe for their student body a greater number of the standard titles into which the common law is divided. Or, especially when the bulk of their students intend to practice in a single jurisdiction, they may pay greater attention to local decisions and statutes, both in substantive law and in procedure. Or, finally, following the analogy of the medical clinic and hospital internship, they may require the student to participate in the work of a legal-aid society. These divergencies from the origi-

⁷ Compare, for instance, the statements of the University of Michigan: "While the primary function of law schools is to train men to practice law, nevertheless, in order that there may be opportunity for the training of law teachers, scholars, and writers, the time has undoubtedly come when instruction of an advanced nature should be offered in some of the university law schools" (Announcement, 1928, p. 10); and of the University of Chicago: "The course of study offered, requiring three academic years for completion, is not local in its scope, but constitutes a thorough preparation for the practice of law in any English-speaking jurisdiction. * * * Graduates * * * who give promise of ability to make a creditable contribution to legal scholarship, will * * * be admitted as candidates for the degree of J. S. D." (Announcement, 1928, pp. 2, 6.)

⁸ Report of the dean of the law school in Reports of the President and the Treasurer of Harvard College, 1927-28, pp. 200, 208.

nal model, however, are slight. The disagreement is merely as to whether or not these innovations are calculated to make the school a better training ground for future practitioners. The great bulk of the faculties that make up the Association of American Law Schools have this in view as their primary aim, even while their members are cooperating in the work of the American Law Institute, or in other forms of scholarly activity.

RESEARCH AND PROFESSIONAL TRAINING AS JOINT OBJECTIVES

The overwhelming majority of the law schools in the United States belong to one or the other of the two preceding types: Those that are not pretending to do more than train practitioners of that curious jumble which in this country constitutes the law; and those which, either as schools, or through individual members of their faculties, are doing something—in some instances are doing a great deal—to make our law better than it now is, but—largely for this very reason—still regard the training of practitioners as their primary objective. They can train these practitioners the better for being themselves interested in the improvement of the law; they are the more likely to succeed in their projected law reform for the reason that they send out into practice graduates imbued with their own ideals. The increased respect which is accorded to law school men by practitioners and judges, and makes possible their cooperation in such activities as that of the American Law Institute, is largely attributable to the fact that the ranks of practitioners and of future judges have been recruited in increasing measure from the graduates of these institutions.

What, however, is to be done for the future preparation of these same professional law teachers, this special group of lawyers who combine the two functions of training others for practice and prosecuting research themselves? How are the existing scholarly law faculties to secure their own successors? In the answers given by different law schools to this question, there is a distinction that is perhaps more one of degree than of kind, but that is much more important than the relatively trivial departures from the Harvard formula which we have thus far noted. Harvard, the University of Michigan, Columbia, and Yale are among the law schools that list separately a group of subjects that are primarily useful for future teachers and research workers. At all four of these institutions this work qualifies for higher or postgraduate degrees. But whereas at Harvard and at Michigan candidates for the lower degree, conferred in the regular 3-year practitioners' curriculum, can take little, if any, of this work, even by special permission, at Columbia all of these "graduate courses" are open to a restricted number of spe-

cially qualified second-year and third-year students, by permission of the dean and of the instructor in charge; and at Yale these "honors and graduate courses" are announced as "open to all students in the third year and to a limited number of students of high standing in the second year."

The opening of systematic studies of this sort to candidates for the regular practitioners' degree is more significant than the fact that what Harvard terms "investigation of the problems of legal adjustment of human relations and how to meet them effectively" Columbia describes as "an understanding of the economic, social, and political problems with which the law deals,"⁹ and Yale as "shaping the law to meet the demands of a changing society."¹⁰ It means that at these two latter schools the regular law degree no longer stands unreservedly for strict training in the principles of the common law; that time may be taken from these for additional studies which, under the Harvard formula, should come either before or after the regular practitioners' course—before, if they are of value to all lawyers, and after, if they are of value chiefly to teachers. It means that it is more than a coincidence that neither Columbia nor Yale proclaims, as do Harvard and Michigan, that the training of practitioners is the primary purpose or function of the school.¹¹ We have here at least the origins of a third type of law school—one in which research in law, although still conducted in conjunction with a professional law school, gives the impression, whether intended or not, of being the activity in which the faculty is principally interested.

RESEARCH DIVORCED FROM TRAINING OF PRACTITIONERS

Finally, an "Institute for the Study of Law," recently established at Johns Hopkins University, represents the opposite pole from the first group of law schools described above—those that have no aspirations to enter the field of scholarly research, but are content solely to prepare future lawyers for practice. Its faculty are frankly interested in law not as an art or a profession to be practiced by themselves or by their students, but as one of the social sciences—something to be studied and made better by themselves and by those

⁹ Announcement, June, 1928, p. 7.

¹⁰ Address of the retiring dean before the New Jersey Bar Association, June 8, 1929.

¹¹ Columbia's aim is stated to be "not only to fit its students as completely as possible for the actual practice of law and the conduct of public affairs but also, by the encouragement of scholarship and research, to lay a substantial foundation for legal authorship, and furnish preliminary training for the profession of the law teacher." (Announcement, 1928, p. 6.) Yale states that "it is the aim of the school to give all students in the regular professional curriculum preparation for the practice of law in any State, and also, by the encouragement of scholarship and research, to lay a foundation for the profession of law teaching and for legal authorship." (Announcement, 1928, p. 18.)

whom they train up to pursue similar activities and to inculcate similar ideals, both in their own institution and in other law schools or research associations. Although in a broad sense a law school, it does not propose to maintain an orthodox course for the training of practitioners. While the second and the third types of institution, despite their varying emphasis, agree that a "gain, both to research and to professional training, [results] from conducting research in law in conjunction with a professional law school,"¹² the promoters of the Johns Hopkins Institute believe that this connection tends to perpetuate the present unfortunate division in the American university scheme between professional law schools, professional schools of business, and college departments of social sciences.

BAR ADMISSION REQUIREMENTS

The immediate purpose of the campaign, already referred to, that has been recently prosecuted under the joint auspices of the American Bar Association and of the Association of American Law Schools, was to strengthen requirements for admission to the bar. In 1921 the practitioners' organization adopted, and the schoolmen indorsed, a platform which may be summarized as follows:

PROGRAM OF REFORM

1. Admission to the bar should be restricted to graduates of law schools; and, further, of law schools possessing the following characteristics: (a) The law school itself should admit only those who have studied at least two years in a college. (b) The course of professional studies pursued by students who devote to it substantially their full time should cover three years. Other students must continue their studies as much longer as is requisite in order to produce an equivalent number of working hours. (c) Law schools must have adequate library facilities. (d) They must have a sufficient number of teachers who are giving their entire time to the school.

2. The qualifications of these law school graduates must be tested by official bar examinations.

It became the responsibility of the newly established Council on Legal Education to interpret these purposely general principles. This task has been continued during the past three years. Only one change has been made, however, by the American Bar Association itself. In 1922, at a special conference on legal education held in Washington, D. C., under the auspices of the Conference of Bar Association Delegates, the original resolutions had been indorsed with certain qualifying explanations. These were that equivalents might

¹² Report of the dean of the Columbia School of Law, for 1928, p. 19.

properly be accepted for two years of study actually pursued in a college; and that law schools should not be operated as commercial enterprises. In September, 1927, the American Bar Association adopted the first of these suggestions, in the form of a resolution calling for prelegal examinations to be conducted by State universities or boards of bar examiners, for applicants obliged to make up their preliminary qualifications outside of accredited institutions of learning. The second recommendation, stigmatizing commercialism in legal education, was immediately adopted by the Association of American Law Schools, but not by the American Bar Association. Some question has arisen as to the adequacy of its phrasing in its original form.¹³

PROGRESS TOWARD REQUIREMENT OF GRADUATION FROM A LAW SCHOOL

The first recommendation—that the applicant must have graduated from a law school—has not been followed by any State, though West Virginia has approximated it by requiring three years of study in a law school. Recently one other State has come to require at least two years of law school study¹⁴ and two other States require one year.¹⁵ In the main, however, the States have refused to abolish the traditional method of admission to legal practice, on the basis of office study alone. Several have made it more difficult to qualify for the bar examination by this route; between 1925 and 1928 the number of jurisdictions that require 4 years of law study, under such conditions, as against the 3 years that suffice in the case of a full-time law school, rose from 5 to 6.¹⁶

In the face of this repudiation of the first and most fundamental recommendation of the American Bar Association, the prescribed set of law school standards could influence the development of bar admission rules only in two ways. In the first place, whatever part law schools play in the admission system, the bar admission authorities might be persuaded to recognize only schools that comply with these standards; and, in the second place, such of these standards as are applicable might be transferred from the law school to the applicant's course of law study, wherever pursued.

ACCEPTANCE OF AMERICAN BAR ASSOCIATION STANDARDS FOR LAW SCHOOLS

Under the first head, up to the beginning of the year 1928-29, only two States had accepted the entire group of law-school standards.¹⁷

¹³ Since this was written, the recommendation was adopted by the American Bar Association, at its meeting in Memphis, October, 1929.

¹⁴ Colorado.

¹⁵ Kentucky, Wyoming.

¹⁶ To Illinois, Michigan, Minnesota, Ohio, and Washington, add Wisconsin.

¹⁷ Wisconsin and Wyoming recognize only law schools approved by the Council on Legal Education. On Jan. 12, 1929, Connecticut adopted the same rule for applicants beginning their law studies after this date.

Another has accepted standards (b), (c), and (d).¹⁸ Finally, standard (b) by itself, or something similar, has been accepted by an increasing number of jurisdictions. The council has ruled that a part-time course of 4 years of at least 40 weeks each shall be regarded as the quantitative equivalent of a full-time course of 3 years of at least 30 weeks each. The number of States that, without accepting the other standards, at least require an evening or part-time course to cover 4 years as against the period of 3 years deemed sufficient in the case of a day or full-time course, increased from 9 in 1925 to 10 in 1928.¹⁹

APPLICATION OF STANDARDS TO LAW STUDY IN GENERAL

Under the second head, the law school standard that is most readily applicable to the course of law study, wherever pursued, is standard (a), calling for preliminary education equivalent to two college years. The number of jurisdictions that, presently or prospectively, announce this requirement grew from two in 1925 to five in 1928.²⁰ The number requiring 2 years of college, or their equivalent, prior to the bar examination, but not necessarily prior to the beginning of the period of law study, increased from 2 to 3.²¹ The number (including the above) that require at least a 4-year high-school course or its equivalent increased as follows: Preliminary, 14 to 15; nonpreliminary, 13 to 15.²²

Standard (b) has had even less influence here; the number of jurisdictions that require law study during at least three years has remained unchanged at 31.²³ The important changes that have recently occurred with respect to the period of law study have to do with a matter as to which the American Bar Association made no recommendation, namely, insistence, even in the case of law-school graduates, upon supplementary office work. Pennsylvania has recently joined New Jersey and Rhode Island in requiring an office clerkship to be served at least during law-school vacations. New York has long had a rule under which all applicants, other than college graduates, are obliged to serve a continuous year of clerkship

¹⁸ West Virginia.

¹⁹ To California, Connecticut, Idaho, Kansas, Maine, Massachusetts, Minnesota, Ohio, and Washington, add Pennsylvania. By legislation, however, effective Aug. 14, 1929, California has abolished this requirement.

²⁰ To Kansas and Illinois, add Ohio, Colorado, and (not fully effective until October 15, 1929) New York. Subsequently, the requirement has been adopted by Minnesota (fully effective Mar. 1, 1931), and, subject to exceptions in favor of a limited number of special students in local law schools, by Michigan (effective Mar. 1, 1930).

²¹ To West Virginia (erroneously classified in the preceding survey as a "preliminary" jurisdiction) and Montana, add Wisconsin. So also, since the above was written, by a requirement fully effective in 1933, Idaho.

²² South Carolina, formerly nonpreliminary, became preliminary. District of Columbia, Kentucky, and Maine were added to the nonpreliminary group.

²³ Since the above was written, Oklahoma has advanced to this level.

subsequent to the regular 3-year course of study, either in office or in school, that leads to the bar examination; after July 1, 1929, even college graduates must serve such a clerkship for six months.

RESPONSE TO CONDEMNATION OF DIPLOMA PRIVILEGE

Since 1925 there has been no change in the number of jurisdictions (13) in which, under the so-called "diploma privilege," graduates of certain law schools are admitted to the bar without examination as to their educational qualifications. In Florida and in Oklahoma²⁴ the privilege has been extended to schools that have recently been opened, or have recently acquired power to confer degrees, and in Texas to all law schools recognized by the Council on Legal Education. In addition to these States, Indiana continues to be handicapped by its well-known constitutional provision, under which it is possible to develop only optional bar examinations in certain counties.

The foregoing sketch shows that while there has recently been undoubted improvement in bar admission requirements throughout the country, in the general direction blazed by the American Bar Association, this progress has been slow. The following table shows how seldom are lawyers now obliged to possess certain qualifications that are commonly insisted upon in the case of physicians and surgeons, and how few changes have occurred in this respect during the past three years. The enumeration of bar admission requirements includes all that had actually been adopted in the autumn of the years in question, whether or not they were yet in force.

TABLE 1.—Comparison between bar admission and medical licensing requirements in 40 States and the District of Columbia, 1925 and 1928

Number of jurisdictions requiring—	Medicine		Law	
	1925	1928	1925	1928
Graduation from a professional school.....	48	48		
At least 3 years of study in a professional school.....	48	48	1	1
At least 2 years of preliminary college education.....	38	38	2	5
At least a preliminary high-school education.....	44	47	14	15
At least 5 years of professional training.....	11	12		
More than 3 years of professional training.....	49	49	1	1
At least 3 years of professional training.....	49	49	31	31
Examination of all applicants by public authority.....	49	49	35	35

PROGRESS IN LAW SCHOOL REQUIREMENTS

Much greater changes have been effected in the law schools. An increase in the bar admission requirements of any State affects every school that aspires to prepare for practice there—not merely those

²⁴ Since the above was written, the privilege has been abolished in Oklahoma.

that are physically located within its boundaries. This influence has been supplemented by a nation-wide incentive to secure approval by the Council on Legal Education and admission to the Association of American Law Schools. Pressure of this latter sort has been particularly strong in the case of law schools that are connected with a college or university, because it is here reinforced by the respect which regional associations or other standardizing organizations naturally pay to professional standards promulgated by representatives of the professions themselves. That aspect of the general development which most readily lends itself to tabular presentation—namely, the amount of time needed to secure the degree—is set forth in Tables 2 and 3, which compare medical schools with law schools.²⁵

FULL-TIME SCHOOLS OF LAW AND MEDICINE

Study of these tables reveals certain resemblances, but also certain dissimilarities, in the extension of medical and of law courses. Table 2 shows that, in 1909-10, 112 full-time medical schools and 50 full-time law schools did not require for admission any work in a college of liberal arts and sciences; each figure represented approximately 80 per cent of the total number of full-time institutions. In each profession there were a few schools that required a single year of college for admission and a few more that required at least two college years. To-day only six full-time schools of medicine and only three of law fail to require college work. No full-time school either of medicine or of law now requires only one college year; the number that demand two college years or more has increased as follows: In medicine, from 16 in 1909-10 to 74 in 1925-26, and to 75 in 1928-29; in law, from 8 in 1909-10 to 65 in 1925-26, and to 75 in 1928-29, the same figure as for full-time medical schools. To this extent recent developments in legal education compare closely, and even favorably, with the progress that has been achieved in medical education.

In addition to entrance requirements, however, two other elements must be considered in computing the total amount of time that is represented by the professional degree. These are the duration of the professional course, measured in academic years, and the amount of time that the student devotes to his studies during this period. In both of these respects there has been a marked difference between the two professions. In medicine the professional course had long been standardized at 4 years, so that the prefixing of 2 years of college work makes a total of 6 years after the high school; 20 schools have come to require either additional college work, or a

²⁵ For the figures relating to medical education which are used in this paper the writer is indebted to Dr. N. P. Colwell, secretary of the Council on Medical Education.

year of hospital internship, making a total of 7 years; and 3 schools have made both additions, with the result that their students must spend the equivalent of 8 academic years in earning their degree. Quite otherwise is the situation in legal education. The traditional duration of the law-school course is 3 years, making a total, when added to a preliminary 2 years in college, of only 5 years after the high school. The current standards of the American Bar Association do not contemplate either any lengthening of the law-school course proper, or any addition of obligatory office work; nor, in spite of the now sadly congested law-school curriculum and frequent complaints as to the law-school graduate's lack of practical experience, has more than one full-time law school lengthened its residential requirements, and this by no more than a 10-week summer course. An extension of the preliminary college work beyond the required minimum of two years finds greater favor; but at the beginning of the academic year 1928-29 only 14 full-time law schools had already adopted this method of advancing beyond the 5-year level (which no less than 75 medical schools had passed), and only 4 more had announced their intention shortly to do so.

CONTRAST AS REGARDS TOTAL NUMBER OF SCHOOLS, ESPECIALLY OF THOSE OFFERING PART-TIME WORK

The third element that must be considered in computing the time value of a degree—namely, the amount of time that the student devotes to his studies while in the professional school—is intimately related to the change that has recently occurred in the total number of schools. Here there is an even greater contrast between the medical and the legal professions. Table 2 shows that since 1909-10 the supply of full-time medical schools has diminished by 55 (a loss of more than 40 per cent), while the number of full-time law schools has increased by 14 (a gain of more than 20 per cent). Table 3, which covers schools that offer work intended for self-supporting students, either exclusively or in connection with full-time divisions, shows an even more striking discrepancy. In 1909-10 there were only 4 such medical schools, all of which subsequently either died or changed their classroom sessions to the regular working hours of the day. At this date, there were already, however, 60 part-time or "mixed" law schools, and the number has increased since then by 35 (a gain of 58 per cent). If the figures in the two tables be added, it will be found that the total number of medical schools, either full-time or part-time, has shrunk from 140 to 81, while the total number of law schools has increased from 124 to 173.

The reason for the diametrically opposite trends in the two professions lies in the nature of their activities. Medical science in-

volves laboratory work of a sort that can not conveniently be prosecuted in the evening, and there is relatively little reason why "poor boys" (other than those exceptional individuals who can surmount all obstacles) should become physicians. Hence institutions that schedule their classroom instruction during evening hours, in the special interest of self-supporting students, never became a real complication in medical education. The low-grade medical schools were for the most part already of the full-time type. Progress has naturally taken the form of improving some of these, of abolishing the rest, and of either transforming into full-time schools or abolishing the few anomalous part-time institutions. Legal education, however, as currently conceived, involves nothing that can not be taught during the evening, and social and political considerations make it imperative that the diverse economic strata of our population shall be not unequally represented in the governing class of lawyers. Hence for many years evening or part-time law schools or divisions have abounded, and because of their very abundance had come to include, in 1909-10, the greater number of irredeemably low-grade institutions. The full-time law schools of that date were in many cases very primitive, and sadly in need of improvement, but as a group they did not call for the drastic weeding that was required in the case of full-time medical schools. The group of part-time law schools contained a much larger number that should have been, if not uprooted, at least radically transformed. The reason why this has not occurred is the inadequacy of the remedy proposed by the supervising agencies—the attempt to offset the smaller amount of time that self-supporting students can devote to their studies while in the school by making them stay in the school longer.

RESULTS OF THE CURRENT POLICY WITH RESPECT TO PART-TIME EDUCATION

Undeniably the attempted application of this remedy has greatly improved part-time law schools. The comparative classification of quantitative requirements that is presented in Table 3 reveals this at a glance, and may be further summarized as follows:

In 1909-10, 53 out of 60 part-time law schools or divisions of "mixed" law schools, or a trifle over seven-eighths, required for the degree 3 years after the high school, or less.

In 1925-26, 67 out of 92, or nearly three-quarters, required 4 years or more.

In 1928-29, 79 out of 95, or 83 per cent, required as long a period as this, and no less than 51 schools, or well over half the total, required at least 5 academic years.

If the time element has any bearing upon the value of the degree, this general lengthening of the part-time law course must be counted as clear gain.

On the other hand, the present standards of the Council on Legal Education call for at least 2 college years, or their equivalent, followed by at least 4 years of professional work, or a total, after the high school, of not less than 6 academic years. The same table shows that only 28 part-time or "mixed" institutions, or less than 30 per cent of the total, even pretend to fulfill this requirement. These 28 schools reported, for 1927-1928, 6,232 students, or less than one-fifth of the total of 32,517 enrolled in such institutions, shown by Table 4. As late as December 31, 1928, none of the 74 exclusively part-time schools, and only 6 of the 21 "mixed" schools, with a total enrollment of fewer than 2,400, had been approved by the Council on Legal Education as complying with the full set of standards. These figures compare with 60 full-time law schools (77 per cent) and 72 full-time medical schools (90 per cent) that have been fully approved by their respective councils.

With sustained effort on the part of the American Bar Association and its council, a much better showing will soon doubtless be made; and this development is salutary, so far as it goes. The requirements of part-time law schools, both for admission and for graduation, were in 1909-10 entirely too low; it is well that there should be a gradual increase in both respects. But there is not the slightest prospect that the continuance of this movement will establish evening or late afternoon law schools on a parity with good full-time schools. Instead, the tendency of the movement is to relegate to a definitely lower educational plane these politically indispensable institutions.

The chain of reasoning by which the present policy of the American Bar Association toward evening or part-time law schools could be supported would run as follows:²⁶

First, so long as students devote to their studies approximately the same total of working hours, it makes no difference how long or how short is the course of instruction leading to the degree, or how much or how little is demanded of students during any particular week or year. The handicap under which self-supporting students labor, of being able to devote to their law studies only a relatively small number of hours during any one week or year, can be overcome by the simple device of increasing the number of weeks or years.

²⁶ The council of the section of legal education and admissions to the bar of the American Bar Association, to whom proofs of this chapter were communicated, passed a motion, at their meeting of Jan. 4, 1930, expressing "disapproval of the expressions therein contained so far as they relate to the actions and positions of the section of legal education of the American Bar Association."

Second, it is assumed to be practicable to lengthen the course of study pursued by self-supporting students sufficiently to produce the quantitative equivalence desired. The total number of working hours that such students devote to their studies can by this means actually be made to equal those that a good full-time student devotes to his studies during not less than five academic years after the high school.

Third, an extension of the present standardized 3-year full-time law course to four years, or a little more, for part-time students, with uniform entrance requirements, is deemed sufficient to produce the desired result.

This chain of reasoning is weak in every link, and in its practical application can have no other effect than to confirm the present reputation of evening law schools as inherently second rate. However greatly they or other part-time law schools may be improved by this policy, they are placed in a position of permanent inferiority to good full-time institutions. Condemned to aspire to a standard that in the nature of things they can never reach, they are then appraised on the basis of their assured shortcomings. Indeed, it is doubtful whether this method of attack will even lessen the gap that to-day exists between the education provided by the best full-time and by the best part-time law schools. For the leading full-time schools themselves stand in need of improvement, and notably, if they can not abandon part of their burden to other institutions, may be obliged to lengthen their own law course. One of the considerations which makes them unwilling thus to relieve the present congestion of their curriculum is that any such step would tend to divert students into night law schools. Thus each type of school hurts the other.

The tacit assumption, which underlies the whole contemporary movement to raise the standards of legal education and injures the interests and the reputation of all law schools, of all law school students, and of the entire profession into which they feed, is that an organization of the legal profession which was appropriate to a pioneer agricultural community should be carried over unchanged into our present highly specialized commercial age. The notion persists that the vast responsibilities of legal practice, in our present complex civilization and under our present confused system of law, can still be adequately discharged by general practitioners, possessing uniform privileges and admitted to practice after passing uniform tests. A natural outgrowth of this traditional attitude is the setting up of a uniform set of standardized requirements to which all law schools are expected to conform. An inevitable consequence is the classification of law schools on the lines of better

or worse, rather than of the functions for which they and their graduates might be specially qualified.

TABLE 2.—Full-time medical schools and full-time law schools, classified according to the minimum time required, after completion of a high-school course, to secure the degree

Academic years required	Medical schools			Law schools		
	1909-10	1925-26	1928-29	1909-10	1925-26	1928-29
8 years: 3 or more years in college, followed by 4 years in medical school, followed by 1 year in hospital.....		3	3			
7 years: 2 years in college, followed by 4 years in medical school, followed by 1 year in hospital.....		9	8			
3 or more years in college, followed by 4 years in medical school.....	4	11	12			
6 years: 2 years in college, followed by 4 years in medical school.....	12	51	52			
3 or more years in college, followed by 3 years in law school.....				5	11	14
5 years, or a little over 5 years: 1 year in college, followed by 4 years in medical school.....	8					
2 years in college, followed by 3 years or (in one case) 3 years and 10 weeks in law school.....				3	54	61
4 years: No college work, followed by 4 years in medical school.....	112	5	6			
1 year in college, followed by 3 years in law school.....				4	5	
2 years in college, followed by 2 years in law school.....				2		
3 years.....				31	5	2
2 years.....				18		
1 year.....				1	1	1
Total.....	136	79	71	64	76	78

TABLE 3.—Part-time medical schools and part-time law schools or divisions, classified according to the minimum time required, after completion of a high-school course, to secure the degree

Academic years required	Medical schools			Law schools		
	1909-10	1925-26	1928-29	1909-10	1925-26	1928-29
8 years: 3 years in college, followed by 5 years in professional school.....						1
7 years: 2 years in college, followed by 5 years in professional school.....					1	1
6 years: 2 years in college, followed by 4 years in professional school.....					12	26
5 years: No college work, followed by 5 years in professional school.....					1	5
1 year in college, followed by 4 years in professional school.....				2	1	5
2 years in college, followed by 3 years in professional school.....					3	13
4 or 4½ years: No college work, followed by 4 or (in 1 case) 4½ years in professional school.....	4	1		5	37	24
1 year in college, followed by 3 years in professional school.....					12	4
3 years.....				34	18	11
2 years.....				18	7	5
1 year.....				1		
Total.....	4	1		60	92	95

TABLE 4.—Number of law schools, and attendance at law schools, classified as full-time, part-time, or mixed

Schools	1909-10		1925-26		1928-29		1909-10		1925-26		1927-28	
	Number of schools	Per cent of total	Number of schools	Per cent of total	Number of schools	Per cent of total	Number of students	Per cent of total	Number of students	Per cent of total	Number of students	Per cent of total
Part-time only.....	49	39	75	45	74	43	6,036	31	16,818	38	17,253	35½
Mixed.....	11	9	17	10	21	12	3,444	18	12,365	28	15,284	31½
Total offering part-time work.....	60	48	92	55	95	55	9,480	49	29,183	66	32,537	67
Full-time only.....	64	52	76	45	78	45	10,018	51	15,157	34	16,068	33
Grand total.....	124	100	168	100	173	100	19,498	100	44,340	100	48,605	100

CHAPTER IV

SIGNIFICANT MOVEMENTS IN CITY SCHOOL SYSTEMS

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CONTENTS.—Administration—Teachers—Length of school year—Curriculum and articulation—Experimental research—Individual instruction—Safety education—Visual instruction—The platoon school—The visiting teacher.

So extensive and so complex has the modern city school system become that it is impossible in a short chapter to discuss more than a few of the educational movements in the cities of the country, and these only briefly. In addition to day elementary and secondary schools, the activities of city school systems include night schools, continuation schools, special schools, health supervision, vocational schools, vocational guidance, etc. Reviews of some of these activities appear in other chapters of the Biennial Survey of Education. Separate chapters are also issued which discuss various phases of kindergarten, elementary, and secondary education in city school systems.

ADMINISTRATION

During the past two years comparatively little general or special legislation relating to city school administration has been enacted. The situation at present with respect to the methods of electing boards of education and with respect to their fiscal relation to other boards may be summarized as follows:

Thirty-eight boards of education in 55 cities of 100,000 or more population reporting are elected by the people; 11 are appointed by the mayor; 3 by the city council or commission; 3 by the courts. One hundred and four of the boards of education in 135 cities between 30,000 and 100,000 population reporting are elected by the people; 16 are appointed by the mayor; 15 by the city council or commission. In 516 cities between 5,000 and 30,000 population reporting, 416 boards of education are elected by the people, 33 are appointed by the mayor, and 67 by the city council or commission.

In cities of 100,000 or more population 8 of the 47 boards of education reporting must submit their annual estimates to the mayor, city council, or commission; 11 to a board of finance, board of esti-

mate, or similar municipal board; and 5 to the county board of supervisors or county budget commission.

After obtaining funds for the purchase of grounds and the erection of new buildings, 32 of 47 boards of education in cities of 100,000 or more population may purchase grounds and erect buildings without consulting any other body.

In cities between 30,000 and 100,000 population, 20 of the 133 boards of education reporting must submit their proposed budgets to the board of estimate or city finance committee; 32 to the council, mayor or city commission; 11 to the county board of supervisors or county budget committee; and 3 to the State tax commission or State budget director.

After obtaining the funds the board of education in 71 of the 133 cities may purchase land and erect school buildings without consulting any other board.

One hundred and twenty-six of 520 boards of education in cities between 5,000 and 30,000 population reporting must refer their annual estimates to the city council or town finance committee; 30 to board of estimate; 15 to the people; and 51 to the county officials.

Although there has been a tendency to consolidate municipal departments and to abolish department heads, there has been no movement to abolish boards of education and to place the schools under the management of the municipal department. In fact, within recent years several school systems have been reorganized by placing more power in the hands of the boards of education. As long as education is considered a State and not a municipal function the schools will not become more subordinate to municipal government than they now are. The principle that school officials are State and not municipal officials has been so well established by law and court decisions that any effort to make the schools a part of the municipal government would be considered by authorities on school administration as a step in the wrong direction. Authorities on municipal government, however, would generally favor a movement of this kind on the theory that all the affairs of the city, including school matters, should be considered together, and that the budget of boards of education should be reviewed by some municipal body just as are the budgets of any other municipal department.

All the evidence available seems to indicate that the fiscally independent school systems are as economically administered as the dependent ones, and that in many respects they are more efficient. Practically all the recent school surveys in cities where the boards of education are fiscally dependent recommend that, since education is a State and not a municipal function, and since experience has proved that the fiscally independent plan works better than

the fiscally dependent plan, schools in these cities become fiscally independent. Two authorities on city school administration express as follows the views of practically all city school administrators regarding the fiscal control of city schools:

It can be generally said that the people of a school district should have the legal right to raise as much money for the financial support of their schools as they decide is desirable. There is no reason why constructive economy in the operation of the schools should not parallel increased costs. Restriction of tax levies, budgetary reviews, or any form of artificial controls will not necessarily operate in the manner in which the laws assume. The most effective control is the selection of competent officials, and an insistence upon factual evidence showing that every dollar expended is returning value received.¹

In Michigan, the school laws were codified in 1927, and some important legislation was enacted regarding the city school districts by dividing them into three classes. Districts of the third class are those having a population from 10,000 to 125,000, districts of the second class are those having a population of more than 125,000 and fewer than 500,000, and districts of the first class are those having a population of more than 500,000. The laws relating to schools in these districts are in general based upon sound administrative principles. The boards of education are small and are elected from the city at large. The chapter on districts of the third class especially may serve as a model for those States contemplating legislation for their smaller cities. The main features are:

1. The board of education is composed of seven members elected at large for a term of four years.

2. The board of education has large powers, including the right to determine the amount of taxes necessary; to borrow money, to purchase sites for buildings, etc., and to erect buildings; and to issue bonds not to exceed 2 per cent of the assessed valuation of the district.

3. The superintendent of schools is made the legal executive of the board of education, his powers and duties being:

- (1) To put into practice the educational policies of the State and of the board of education in accordance with the method provided by the board of education;

- (2) To recommend in writing all teachers necessary for the schools and to suspend any teacher for cause until the board of education may consider such suspension;

- (3) To classify and control the promotion of pupils;

- (4) To recommend to the board the best methods of arranging the course of study and the proper textbooks to be used;

- (5) To make reports in writing to the board of education and to the superintendent of public instruction annually or oftener if required, in regard to all matters pertaining to the educational interests of the district;

- (6) To supervise and direct the work of the teachers and other employees of the board of education;

¹ Engelhardt and Engelhardt: Public-School Business Administration, p. 94.

(7) To assist the board in all matters pertaining to the general welfare of the school, and to perform such other duties as the board may determine.²

The classification of city school districts and laws relating to the administration of the schools in each class are usually considered preferable to special legislation for each of the cities in a State.

Board organization.—The movement to reduce the number of standing committees or to abolish them continues. The reduction in the size of boards of education and a clearer conception of the function of such boards have been responsible for the reduction in the number of standing committees. When boards of education were large there was perhaps some justification for standing committees, but now that few such boards are composed of more than nine members it is difficult to understand why a board of education should continue having such committees. No committee should have executive duties, not even a committee on supplies or a committee on buildings. In the larger cities there are business managers and superintendents of buildings to perform executive tasks relating to business and school buildings. In the smaller cities where there are no business managers or superintendents of buildings, the superintendent of schools should himself look after business matters. The tendency has been to make him the executive officer of the board, since boards of education in many of the smaller cities have come to realize more and more that it is their chief function to adopt policies.

In some of the cities where school business managers are employed there is still a dual system of administration, the business manager being independent of the superintendent of schools. The tendency, however, seems to be toward the unit system of administration, with the superintendent of schools as the chief executive officer and toward placing an assistant superintendent in charge of business affairs. This plan seems the logical and practical solution of a vexing problem that has been confronting many city boards of education.

TEACHERS

Qualifications.—Within the past two years the educational and professional training required of elementary-school teachers for the first employment have been raised by a year in some cities. In the cities that required but one year of preparation beyond high school the standard has been raised uniformly to graduation from a 2-year normal school, and in some of the cities that required two years' training beyond high school the standard has been raised to three or four years. The tendency is to raise the requirements for beginning junior high school teachers to college graduation and to require more

²General school laws, State of Michigan (revision of 1927), p. 50.

professional preparation on the part of prospective high-school teachers. The movement in the direction of requiring a master's degree for academic high-school teachers is pronounced in some cities.

Tulsa, Okla., may be mentioned as one of the cities that have raised the standard for both elementary and high school teachers. In that city the minimum educational requirement for the beginning teacher is the bachelor's degree, representing four years' work above the high school or its full equivalent, professional training, and not less than 16 months' successful experience in teaching, other than that done as part of his professional training. High-school teachers are expected to have the master's degree or not less than a full year of graduate work in the subject they teach. All teachers must be 21 years old or over and must submit evidence of good physical health, mental ability, and moral character. The board of education, however, reserves the right to employ as teachers men and women of unusual outstanding ability and success even though their academic qualifications may be less than the stated minimum.

City normal schools are extending their courses, and in several States the normal-school courses have been extended to three or four years, thus making it possible for the cities in these States to obtain better trained teachers for their elementary schools.

The need of prepared teachers has always been apparent, but it has not always been an easy matter to raise the standard requirements for first employment. If the standard goes up and the salary does not there are not enough teachers to fill the positions. If, on the other hand, the salaries go up and the standards do not, there is an oversupply of teachers; in which case, one or two things may happen—salaries may be lowered or the standards raised. The tendency among city schools in general has been to raise standards rather than to lower salaries. This is the only logical course to pursue if the schools of a city are to become more efficient.

Single-salary schedule.—The single-salary schedule has been adopted in many cities as a means of obtaining better prepared teachers for the elementary-school grades and of retaining in those grades those teachers who have the preparation necessary to teach in high-school grades but who are better adapted to elementary-school work. The single-salary schedule has also been adopted in recognition of the fact that the work of the elementary-school teacher is just as important and just as exacting as the work of the high-school teacher.

Among the advantages claimed for the single-salary schedule by those who advocate it are: (1) It is easy to operate; (2) it eliminates class consciousness among teachers; (3) it contributes strongly to a feeling of unity and satisfaction in the teaching corps; (4) it attracts superior ability and training in the elementary schools.

and gives elementary teachers a higher appreciation of their services; (5) it emphasizes higher standards of professional attainment and encourages professional study and growth, thus producing more efficient teaching in every grade; (6) it permits the transfer of teachers without financial loss from positions for which they are not adapted to positions in which they can render efficient service; (7) it helps place the work of the elementary school in the estimation of the public on a par with the work of the high school; (8) it offers an incentive to further study.

The fact should not be overlooked that even if college graduation is considered desirable for elementary as well as for high-school teachers, the kind of preparation should not be the same. If, for example, a teacher has majored in mathematics and has had 20 hours in education, largely in the secondary-school field, the question may be raised whether that teacher is prepared to teach the elementary-school subjects, or at least whether she is as well equipped as the teacher who has made special preparation for elementary-school work even if her studies have not extended over four years.

Experience.—In some cities a year or two of experience is required of teachers before receiving an appointment. If all cities should adopt such a rule, it is evident that normal-school and college graduates desiring teaching positions would have to obtain them in the rural and village schools or in private schools. Such a rule can not well be defended. Of course as long as some cities pay larger salaries than others they will find it comparatively easy to obtain all the experienced teachers needed. The city that can pay good salaries to teachers should also be able to provide good supervisors to help train the inexperienced normal-school and college graduates, so that it would not always be necessary to employ teachers with one or two years' experience.

Married women teachers.—Among the questions relating to teachers that boards of education are often called upon to answer are: Shall married women be employed as teachers? and Shall a woman teacher who marries during the school term be required to resign? Many boards of education have within the past two years taken some action upon these questions. Some have adopted resolutions that married women shall not be employed as teachers and others have gone a step further in terminating the contract with women who marry during the school term. Boards of education passing such resolutions usually do so on the presumption that a married woman has too many home duties to be an efficient teacher, and on the supposition that she should be supported by her husband. Those persons opposed to rules barring married women teachers assert that it is the duty of boards of education to employ the best-qualified teachers, whether

they be married or single; that efficiency in the classroom is the criterion by which to judge teachers; that each teacher should be judged on merit; and that it is no business of a board of education whether or not a married woman is supported by her husband.

In reply to a questionnaire recently sent out by the National Education Association concerning the employment of married women as teachers, 1,532 cities over 2,500 in population replied. Of these cities, 39 per cent reported that married women were employed as new teachers; 60.7 per cent, that married women were not employed as new teachers; and 0.3 per cent of the cities did not reply. In reply to the question as to whether single women teachers who marry were retained or required to resign, 25.1 per cent of the cities reported that they were required to resign at once; 25.5 per cent required them to resign at the end of the school year; 47.8 per cent permitted them to continue to teach; and 1.6 per cent did not reply to the question.

LENGTH OF SCHOOL YEAR

The number of days that the city schools of the country are in session has been gradually increased. Within the past two years 50 of about 800 cities reporting have added from 5 to 20 days to the school term. The State of New York has increased the term to 190 days. Even though the tendency is to lengthen the school year, comparatively few city schools are in session more than 185 or 190 days a year. In cities having a school term of 10 months there are often so many holidays that the schools are in actual session only 185 or 190 days, and in many cities having a 9 months' term the actual number of days taught is much less than 180.

The average length of the school term in the cities of the country as a whole could be greatly increased if the school month were made to consist of 20 days actual teaching, as is, for example, the practice in the State of Pennsylvania. In that State in cities having a 9 months' school term schools are in actual session 180 days, and in those cities having a 10 months' term schools are in actual session 200 days.

A longer school term has generally been advocated by school superintendents and by many other persons interested in education, but progress in this direction has been slow for several reasons. One reason no doubt is that it would cost more to run the schools 11 months a year than it costs to run them 9 months, and another reason is that many persons think that the health of children would suffer if they were confined to the schoolroom 5 or 6 hours a day for more than 200 days a year.

It is evident that the school budget of a city which increased the school term by a month would be larger, but if the 12 years' work can be completed in less than 12 years by lengthening the school course,

the additional expense would not be so great as one might imagine. If a child can complete a 12-year course of 180 days a year in 12 years, he can theoretically, at least, complete a 12-year course of 11 school months, or 220 days, in 9.8 years, or 10 years in round numbers. The "lost" 2 years in the American school system of which we hear so much might thus be found.

Although a longer school year might not meet with general approval, attention is called to the generally unknown or overlooked fact that in the early days of city-school systems—about 1840—the schools in the larger cities were in session practically the entire year. Vacations were short and holidays were few. The prevailing custom was to divide the school year into four terms of 12 weeks each, with a vacation of a week at the end of each term. In some cities all the vacation came in summer, with the exception of about a week at Christmas. The summer vacation was extended gradually, usually about a week at a time; until it became 12 weeks in length.

Very few cities now have all-year schools. One of the latest to adopt the all-year plan is Aliquippa, Pa., but it was adopted largely as an economy method, since only three-fourths of the school population is in attendance any one quarter. The school year was divided into four quarters of 12 weeks each, and the pupils enrolled in the schools placed in the four-quarter plan were divided into four groups. During each quarter three groups go to school and one group is on vacation.

Although the all-year school is found in only a few cities, many have organized summer schools which are usually in session six weeks, beginning about the 1st of July. These schools, however, are often only for pupils who have failed in a subject or two and for those who are thought capable of advancing a grade. As yet they can scarcely be considered an integral part of the school year and fitting in closely with the regular school program. By simply extending the summer session to 12 weeks and by dividing the school year into four quarters of 12 weeks each there need be no break in a child's program even if he does not attend school more than three quarters.

The school day.—The tendency is toward a longer school day. Of 800 cities reporting, 84 within the past two years have lengthened the elementary-school day, 102 the junior high school day, and 122 the senior high school day by 15 to 60 minutes. The usual increase in the elementary schools has been 30 minutes and in the junior and senior high schools 30 or 45 minutes.

The tendency to lengthen the school day has its critics, especially the tendency to lengthen the elementary-school day. It is contended that school work is too fatiguing to confine children in the classroom for six hours a day, and that children should have some time to play.

If the school work is confined almost entirely to the teaching of reading, writing, arithmetic, and other formal school subjects, there is no doubt much to the criticism of a longer school day. But the modern, progressive school, even though it is in session six hours a day, so balances its program of study and various special activities that the school should be a perfectly natural place for children to live. There should be not only study and recitation periods but periods for work with the hand and periods for play; also periods for rest and relaxation in the lower elementary grades.

Those who advocate a short school day say that a child should have time to play. But where is he going to play? - In the back yard at home? Possibly, if there be a back yard. Those advocating a short school day may have both front and back yards and possibly a playroom in the home, but how many children are there in the modern city whose parents live in houses with playrooms or even with yards? The modern city is a city of apartments and of rows of houses with no play space inside or out. The advocates of a short school day evidently forget or have not become cognizant of the fact that most city children have no place to play around their homes, and that very rarely does a city provide enough municipal playgrounds to accommodate all the children who are in need of such playgrounds.

It would seem, when all the facts regarding city life are considered, that the elementary school day should be lengthened rather than shortened—not that more time may be given to study and recitation but that more time may be devoted to various manual activities and to play.

In the junior and senior high schools the school day has been lengthened in order to provide more time for supervised study and for the many extracurricular activities now considered essential parts of any secondary-school program.

Since children may be in school not more than 200 days a year and not more than 6 hours a day, and only in a few cities for as long a time as this, the school should not be held responsible for the child's complete education. The home, the street, and places of amusement have him under their tutelage most of the time. If a child attends school 6 hours a day for 200 days a year, from the age of 6 to 17 inclusive, he is in school only 14,400 hours. Counting 9 hours for sleep he has 15 hours a day at his disposal, or during the 12 years he is awake 65,700 hours. He is thus in school only 21.9 per cent of the time he is awake from 6 to 18 years of age.

As a matter of fact city children from 6 to 18 years of age on an average are in school only about 152 days a year, nor more than 5½ hours a day, and for not more than 9 years. They are thus in school an average of not more than 7,524 hours out of the 65,700 hours they

are awake, or they are in school only 11.4 per cent of the time from age 6 to age 18.

Since the first five or six years of a child's life, when he is not in school, is a very important period for molding his life and character, the entire period from birth to the eighteenth birthday should be considered when comparing the time he is in school with the time he is out of school.

Children from birth to 18 years of age, if they sleep $9\frac{1}{2}$ hours a day, are awake 95,265 hours and in school on an average of only 9 years, $5\frac{1}{2}$ hours a day, 152 days a year, or 7,524 hours. They are thus in school upon an average of only 7.9 per cent of the time from birth to age 18. Kindergarten attendance of 3 hours a day for 152 days would increase the per cent of time in school to 8.4.

CURRICULUM AND ARTICULATION

Revision of the elementary, junior high, and senior high school curricula has been going on apace. In cities of 30,000 population and over approximately 82 per cent of those reporting have within the past two years been revising the elementary-school curriculum, 84 per cent the junior high school curriculum, and 74 per cent the senior high school curriculum. In cities between 10,000 and 30,000 population, 53 per cent have been revising the elementary curriculum, 58 per cent the junior high, and 52 per cent the senior high school curriculum. In cities between 2,500 and 10,000 population not so much attention has been given to curriculum revision as in cities above 10,000 population. Only 39 per cent of the cities of that size have been making revision of the elementary, 36 per cent the junior high school, and 39 per cent the senior high school curriculum. No doubt many more schools have revised certain courses, possibly not in formally prepared courses of study, but by the adoption of textbooks prepared within the past year or two. Such schools are following entirely different courses in arithmetic and in other subjects from those of four or five years ago.

Most of the larger cities and many of the smaller ones report that their curricula are under constant revision, that whenever a change seems desirable it is made. This is much better than waiting until a curriculum is entirely out of date to revise it. So rapidly have conditions changed and so much is being discovered about what should be included in a curriculum that the school system that is not revising its courses continuously can not hope to keep pace with the demands of a rapidly changing civilization.

Articulation of the curricula of the various school units, such as the kindergarten, elementary school, junior and senior high schools, and junior college, has been occupying the attention of city school

superintendents and others. Much has been done to articulate the work of the kindergarten and the primary grades, which, not so many years ago, were almost distinct units. Better articulation has been effected by placing the kindergarten and the primary grades under the same supervisor. At present 75 per cent of the school systems providing for supervision in the kindergarten and primary school grades have kindergarten-primary supervisors. Unification has also been aided by institutions preparing kindergarten and primary teachers. In three of every four of such institutions the training given kindergarten and primary teachers is identical. As a result of unified supervision and of identical training courses, the methods of teaching employed in the kindergarten and the first grade are not so dissimilar as they once were, and as a result of curriculum reorganization there is no longer the abrupt break in subject matter that was found in the older kindergarten and first-grade courses.

The organization of child research centers and nursery schools has done much to arouse interest in the education not only of the nursery school but also of the kindergarten-primary-school child. The results of the studies of the preschool child are doing much to help in the understanding of young children, whether they be of preschool or of school age, and consequently to help bring about closer articulation of the work done with children up to 7 or 8 years of age. As yet the public-school system has not made the nursery school a part of its organization, but it is safe to predict that within the next 10 or 15 years the nursery-kindergarten-primary-school grades will constitute the first unit in many of the city school systems of the country.

A big problem of articulation that has not been solved is in the field of secondary education, including the junior high school, the senior high school, and junior college. Each of these units has been working out its own program and curriculum so there has naturally not been that articulation that seems desirable, resulting in loss of time and of efficiency.

The junior college, which may be found in about 100 city school systems, has added another unit, making three in all, in those cities having junior and senior high schools, each unit being short—junior high school 3 years, senior high school 3 years, and junior college 2 years. The growing opinion is that better articulation could be effected if the secondary-school program were divided into two units of 4 years each. By this arrangement the entire city-school course above the kindergarten would be 14 years in length instead of 12 as at present. This plan of organization is known as the 6-4-4 plan.

Even if the secondary schools were to be organized on the 4-4 plan, many problems would have to be solved. One of these is the problem of economizing time through better coordination of work within each

unit and between the two units. Only by careful experimentation can this and other problems be solved. Experiment is needed to discover whether all the work now done in the 12 grades above the kindergarten and in the 4 college years, or 16 years in all, could be done in 14 years. Since some city schools of the country are organized with only 11 grades above the kindergarten, and since the graduates of their high schools are admitted to college along with graduates of school systems having 12 grades; since elementary-school work can be done in six years sufficiently well to begin secondary-school work, and since the first year or two of college work is to a certain extent a repetition of the work done in the senior high school or else the beginning of work on foreign languages, science, history, and other subjects, the question may be and has been raised whether the cities that are organizing junior colleges can not have the curricula of the 8 grades above the 6-year elementary school so articulated that 2 years' time will be saved.

It is doubtful whether the junior college as now organized and superimposed on the high school has brought about better articulation. Dr. L. V. Koos, writing on the Progress and Problems of Secondary Education in California,³ where there are many public junior colleges, says regarding the junior-college curriculum:

The junior college, in no small part because it has only recently joined the family of school units in our evolving educational system, faces a most difficult curriculum problem. Being a local public unit and in its essence an instrument of democratic education, it admits all high-school graduates, contrasting in this respect with most higher institutions of the State, which follow some selective basis of admission. The distribution of "college aptitude" is, therefore, much wider typically for students in junior colleges than for those in colleges and universities. At the same time these junior colleges have no other curriculum precedents than those provided by the typical higher institution whose curriculum was worked out with selected students and which look to service only to those students who continue beyond the junior-college level. Although junior-college authorities in the State are conscious of the problem and individual junior colleges are turning serious efforts to its solution, analysis of the junior college offering in the State as a whole shows that it is still largely unsolved.

Economy of time has not been effected, at least not for those students working for a bachelor's degree, since it still requires 16 years—17 including the kindergarten—for a boy or girl to complete the elementary, high school, junior college, and the last two years of the present college course.

Experiments to discover whether a 6-4-4 organization would be better than any of the plans now widely used could be made without disastrous results, no matter what conclusions might be drawn. In fact, there would be a gain if it were found conclusively that 16

³ School Life, January, 1929.

years' work can be done in 14, thus permitting young men and women to begin professional and university courses proper two years earlier and with practically the same general training as they now have when they receive their bachelor's degree.

The question is, Who will undertake such an experiment in face of the traditional school organization and in face of thousands of critics? Possibly the time is not ripe in most cities for such an experiment; but if the problem of articulation and of economizing time is to be solved it can be solved only by experimenting and not by mere discussion and theorizing.

EXPERIMENTAL RESEARCH

The great progress made in the city schools of the country within the past 10 years has without doubt been due to the fact that educational problems have been attacked more scientifically. Until recently the trial-and-error method was the only means of testing a theory, and even then it was practically impossible to determine which was the better of two or more procedures. Now that it is possible to test the results of experiments, educational research should be directed more and more to experimental work. Material throwing light on prevailing practices is valuable, but such practices may be entirely wrong. If all the school people were to conform to prevailing practices, there would be no educational progress. Some city school systems which have well-organized research bureaus are conducting investigations that are very much worth while, but unless a city has a well-equipped research bureau, or unless some institution, such as a college of education, is using the schools of the city for the purpose of making research studies, little importance may be attached to many of the experiments now under way. One city school superintendent, when asked what experiments he was conducting, replied: "Experiments are a sad waste of time and should be left to experimental schools alone." That there has been waste of time in conducting investigations on the hit-or-miss plan, without any checking of results, is only too evident. That all experiments should be left to experimental schools is doubtful. The number of such should, however, be greatly increased.

In addition to purely experimental schools, the schools in practically every city should be used as laboratories for conducting at least one investigation. Not all city schools, however, need conduct the same research study. If a score of cities, for example, were to agree to undertake a particular experiment, under the direction of some school of education or other agency, it would not be necessary for other cities to attempt a similar investigation. One group of cities should be working on one experiment and another group on

another. There could be enough groups formed to have many different experiments going at the same time. As it now is, many cities report that they are conducting investigations, but with few exceptions they are working independently of each other. Much that is reported as experimental work can not well be considered as such. The superintendent who reports that he is experimenting with the junior-high school or with the platoon plan usually means that he has recently introduced them into his schools.

Among the many experiments that are reported by city school superintendents in the smaller cities are those relating to individual instruction plans, ability grouping, health of school children, size of class, supervised study, length of recitation period, character education, school government and discipline, special classes, and the platoon plan.

In the larger cities, especially those having educational research bureaus, many interesting and promising investigations have been undertaken. The Detroit experiment in measuring the effect of individualization may be cited as an example. In general, the plan, according to Paul T. Rankin, Director of Research, consists of a trial under experimental conditions of several distinctly different degrees and kinds of individualization. He describes the experiment as follows:⁴

Two schools, one a 24-section platoon and one a 16-section platoon, are using each of the different plans. The plans and schools may be classified as follows: (1) Much individualization; (2) some individualization (horizontal grouping by x, y, and z); (3) little individualization or mass instruction; (4) Winnetka plan; (5) Dalton plan; (6) vertical grouping by x, y, and z.

These schools began operating on the plans assigned to them in February, 1928. The following semester was used as a period of preliminary trial in order that necessary materials might be prepared and that teachers and pupils might become moderately familiar with the procedures used in that plan. The experiment proper is planned to run from September, 1928, through June, 1929.

The experiment has two outstanding characteristics which it is believed will make the results particularly significant. In the first place, the experiment is being conducted in typical Detroit schools, with typical buildings, typical children, and typical standards as regards such matters as size of class, special equipment, etc. As a consequence, the results of the comparison in plans should be transferable to other normal situations. * * *

In the second place, a larger proportion than usual of the changes in children are being considered in the measurement program. Several different tests are being used in each major subject to measure the different phases of pupils' abilities in that field. Furthermore, a number of tests of actual conduct in genuine life situations which require certain character qualities are included.

Many tests are given in the 13 experimental schools at the beginning and ending of the year. The growths of individual pupils will

⁴ Detroit Educational Bulletin, November, 1928, p. 3.

be computed, and these gains averaged and compared among the various plans.

Denver, Colo., may be mentioned as another city that is undertaking an extensive research program. Fifteen important research studies were under way in the schools of that city in October, 1928.

That public-school systems may well cooperate with schools of education and with experimental schools is illustrated by an experiment that has been worked out on "units of work" between the schools of Baltimore, Md., and the Lincoln School, Teachers College, Columbia University. A good description of these experiments may be found in the Baltimore Bulletin of Education, March, 1928. Some of the experimental work was done in a platoon school, in order to determine whether unit work can be as successfully carried out in this type of organization as in the traditional school.

The experiment in visual education, mentioned in another section of this chapter, is an example of what may be accomplished by several cities cooperating in the same experiment.

These few instances of experimental work under way show that many such experiments can and should be undertaken.

INDIVIDUAL INSTRUCTION

The movement to adapt the work of the school to the ability and the needs of the individual pupil continues. That children differ in ability has long been known, but since means have been devised for measuring the comparative abilities of school children the need of fitting the school to the individual child has become more apparent. At one time the teachers who received the praises of superintendents and others were those who had the reputation of treating all children alike. As a matter of fact, such teachers may be most unfair if they hold all pupils to the same standard since some pupils can surpass the standard with little effort and others can not attain it, or at least not in the same time.

Since school work should be adapted to the individual pupil means must be used to attain that end. Here is where the practical school superintendent and teachers must play their part. However sound a theory may be it is of no value until it is put into successful operation. There are many apparently good educational theories, but how to put them into operation is the difficult problem. The inventor of plans and devices is needed in the field of education as well as in the field of industry. It is true that some educational theorists have but little use for plans and devices, but without them their theories can not well be put into practice.

Various plans and devices have been and are being tried so that children may progress through school according to their individual

ability and industry. None of the plans of individual instruction, however, is so individualistic that a child is made independent of every other child in school. Any plan of individual instruction that would tend to break down the community life of the school or that would tend to prevent the socialization of the child should not receive serious consideration.

Among the plans for making better provision for the individual are ability grouping, the Winnetka and Dalton plans, and the Miller and Morrison contract plans.

Ability grouping has become so common that it may no longer be considered an experiment. It, however, has not entirely solved the problem of providing for individual differences, and no doubt much more can be done to improve the plan or technique. Ability grouping for each grade is no doubt a great improvement over the old plan of placing children of all degrees of ability and industry in the same class. There should, however, be ability grouping within each class of 30 or 40 pupils for the different subjects. The plan of arranging as many subjects as possible to come at the same time, so that pupils may interchange classes in different subjects, is a solution that has been suggested. The departmental and platoon plans of organization make it possible for a pupil in the fourth grade who, for example, can do fifth-grade arithmetic, to have his recitations in this subject with a fifth-grade teacher, or if he can do only third-grade arithmetic to report to a third-grade teacher for this subject.

The Winnetka and the Dalton plans are so well known that no description of them in this chapter is necessary. No doubt more tested experiments regarding them are needed. Many cities are making trial of one or both of these plans. Eighty-five cities report that they have within the past two years introduced one or both of these plans or some modification of them in one or more schools.

Several schools report that certain standards must be attained by all pupils before passing on to new work, the time of completion depending upon the ability and the industry of the pupil. The high-school principal of Auburn, Me., in his report to the superintendent of schools of that city, explaining a plan in operation in the English department, says:

The teachers of English this year have been laying out their work in minimum, median, and maximum requirements. All work has to be done at least 90 per cent perfect for a pupil to receive any rank or credit for it. Many pupils who formerly drifted along with the class have accepted their job and settled down to its accomplishment. As soon as the bright pupil passes his minimum test, he goes on to work which requires less supervision of the teacher and more initiative on his part. The slow pupils get satisfaction from a greater mastery of their work and there is a general improvement in their habits of study. * * * The assignments in English are mimeographed and given to the individual pupil, so that he can progress independently of his fellow

classmates if he chooses. But he must master the lowest assignment before he attacks the median or maximum.

This procedure requires the same degree of perfection but permits the standards to be attained at different rates. Under the usual plan, children making as low as 65 or 70 per cent may be promoted along with those making a grade of 95 per cent. Just how thoroughly a subject should be learned before a pupil is given a new assignment or promoted to another grade is a question that needs careful experimental study, but it would seem that in school work, as in other work, quality should be the criterion. If a certain necessary standard can not be attained in a day and can be in two days, it would seem that two days should be taken for the work before passing on to something new; or, still better, the assignments should be so differentiated that they may be completed day by day. At least work should not be skimmed over for a semester and then a pupil be required to repeat.

In addition to the foregoing plans for providing for individual differences the following may be mentioned: Coaching laggards, special classes, supervised study, differentiated curricula, differentiated assignments, and intensive study of problem cases.

SAFETY EDUCATION

Many cities have prepared courses of study in safety education. Most of these courses are not confined to teaching children how to avoid street accidents, but treat safety in its broader sense of protection to life and health not only as an individual but as a community matter. No doubt much of the subject matter for safety instruction falls under the head of "civics" and "health." Since city government is organized largely for the protection of life, health, and property, safety instruction can well be given in connection with the study of the various safety agencies of the city and with the study of the best ways of aiding the police, health, and other city officers in making the city a safe place in which to live.

The courses in safety are usually designed to correlate with most of the subjects taught in the elementary schools. As an illustration of what is done in this regard, the following is quoted from a recent report of the superintendent of schools of Kansas City, Mo.⁵

During the year 1926-27 a committee of the curriculum revision department and the safety council began preparing a course of study to which much careful consideration was given. The course is designed to correlate with the regular subjects of the elementary schools, and furnishes material which may be used in teaching the standard subjects of the curriculum without giving any special time to safety instruction as a separate subject. By the constant use of this material it is hoped that no time will be lost from teaching the

⁵ Report of the superintendent of schools, Kansas City, Mo., 1921-1927, p. 20.

regular subject matter, but habits of safety may be developed which will cause the children unconsciously to act in such a way as to minimize the number of accidents.

Many teachers have found that the materials and situations available in safety instruction afford a good opportunity of motivating the work of practically all the subjects in the elementary-school curriculum, that the subject matter for safety instruction lends itself to the project method, and that it can be taught in a practical way through various kinds of safety clubs. Among the organizations of this kind are junior safety councils, safety patrols, civic leagues, all of which afford a valuable means of putting into practice the principles learned in the classroom.

The following is quoted from the 1926-27 report of the superintendent of schools of Lakewood, Ohio, to show how safety instruction may be correlated with other subjects:

During the year 1926-27 all the departments in senior high school have emphasized safety education. The art department by means of poster projects; the English department by means of oral and written compositions and editorials in the school publications; the science department with instruction about contagious diseases, sanitation, infected foods, and water; the history department by means of studies and surveys of local condition, have all combined in the teaching of safety.

VISUAL INSTRUCTION

Visual instruction is to-day one of the most discussed methods of teaching. The wide interest in this subject is due largely to the popularity and the educational possibilities of the moving picture. Visual instruction, however, involves other visual aids, such as maps, charts, graphs, models, exhibits, flat pictures, stereographs, and stereopticon slides. All of these aids are receiving attention as never before, but the chief experiments and chief interests in visual instruction are at present centered around the moving picture.

Many experiments have been made, the results of which leave no doubt as to the value of the teaching film in the classroom. One of the recent investigations, from which practical results may be expected, is that conducted under the direction of Dr. Thomas E. Finegan, Dr. Frank E. Freeman, and Dr. Ben Wood. Twelve city school systems were invited to cooperate in the experiment. These cities, selected from various sections of the country, were Newton, Mass.; Rochester, N. Y.; Detroit, Mich.; Chicago, Ill.; Lincoln, Nebr.; Denver, Colo.; Oakland, Calif.; San Diego, Calif.; Kansas City, Mo.; Atlanta, Ga.; Winston-Salem, N. C.; and New York, N. Y.

The experiment involved about 12,000 children in the elementary and junior high school grades. Two groups of children, equal in number, from similar home environments and social conditions in life

and of the same intellectual level were under instruction. One group received instruction without the use of films and the other group with their use.

The complete report of the investigation has not been issued at this writing, but Doctor Freeman and Doctor Wood have reported, according to a circular issued by the Eastman Teaching Films (Inc.), Rochester, N. Y., that enough evidence has been revealed to warrant the continuance of the production of classroom films. They said:

Our own observation of the classes in operation with and without the films convinces us that the films contribute elements to the experiences of the children which it is difficult and often impossible to secure by any other method available to the school.

This preliminary survey indicated that the teachers are much pleased with films as instruments of instruction, that they consider these particular films to be excellent, and that it is their judgment that films should be made permanently available to the schools. This is our opinion, based on the testimony of the teachers and on our observation of the classroom work.

We are convinced that the production of these films, together with the guides (each film is accompanied by a teacher's guide to the subject), and further production of other films, makes a decidedly valuable contribution to educational procedure. The indication is that there is a strong demand for properly planned and well-organized educational motion pictures of the character used in this experiment.

That there is a wide interest in the use of films is evidenced by the fact that no high school is considered fully equipped unless it has one or more motion-picture machines. In several cities projecting machines have been installed in practically all their school buildings.

In Detroit the film program—

this year reached 80 elementary schools, 12 high schools, 12 intermediate schools, 20 evening schools, 25 summer schools, Detroit Teachers College, and the College of the City of Detroit. The film library now consists of 400 reels covering the various divisions of instruction. The frequency of use of these films on a footage basis was approximately 18,000,000 feet and the total number of children seeing the films was approximately 1,500,000. In addition to the regular programs, a special film program on dental education reached 85,000 children.

In addition to the film service in Detroit—

there are now 100,000 slides in the various school libraries and 20,000 slides in the department library. The slides in the department library were reserved and booked in accordance with the school requests. The frequency of use of the department slides was 170,000.*

Naturally many difficulties have arisen to militate against the practical use of moving pictures. Among these may be mentioned the cost of equipment and the difficulty of procuring films sufficiently coordinated with the subjects taught in the classroom. Comparatively few teachers have been trained to use films to supplement their

* Eighty-fifth annual report of the Detroit public schools, 1928.

instruction with the textbooks. The care and distribution of films has been a problem, but many cities have solved this by organized visual education departments. These departments, however, have many other duties, such as adapting visual education to the course of study and selecting visual aids. It is evident that many administrative problems, as well as teaching problems, have arisen in connection with the use of motion pictures and other means of visual instruction.

What changes in teaching method or what changes in school organization will result from the introduction of teaching films can not well be foreseen, but changes in methods of instruction may be expected. Judging from the general interest in visual instruction and from the results reported, it is safe to predict that within a few years teaching films as well as other visual aids will be considered as necessary a part of the equipment of schools as are textbooks, maps, and dictionaries.

THE PLATOON SCHOOL

The movement to organize platoon or work-study-play schools has within recent years been rapidly going forward. The growth of this type of organization was at first very slow. The first platoon school was organized in Bluffton, Ind., in 1902, and the second in Gary, Ind., in 1907. From 1907 to 1913 four other cities—Kalamazoo, Mich., Kansas City, Mo., New Castle, Pa., and Sewickley, Pa.—organized 15 schools on the platoon plan or on some modification of it; from 1914 to 1920, 35 other cities organized 148; and from 1921 to 1925, 53 more cities organized platoon schools. By April, 1925, 93 cities in 30 States had the platoon plan in one or more schools; by February, 1927, the number had increased to 115 cities; and by January, 1929, 153 cities in 38 States had organized one or more platoon schools. In all, there are 850 platoon schools in the 154 cities, an increase of 110 schools since 1927, when there were 740 such schools in the 115 cities. The percentage of increase of the number of cities having the platoon organization from 1925 to 1927 was 23.7, and from 1927 to 1929 it was 33.

No doubt the slow growth of the platoon school before 1920 was due to the fact that many persons had formed a wrong conception of it or wanted more proof of the value of the new plan of organization. Visitors rushing into a platoon school and rushing out of one would often carry away with them some incidental facts to help prove their preconceived notions of the plan. The big idea back of it was not always grasped. Defects that were trivial and that could be easily remedied were overemphasized. The big idea of providing a program of work, study, and play was too often overlooked; also the fact that the modern city had grown up largely for the conven-

ience of adults, and that the city child, especially the child living in a congested section of the city, had been deprived of opportunities for work and play, which are so essential in a child's education.

As already indicated a few of the smaller cities at first experimented with the platoon school. When its possibilities were realized several of the larger cities began to introduce platoon schools cautiously. Pittsburgh, Pa., and Detroit, Mich., were among these. So successful were the schools first organized in these two cities that others were instituted as rapidly as possible. Now Pittsburgh has 75 and Detroit 110 schools on the plan. The success of the platoon schools in Gary, and later in Pittsburgh and Detroit, caused many other cities to study the plan and finally to organize at least one platoon school to see how it would work.

Some cities, however, have made no attempt to adopt the platoon plan, for their boards of education have not been convinced of its need or value. In some cities the school buildings may not be adapted for platoon schools, but often old buildings can be so remodeled, at very little expense, that platoon schools can be organized. Teachers who are entirely absorbed in teaching from textbooks often do not favor the platoon or work-study-play school, saying that the three R's will be neglected and that there will be too many distractions, and that there will be too much confusion in the school buildings when classes are changing. Where teachers are opposed to the plan the superintendent of schools can not well undertake to introduce it with any hope of its being a success. The usual procedure, when experimenting with the plan, has been to organize at first a platoon school in a building where the teachers are at least willing to give the scheme a fair trial for a few years.

Although no nation-wide scientific study regarding the efficiency of the platoon plan of school organization has been made, the conclusions of those who have had to do with the organization of such schools are that: (1) The three R's are as well taught, and that music, art, nature study, and the other so-called special subjects are better taught and as well coordinated with other subjects as in the nonplatoon schools; (2) school buildings that have gymnasiums, auditoriums, and workrooms and playgrounds will, when organized on the platoon plan, accommodate about one-third more children than when organized on the nonplatoon plan; (3) the cost of operating a platoon school is no more than the cost of operating a non-platoon school.

Quotations from several sources are introduced as examples of the conclusions reached by those who have made actual trial of the platoon plan. William E. Putnam, director of research of the public

schools of Birmingham, Ala., writing of the enriched curriculum, says:

The enrichment of the curriculum is one of the ideals which underlie the philosophy of the platoon school. Some of the facts which have been proved by the Birmingham school authorities in support of this statement are that: (1) It makes for better teaching, because each teacher is responsible for fewer subjects; (2) the pupil is given the advantage of different personalities, and this enriches his knowledge of people and makes the transition from grade to grade easier, since the same teachers handle the special subjects for all grades; (3) the school is socialized through the special activities and through the necessary freedom from autocratic discipline; (4) each school is enabled to work out a program that meets its local needs.¹

Mr. Putnam also shows that the school buildings on the platoon plan are used much more effectively:

From a recent study of the capacity of 28 elementary-school buildings for white children under the former, or traditional, plan and under the present platoon plan of organization, it is shown that the capacity of these buildings is 17 per cent larger under the platoon plan than under the traditional plan. This means an increase in capacity of approximately 2,700 pupils. At the per pupil building cost of \$323, this reorganization has resulted in a saving in building investment of nearly \$900,000 since its adoption. These figures are presented to show that the administration in the past six years has not been unmindful of the necessity of securing the greatest possible service and efficiency out of its school buildings, especially at a time when the unprecedented growth of the city has caused such a large congestion in the schools.

Mr. G. O. Clough, professor of education, Southern Methodist University, Dallas, Tex., and formerly superintendent of schools, Tyler, Tex., writing of the reorganization of the schools of Tyler, says regarding building costs:

In order to offer manual training and home economics in the ward schools, under the traditional plan, additions would have had to be made to four ward-school buildings. The estimated cost was \$77,224. The overcrowded condition of the ward schools was relieved by transferring the seventh grade to the high school and introducing the platoon program in the ward school, which made additions to the ward-school buildings unnecessary. An expenditure of only 6,660 was necessary to provide for the special subjects of a platoon program in the new high-school building. Therefore the buildings provided for the new organization cost \$70,564 less than would have been necessary to provide for an expanded curriculum for the seventh grade under the traditional plan.²

Mr. Clough also points out that the cost of instruction under the new organization is comparatively less than under the old and that the curriculum has been expanded and enriched.

A study made in Denver, Colo., and reported by Homer W. Anderson, deputy superintendent of the Denver schools, shows that the average cost per pupil based on membership for the six platoon schools in Denver was for the 2-year period, 1925-1927, \$69.86, and

¹ The Platoon School, October, 1927, p. 36.

² Ibid., 1928, p. 129.

for six nonplatoon schools \$72.63, or a \$2.77 lower annual per pupil cost on the platoon type of school.⁹

The results claimed for this type of organization can not be ignored by any school superintendent or board of education when it is planning a school-building program. As one of the attempts to help solve the educational problems created by the modern city, the platoon or work-study-play plan should be carefully studied by boards of education before they conclude that gymnasiums, auditoriums, and other special facilities are too expensive to be included in elementary-school buildings and before they conclude that the traditional or nonplatoon plan is better than the platoon plan.

THE VISITING TEACHER

The number of cities employing visiting teachers, and the number of such teachers employed in the cities that have had departments of visiting teachers for several years are increasing. First adopted into the school systems of New York, Boston, and Hartford, Conn., in 1906-1907, the visiting-teacher activity has grown until, at the present time, there are 230 of such teachers in the city school systems of the United States, in 70 cities, scattered throughout 36 States of the Union.¹⁰

The increase in the number of visiting teachers in some of the larger cities during the past two years is of interest. For example, the number of such teachers in Rochester, N. Y., in 1926 was 16; in 1928 there were 21; the number in New York City in 1926 was 22; in 1928 there were 29; and in Dayton, Ohio, where the school board established a visiting teachers bureau as a part of the administrative department in 1926, with a director in charge, at which time there were 7 visiting teachers, in 1928 there were 10 teachers, with a director in charge.

With regard to the function of the visiting teacher in the school organization, the following is from a report of the director of visiting teachers of Dayton, Ohio, published in the yearbook of the principals and supervisors association of that city in 1928:

To discover the cause of the child's failure to grasp the opportunity that benevolent school boards have planned.

To confer with the parents, enlisting their cooperation when the child shows signs of falling below the school's standards of scholarship or conduct.

To try to adjust many home conditions whereby more favorable conditions will be attained in regard to school work, conduct, attendance, and interest.

To interpret the school purposes and ideals to parents, thus securing a greater amount of much desired cooperation on the part of each toward the other.

⁹ The Platoon School, December, 1928, p. 173.

¹⁰ The Recorder, a bulletin of visiting-teacher work, 1928.

To secure and record family history, personal history, and past and present performances of all children coming to her attention.

To aid in securing better school adjustment for all misfits in the broad interpretation of the word.

To secure personal and social information in regard to the child and bring it to the teacher and principal, so that it will make for better understanding of the child.

To try to find causes of unusual misconduct and endeavor to remedy the condition, either by influence with the child or the parents or both.

To cooperate with every outside agency to the highest degree, that all possible forces may be assembled toward individual and social betterment.

To analyze the child's social environment, home, and neighborhood.

Regarding the qualifications of the visiting teacher, the Dayton yearbook continues:

It would be necessary for the visiting teacher to have experience as a teacher if she is to understand the teacher's work and interpret it to others.

* * * Two years of normal training are required before a teacher is considered adequately prepared for teaching in the grades, and four years are considered better. * * *

If the visiting teacher is to work with junior high school teachers, she should be required to understand the work of that teacher and the problems peculiar to adolescent youth, and she must have the same academic training as that teacher. The senior high school teacher is required to have four years of college work. The visiting teacher should also be required to have the four years' training.

The visiting teacher must be able to study and analyze the needs of the individual child that she may more intelligently meet those needs. This would demand that she be qualified as a social worker, having at least one year's experience in that special field.

Some city school systems are replacing the probation officer by the visiting teacher. The following is from the 1927-28 report of the superintendent of schools of Peoria, Ill.:

To-day we have the probation officer replaced by the visiting teacher. If the child is not in school, instead of sending an officer of the law after him, a sympathetic member of the teaching staff is sent to the home to inquire concerning the cause. Many times he discovers that the parents did not know of the child's absence. Knowing his work, he immediately establishes a bond between the school and the home, and together they solve the problem. In the future the solving of the compulsory attendance law in that home is easier and the schools have won a friend. A school that handles its attendance work in this manner is keeping step with the best in educational progress.

Judging from various other reports regarding visiting teachers, they are doing an important work in the schools that can not be done by the regular teacher nor by the attendance officers.

CHAPTER V

RURAL EDUCATION

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CONTENTS.—Centralization and long-term programs of achievement—Centralizing tendencies in State and county administration—Rural secondary education—Local supervision of instruction—The teaching staff—Curriculum construction and revision—Library service to rural schools—Special plans affecting progress in representative States—Bibliography.

The goal toward which we appear to be moving in rural education at the close of the biennial period 1927-28 is that of equalization of educational opportunity within each of the several States. The most significant and generally accepted means of achieving it is apparently through increasing emphasis on the promotion of centralizing and coordinating tendencies. These tendencies are affecting education in all of its important phases.

In efforts to secure progressive legislation affecting rural education the several central agencies, State departments of education, State teachers' associations, or both in cooperation, the State institutions of higher learning, have assumed active and aggressive leadership in a number of States. The added prestige accompanying such coordinated leadership, the facilities thereby made available for studies and investigations of educational administrative situations within and without the State, the opportunities thus furnished for wider and more intelligent dissemination of information to the public concerning the programs proposed—all have proved stimulating to public interest and effective in securing results. These centralized and usually cooperative efforts have generally superseded the spasmodic efforts on the part of individuals and small localized groups upon which dependence has been placed in the past.

Centralizing tendencies particularly significant to rural schools are: The assumption of increased responsibility of the State unit for the support of local school systems; the correlative and often parallel practice of setting up increasingly higher standards which all schools, or those participating in the distribution of State funds, are expected to meet; and the rapidly growing movement to establish or increase State equalizing funds.

Centralizing professional leadership and supervision of school practice in State departments is a logical result of the evolution of

these departments into efficient professional organizations which has been in progress for a number of years. Its influence on the rural schools is of moment because their situation is such that they are and have been far more in need of professional stimulation than urban schools. Rural schools profit, therefore, by the professional direction of all specialized types which is offered by enlarged State education staffs. In the large, however, it is because of the added staff of professional workers especially assigned to rural education that most effective progress is due. At the present time there are 172 rural-school supervisors (sometimes designated by other titles) who are members of the various State department staffs in the United States. Their work among the rural schools of their respective States has been of immeasurable value.

The natural expectation that the centralizing tendencies adopted by State education officials and agencies would work themselves down into and through county and local administrative organizations is fulfilled, as is apparent from recent activities among local school units. Larger units of administration are being considered and different types studied in practically all States in which the district and township units prevail. These activities are manifest in a number of different forms: In legislative programs prepared for presentation to the 1929 sessions of legislatures; in strengthening the established county administrative unit, as in Virginia and Arkansas; in providing by special legislation for county organization of certain counties as in Texas and Minnesota; in the formation of increasingly larger consolidation units even to the extent of consolidating consolidated units previously formed; in the promotion of an increasing number of large rural secondary-school units; and in the established growth of consolidation now moving of its own momentum in many States.

In the field of teacher training centralizing trends are indicated in a number of States by the formation of unified state-wide programs for all State teacher-preparing institutions. This movement is designed to coordinate the work of all agencies concerned with the teaching situation—such as pre-service and in-service training, placement, and certification. These and other important movements of note will be briefly discussed in this chapter under the several appropriate headings.

CENTRALIZATION AND LONG-TERM PROGRAMS OF ACHIEVEMENT

The centralization of responsibilities in education in State departments of education, through legislation and otherwise, the improved stability and prestige of these offices, and the longer tenure of the chief State school officer and his staff have led to the development of long-term programs for attacking difficult problems in rural educa-

tion from many angles. These programs replace sporadic efforts formerly prevalent which, however excellent in themselves, are not sufficiently coordinated adequately to reach the evil of inefficiency. Such efforts have the additional weakness of being subject to constant change with the different points of view resulting from successive administrative changes. Insistent and continuing attacks extending over a period of years on a series of problems rather than one or two isolated ones at a time appear to be the most satisfactory method so far practiced of building up a State school system and keeping pace with the demands of a changing social organization.

Systematic programs, long-term and immediate, for the improvement of rural education in all of its different phases, are now in operation or in process of development in a number of States. Many have been in operation long enough for their effects to be apparent and measurable in a careful survey of the education situation of state-wide scope. As illustrative of such programs an account of three now under way in North Carolina, Louisiana, and New York are appended to this chapter. They were prepared by the State officials concerned in the respective States. Limitations in the scope of the chapter prevent full treatment of any one State program, but it is believed that even the brief abstracts appended will sufficiently elucidate the point at issue.

CENTRALIZING TENDENCIES IN STATE AND COUNTY ADMINISTRATION.

Fundamental changes in school administrative organization, State and county, even though the need is widely acknowledged, are not easily attained. Usually they require extensive legislative action and come only as the result of concerted efforts in securing favorable public opinion extending over a period of years. Events of the biennium indicate that sentiment favorable to an administrative organization which makes possible more nearly adequate support and professional administration of schools in small towns and rural communities is growing and that these subjects have received more careful study and aroused wider public interest than ever before.

Relatively few fundamental changes in administrative organization, State, county, or district, through legislation are reported for the biennium. Constitutional amendments permitting reorganization of the State boards of education were authorized in Virginia and Texas. The exact composition of the new boards and definition of functions will be fixed by later legislative sessions. The constitutional amendment advocated in California providing for a change in the selection of the chief State school officer from election at large to

appointment by the State board of education failed to receive approval of the people at the general election.

Certain sweeping changes in administrative practice or in methods of school support are contemplated in legislative programs prepared during the biennium for presentation to the 1929 legislative sessions in Kansas, Missouri, Nebraska, and Georgia. These programs are the result of state-wide studies directed or cooperated in by State education authorities and agencies. In Kansas a school code commission authorized by the legislature of 1927 has been actively at work not alone on the formation of a program but on the creation of public sentiment in favor of the changes proposed. In Missouri a long-time program for securing administrative changes affecting school support, units of administration, secondary education, etc., began some years ago. It will materialize in a request for definite legislative action in 1929.

SCHOOL FINANCING

The most notable progress in State administration and that which has affected the largest number of States has been concerned with financing rural schools, especially in securing more State funds for school support. Alabama and Arkansas have apparently been particularly successful during the past two years in securing legislation and increased appropriations for carrying out the plans involved. Recent legislation provides in Alabama \$900,000 annually to be known as "The State equalization fund for equalizing educational opportunities in public schools." It is the purpose to provide with this fund additional State aid for rural schools, libraries, normal schools, and elementary and secondary education in the State. Six hundred thousand dollars is to be used by the State board of education for establishing a minimum term of seven months.

In Arkansas a State revolving loan fund has been created to aid school districts in repairing, erecting, and equipping school buildings. In addition the permanent school fund was increased, a State equalization fund of approximately a million and a half was created, and the State board of education was authorized to fix a minimum school term and minimum salary schedule for teachers. California authorized State aid for schools for the children of migratory laborers engaged in seasonal industries in the rural districts of the State. In Delaware a \$1,000,000 appropriation was made for each year of the past biennium to assist districts in building school-houses. It was also provided in Delaware that four-fifths of license or franchise fees received by the State tax department be paid into the State treasury to be used by the State board of education for the support of public schools.

Among the States which have provided revenue from sources other than property tax during the biennium are Louisiana which has recently established a State tax on malt sirup; Georgia which provided an equalization fund of \$1,000,000 through a tax on gasoline and kerosene; Montana, in which an equalizing fund was created utilizing the proceeds of an oil tax, and metal mines tax; Florida, which reports increased State funds for rural schools through the proceeds of a gas tax, interest on State funds deposited in banks, as well as a fourth of a mill property tax; Oklahoma, which appropriated a million and a half in 1927 to aid weak schools from an equalization fund derived from 25 per cent of the revenue tax on oil, gas, and other minerals; and Wyoming which provided through recent legislative action that $33\frac{1}{3}$ per cent of royalties on oil, gas, or minerals be paid into the State treasury and credited to the land income fund for the benefit of schools.

In North Carolina the legislature authorized the issue of State bonds to the amount of two and one-half millions for a special building fund to be lent to county boards of education, and authorized the issue of State bonds for more than two million for permanent improvement of State colleges and normal schools. Vermont reports revised and increased State aid for rural schools. Michigan through a State appropriation provided an equalizing fund of \$1,000,000 to be distributed to districts having excessive tax rates. In Tennessee the legislature authorized State bonds of \$1,000,000 for building and repairing rural schoolhouses. Virginia appropriated in 1927 \$625,000 for each year of the biennium 1927-28 for State aid to rural schools. In Wisconsin a new method of school support became operative in 1927 the main purpose of which is more nearly to equalize educational opportunities. In Massachusetts the basis of distribution of the equalizing fund was changed during the past year from that of property valuation to the proportion of the State tax paid by each town.

Perhaps the most encouraging factor in the whole matter of changes in methods of school support is the fact that the problems involved are approached as a result of careful study of educational needs and financial resources of the State and its school units. An excellent illustration of the "scientific" approach to the solution of financing schools through State participation while preserving local responsibility and initiative is offered in the work of a commission on revision and recodification of the school laws relating to financing education in Connecticut. A brief abstract of the report of the commission is appended to this chapter. It is illustrative of good practice. The principles involved may be applied in other States, and the method suggested for measuring ability to support schools is

unusual and interesting. An account is appended also of the three steps in New York's program of financial aid to rural schools. It explains the systematic progress in State school financing extending over a period of years.

PROGRESS IN STATE SUPERVISION

Legislation is by no means the only method of progress in administrative practice. Significant results in rural education accompany high-grade professional leadership which more and more as the years pass is exercised by chief State school officers and their staffs. Two developments of importance illustrating the prevailing attitude of these officers toward acceptance of responsibility for improving the efficiency of all schools within their respective States occurred during the biennium. A new departure was established by the National Council of State Superintendents and Commissioners of Education in its decision to hold annually separate conferences for concentrated discussion of special problems of moment to chief State school officers and their departments. Topics relating to the present situation in rural schools, their support and improvement, made up in large part the program of the 1928 conference. That increasingly fruitful services to rural education will ultimately result from these conferences seems a foregone conclusion.

The other development noted was brought to light during the biennium as a result of a study recently completed in the Bureau of Education concerning rural-school supervision as conducted by State departments of education. The study concerns the number, salaries, and functions of the State department staff members assigned to this field.

The present conception of supervision of rural schools as a function of State departments of education is of comparatively recent development. State rural-school supervision began as an inspectorial function connected with the distribution of State aid or with the State's responsibility for compliance by local units with certain legislative requirements, such as those concerned with sanitation, school building standards, and the like. While inspection continues, it is no longer the major function of State supervision. At the present time the improvement of school practice, administrative, supervisory, and instructional, is generally considered the main objective of State rural-school supervisors. The study to which reference has been made, tracing the development of State rural-school supervision from 1916 to 1928, points out that there were in 1916, 46 State rural-school supervisors, inspectors, or agents in 26 States; in 1922 the numbers had increased, respectively, to 118 such officers in 33 States; at the present time there are 172 State department staff

members assigned to rural education in 38 States. Since 1916 there has been a steady increase in the number of States employing such officials and in the number of persons so employed in each State, with two exceptions—Colorado and South Dakota. Each of these States lost its rural supervisor in 1926, due to local exigencies for which the educational forces apparently were not responsible.

Coincident with the increase in the number of States and of staff members having assignments to rural education and of equal importance is the increase in the salaries paid. The number of rural supervisors receiving salaries in the higher ranges of salaries paid by State departments is constantly growing and substantial increases have been attained in maximum salaries. The total expenditures for rural-school supervision in State departments of education practically doubled in the 6-year period from 1922 to 1928, while the number of States employing such supervisors during the same period increased from 33 to 38.

The study states also that comparisons among the membership of the staffs of State departments indicate that supervisors assigned to rural schools are as well paid and as well qualified professionally as other members of the staff. This, of course, is to be expected. Only the fact that similar conditions have not always characterized rural-school positions in the past accounts for special mention here of this particular form of equalization of educational opportunity. Apparently it may now be considered as an established policy in State departments of education. The work of the officials assigned to rural education, it is pointed out in the study, is concerned chiefly with promoting State policies in rural education, supervision of administrative practice, supervision of instruction, general advisory and research service, and inspection. The tendency is decidedly to emphasize the professional leadership and instructional supervisory phases of the work of the rural-school officers. Less and less emphasis is placed on inspection, more and more on systematic supervision. There is increasingly concerted effort toward carrying out definite State programs and less toward a cursory type of visitation. More and more members of State departments of education assigned to rural education are professional leaders.

CHANGES AFFECTING LOCAL ADMINISTRATION

A number of States, including several in the Central group and in the Middle West in which the district is the unit of administration, are advocating changes in the district form of local administrative unit, affecting school support or control, or kind and quality of supervision rendered. A larger unit, either some form of the county or a community type, is generally advocated. State teachers' associa-

tions and State departments of education have been active in informing the public of the weaknesses of the small district system and of the system of selecting county superintendents through popular vote which prevails in most of the district-unit States. Careful studies have been made of conditions due to many small district systems, the results of which have been widely disseminated, in California, Kansas, Missouri, Nebraska, and other States.

In Pennsylvania, New York, Oklahoma, and Michigan reports from the State departments of education state that the present types of organization offer an outstanding problem in rural education. In Michigan a definite change is being considered affecting the selection and salary of county superintendents.

During the past two years in California there has been put into operation a law, state-wide in effect, which provides that school supplies for rural elementary-school districts be purchased through the office of the county superintendent. An appreciable saving is reported from some counties through the operation of this law. The State department of Georgia reports that through county-wide consolidations and the surrender on the part of many small districts of their independence it has been possible to strengthen and centralize several county systems. In Virginia recent legislation has strengthened the division boards of education and has centralized functions in school administration. Among the functions which the new law assigns to the boards of education is that of the appointment of the superintendent.

Surveys of educational conditions have been made during the biennium in a few counties in which extensive rural populations center around one large city. The reports of these studies have pointed out the advantages of the adoption of an administrative organization combining the city and county schools under unified control, offering the same quality of education facilities to both urban and rural children. Such surveys and recommendations were made in Jacksonville and Duval County, Fla., and Chattanooga and Hamilton Counties, Tenn. Montgomery County and Montgomery City, Ala., have recently combined under the control of one board of education the schools which formerly constituted two systems, city and county.

In Texas special legislation recently enacted applicable to three counties permits organization on the county-unit plan.

In Minnesota the Session Laws of 1927 provide an optional plan by which counties may under certain conditions organize as one district with a county board of education in charge. Under provisions of this law Lake County has so organized, electing a county board of education of six members which will have the powers usually assigned to "independent consolidated districts" in Minnesota, in-

cluding the authority to appoint a superintendent of schools. This is a new departure for Minnesota, though several large rural-school systems are now in operation.

During the year a study of county superintendents' salaries showing increases since 1922 was made in the Bureau of Education. Comparisons were made also with salaries paid city superintendents on a population basis. This study shows that median salaries paid county superintendents in the United States as a whole have increased approximately \$500 since 1922; that fewer States and fewer counties are now classified among those paying particularly low salaries—less than \$500 and between \$500 and \$1,000, and that maximum salaries have been increased by amounts ranging from \$500 to \$5,000 in 29 States.

Commendable as is this improvement in salaries paid county superintendents when comparisons are made within the group, comparisons made in the study between salaries of county and city superintendents reveal significant disparities. Median salaries in each of the groups studied—i. e., counties and cities having a population of from 2,500 to 5,000, 5,000 to 10,000, 10,000 to 30,000, and 30,000 to 100,000—are decidedly in favor of cities. Still more striking is the difference in the number of superintendents receiving the higher salaries in each of the groups studied. Only one of 116 superintendents in counties of 2,500 to 5,000 population receives a salary as high as the median salary paid the 482 superintendents in cities of like population; of the second group, counties and cities ranging in population from 5,000 to 10,000, only 3 county superintendents out of 266 reach or exceed the median salary paid city superintendents in the same population group; in the third group, 10,000 to 30,000 population, over half the city superintendents as compared to less than 2 per cent of the county superintendents receive more than \$4,600, and in the fourth group, counties and cities having a population of from 30,000 to 100,000, only 4 county superintendents out of 97 receive as much as \$6,000, while 73 per cent of the city superintendents receive \$6,000 or more.

CENTRALIZATION OF SMALL SCHOOLS AND DISTRICTS

Voluntary centralization or consolidation of schools and school units as an effective and economical means of overcoming the deficiencies of small isolated schools continues to be favored by rural people and by education officials generally. In a number of States the consolidation movement has for years been promoted as a State policy and may be said now to have gained such momentum that relatively little additional stimulation or promotion is necessary.

The following statement from the report of the State Department of Education of Ohio is representative of activities of this kind in several States in which the greatest progress has been reported during recent years: "Consolidation has been the major project for the past 10 years. During that period 1-room schools in this State have been reduced 4,000, or one a day on average."

Among other States which have reported an increase in the number of consolidated or centralized schools during the biennium are Alabama, Delaware, Louisiana, New Jersey, New York, North Carolina, Tennessee, and Texas. Few or no additional centralized schools are reported, or the movement is more or less at a standstill, according to reports received, in Illinois, Iowa, North Dakota, South Dakota, Vermont, and Wisconsin. The reasons given for lack of progress are usually either that the topography of the country is unfavorable, as in Vermont; that there is a lack of sentiment for consolidation, as in Wisconsin and Illinois; or that economic conditions are unfavorable, as in North Dakota and Iowa.

In a number of well-organized counties in the United States consolidation on a county-wide plan has been achieved. This usually means that the topography, population, roads, etc., are carefully studied and a county-wide plan is drawn up, locating schools at strategic points. This is the practice which has long been followed in city systems. The result in counties which have followed the plan is that few small 1-teacher schools remain, sometimes none, and that high-school facilities of standard quality in addition to those of the elementary grades are within walking or transporting distance—usually by public vehicle—of the homes of all children of school age. At least six States—Alabama, Indiana, Tennessee, Louisiana, New Jersey, and Ohio—report one or more counties within their respective borders in which no 1-teacher schools are conducted. Many other counties in these and other States have reduced the number to the extent that the problems of the 1-teacher school are now a negligible factor in the educational system.

Whether through the larger administrative unit (as in the several county-unit States), through laws providing that systematic and approved county-wide plans be worked out before small consolidations are effected, as in North Carolina and Texas, or through supervision or encouragement on the part of State departments of education for the promotion of larger units and more intelligent and forward-looking plans, the tendency is increasing toward larger consolidation units. These larger units generally afford better school opportunities, both elementary and secondary, and are especially advantageous in promoting enriched curricula in rural high schools. The following statement from the State department of Alabama is typical of many contained in recent reports: "The size of con-

solidated schools in this State is increasing rapidly; in fact, the State department is encouraging larger consolidated units and is meeting with a hearty response from county boards of education and local communities."

Transportation continues to be a necessary and growing factor in school centralization. Improvement in roads and in efficiency and comfort of motor vehicles have brought large benefits to rural children. There has been considerable advance in recent years in the cost-accounting systems used by districts furnishing transportation, especially those furnishing it on a large scale. Pupil transportation is being reduced to a systematic business basis. Approximately one-third of the States now grant aid specifically for pupil transportation. They are Connecticut, Delaware, Indiana, Kansas, Maine, Massachusetts, Michigan, New Hampshire, New Jersey, New York, Oregon, Pennsylvania, Texas, Vermont, Wisconsin, and Wyoming. The amount of State aid has been materially increased during the biennium in Delaware, Louisiana, New Jersey, and Pennsylvania.

As a measure of the increased service characteristic of the biennium and as typical of reports from many States the following comparisons are given: Alabama reported 30,000 pupils transported in 1925-26 at a cost of \$560,000 as compared to 50,000 pupils in 1927-28 at a cost of \$750,000. In Delaware, the number of pupils transported increased 835 during the biennium, the expenditure, \$22,485. Increase in expenditure for transportation in Florida during the biennium is reported as \$115,229; in Missouri, \$19,796; and in New Jersey, \$225,275. At the close of the biennium estimates made on incomplete returns indicate that there are approximately 17,000 consolidated schools at the present time, including similar schools called by other names, and that the annual expenditure for transportation has reached the sum of \$40,000,000.

Legislation reported has been of minor importance. Laws relating to transportation were revised in several States. Illinois, Nebraska, and West Virginia are examples. Their purpose is to extend the benefits of transportation at public expense over a wider territory and to children living at greater distances from a central school. Georgia in 1927 passed a law extending transportation possibilities to teachers as well as pupils. Larger State grants for pupil transportation were made in Delaware, Louisiana, New Jersey, and Pennsylvania and for the erection of school buildings in Alabama, Delaware, Georgia, and New York. Procedure for establishing consolidations was revised in Alabama and Michigan. Consent of a majority of local trustees must be obtained in Alabama before county boards of education can consolidate two or more schools in the same district. Previously this regulation applied only to schools located in different districts. In Michigan signers of petitions for

proposed consolidations must own at least 50 per cent of the territory involved in counties having a valuation of \$50,000,000 or more.

In three States, New York, Washington, and Utah, state-wide studies of transportation facilities and costs have been made under the direction of the State departments of education.

RURAL SECONDARY EDUCATION

Opportunities for obtaining a high-school education in rural communities have increased in number during the biennium and improved in quality. Recent statistics show that enrollments in rural high schools have increased 26.5 per cent over a 2-year period. This percentage increase approaches equality with that in high-school enrollment for cities. In view of the continued migration to the cities and of large numbers of rural children transported to and enumerated in the city high schools, the increase is encouraging. It may be safely estimated that at the present time 1,150,000 boys and girls are enrolled in high schools in population centers of fewer than 2,500, about 25 per cent of the rural youth 15 to 18 years of age. More than 70 per cent of similar age groups in urban areas are enrolled in high schools. Statistics of the type cited indicate that the future development of high-school education, particularly that concerned with universalizing secondary-school opportunities should take place chiefly in the country.

The major problems in rural secondary education center round accessibility and support. Those States in which the population is sparse and the administrative organization unfavorable (the district plan, for example) find that magnificent distances and poor roads add to and intensify the difficulties growing out of inadequate school support. In States in which the population is more concentrated and in which a larger unit of school control prevails the problem is in major part financial. Modern education facilities cost money. State equalizing funds, larger State maintenance funds, and special State aid are helping to solve the financial difficulties in a growing number of States.

From the local point of view the solution of financial problems is dependent upon ability to centralize taxable wealth and school population. The movement for consolidation has reached a point in many States that two or more consolidated units are being centralized into one larger unit for secondary-school facilities. Enriched curricula and better qualified teachers, prohibitive in small units, are thereby becoming more and more available. Among States reporting notable progress in centralization for secondary schools Alabama, California, Colorado, Illinois, Louisiana, Michigan, Min-

nesota, Nebraska, Nevada, New Jersey, New York, North Carolina, Texas, Virginia, and Wisconsin are especially worthy of mention.

During the biennium legislation was enacted providing payment of tuition of pupils living in a district not maintaining a high school, at State expense in Minnesota, at county expense in Tennessee, at local district expense in North Dakota, South Dakota, Vermont, and Wisconsin (township). The New England States have for a number of years provided for the payment of tuition at public expense, either State or local, for attendants at high schools located in towns and cities.

Payment of cost of transportation or board of pupils living in isolated sections from State funds and supplying dormitories for high-school pupils are other means of extending secondary education to children living in isolated communities. Among the States which report progress in furnishing free transportation to rural children are Delaware, Illinois, Louisiana, Minnesota, and New Jersey. Montana, which has long used the dormitory system, reports it as a successful and growing method for providing high-school advantages to children in that State. Additional State aid for boarding as well as lodging expenses of pupils from rural communities has recently been provided. Michigan provides for board at State expense as a means of making high schools available to rural children. Other States showing interest in special aid for boarding expenses or in the provision of dormitories for high-school pupils during the biennium are Alabama, California, Georgia, Mississippi, Nebraska, Nevada, New York, North Carolina, Tennessee, Utah, West Virginia, and Wyoming. An extensive study of dormitories in connection with public high schools for rural children in Montana, issued in February, 1927, as Bulletin 201 of the Agricultural Experiment Station of the University of Montana, is of interest in this connection.

A few experiments with the extension of high-school instruction to rural children at their homes through correspondence courses, by itinerant teachers for small groups of children, and by a modified plan of individualized instruction are reported. These may hold promise for the future not now apparent.

The effort to establish high schools within reasonable distance of farm children has inevitably led to a disproportionate number of small high schools with attendant large per capita expense and impoverished offerings. At the end of the present biennium approximately 34 per cent of the high schools in communities of 2,500 and fewer report 50 pupils or fewer enrolled; about three-fifths, 75 or fewer. A large number of these small high schools employ few teachers—43 per cent three or fewer; only 35 per cent employ more

than four teachers. This situation suggests the pertinent problems with which rural secondary education has grappled during the biennium; improved organization and enriched curriculum offerings are the paramount considerations.

Serious problems incident upon the small high-school organization have been pointed out recently by Prof. Joseph Roemer.⁷ Professor Roemer says:

(1) With respect to teaching force the small high school means (a) excessive teaching load, (b) lower standards of teacher qualification and preparation, (c) poor distribution of teacher assignment. (2) In the matter of curriculum, it means (a) limited, (b) poorly arranged and unbalanced curricula with practically no vocational offerings, and (c) unjustifiable requirements of pupils. (3) In building and equipment, (a) practically no working library; (b) very poor science equipment, if any; (c) little or no playground equipment, inadequate or no gymnasium or auditorium facilities, are possible. (4) In instruction the small high school means (a) poor quality because teachers can not specialize or are overloaded, and (b) little or no supervision. (5) Limited possibilities with respect to student and extracurricular activities because of insufficient numbers are inevitable.

Among the most successful means reported for improving the quality of rural secondary education are the following: Standardization, chiefly by State departments of education; reorganization on some of the several so-called junior high school plans in vogue; and further centralization. Among the States reporting progress during the biennium in standardization are Nebraska, North Carolina, and Pennsylvania. Manuals containing suggestions on improved organization and administration or new curricula and program schedules particularly adapted to small high schools recently issued in Alabama, Kentucky, Indiana, Maryland, Missouri, and West Virginia, have been received in or reported to the Bureau of Education during the biennium.

Establishment of junior high schools as a means of improving secondary education in rural areas is growing in favor. According to a recent check, 26 States have passed laws relating specifically to the junior high school and 32 State departments of public instruction encourage this type of organization within their respective States. Recent statistics show that 12 per cent of the high schools in population centers of 2,500 or fewer are organized under the junior high school system enrolling 21.6 per cent of the pupils attending high school in such centers. Most of these schools are organized as junior-senior high schools under the 2-4 or the 3-3 plan. The junior high school as an independent unit or associated with the elementary school only is comparatively infrequent in rural areas, but is showing growth in favorable sentiment. In a growing

⁷ Peabody Journal of Education, July, 1928.

number of rural communities some type of junior high school organization is formed as an intermediate step in a well-rounded scheme of high school or full elementary and secondary centralization.

Outstanding studies which have appeared during the biennium in the field of junior high school education for rural communities are "The Small High School," by Prof. Francis T. Spaulding (Harvard Studies in Education No. 9) and "The Rural Junior High School," by Prof. Emery N. Ferriss (United States Bureau of Education, bulletin, 1928, No. 28).

Data recently collected in the Bureau of Education throw some light on the importance of consolidation in rural secondary education. According to a recent study 2,177, or 22 per cent, of the 9,876 high schools operating in small population centers, are in villages ranging in population from 700 to 2,500; 1,047, or 11 per cent, of them are organized and controlled as county high schools; 3,284, or 33 per cent, are reported as organized under one of the various forms of high-school consolidation; and 3,366, or 34 per cent, operate as rural or agricultural high schools and are located in the very small towns or in the open country. The study from which the above data were taken shows that nearly one-third of the high schools enrolling rural children are the result of consolidations and that consolidated schools are nation-wide in distribution. When the States are compared on the basis of the number of high-school consolidations, 20 stand out prominently. They are California, Colorado, Georgia, Illinois, Indiana, Iowa, Maine, Minnesota, Mississippi, Missouri, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, South Carolina, Texas, Washington, and Wisconsin. The county high school is in most cases a way of centralizing rural high-school activities. County high schools are most common in the Southern States in which the county is the administrative unit.

Comparisons in size of consolidated high schools and district high schools located in the open country or in the very small towns (the two types of high schools most frequently found in purely rural environments) illustrate the effect of consolidation as a means of improving rural secondary-school conditions; average enrollment of 68 pupils is found in the former and 40 pupils in the latter. The centralized high schools employ an average of four teachers per school, have 841 volumes per school library, \$74,200 invested in buildings and grounds, and \$7,667 in furniture and equipment. Independent district-school systems in rural areas employ an average of three teachers, own 594 volumes per school, and show \$46,481 invested in buildings, and \$4,585 in furniture and equipment.

LOCAL SUPERVISION OF INSTRUCTION

The value of professional supervision of rural schools has received constantly growing recognition during the biennium. This is evidenced (1) by the increase in the number of States in which such supervision has been initiated; (2) by the extension of supervision to additional counties in several States in which it had an established place; (3) by the added emphasis placed on the strictly supervisory function of county superintendents in States in which there are no supervisory assistants; and (4) by the improvement in the quality of supervisory service rendered. An important development of this improvement is apparent in the inclusion in supervisory programs of more and better service adapted to the special needs of exceptional children in rural areas.

At the close of the biennial period 1925-26 a decrease in the number of local rural supervisors and in the number of States and counties employing such officers was reported and the causes discussed. It was suggested at that time that the decrease was apparently temporary and not assignable either to lack of confidence in or failure of supervision. Developments during the biennium apparently justify this conclusion. Supervision has been established for the first time in Mississippi and Texas. In Mississippi a recent law provides for the expenditure of public funds and for State aid to employ primary supervisors in rural communities. "Primary" is apparently interpreted as elementary in this connection. So far, five counties in Mississippi have availed themselves of the provisions of the new law. Prospects are encouraging for extension within the next few years. In Texas funds recently made available are used for supervision in several counties. It seems probable that arrangements will be made at an early date for extension of supervision among the counties of this State.

From Alabama, Arkansas, California, Florida, Georgia, Louisiana, Maryland, Michigan, New Jersey, North Carolina, Oklahoma, Pennsylvania, South Carolina, Texas, Virginia, and West Virginia, increases are reported in the number of supervisors employed or in the counties brought under supervision during the biennium. In Alabama, Virginia, and West Virginia, the increase in numbers has been marked. In Alabama an "equalization of educational opportunity plan" recently adopted provides funds to finance a project which contemplates one supervisor for each group of 75 teachers. Nineteen supervisors are reported as added to the force during the biennium. West Virginia added 17, and in Virginia the number of rural-school supervisors has almost doubled during the 2-year period. In Oklahoma and Arkansas interest in supervision has reached such a point that legislative sanction and State funds for

its support appear to be imminent. In Louisiana the newly acquired equalization fund of \$1,500,000 is expected to extend supervision to parishes which, while favorable to the plan in the past, have been financially unable to support it. The total number of local rural-school supervisors reported at the close of 1928 is 818. This number does not include administrative officials, many of whom do much supervising, nor does it include supervisors who spend less than half time in the supervision of instruction.

Despite considerable growth in the number of supervisors, the county superintendent is still the sole supervisory officer in the majority of counties in the United States. The improvement of supervision in these counties offers difficult problems which many State departments of education and State higher institutions of learning are making systematic efforts to solve. Among the States in which reports of such efforts have been recently received are Arkansas, Florida, Minnesota, Mississippi, Missouri, North Dakota, Ohio, Oklahoma, and Texas.

During the biennium an assistant in rural education has been added to the staff of the bureau of rural education of the State Department of Education in New York, whose time is devoted in large part to supervisory problems of the district superintendents. In Idaho two supervisors responsible to State normal schools and the State department of education have been added to those previously employed—a total of four assigned to the rural schools of the State.

In North Dakota a plan somewhat resembling the Minnesota, Idaho, and Missouri plans was established during the biennium. Local rural-school supervisors have not been employed in that State. In 1926-27 deputy superintendents having both administrative and supervisory duties were employed in 12 of the 53 counties. At the beginning of the school year 1927 supervision under State direction was effected through the introduction of 11 State "demonstrators." They spent one week at a school of instruction conducted at the State Teachers' College at Mayville and seven succeeding weeks in the several counties of the State working with the rural schools. Three or four days were given to visiting schools with the county superintendents, followed by conferences of teachers, county-wide or in groups, usually of one day duration, devoted to demonstration teaching, planning opening exercises, and other teaching problems. Generally each county was divided into two districts for the purpose, though occasionally size or topography necessitated a larger number. The attendance of elementary teachers was compulsory. At the end of the period favorable reports were sent to the State superintendent from a large majority of the county superintendents and teachers interested. As one result of the plan it seems reasonable to expect that county superintendents will have a new realization of the need

of more intensive supervision than they are able to give, including the possibility of "follow-up" visitation, which only local supervisors can achieve. It may thus become a factor in bringing about the employment of full-time county-school supervisors in this State.

States in which professional supervision is established report for the biennium a wider use of the results of research studies and an increasing number of such studies in which supervisors participate; that renewed and more effective efforts are being made through in-service training of teachers by supervisors and through courses offered in higher institutions to improve the supervisory services of elementary-school principals; and that teachers' meetings are becoming an increasingly effective means of supervision through improvements in the programs offered and the preparation made for them. North Carolina and New Jersey particularly report success in promoting supervision by principals.

Reports from some States indicate that considerable attention is given to the improvement of teaching in the one and two teacher schools. In Connecticut primary supervisors (usually acting as assistants to other supervisors in the same district) report progress in promoting creative work, ability among children to work in informal groups, activity projects, and in other modern teaching methods. In California an individualized instruction plan adapted to small rural schools is being carried out. In other States, of which North Carolina is an example, supervisors apparently center their attention on improving instruction in the consolidated schools.

A study of the results of supervision was recently made in North Carolina under the direction of the State department of education in which supervisors and teachers participated. Some of the results pointed out in a report of this study follow:

Scientific test results from seven supervised counties covering a period of three years for which well-trained rural supervisors had been employed in these counties show the average reading ability of the pupils was over a grade nearer standard and their work in arithmetic was nearly one grade higher than it was when these supervisors began their work. This means, for example, that at the end of this 3-year period of efficient supervision of classroom instruction the fourth-grade pupils in these counties were reading and working arithmetic better than were the fifth-grade pupils at the beginning of this period of close supervision. In a word, it means that within this 3-year period of constant and expert supervision the pupils in these counties gained approximately one whole year in their mastery of the subjects of reading and arithmetic.

The monetary value to the taxpayer of this efficient supervision * * * has been proved by the fact that the seven counties for the total expenditure of \$43,160 for supervision over a period of three years, purchased the equivalent of an extra year of instruction for the pupils which, at the current cost of instruction in these schools, would have necessitated the expenditure of \$351,239.56. In other words, for every dollar that was expended for supervision in

those seven counties for those three years \$8.14 worth of additional instruction was purchased for the pupils.

A cooperative study of teachers' meetings was undertaken as one of the results of the second regional supervisory conference called by the United States commissioner of education in Raleigh, N. C., in 1926. Seventy-seven county superintendents and supervisors in 12 States cooperated with the Bureau of Education. Among the improvements which the results of this study indicate are necessary in the conduct of teachers' meetings are: (1) Better organization with special attention to the needs judged by size and topography of the county, number, location, and size of buildings, etc.; (2) improvement of demonstration teaching; (3) the stimulation of better and more discussion; (4) increased amount of committee work; (5) careful selection of the persons who deliver addresses in order that they be scientific as well as practical in nature; (6) that careful time allotment studies be made in order that the time devoted to teachers' meetings be spent to the best possible advantage and activities so selected as to insure substantial educational returns for the time, effort, and money spent by teachers in attending meetings.

In at least two States, Massachusetts and California, the special needs of non-English-speaking children entering the first grade have been studied and efforts for their welfare undertaken. In Massachusetts an experiment recently carried on with approximately 2,000 children, the objective of which was to find a means for eliminating the additional year commonly devoted to completion of the elementary grade, indicates that with appropriate types of teaching non-English-speaking children can progress through the elementary grades in the normal period of eight years.

During the biennium conferences on rural school supervision were called by the United States commissioner of education in New York for the Northeastern States and in New Orleans for the Southern States. Among the studies reported on at these conferences and topics discussed which indicate significant problems in the field of supervision the following aroused special interest: The special needs of mentally deficient children and of crippled children in rural areas; a study of the kind of supervision which superior teachers need; the responsibility of educational agencies in State departments of education, higher institutions of learning, and the like, in promoting supervision; the development of characteristics of efficiency in teaching; the integration of preservice and inservice training of teachers; and research in supervision.

THE TEACHING STAFF

Two developments of the biennium in the general teacher-training field are significant to rural education in their promise favorably to

affect the outlook for eventually securing prepared teachers for the different types of rural schools: First, a number of studies have been made of the teacher situation. These are of two general types—those, state-wide in scope, aimed to determine the number and types of teaching positions within the State; the number of annual replacements occurring in each of the several types; the facilities available to prepare teachers for each type; and the probable steps necessary to avoid either a shortage or a surplus in each so far as possible, and related studies analyzing teaching activities in the different types of positions, including rural teaching positions. Second, the movement toward coordinating and unifying the functions and activities of the several agencies concerned with the preparation, certification, placement, and inservice training of teachers has been furthered in a few States through official action or voluntary cooperation.

The state-wide studies have thrown much light on the rural-teacher situation. More and better courses in teacher-preparing institutions for prospective teachers in rural schools, both elementary and secondary, should result. In addition they have shown the need of State programs for coordinating the functions of certifying and training agencies and for collecting annually information concerning the probable teacher supply and demand. When such programs follow, it seems reasonable to expect that rural schools will share according to their needs in measures adopted for the improvement of the teaching staff.

In States in which the several functions concerned with the certification and preparation of the teaching staff are centralized coordination may be readily effected. When they are decentralized, voluntary coordination of effort is essential in order that a unified program may be evolved. A plan for voluntary unification and coordination for Ohio was recently promulgated by the State director of education. It seems probable that the program outlined was suggested or stimulated by the fact that extensive state-wide studies of the teacher situation in that State were made recently. A brief description of the plan follows:

With the appointment of John L. Clifton as State director of education a move was made to eliminate those schools which were unprepared for this work and to unify the program for teacher training in those schools which retain the privilege. A conference was called of representatives at Columbus to consider a program for teacher training. Representatives from most of the colleges came—a total of 200. After considering the difficulties and needs in the present situation the conference adopted the following tentative objectives: (1) To provide for continuous coordination among the several teacher-training agencies through a system of cooperative administration; (2) to promote a program of selection and guidance which will insure a high type of candidates for the teaching profession; (3) to promote teacher training only in institutions of high standing in which preparation for the teaching profession is a major function; (4) to secure ultimately a recognition of the principle of

equal training and compensation for elementary and secondary school-teachers; and (5) to provide for the unification and interrelation of the component parts of the professional curricula.

The first objective is to be attained through a committee representing the teacher-training institutions, the department of education, and the State teachers' association; the second by a careful selection of students for teacher training through intelligence tests, personality and health examinations, school standings, etc., before the student enters college. Under the third the board of education will limit the training of teachers to those colleges which can meet membership standards in such associations as the North Central, the American Association of Teachers' Colleges, the Ohio College Association, and the American Association of Universities, and then only to such colleges as make teacher training a major interest.—*The teacher-training program of the Ohio State department of education.* H. B. Alberty. *Educational Research Bulletin, Ohio State University, May 16, 1928.* pp. 199-206.

During the biennium two conferences were called by the Bureau of Education to consider problems concerned with the preparation of teachers for rural schools, one in Boston, Mass., and one in Los Angeles, Calif. The following topics selected from the programs will illustrate the trend of the discussions and the problems which have been engaging the attention of persons interested in preparing teachers for rural schools during the biennium:

Activity analysis as a basis for constructing rural curricula.

The extent and criteria of curriculum differentiation for the preparation of rural elementary school-teachers.

The adjustment of the supply of and demand for qualified teachers—The State's problem.

State legislation and regulations to guarantee an adequate professional staff for rural-school positions.

The application of standard two, three, and four-year courses to the specialized needs of rural school-teachers.

The responsibility of teacher-preparing institutions toward specialization and an adequate teaching staff.

Preservice and inservice training of rural teachers—How shall we have an integrated program?

Certification, training, and placement of teachers—a coordinated program for teacher-training institutions and State and local educational authorities.

Careful consideration through conferences and in other ways of problems of the character indicated by the titles quoted is especially promising for rural education. In the general chaos in the teacher-training field large numbers of prospective teachers are trained without due consideration to the number and types of vacancies to be filled when the graduates seek positions. Specialized curricula designed to prepare teachers for different types of positions have been offered, but there has been little guidance given or available to assist teachers in selecting the work for which they are best fitted and in which there is the greatest probability of positions. While this situation has characterized the whole field of teacher training it is especially acute in that of rural teacher training. Specialized cur-

ricula in this field are less widely offered and are not so apt to be based on careful studies of its particular needs. Placement is not so systematically managed as in urban systems and consequently a larger number proportionally of untrained teachers and teachers trained for other types of school work enter the rural schools. Studies have revealed also that when certification requirements are not coordinated with training and placement facilities, and when they are below the standard required by teacher-training schools, prepared teachers are apt to be displaced by those not so well qualified.

Recent studies in two States have shown that a surplus of teachers were trained for high-school work, while a shortage existed of teachers equally well trained for elementary schools, with the result that large numbers of teachers trained for high-school work accepted positions in elementary schools. Another result of nonadjustment of teacher-training and placement facilities is concerned with the kind of training given prospective teachers for rural secondary schools. In the majority of teacher-preparing institutions teachers major in one subject which they expect to teach in high school. A large percentage of them accept positions in small high schools where they must teach three, four, or even more subjects, for some of which they have not had adequate preparation. Training teachers especially and specifically for small high schools is of growing interest. Certain subject combinations may be established in connection with such training. It appears that there is as much need for establishing specialized courses adapted to the particular needs of teachers in small high schools as for courses to prepare teachers for one, two, and three teacher elementary schools.

The number of institutions offering courses in the training of teachers for rural schools is increasing and the quality of courses offered, judged by the time covered, has improved. Data collected for 1927-28 and compiled in Rural School Circular No. 25, issued by the Bureau of Education, show that 151 of the 185 State normal schools and teachers colleges in the United States offer differentiated courses or curricula for prospective rural elementary school-teachers. Seventy-five institutions offer one or more curricula specifically designed for the preparation of such teachers. The curricula offered, measured by duration, and the number of institutions offering them are as follows:

<i>Rural curricula offered</i>	<i>Number of institutions</i>	<i>Rural curricula offered</i>	<i>Number of institutions</i>
One year only	5	Two and four year	9
Two year only	36	One, two, and three year	1
Four year only	5	One, two, and four year	4
One and two year	10	One year, one year and six weeks, and four year	2
One year, one year and six weeks, and two year	1	One, two, three, four year	1
One and four year	1		

Seventy-six institutions which do not offer rural curricula offer one or more differentiated rural education courses. In a few of these the number of such courses exceeds that in some of the institutions which offer regular rural curricula.

Uniform state-wide laws and regulations governing certification, especially through setting up minimum standards in academic and professional training, are of special importance in the improvement of the rural teaching situation. A mistaken form of economy prompts low salaries in many districts. Only teachers with the lowest-grade certificate will accept. Under such circumstances reasonable minimum standards set up and enforced by the State are a protection for the children concerned.

Regulations designed to improve the teaching staff by raising certification requirements are reported for the biennium from a number of States, including Alabama, California, Montana, New Hampshire, North Carolina, Vermont, West Virginia, and Wyoming. In New Hampshire a minimum prerequisite of two years above high school was established in 1928. In California the requirement for State certificates was raised to two and one-half years above high-school graduation. California still retains the county-examination system, however, as a possible means of entrance to the teaching profession.

A review of the teacher-certification situation at the close of the biennium is encouraging. A study of State laws and regulations governing certification of teachers recently made in the Bureau of Education² shows that there has been notable progress in the 5-year period ended in 1927 in establishing prerequisites for the lowest grade of certificate in terms of academic and professional credits from approved higher institutions. This has been accompanied by centralization of certification in State departments of education and higher institutions. Summaries in the study show that there were at the beginning of the school year 1927-28 four States, to which New Hampshire may now be added, making in all five, in which the established prerequisite for the lowest grade of certificate is graduation from high school plus two years of professional preparation, or the equivalent of standard normal-school graduation. Nine additional States require high-school graduation and one year of professional training of higher grade; 14, high-school graduation and some professional training, less than one year; 6, four years of secondary school (may or may not include professional courses); while in 15 no definite scholarship qualifications other than those manifested in examinations given under State or county authority are required. The qualifications indicated, it should be remem-

² U. S. Bureau of Education, Bulletin, 1927, No. 19, "State Laws and Regulations Governing Teachers' Certificates."

bered, concern the lowest grade of certificate. All States, including the 15 in which entrance to the profession through examination is possible, issue a number of certificates requiring normal-school or college graduation.

The movement toward centralization of certificating authority in State education agencies, generally State departments of education, has been well under way for a number of years. At the present time there is complete centralization in 36 States; with a large degree of control in four additional States. Centralization of the certificating function in State education agencies may be considered as practically accomplished in 40 States. Local control still prevails in Massachusetts while county authorities issue and exercise control over some kinds of certificates in California and Wisconsin. Relatively few county certificates are issued, however, and minimum scholarship prerequisites are set up by regulations of the respective State departments of education. The Wisconsin scholarship prerequisite may be met by completion of courses in county rural normal schools. These schools are under county direction and State supervision. In California high-school graduation is required of persons desiring to take the county examinations. On the whole State standardization of certificates is a well-established policy in the United States.

Establishment of minimum scholarship prerequisites is but one of several means of restricting the number of teachers entering the profession with training below the acceptable standard. A number of States are limiting more and more and thereby diminishing year by year the number and percentage of certificates issued on examination. Correspondingly the number and percentage issued on credentials increase. The following are illustrations: In Alabama in 1927, 10,290 certificates were issued on credentials and 1,004 on examination, a percentage comparison of 91.1 and 8.9. Corresponding percentages for the preceding year were 88.4 and 11.6. Missouri issued in 1928 one-half as many certificates on examination as in 1925. In Virginia the practice of issuing certificates on examination was discontinued during the biennium. Delaware reports a large falling off in the number of second and third grade certificates issued in 1928 indicating "that better trained teachers are entering the profession."

In-service training for teachers through extension courses continues to grow in extent and improve in quality. In Massachusetts the State department has arranged recently for extension courses leading to the B. S. degree in education available to all teachers who have completed two or more years in any of the State normal schools of the State. Reports from Alabama state that the percentage of

teachers enrolled in extension courses has increased 32 per cent during the 5-year period ended 1927.

The State educational association offices of about three-fourths of the States have entered into a cooperative arrangement for the maintenance of a bureau of service located in Chicago. One of the activities of this new bureau is to assist the journals or organs of these associations to obtain first-rate materials for publication. During the present school year a series of six articles dealing with phases of the elementary-school curriculum, written by nationally known specialists, is appearing in all the magazines in this group. For the September magazines Prof. Ernest Horn wrote on the teaching of spelling. In October Prof. William S. Gray, of the University of Chicago, followed with a similar condensed treatment of the teaching of reading. As rural-school teachers probably read their own State journals rather than others more national in scope and clientele, this departure offers them an added professional stimulation.

In Connecticut a director of teacher training was added to the staff of the State department of education during the biennium.

The situation in regard to teacher supply and salaries has apparently changed little during the biennium, if at all. Of 26 States reporting, only one reports a shortage of "adequately trained teachers." Twelve report an oversupply, six a slight shortage, seven neither surplus nor shortage. Missouri and Kansas are among the States reporting a large oversupply. In neither of these States are the minimum qualifications for teaching certificates as high as in the majority of States. From Missouri it is reported, "There is a great oversupply of teachers. Hundreds of capable teachers have been unable to secure positions, while others equally well trained have been compelled to teach for smaller salaries because of the abnormally large supply."

Salaries of rural school-teachers, according to reports from 22 States, have increased in 9, decreased in 5, and are unchanged in 8. Two of the States in which efforts are being made to increase salaries plan to propose State salary schedules to the next legislative sessions. A few States report that improved standards in certification requirements have been made possible through State aid for teachers' salaries. One new State normal school is reported, that at Billings, Mont. The State superintendent reports that the supply of trained teachers for rural schools will be increased and improved through the establishment of this new normal school.

CURRICULUM CONSTRUCTION AND REVISION

In nearly all States rural school-teachers depend upon State courses of study for curriculum content and for guidance in classroom

organization and instructional practice. California is an outstanding exception. County as well as city school systems prepare the courses for their schools. In many other States some well-organized counties prepare special courses or adaptations of the State course for local use, but in general the State course of study is the basis for curriculum practice in rural schools. Improvement in curriculum construction as it affects them may, therefore, be measured largely in terms of changes made in State courses of study.

Within the biennium just ended State courses have been formulated or revised in whole or in part in 19 States. Certain progressive trends in content or in method of preparation of these courses seem to be of special importance: (1) The assignment by the chief State school officer of responsibility for curriculum construction or revision to some member or members of the staff of the State department of education; (2) a broader point of view in the selection of personnel and in the practice followed in curriculum construction; (3) improved content through wider use of problems, projects, and activities to supplement the bare outlines characteristic of older courses of study; through inclusion of recommendations for the intelligent use of practice and achievement tests and of remedial measures, and through utilization of results of recent studies and investigations in education.

States which reported the assignment of responsibility for curriculum revision to one or more members of the State department staff during 1927 and 1928 are Florida, Indiana, Kentucky, Michigan, Missouri, Nebraska, New Jersey, New York, Pennsylvania, Virginia, and Wyoming. This procedure recognizes curriculum construction as a continuous process rather than an intermittent task, and presupposes trained leadership from the State department of education as essential in promoting modern practice in curriculum revision for rural schools.

In six States from which reports are available curriculum revision was conducted through state-wide committee organization providing for extensive participation by the different education interests. In Iowa, North Dakota, and West Virginia, in each of which the course of study for elementary schools was recently revised, all of the educational institutions and agencies within the respective States were represented on the several committees; the personnel including specialists in education and in subject matter, city and county administrative officers, and teachers. A difference in point of view among these three States concerning the type of representation which should predominate is apparent in the constitution of the committees. In forming the Iowa course responsibility was placed in large part upon specialists in subject-matter and in education theory. Participation by classroom teachers was apparently limited to three mem-

bers of a committee of more than 100, the three representing the elementary school of the State university. In West Virginia, on the other hand, curriculum committees were made up largely of classroom teachers, an apparent recognition that the teacher is the determining factor measured in terms of actual practice. In North Dakota the course followed in the selection of the personnel was between these extremes. A balance was retained among subject-matter specialists, administrators, and teachers.

In Minnesota the policy followed by the State department of education is one of "continued effort in the curriculum field." Minnesota has several continuing curriculum committees, membership on all committees numbering 33. Twelve members are from the State department of education, 10 are representative of the State teachers colleges, 6 are superintendents of schools, and the remaining 5 are special and general elementary supervising officers.

In Louisiana and New Mexico volunteers were sought. Any teacher who so desired could participate in curriculum construction in both of these States. In Louisiana two units of the complete course in process of making have been completed within the past biennium, one in arithmetic and one in language. The work was done by volunteer teachers, principals, and supervisors from 19 administrative units, 14 of which were parish (county) school systems. The process was one of "integration" under the general supervision of the division of elementary schools of the State department of education. Results were reviewed and checked, and in some cases revised in education classes of the State university.

In New Mexico the preparation of the course of study was initiated in summer sessions of the several higher institutions of learning in courses given in curriculum revision. In the course offered at the University of New Mexico in the summer of 1927 the class made a study of the literature of the philosophy of education, of modern methods of teaching, of scientific determination of subject matter, and methods of formulating courses of study. Committees were organized and assigned the task of reading, evaluating, and integrating the literature in the subjects taught in the elementary schools.

In the following summer session of 1928, the class centered its efforts on the preparation of a course of study in language. Contributions from the teachers of the State were received and integrated with the work of the members of the class. When the results were ready reports were presented for discussion by officers of the New Mexico Education Association, of the State department of education, of representatives from higher educational institutions, and by city and county superintendents. The revised course was the result of the combined efforts of the groups and officials indicated.

Other minor measures reported are: Curricula to meet the special needs of mentally retarded and mentally handicapped children have been prepared and published in two States, Massachusetts and Wisconsin. The State department of North Carolina has recently issued a course of study for the preschool child including suggestions for mothers and information for primary teachers. This would indicate that the preschool child living in rural areas is not to be entirely neglected in the progress of the present movement in this field of education. The course of study completed during the biennium for Wyoming aims to make special provision for individualized instruction, alternation, and combination of classes and subjects.

The outlook for the development of a course of study which shall more nearly meet the needs of children in small one and two teacher schools is reasonably encouraging. There is need for more experimentation in the development of units of organization of content other than those based on the traditional 8-grade plan as developed for large schools in which there is one teacher for each grade. That the difficulties involved are recognized by those recently engaged in curriculum revision is indicated by such statements as the following:

Any curriculum construction must take into account the various organizations of the State with their individual differences as to administration and supervision.—*H. V. Holloway, State superintendent of public instruction, Delaware. (From reply to questionnaire sent from the Bureau of Education in 1928.)*

The difficulty of making a course of study to serve both rural and graded schools arises not so much out of differences in the subject matter which should be taught in these two types of schools as out of the differences in administrative problems involved in teaching in the two types of schools. All committees have been constantly alert to make special adaptations to the interests of teachers of rural schools. It is the belief of the executive committee that those responsible for making the course of study which succeeds this one should consider seriously the plan of issuing a separate course of study for rural-school teachers and one for teachers in graded schools.—*Dr. Ernest Horn in Introduction to the Course of Study of Iowa. (1928.)*

The outstanding problem is to make a course of study and a daily program so that the 1-room rural teacher can make good use of her time and the pupils' time in a school where she has all or nearly all of the grades.—*Bertha R. Palmer, superintendent of public instruction, North Dakota. (From reply to questionnaire sent from the Bureau of Education in 1928.)*

LIBRARY SERVICE TO RURAL SCHOOLS

Library service to rural schools and communities has been enlarged and improved during the biennium, though still woefully inadequate. Improvement is due in large part to new and better legislation, State supervision of school libraries, extension of traveling library service, establishment of county libraries, and the extension of cooperative effort between schools and public libraries.

Progress in securing legislation or State appropriations affecting rural-school libraries is reported from Alabama, Arkansas, California, Iowa, and North Carolina. At the close of the present biennium there are reported one or more full-time State library supervisors devoting considerable time to rural communities, especially to rural high-school libraries in six States—Indiana, Michigan, Minnesota, New York, Tennessee, and Wisconsin.

County libraries have been established during the biennium in Arkansas, Indiana, Kentucky, Mississippi, New Jersey, New York, New Mexico, North Carolina, Oregon, Pennsylvania, Texas, and West Virginia. For the United States as a whole there are 37 more county libraries reported in 1928 than in 1927, a total at the close of the biennial period of 260 counties with county library service. The Louisiana Library Commission established during the biennium two parish (county) libraries for demonstration purposes. Reports indicate that the cooperative activities worked out between schools and libraries in the parishes were effective in promoting more and better reading among school children.

In the New England States public libraries are cooperating with rural schools extensively and systematically. In Massachusetts, public librarians meet with teachers' institutes in rural communities as a means of furthering coordination between schools and libraries.

SPECIAL PLANS AFFECTING PROGRESS IN RURAL EDUCATION IN REPRESENTATIVE STATES

STATE PROGRAM OF PUBLIC EDUCATION IN NORTH CAROLINA^a

The development of public education in North Carolina for the past 10 years has been along lines which seem to promise great improvement, especially in rural education—the most baffling question in State school administration. Ten years ago North Carolina began to cope with this question seriously. The lines of development have been as follows:

(1) The consolidation of rural schools into larger units in order that teachers in the elementary-school system would have fewer grades to teach, and in order that all of the children might have an opportunity to attend high school. This development has gone on until there are more than 1,000 consolidated schools in North Carolina in which are enrolled 56,000 boys and girls in the high schools alone. More than half of the rural white children are enrolled in consolidated schools which have a teacher or more to the grade.

^a Prepared by A. T. Allen, State superintendent of public instruction, North Carolina.

The most difficult question in the consolidation program was to secure money with which to erect large rural schools of a permanent type of construction. This was made possible by the State itself, which has provided \$19,000,000 to be lent to the counties at a low rate of interest for the purpose of constructing the school buildings. Within 10 years North Carolina has put into rural-school building more than \$35,000,000. The program is practically two-thirds complete. The desire of the State is that this plan of consolidation be carried forward until every rural child in the State is provided, as nearly as possible, with an opportunity to attend a school of this type.

In North Carolina we have a constitutional requirement that sets up a 6-month school term. All school terms in addition to six months are dependent upon a vote of the people authorizing the levying of a tax to extend the term. Along with the construction of these buildings the people of the State have been voting special taxes until about seven-eighths of the rural property is now under special tax and three-fourths of the white country children are in schools with terms of eight months or more. About 30,000 additional children each year are provided with an 8-month school term. It is the purpose of the State to continue this until the minimum school term in the State shall be at least eight months.

This building program and extended term has made necessary a great deal of transportation. At present North Carolina is hauling more than 150,000 children a day. When the consolidation program is completed it is estimated that it will be necessary to transport daily approximately 200,000 children.

(2) Financing the 6-month term: At the beginning of our school system in 1876 the feeling was that the county as a unit should support the 4-month school term as the constitution then required. At first this was not very difficult, but as schools began to be set up and their expenses began to increase, it was found that a great many counties were unable to operate their schools for the full term of four months. In 1907 the supreme court of the State interpreted the constitution to mean that each county was under obligations to levy whatever tax might be necessary to keep the schools open for four months. Later—that is, in 1918—the people of the State changed the constitution from four months to six months. About the same time the salary schedule for teachers was greatly increased. A great many children who had not been in school began to go to school, so the cost that rested upon the counties became very burdensome, and the tax rates for the support of the 6-month school came to be very different among the counties, extending all the way from 30 cents in one county to \$1.35 in another county for the same purpose.

In 1901 the State began to provide a small equalization fund to equalize the burden of taxes among the counties. This fund has been increased almost every biennium until in 1925 it was \$1,250,000. The general assembly of 1925 increased this fund to \$1,500,000, and the general assembly of 1927 increased this amount to \$3,250,000. It is hoped that the general assembly of 1929 will increase the equalization fund to approximately \$7,500,000 and that it will distribute this money on the basis of an eight months' term rather than on the basis of a six months' term. If it is possible to secure this increase, North Carolina will then have a minimum school term of eight months. The program, then, of the State department of education is to increase the minimum school term in the State to eight months through the increase of the State equalization fund.

(3) *Teachers.*—In 1917 the State began the certification of teachers. Through these efforts the training of the teachers in North Carolina has gone up very rapidly. Out of the 24,000 teachers at work in the State now, there are approximately 6,000 college graduates. Ten years ago one-half of the teachers in the State were not high-school graduates. Now, the average training in the State for white teachers is more than two years of college work.

We have been successful in building up the teaching profession rapidly on account of a "single-salary schedule." The single-salary schedule provides for the same pay for high-school and for elementary teachers, and there is an increase in pay for additional training; that is, if a teacher who has two years of college work should stop and go to school and graduate, her salary would be increased by \$28.33 $\frac{1}{3}$ per month for as long as she might teach thereafter. This has built up a teaching profession in North Carolina in which there is very limited turnover. In many places this turnover is less than 5 per cent. A few years ago it was 30 per cent practically over the whole State. The salary schedule and the training of teachers has stabilized the profession. It is hoped that the general assembly will not interfere in any way with this arrangement.

STATE SUPERVISORY PROGRAM OF LOUISIANA

Supervision of instruction was made a major project of the State department of education in 1919. A systematic State program revised year after year according to needs has been in operation since. Each year a program for the year is worked out in cooperation with the parish superintendents and issued from the State department of education. The general objective throughout has been the improvement of classroom instruction and of classroom conditions.

*Abstract of a report by A. M. Hopper, State supervisor of elementary schools.

General plan.—The first step in carrying on the program was that of training the personnel. In the beginning trained supervisors were not available. Successful teachers and principals were, therefore, selected as supervisors. They worked under the direction of members of the State department. The teacher-training institutions immediately established courses for training supervisors. They were attended by the superintendents and supervisors in service as well as by those who desired to prepare for supervisory positions opening up in the future. The long-term State supervisory program was formulated to emphasize one or two subjects each year. A reading course for teachers was prepared in the particular subject designated for the year as an important part of the in-service training.

An activity provided for in the program was the systematic use of standard and other objective tests. During the early years the testing programs were supervised by the staff of the State department of education, and teachers were trained under their direction in the administration and various uses of tests. Courses were later introduced into the teacher-training institutions, and this particular type of supervision on the part of staff members from the State department was no longer necessary.

Demonstration teaching was also a part of the long-term program. During the first few years this was done by the State superintendent and members of his staff. As local superintendents and supervisors developed skill in this direction, part of this work has been taken over by the local officials, particularly skilled teachers selected by parish superintendents and principals. Lesson planning is another major objective of the continuing State program. Bulletins have been prepared from time to time and sent out by the State department of education outlining plans and enumerating and interpreting principles of lesson planning. Group conferences rather than parish-wide conferences have predominated. These conferences are usually 1-day meetings, the forenoon devoted to observation and demonstration and the afternoon to discussion of the lessons observed. The groups selected may depend on the geographical section, but usually grouping is according to the type of work performed. Demonstration teaching is now usually done by the classroom teachers.

Other activities which have been carried on throughout the existence of the long-term program are annual State conferences of superintendents and supervisors, directed reading for teachers, the establishment of professional libraries in the different parishes, and the promotion of school consolidation. The number of 1-room schools was reduced from 729 in 1922 to 494 in 1928.

In 1926 the preparation of the State course of study was made a major objective of the State supervisory program. Responsibility

for its general direction centers in the elementary division of the State department of education. Courses in three subjects have so far been prepared. As an example, the procedure followed in the preparation of the language course is outlined briefly. Superintendents, supervisors, and teachers throughout the State were invited to cooperate in the preparation of the course. Participants were accepted from 17 parishes, 1 city-school system, and 1 city school; in all, 19 units. Teachers participating were furnished with copies of three books selected for the purpose of guidance in the preparation of the course, *Language Training*, by Bryce; *Speaking and Writing English*, by Sheridan; *Language Outcomes*, by Graves; and the *Fourth Yearbook of the Department of Superintendence*.

The participants worked through grade committees. Three or more teachers for each grade were appointed in each participating unit. Coordinating this work in each unit was a parish or school committee consisting of the chairman of each grade committee and the parish superintendent, supervisor, or principal. The latter committee reviewed the work of the grade committees and prepared a report. These reports were sent to the State department from which they were sent to the Louisiana State University where they were reviewed in education classes, and a tentative State course arranged as a result. The tentative course was then printed and sent to the participating units for experimentation and further suggestion. The results were again reviewed in the university classes and prepared in the present form.

An immediate objective of the State supervisory program at the present time is the standardization of elementary schools. The bases of standardization are the use of the State course of study, length of term, qualifications of teachers, teaching load, and type of buildings, grounds, and equipment.

STATE SUPERVISORY PROGRAM FOR THE RURAL SCHOOLS OF NEW YORK *

General aims.—(1) Survey of conditions to discover needs and to modify tentative programs in the light of findings. (2) Improve instructional supervision as practiced and extend the provisions of the State program in local supervisory districts. (3) Improve the rural-school curriculum, school plant, the organization and equipment of the school in order to make possible improved classroom procedure. (4) Inaugurate such experimentation and research as the needs seem to justify. (5) Develop selected schools as model schools for observation and demonstration. (6) Demonstrate the value of rural-school supervision under favorable conditions. (7) The uni-

*Abstract of a report by Helen Hay Heyl, assistant in rural education, rural education bureau, State Department of Education, New York.

fication of educational programs, State, supervisory territory, local community. (8) Familiarize all concerned with the program, its objectives, and procedures. (9) Maintain and improve an esprit de corps among district superintendents. (10) Further the administrative policies of the bureau of rural education in the State department of education.

Immediate program.—(1) The improvement of instruction. Assist the district superintendents in planning well-balanced long-term and immediate programs based on a study of the needs of the district. Emphasis in such programs for the present year on the following: District-wide conferences of superintendents, principals, and teachers; homogeneous grouping of teachers; series of school visitations planned with a definite aim for each; group meetings; individual conferences; testing program in line with the year's objectives; series of circular letters; teachers' visiting days; budgeting of superintendents' time. (2) The improvement of supervisory technique. In-service training of superintendents in: Observation and evaluation of instruction; how and when to conduct demonstration teaching; conferences and follow-up work; raising standards; adaptation of curriculum to local needs; classroom management and organization. (3) In general. Answer special calls for help and opportunities for special types of services; spend winter months, in particular, on revision of curriculum.

Future plans (the following year).—(1) Complete the work on curriculum construction and experimental tryout. (2) Study and evaluate supervisory practices in four selected supervisory districts. (Postponed temporarily.) (3) Continue work with superintendents in the selected major projects being carried on under State direction. (4) Further development of model schools. (5) Continue general supervisory practice as indicated under general aims.

Curriculum revision for 1-teacher schools.—One of the objectives of the long-term supervisory program of the rural education bureau under the direct supervision of the assistant in rural education is the preparation of a curriculum to provide for the peculiar needs and organization of the 1-room school. There was selected in 1924 a cooperating committee made up of representatives of the State normal schools, the district superintendents, the teacher-training classes, and the rural teachers to assist in the formulation of courses of study under the general supervision of the State department of education. In 1927 this became an executive committee and with the help of selected individuals and groups throughout the State initiated the preparation and revision of materials during the first year, drawing these as far as possible from rural classrooms. The work planned for the second year included the preparation of the

results of the work of the preceding year in experimental form and the beginning of testing out the material by rural teachers. The third year it was planned to issue the course with the results of the revision indicated but still in experimental form. Subcommittees as follows were appointed to work out content material. A committee was appointed in charge of each subject: Mathematics, health, natural science, social science, English literature, and arts. The duties of the committees were defined somewhat broadly. Those of three committees are quoted as illustrative of the practice:

Chairman of mathematics committee, member of present executive committee. Needs are to enlist many teachers to collect activities and problems based on the local environment for primary pupils and for grammar-grade pupils; to arrange the work already submitted in groups; to provide for individual differences; to offer some plan for individual instruction and practice materials; and to set up for each group-level, aims, work to carry out these aims, and list of outcomes.

Chairman of social committee will need the help of different individuals who will take the present materials and while still offering separate outlines in geography, history, civics, citizenship, character education, etc., will organize these more closely than at present, suggesting possible correlations, arranging the materials in more uniform groups, and basing materials a little closer on recent State syllabi.

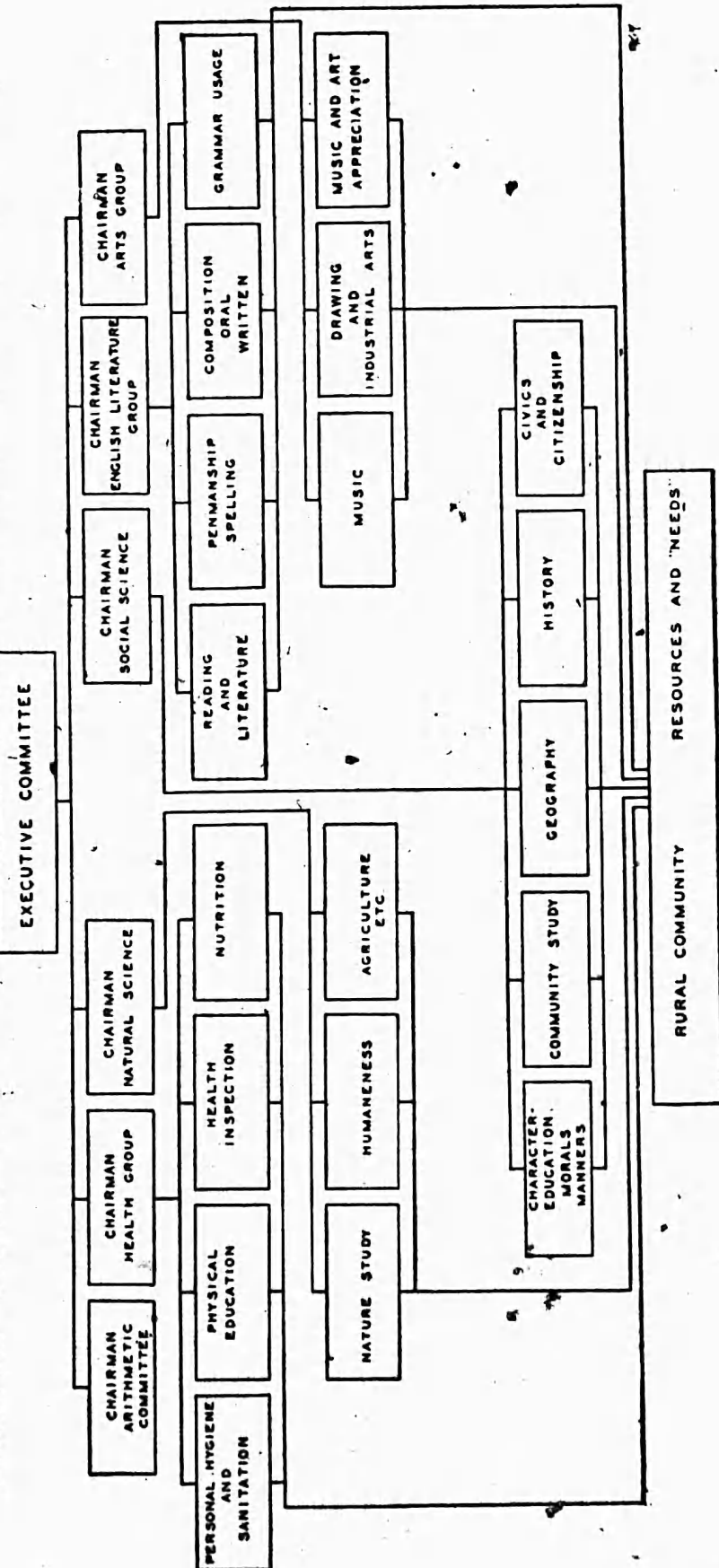
Arts group will closely correlate art and music appreciation with other courses, and with music, industrial arts, and drawing. Suggestions are needed for working out "opening exercises," etc., along these lines.

All the materials are scored by individual members of the executive committee and later in joint conference. The result of the work of the executive committee is passed upon by subject-matter specialists in each subject and by rural teachers when questions of organization are concerned. The materials finally accepted by State department officials will be mimeographed and distributed for experimentation under differing conditions prevalent in the State, as, by trained teacher under close supervision, same with little supervision, by untrained teacher under both conditions.⁶

The committees were furnished with sample units of a course designed to illustrate good practice, with illustrative "planks in the curriculum platform," such as statements concerning immediate and ultimate objectives of curriculum content, suggestions concerning the selection of material approximating life situations, material designed to provide for individual differences and increased participation in social life, and the like. Definite criteria for the evaluation of the work performed by each committee were also worked out to assist in improving the committee's work before its transmittal to the executive committee.

⁶Approximately 400 rural teachers are now experimenting with the first issue of these materials.

COMMITTEE ORGANIZATION FOR REVISION OF THE STATE COURSE OF STUDY OF NEW YORK.



REPORT OF A COMMISSION ON REVISION AND RECODIFICATION OF THE
SCHOOL LAWS RELATING TO THE FINANCING OF EDUCATION IN CON-
NECTICUT¹

Preliminary findings of the commission on revision of laws relating to the financing of education in Connecticut which point toward the need of measures for equity of educational opportunity and an equalizing fund were as follows: (1) Whereas in 1854, 61 per cent of the cost of public education was borne by the towns and 39 per cent by State grants, in 1927, 94 per cent came from the towns and 6 per cent from the State with the probability that in 1928 the local burden would reach 95 per cent. (2) The wealth of the towns within the State varies from \$1,400 to \$80,000 per child, measured by the grand list. It is obviously impossible to furnish the same quality of education to children in towns having such varied resources. (3) The Federal income tax for 1927 was \$29,000,000, or \$7,000,000 more than the cost of the elementary and secondary school program, indicating that resources are available to the State which are denied to the town. (4) There is considerable migration of pupils from town to town. (5) Compulsory education laws require that all children of stated ages must attend school during the period designated compulsory annually.

In Connecticut 12 distinct State grants are available. The outstanding grant is that based on enumeration. A second important grant is one designed to aid towns of low tax valuation. It is distributed in inverse ratio to the grand list. These grants have not equalized tax burdens and school opportunities.

Concerning the educational needs of children and a State plan for financing schools, the commission laid down the following principles: (1) It is essential to provide equitable educational opportunities for all children. (2) A satisfactory financial plan necessitates finding measures of educational need and of ability of the towns to meet this need.

It was decided that a satisfactory measure of ability could be determined by the percentage of the average tax income devoted to education over a period of three years. As a result of a factual study it was determined that 34 per cent of the average tax income should be the demand on the towns made by the State if State aid was to be received. The educational task was measured in terms of the equated pupil, with \$70 for each equated pupil tentatively established as a satisfactory minimum. This was derived from a study of costs of education in the State under present practice. The expense of transportation was not considered in arriving at this

¹Abstracted from an address given by Dr. E. T. Meredith, commissioner of education, Dec. 12, 1928, Washington, D. C.

measure. The equated pupil is a measure of the educational task which considers, in addition to average daily attendance, relative costs in large and in small schools; and in high and in elementary schools, when equally efficient standards are maintained.

The State participation recommended in the report is as follows:

(a) The present enumeration grant is retained (reasons chiefly traditional) to the extent of assuring all towns at least the equivalent of this grant.

(b) For participation in the "equalization grant" any town will be required to raise from local taxation sources the equivalent of 34 per cent of the sum of the average tax income plus the income from local permanent school funds, and to devote this amount to current elementary and high-school support exclusive of the kindergarten and of transportation service.

(c) If the sum thus made available, together with the income from a "town deposit" fund and the enumeration grant, be found insufficient to assure \$70 per equated pupil the balance up to this amount will be paid as a reimbursement by the State, provided that no State contribution shall be made to assure a total in excess of the actual expenditure for current school support, as stated under (b).

(d) Over and above this grant the State will assist towns in the support of elementary and high school transportation by reimbursing such part of the expenditures on this account as the State board of education may in its discretion and after detailed investigation find to constitute an equitable aid in this respect.

The following concrete instance, based upon 1927 data, will make the foregoing summary clearer as to its practical application:

Under (a) The enumeration grant in town X.....	\$576. 00
	<u>576. 00</u>
Under (b) Average tax income.....	24, 079. 89
Permanent local school-fund income.....	900. 00
Total (b).....	<u>24, 979. 89</u>
34 per cent of total (b).....	<u>8, 493. 16</u>
Under (c) 34 per cent, raised by local taxation.....	8, 493. 16
Town deposit fund income.....	282. 54
Enumeration grant.....	576. 00
Total (c).....	<u>9, 351. 70</u>
Total cost of \$70 program (245 equated pupils times \$70).....	18, 410. 00
Subtract total (c).....	<u>9, 351. 70</u>
To be paid by State in addition to enumeration grant.....	9, 058. 30
Enumeration grant.....	<u>576. 00</u>
Total by State as refund to assure \$70 program.....	9, 634. 30

Under (d) Town X's claim for transportation aid to be added after the need has been determined by investigation.

In case, however, this town chooses to offer less than a \$70 program per equated pupil, the State will reimburse only for the difference between total (c) (\$9,351.70) and the cost of the actual program offered. In case the town wishes to go beyond a \$70 program it may do so at will, but the State's reimbursement would be no larger than the above illustration.

Under the distribution covered in (a), (b), and (c), approximately \$3,600,000 would be assured from the State to towns and cities upon the basis of 1927 data. In addition, as covered under (d), the report calls for \$550,000, approximately three-fourths of 1925 expenditures for elementary and high-school transportation to assure towns an equitable aid for the element of transportation, a very vital factor in the equalization of educational opportunity, especially in the small towns. The total assured from the State under this complete plan, on the basis of 1925 data and provided all eligible towns qualify for the full grant, is approximately \$4,150,000.

The proposal as set forth in the report represents a coordination of fiscal and educational conditions, based upon fact and scientific procedure with the aim of developing a simple and comprehensive plan for the support of public education. It starts and ends with the assumption that the State must look with equal favor upon all children within its borders. It represents the concern of the State in the matter of school support to be the assurance of a reasonably satisfactory educational opportunity to all children regardless of residence. The fundamental motive of the report is educational equity.

FINANCIAL AID TO RURAL SCHOOLS AS PROVIDED IN NEW YORK'S STATE PROGRAM *

The first step taken in New York State for the equalization of educational opportunity by equalization of taxation was taken by the legislature at the 1925 session. The 1919 and the 1920 sessions of the legislature had increased the State apportionments to public education by more than \$20,000,000, but the distribution of this additional fund was made on the old plan of teacher quotas, each district receiving additional amounts in proportion to number of teachers employed without regard to ability to support schools. The 1925 session of the legislature added approximately \$9,000,000 to the apportionments and provided that about \$4,000,000 of this amount should be distributed by what is known as the equalization quota plan. The remaining \$6,000,000 was distributed on the district and

* Prepared by Ray P. Snyder, chief, rural education bureau, New York State department of education.

teacher quota basis, a large portion of the amount going to the small schools, since at that time it was believed that a graduated quota distribution to such schools was more equitable and satisfactory than the equalization quota.

The purpose of the 1925 legislature was to increase largely the apportionments to the rural sections which include all schools in all units having a population of fewer than 4,500. This purpose was very generally carried out although distribution of the equalization quota went only to schools employing five or more teachers.

The distribution of funds by the equalization quota plan worked so satisfactorily that the *second step* was taken in 1927 when the legislature provided additional apportionments to be distributed to all schools, the larger portion to be distributed by the equalization quota plan to those school tax units within which were employed five or more teachers. By this plan approximately \$18,000,000 was added to the State apportionments the first year with provision for an additional \$6,000,000 to be added each year for three succeeding years and to continue at the maximum amount thereafter.

There are two fundamental factors in determining the equalization quota that a district shall receive: (a) Full valuation of district, and (b) average daily attendance of pupils in the district.

The amount of the equalization quota increases as the pupil attendance increases and the valuation decreases. The details of the apportionment are rather complicated and can not be well explained, but the general principle of recognition of school burden and tax ability is easily understood. For the actual working out of the formula a teacher factor is used, 27 grade pupils (average daily attendance) being a teacher factor.

Although generous apportionments had been made by the acts of 1925 and 1927 to the districts in which were employed fewer than five teachers, the *third step* in the equalization of educational opportunity through tax equalization will be taken by the 1929 legislature.

Under the proposed plan all 2, 3, and 4 teacher districts will receive an equalization quota if their valuation and average daily attendance will give them such a quota. No such district will receive a smaller apportionment than is now paid under the old plan.

Each 1-teacher district will receive in State aid the difference between a 4-mill tax on full valuation and the amount expended for support and maintenance of the school in the district up to \$1,300 for the first year, \$1,400 for the second year, and \$1,500 for the third year and thereafter. Each 1-teacher district will receive not less than it is now receiving under the old plan of apportionment. This is an entirely new proposal for small districts and it is believed

that it is more equitable than the equalization quota plan for such districts, since in many of them the average daily attendance is small. It is estimated that this new legislation will add about four or five million dollars more in State apportionments to schools.

CENTRAL RURAL SCHOOLS

The 1925 session of the legislature amended what is known as the central school act to add liberally to apportionments for central districts. By the central district law an optional plan is provided for the establishment of larger tax and administration units. Encouragement was thus given to the establishment of these units by the 1925 legislature and as a result more than 50 such districts have been established since the spring of that year.

The central district law as amended provides that a central district, when formed, shall be entitled to all the aid to which the separate districts are entitled, and in addition thereto to a building quota equal to 25 per cent of the cost of any new buildings or remodeling old buildings and to a transportation quota equal to one-half the cost of transportation carried on within the district.

When all plans are in full operation the total State apportionments to education in New York State will approximate \$100,000,000.

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CHAPTER VI

SECONDARY EDUCATION

By CARL A. JESSEN

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CONTENTS.—Growth in public high schools—The reorganization movement—The junior college—The curriculum—Articulation between educational units—Research and secondary education.

GROWTH IN PUBLIC HIGH SCHOOLS

During the period 1918 to 1926 the total population of the United States increased somewhat less than 15,000,000, not quite a 14 per cent growth, according to estimates of the Bureau of the Census. During this same time the number of high schools increased 5,400, a 33 per cent increase. The teaching force in these schools practically doubled. The number of pupils, too, came within a hundred thousand of doubling during the 8-year period. Costs increased more than 300 per cent. These situations are reported in Table 1.

TABLE 1.—Public high-school increases, 1918-1926

	1918	1922	1924	1926
Number of schools.....	16,300	¹ 18,000	19,442	21,700
Number of teachers.....	84,988	129,537	144,230	169,538
Number of pupils.....	1,933,821	2,873,009	3,389,878	3,757,466
Cost.....	\$162,875,761	\$417,297,222	\$589,189,606	\$697,911,735

¹ Estimated.

At the present time more than one-half of our population of ages 15-18, inclusive, is actually enrolled in secondary schools. In 1918, the percentage was 28.29; in 1920, 37.80; in 1922, 41.74; in 1924, 48.35; and in 1926, 53.12. The corresponding percentages for enrollments in public high schools range from 25.6 in 1918 to 48.2 in 1926.

THE REORGANIZATION MOVEMENT

Attending the unprecedented expansion in secondary education is the widespread movement for reorganization. Before the war the 4-year high-school course was practically universal; organization on any other basis was relatively rare. Now we have junior high schools, senior high schools, junior-senior high schools, 5 and 6 year

high schools, and junior colleges with many varieties within each of these classes.

In 1924, 2,549 high schools, exclusive of junior colleges, reported that they had deviated from the regular 4-year organization. In 1926, the Bureau of Education had a record of 3,637 reorganized schools, a 42 per cent increase during the two years.¹

Enrollment is an even more revealing measure of the extent to which the reorganization movement has taken hold of secondary education. The total enrollment in reorganized high schools in 1924 was 885,411; in 1926 it was 1,539,021, a 73 per cent increase.

The fact that the percentage of increase is much larger in enrollment than in the number of schools argues that reorganization is taking place more frequently in large than in small high schools. This fact is emphasized in the following paragraph, quoted from a study completed by a special committee of the National Committee on Research in Secondary Education and published by the Bureau of Education:²

It is seen from the totals for each population group that 10.9 per cent of the schools involved occur in places of 100,000 or more population; 9.6 per cent occur in population centers of 30,000 to 100,000; 29.4 per cent occur in population centers of 2,500 to 30,000; 50.1 per cent occur in all urban centers combined; and 49.9 per cent occur in population centers of less than 2,500, or rural territory. Approximately 80 per cent of all high schools occur in rural territory, compared with 49.9 per cent for schools of the junior-senior type. It is obvious, therefore, that the junior high school occurs in urban territory in a higher comparative frequency than in rural territory.

It should not be concluded that reorganization is confined to or especially prevalent in any special section of the United States. The States in which the largest number of schools have been reorganized are, in order, Ohio, Indiana, Michigan, with Pennsylvania and Massachusetts tied for fourth place. The States in which the ratio of reorganized to total high schools is highest are, in order, Alabama, Massachusetts, Vermont, Utah, New Hampshire, Michigan, Colorado, West Virginia, Arizona, Florida, Wyoming, and California. In all of these States more than one-third of the schools have been reorganized.

Among the different types of reorganized schools the junior-senior organization is of greatest frequency. The number of segregated junior and senior schools and of undivided schools is, however, increasing at a much more rapid rate. The plan of having junior and

¹ A slight discrepancy will be noted between these figures and those given in Bulletin of the U. S. Bureau of Education, 1927, No. 33, Statistics of Public High Schools, 1925-26. This variation results from the fact that not all reports had been received at the time the tables of Bulletin No. 33 were compiled.

² Bulletin of the U. S. Bureau of Education, 1928, No. 28, The Rural Junior High School. Dr. E. N. Ferriss, of Cornell University, was chairman of the committee making the study.

senior schools together is plainly giving way to segregation of these units or, in the smaller school systems, to consolidation into a single five or six year unit.

The 3-year unit is decidedly in the ascendancy. This is true of the segregated junior high school, the segregated senior high school, and the 3-3 plan of junior-senior high school; in all of these situations the 3-year unit outnumbers the total of all other classes approximately 3 to 1. Three-fourths of the undivided schools are of the 6-year type.

The variety in types of reorganized schools is extraordinary but not surprising when one considers that the movement has been rapid, unorganized, and without attempt at standardization nationally or regionally. In promoting reorganization, it is true, many of the States have announced uniform State plans; these have, however, usually been quite flexible—for guidance rather than for conformity to any one pattern. School systems desiring to organize on some basis other than the 7-4 or 8-4 plan have thus generally been allowed freedom in experimentation. This attitude may serve to explain the situation shown in Table 2, where 28 different types of reorganization are listed, aside from a number of unclassified schools.

The Biennial Survey of Education, 1924-1926, carried a similar table.³ Comparison of that table with Table 2, which follows, justifies the following generalizations regarding changes during the 2-year interval:

1. In seven States the reorganization movement appears to be practically at a standstill. In some of these States reorganization was well advanced in 1924.

2. Two States, Maine and Oklahoma, show an appreciable decrease in the number of reorganized schools after 1924.

3. Fifteen States show a marked increase in the number of high schools deviating from the regular 4-year type of organization. In eight States, namely, Alabama, Florida, Illinois, Louisiana, Massachusetts, North Carolina, South Carolina, and Texas, the number of reorganized schools has increased from 100 to 800 per cent during the 2-year period.

4. The principal increases have been in the segregated senior, the segregated junior, and the five or six year undivided high schools.

While statistical data for the Nation more recent than 1926 are not available, the following statements, based upon reports submitted by State departments and city school systems, are indicative of trends in the reorganization movement since 1926:

³ In this publication refer to Table 5 of Ch. V, Trends in the Development of Secondary Education.

TABLE 2.—Reorganized high schools class

State	Total	Segregated junior high schools									Segregated senior high schools					
		Total	Grades 6 and 7	Grades 6-8	Grades 6-9	Grades 7 and 8	Grades 7-9	Grades 7-10	Grades 8 and 9	Grades 8-10	Total	Grades 8-11	Grades 9-11	Grades 9-12	Grades 10-12	Grades 10-13
			3	4	5	6	7	8	9	10		11	12	13	14	15	16	17
Continental United States.....	3,637	1,127	2	28	6	167	629	74	17	5	414	1	19	111	280	3
Alabama.....	164	21				1	10	9	1		3		1		2	
Arizona.....	17	6				1	4	1			2			1	1	
Arkansas.....	52	8				1	3	3		1	2				2	
California.....	136	77				1	76				23			1	22	
Colorado.....	83	18				3	15				8			2	6	
Connecticut.....	29	14				1	13				4			1	3	
Delaware.....	4															
District of Columbia.....	8	8					8									
Florida.....	63	32			1		25	5		1	4				4	
Georgia.....	33	15		2			11	2			6				6	
Idaho.....	16	3				1	2				2			1	1	
Illinois.....	56	26		1		11	14				13			7	6	
Indiana.....	276	38				18	18	2			16			11	5	
Iowa.....	175	25		1		3	20	1			12			2	10	
Kansas.....	152	62		1		23	38				47			22	25	
Kentucky.....	46	8				3	4	1			5			2	3	
Louisiana.....	18	6			1	1	1	1	2		9		2	2	4	1
Maine.....	24	8				3	3		2							
Maryland.....	21	14				1	12		1		1				1	
Massachusetts.....	232	109				15	92	1	1		43			13	28	2
Michigan.....	261	55				8	38	6	1	2	24			7	17	
Minnesota.....	93	27				1	23	1	2		12			1	11	
Mississippi.....	52	2				1		1								
Missouri.....	96	17				2	12	2	1		10			1	9	
Montana.....	14	6				3	3				1			1		
Nebraska.....	65	23		1		7	13	2			15			7	8	
Nevada.....	5	1					1				1				1	
New Hampshire.....	49	22				12	7	3			11		1	8	2	
New Jersey.....	53	29				2	27				11			1	10	
New Mexico.....	12	2					2				1				1	
New York.....	160	69				2	64		2	1	5			2	3	
North Carolina.....	24	6					5	1			1				1	
North Dakota.....	24	3				1	2									
Ohio.....	297	78				11	66		1		29			5	24	
Oklahoma.....	115	18				1	17				6				6	
Oregon.....	25	14			1	3	10				8			3	5	
Pennsylvania.....	232	89				10	68	11			26			4	22	
Rhode Island.....	1															
South Carolina.....	5															
South Dakota.....	13	3						3			3				3	
Tennessee.....	28	10				3	4	3			4		1	1	2	
Texas.....	67	28	2	17	2	6		1			15	1	14			
Utah.....	37	21					14	6	1		4				4	
Vermont.....	42	7				2		5			2			2		
Virginia.....	30	14		4			8	1	1		2				2	
Washington.....	37	14				2	11		1		5			2	3	
West Virginia.....	100	39				1	36	2			7			1	6	
Wisconsin.....	73	28		1	1	1	23	2			10				10	
Wyoming.....	22	4					3	1			1				1	

ated according to type of organization, 1926

Junior-senior high schools										Undivided high schools							
Total	Grades 6 and 7, 8-11	Grades 6-8, 9-11	Grades 7 and 8, 9-11	Grades 7 and 8, 9-12	Grades 7-9, 10 and 11	Grades 7-9, 10-12	Grades 8 and 9, 10-12	Grades 8 and 9, 10-13	Grades 8-10, 11 and 12	Total	Grades 6-11	Grades 7-11	Grades 7-12	Grades 8-12	Grades 8-13	Grades 9-13	Unclassified
18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
1,407	9	10	10	610	14	735	16	2	1	596	4	27	471	86	2	6	93
124				6	4	111	3			15			14	1			1
4				4						4			3	1			1
32				9	1	22				10		1	7	2			
20				2		27				7			5	2			
44				20		24				11			9	2			2
10				2		8											1
4						4											
24				6	1	17				2			2				1
10	4	1	2		2	1				2							
8				6		2				2			1	1			1
15				11		4				2			2				
70			1	39		30				152		1	148	3			
121				84		32	5			13			4	9			4
39				15		23	1			3			2	1			1
20				13		7				11			7	4			2
1	1																2
10				2		8				5			1	1		3	1
5				2		3				1							
31			1	24		4		2		11			4	2	2	3	38
108				51		57				68			58	10			6
45				7		38				8			7	1			1
38			1	24		13				12		4	2	6			
60				28		32				7			3	4			2
7				5		2											
21				9		11	1			5			2	3			1
3						3											
16				16						6							3
4				4													1
8				6		2											
73				39		33	1			11			10	1			2
7	1	1	2		2	1				10	1	5	4	4			
15				13		2				6			1	5			
90			1	32	2	61				91		3	87	1			3
71			1	34		33	2		1	18			16	2			2
2						1	1										
68			1	21		40				45		3	40	2			1
1				1													4
4	2	1	1														
7				3		4							1				
12				8		4				1			1				1
12	1	6	5							10	3	7					2
11				7		3		1		1			1				
21				16		5				11			10	1			1
6		1				5				2		1	1				6
10				7		8	1			1			1				1
36				7	2	27				18		1	17				
23				6		17				12			7	5			
15				15						1							1

Nearly 15 per cent of the school systems located in cities of 2,500 population or more introduced junior high schools for the first time during the past two years; slightly more than 20 per cent of the cities had introduced junior high school organization previous to 1926. Alabama is looking forward to issuing a list of approved junior high schools. Connecticut reports 6 reorganizations during the biennium. Rhode Island reports 10 new junior high schools; Providence plans to open 1 new additional junior high school annually for several years to come. Kansas added 15 new junior high schools to the State approved list in 1928. Kentucky and Ohio report the establishment of many new junior high schools in cities and of 6-year high schools in villages. Louisville is establishing its school system on the 6-3-3 basis. More than one-half of the high-school pupils in Pennsylvania are enrolled in reorganized schools; the city of Philadelphia passed the half way mark in February, 1928. Practically all pupils of grades 7, 8, and 9 in Denver are now in junior high schools. Wyoming offers special State aid to those reorganized schools in which junior high school teachers hold educational qualifications equivalent to those of teachers in the senior high school. In New York State the rapidly increasing interest in junior high school organization has been one of the outstanding developments during the past two years.

THE JUNIOR COLLEGE

The public junior college is a unit of secondary education which is receiving increased attention. L. V. Koos reported in 1922 the existence of 207 junior colleges in the United States; 46 of these were parts of local public-school systems.⁴ In 1927 these figures were brought down to date showing operation at that time of 325 junior colleges, 105 of which were classified as public.⁵ Enrollments showed an even more convincing increase of 121 per cent during the 5-year period, with the increase reaching 217 per cent in the public junior colleges. F. L. Whitney⁶ in 1928 found 382 junior colleges operating with an enrollment of 44,372 students. Directory material tentatively prepared in the fall of 1928 by the American Association of Junior Colleges listed 408 junior colleges, with an enrollment of 50,529 students.

In addition to marked development in California the public junior college has been developed especially in the Mississippi Valley from Canada to the Gulf of Mexico. California leads with 30 public

⁴ Koos, L. V. *The Junior College*. Education Series, No. 5, 1924. University of Minnesota, Minneapolis.

⁵ Koos, L. V. *Recent Growth of the Junior College*. *School Review*, April, 1928.

⁶ Whitney, F. L. *The Junior College in America*. Colorado State Teachers College, 1928.

junior colleges and Iowa is second with 20. According to the latest lists there were 38 junior colleges accredited by the North Central Association and 13 by the Southern Association. Both of these associations maintain special committees for the study of junior college development. Iowa, Kansas, New Hampshire, Oklahoma, and Wyoming have, within the past two years, established standards for accrediting junior colleges. Foster⁷ secured data in 1927 indicating that official recognition was given to junior colleges in 20 States; Whitney⁸ lists 24 States in 1928. In some cases, such recognition was given by the State university; in others by the State board or the State department of education; in still others by the State college association. Standards had been prepared in some States; in others, the standards of regional and other accrediting agencies had been accepted.

The junior college as ordinarily organized is an independent 2-year unit to which pupils are admitted upon graduation from high school. A plan by which the two years of junior college would be combined with the last two years of high school has been advocated by authorities such as Koss, Proctor, and Eby. In April, 1928, the school board of Pasadena, Calif., definitely adopted the 6-4-4 plan. Johnstown, Pa., and Hillsboro, Tex., are other school systems in which the junior high school is a 4-year unit with another 4-year unit of senior-high-school-junior-college grade more or less clearly defined. Principals Ewing and Harbeson and Superintendent Sexson of Pasadena have discussed the advantages of the 6-4-4 plan in recent articles.⁹

Opinion appears to be crystallizing in favor of two general types of curriculums, one preparatory to further college work, the other terminal with the end of the junior college. The terminal courses, too, are frequently of two kinds, those designed for students who desire some specific type of vocational training, and those intended for students whose plans for entrance upon a vocation are not so definitely matured.

Recent outstanding additions to the educational literature on the junior college are: An incisive study by Eells, indicating that junior-college graduates did better work in the last two years at Stanford

⁷ Foster, J. Owen, and others. *Some Phases of the Junior College Movement*. Indiana University, Bureau of Cooperative Research, 1927.

⁸ *The Junior College in America*, by F. L. Whitney. Colorado State Teachers College, 1928.

⁹ Ewing, William F. *The 6-4-4 Plan of Educational Reorganization*. In Proctor's *The Junior College*, 1927.

Harbeson, John W. *The 6-4-4 Plan of Schools Organization, with Special Reference to Its Application in the City of Pasadena*. *California Quarterly of Secondary Education*, October, 1928.

Sexson, John A. *Six-Four-Four Plan of School Organization*. *American Educational Digest*, October, 1928.

University than did students who attended the university four years;¹⁰ a group of papers given before a conference on the junior college in California;¹¹ bulletins on the junior-college movements in Louisiana,¹² in Iowa,¹³ and in California;¹⁴ reports by Whitney on changes in junior-college purposes and curriculums;¹⁵ and books by Bennett,¹⁶ Proctor,¹⁷ and Whitney.¹⁸

THE CURRICULUM

The interest displayed in the curriculum during the past 35 years, and especially during the past decade, is resulting in significant changes in public schools. Monroe and Herriott¹⁹ indicate that the principal developments in curriculum making since issuance of the Report of the Committee of Ten have been the following: Emphasis upon objectives with attendant clarification and extension of the purposes which are aimed at in our secondary schools; some elimination and a great deal of addition to subject offerings, together with grouping of subjects into curriculums; marked changes in content of subjects, especially on the junior high school level; adaptations to meet individual differences in interests, tastes, capacities, and probable futures of pupils.

Criticism of the curriculum from both within and without the school is frequent.²⁰ Much of this criticism must, however, be interpreted rather as lack of satisfaction with present status than as disappointment over the progress which has been made. In "the old red schoolhouse" much of the English training consisted in learning to spell unusual and unused words, reading a few classics, studying formal grammar, and memorizing rules of rhetoric; civics courses were brief and placed almost exclusive emphasis upon organization of government; physiology concerned itself with structure, botany with classification, and zoology with pickled specimens. These ghosts

¹⁰ Eells, W. C. University Records of Students from Junior Colleges. California Quarterly of Secondary Education, June, 1928.

¹¹ California Quarterly of Secondary Education, October, 1928.

¹² Foote, John M. The Junior College Movement in Louisiana. State Department of Education, Baton Rouge, 1928.

¹³ Samuelson, Agnes. Public Junior Colleges. State of Iowa, Des Moines, 1928.

¹⁴ Cooper, William, John, and others. The Junior College in California. California State Department of Education, Sacramento, 1928.

¹⁵ North Central Association Quarterly. Issues for September and December, 1928.

¹⁶ Bennett, G. V. Vocational Education of Junior College Grade. Warwick & York, 1928.

¹⁷ Proctor, William M. The Junior College, Its Organization and Administration. Stanford University Press, 1927.

¹⁸ Whitney, F. L. The Junior College in America. Colorado State Teachers College, 1928.

¹⁹ Monroe, Walter S., and Herriott, M. E. Reconstruction of the Secondary School Curriculum; Its Meaning and Trends. University of Illinois Bulletin, Urbana, June 19, 1928.

²⁰ See, for instance, William S. Learned's The Quality of the Educational Process in the United States and in Europe. The Carnegie Foundation for the Advancement of Teaching, 1927.

of a bygone day appear paler than ever before, if one places them in juxtaposition with modern English courses stressing oral and written composition, extensive reading, and scientifically selected spelling words; or with present-day civics courses emphasizing functional treatment of problems; or with up-to-date programs of health education. The curriculum was theoretical and is now practical, was formal and is now functional, was rigid and is now flexible, was narrow and is now broad. No one will contend that all curriculum ideals have been achieved. But we have come a long way; and the trail still leads upward.

During the period under consideration a total of 64 revised or newly developed State courses of study in one or more high-school subjects reached the Bureau of Education from 29 States. Four States published general revisions of all high-school courses and four others were engaged in such revision on July 1, 1928.

A sampling of school systems reporting to the bureau for 1926-1928 showed that 63 per cent had programs for revision of the high-school curriculum completed or in progress. In cities of more than 100,000 population the percentage reached 86, and in cities below 10,000 it dropped to 54; one explanation for the lower percentage in smaller cities may be that these school systems relied more generally upon State courses of study than did those in larger centers. One-third of the cities had programs of revision in progress at the close of the biennium; one-fifth reported completion of revision of courses of study for junior high school or senior high school or both; one-twelfth were committed to the policy of constant revision.

Consideration of the secondary-school curriculum by national and regional associations has been especially pronounced. The commission on the curriculum of the Department of Superintendence brought to a close its five years of work with two yearbooks dealing with the curriculum in secondary education. The National Society for the Study of Education issued its twenty-sixth yearbook on foundations and technique of curriculum building. The Virginia Committee for Research in Secondary Education gave its 1928 meeting to consideration of curriculum construction. The commission on unit courses and curricula of the North Central Association of Colleges and Secondary Schools presented elaborate reports to that association at the annual meetings of 1927 and 1928.

No one of these organizations attempts to set up a national curriculum or to develop courses of study which can be transferred bodily into the schools. The Department of Superintendence, in its fifth (1927) yearbook,²¹ gives one part of the report to discussions of the

²¹ Department of Superintendence, *Fifth Yearbook. The Junior High School Curriculum*. National Education Association, 1927.

place of the junior high school in the American program of education; by far the larger portion of the yearbook deals with research studies conducted in the various subjects of the junior high school curriculum. In the sixth (1928) yearbook of the Department of Superintendence²² discussion and data are presented on problems, principles, and practices relating to the high school; as with the fifth yearbook, a considerable section is devoted to abstracts of research studies in the several subjects. The twenty-sixth (1927) yearbook of the National Society for the Study of Education²³ deals with the curriculum in a fundamental way; there is thus included much material equally significant for all levels of educational work. One chapter of the foregoing is assigned to current practices in curriculum making in public high schools, and in other chapters description is offered of curriculum construction in a number of particular cities and schools. The Virginia Committee for Research in Secondary Education²⁴ studied principles, trends, and techniques with special emphasis upon mathematics and social studies. The commission on unit courses and curricula of the North Central Association presented reports²⁵ of 16 subject committees during the past two years. The reports set up qualitative standards in the various subjects. The problem of *how much*, i. e., quantitative standards, is not considered unimportant but must, in the opinion of the commission, for its solution await answer to the question of *what kind*, i. e., qualitative standards.

Most of the curriculum studies of the biennium are classifiable as belonging to one or more of the following types: (1) Discussions of fundamental principles underlying the curriculum; (2) investigations on subject content and methods of teaching; and (3) studies in the administration and organization of the curriculum.

Ample illustration of the first type of study is offered in the committee reports referred to in earlier paragraphs. The second type of study is usually initiated by an individual, sometimes by a school system; it is often experimental, frequently statistical without controlled experimentation. Studies in the administration of the curriculum are commonly statistical investigations of practice and are likely to be found as parts of studies of the first two types mentioned.

A significant group of studies in the administration of the curriculum has recently been focused upon subject eliminations and additions viewed from an historical standpoint and upon subject requirements, elections, and enrollments as practiced at the present time.

²² Department of Superintendence, Sixth Yearbook. The Development of the High-School Curriculum. National Education Association, 1928.

²³ The Twenty-Sixth Yearbook of the National Society for the Study of Education. The Foundations and Technique of Curriculum Making. Public-School Publishing Co., 1926.

²⁴ University of Virginia Record Extension Series, Vol. XIII, No. 3, 1928.

²⁵ North Central Association Quarterly, March, 1927, and March, 1928.

Joseph Roemer²⁶ found for 844 secondary schools of the Southern Association that in five years subjects had been added 1,612 times and dropped 606 times, a ratio of 2.7 to 1. Eighty-three subjects were involved in these changes.

George S. Counts²⁷ found a total of 471 subject changes introduced into senior high schools of 90 cities over a period of five years. Of these changes 341 were in the nature of additions while only 130 were eliminations, a ratio of 2.6 to 1. Ninety-two subjects were involved in these changes. In the junior high school the changes were not so numerous, but the ratio of subjects added to those abandoned was 4.6 to 1. Doctor Counts comments as follows on the tendency to make additions to the curriculum:

While this practice has resulted in a much-needed enrichment of the narrow program of language and mathematics, it can not be pursued indefinitely. Already the secondary-school curriculum exhibits weaknesses which may be traced to this constant addition of new materials of instruction. It is too often a mere aggregation of subjects, an unintegrated program of unrelated activities.

The two years under consideration have witnessed a definite trend toward inquiry into subject requirements, subject elections, and subject enrollments. It is apparent that data of this type indicate, more definitely than eliminations and additions of the past or offerings of the present, the emphasis and effort given to the various subjects in secondary schools.

Subject requirements for high-school graduation as placed by States are reported for the year 1925 in Table 15 of the sixth year-book of the department of superintendence. Similar data for 154 cities are included in Table 9. In Table 25 are given the facts on required and elective subjects in community high schools of Illinois. An investigation conducted by the Bureau of Education²⁸ inquired into the requirements for graduation placed by State authorities, by city school systems, and by individual schools during the school year 1927-28.

These studies of graduation requirements agree in showing English as the subject leading both in frequency of requirement and in amount required of the subject. Social studies follow English closely. Laboratory science and mathematics run a close race, mathematics being probably slightly in the lead. Physical education takes fifth place. Few pupils are required to take foreign language or any specified group of vocational subjects. The investigation by the Bureau of Education discloses:

²⁶ Bulletin of the Bureau of Education, 1928, No. 16, Secondary Schools of the Southern Association.

²⁷ See Chapter VII of the Twenty-Sixth Yearbook of the National Society for the Study of Education.

²⁸ Bulletin of the Bureau of Education, 1928, No. 21, Requirements for High-School Graduation.

If the central tendencies are accepted as typical, the high-school pupil presents for graduation 16 semester credits of constants and in addition completion of a definite curriculum, or one major and two minors aside from English, or both. Free election is thus limited to one-fourth or less of the pupil's work.

The studies dealing with subject elections of individual students are frequently limited to the graduates of one high school or to the entrance credits presented to one college or university. Illustrations of such studies are to be found in Chapter III of the sixth yearbook of the Department of Superintendence. These studies offer a good indication of the relative importance of the various subjects in any particular school for which data are gathered. If a considerable number of schools were to conduct such surveys on cooperative and comparable bases, the findings would carry greater value since the requirements of one local situation would not then so definitely govern election by pupils.

Probably the most accurate single measure of relative emphasis placed upon the various curriculum subjects is found in data regarding the number of pupils taking the several subjects. Investigations of this type were conducted by the Southern Association, the Modern Foreign Language Study, and the Bureau of Education.

The Southern Association study²⁹ reveals that enrollments for 1927 range from 83.9 per cent of all pupils registered in English to 0.09 per cent taking Greek. The departments of instruction named in descending order according to number of registrants are: English, mathematics, social studies, natural science, commercial work, Latin, music, Spanish, home economics, French, manual training, art, agriculture, German, and Greek. The original tables report pupil enrollments in the various subjects, (or years of work), within each of the departments named.

The Modern Foreign Language Study released in 1928 a very complete report on enrollments in foreign languages.³⁰ The committee conducting the inquiry secured positive information regarding foreign-language enrollments in 83 per cent of the public secondary schools in 1925. Their findings were that slightly under 24 per cent of the pupils were registered in Latin and slightly more than 24 per cent in modern languages. The modern-language enrollments, stated in terms of percentages of total enrollment, were: French, 13; Spanish, 10; German, 1; Italian and other foreign languages, negligible.

During the school year 1927-28 the Bureau of Education asked public secondary schools of the nation to report enrollments by sub-

²⁹ Bulletin of the Bureau of Education, 1928, No. 16, Secondary Schools of the Southern Association.

³⁰ Wheeler, Carleton A., and others. Enrollment in the Foreign Languages in Secondary Schools and Colleges of the United States. New York, The Macmillan Co., 1928.

jects. Returns from these reports are being tabulated and will appear in another section of the Biennial Survey of Education for 1926-1928. At the time of writing incomplete tabulations have been made for nine States—namely, California, Iowa, Louisiana, Massachusetts, Minnesota, New Jersey, Ohio, Texas, and Washington.

In these States 609,893 pupils were enrolled in the schools which have reported. The percentages which the enrollments in various subjects were of this total enrollment are indicated in Table 3. To show trends parallel percentages are given for subject enrollments in the same nine States in 1922, when the last previous tabulation of this kind was made by the Bureau of Education. The number of high-school subjects reported by these States in 1928 was 243. In order to make the items for 1928 and 1922 comparable in Table 3 it was necessary greatly to reduce this number by grouping subjects.

TABLE 3.—Percentages of pupils in nine States enrolled in various high-school subjects, 1922 and 1928

Subject	Percentage of total enrollment, 1928	Percentage of total enrollment, 1922	Subject	Percentage of total enrollment, 1928	Percentage of total enrollment, 1922
English.....	95.01	80.40	Spanish.....	13.16	15.16
American history.....	18.26	15.57	German.....	1.67	.66
Foreign history.....	28.97	32.93	Other foreign languages (Greek, Italian, Norse, Swedish, Hebrew).....	.29	.24
Other history.....	.33	.57	Bookkeeping.....	10.61	14.27
Civics (community civics included).....	16.52	18.44	Shorthand.....	8.69	9.18
Sociology.....	3.25	2.71	Typewriting.....	16.19	13.86
Economics.....	5.31	5.48	Commercial law.....	3.36	1.25
Other social studies.....	3.60	(¹)	Commercial geography.....	5.14	1.92
Physics.....	6.83	9.13	Penmanship.....	1.28	2.02
Chemistry.....	7.84	7.99	Spelling.....	.30	.72
General science.....	18.12	17.83	Office practice.....	1.66	.28
Physical geography.....	2.36	3.89	Business organization.....	3.26	.03
Botany.....	1.19	2.86	Other commercial subjects.....	1.59	.32
Zoology.....	.32	1.04	Physical training.....	17.11	6.39
Biology.....	11.41	7.12	Agriculture.....	3.17	4.56
Physiology.....	2.26	5.20	Home economics.....	20.32	14.99
Hygiene and sanitation.....	6.60	4.54	Manual training.....	12.68	12.67
Other science.....	.96	.24	Mechanical drawing.....	8.39	3.12
Algebra (beginning and advanced).....	31.24	36.99	Music.....	26.53	25.40
Geometry (plane and solid).....	18.82	21.05	Art and drawing.....	10.11	12.66
General mathematics.....	6.21	(¹)	Normal training.....	.94	1.04
Arithmetic (advanced and commercial).....	9.09	11.97	Public speaking.....	2.32	1.32
Other mathematics.....	1.63	1.93	Printing.....	1.14	.22
Latin.....	18.67	22.44	Subjects not listed above.....	.23	.01
French.....	11.87	15.79			

¹ Not reported.

Emphasis, as measured by pupil enrollment in the various major departments, is in the following order: English, social studies, mathematics, science, commercial subjects, and foreign languages. In 1922 the order was: English, social studies, mathematics, science, foreign languages, and commercial subjects. The most pronounced increase in enrollment has taken place in English and in commercial

work; social studies and science enrollments have remained relatively stationary; mathematics and foreign languages have lost.

Among individual subjects it is apparent that American history is gaining at the expense of foreign history; general mathematics is making inroads into enrollments in algebra and geometry; biology, sanitation, and hygiene show material increases; physics is losing; physiography and physiology are receding in importance; botany and zoology have almost disappeared as separate subjects; all the foreign languages most frequently taught have dropped in number of pupils registered; in commercial work bookkeeping has lost while typewriting, commercial law, commercial geography, office practice, and business organization register increasing numbers of pupils; home-economics enrollments show a substantial increase; mechanical drawing is becoming important in the number of pupils enrolled; physical education has had more convincing growth in enrollment than any other major individual subject.

There has been displayed during the two years covered by this report unprecedented activity in study, construction, and revision of the secondary-school curriculum. Much remains to be done. In fact, one of the important principles which has more and more clearly emerged with the unfolding of the movement is that curriculum study is never done. Society demands of the curriculum maker that he be continually on the alert, adapting old courses and developing new ones to meet the needs of changing conditions. In that direction lies progress.

ARTICULATION BETWEEN EDUCATIONAL UNITS

Another subject upon which attention is now focused by the educational world is that of articulation between units in the educational system. Correlation of work is no less important within units than between them. However, since correlation is more easily attained within units and since lack of correlation becomes most obvious when the pupil passes from one unit to the next, the attack has generally been aimed at the places where the traditional 4-year high school joined with the elementary school on the one hand and with the college on the other. With the expansion of secondary education to include in the junior high school some of the grades formerly assigned to the elementary school and in the junior college the early college years, both of these affected areas have been drawn into secondary education, and the problem which formerly was passed from one unit to the other now becomes peculiarly germane to secondary education.

Recent evidences of the interest in articulation are to be found in various quarters. The regional associations, always concerned with

relationships between high schools and colleges, are approaching the subject through investigations of college entrance requirements and of the success of high-school graduates in college. During the biennium both the North Central and Southern Associations heard reports of committees on college entrance requirements. These two associations and the Association of the Middle States and Maryland have elaborate programs for follow-up studies of high-school graduates who enter colleges. The State Board of Education of New Hampshire gathered data for the school year 1927-28 regarding the success of high-school graduates after they entered college. The Association of College Presidents and the State department of public instruction in the State of Pennsylvania, in collaboration with the Carnegie Foundation for the Advancement of Teaching, are conducting a study of the relations of secondary and higher education in that State. Two chapters of the sixth yearbook of the department of superintendence dealt with interrelations of high schools and colleges.³¹ A most convincing indication is the action of the department of superintendence in assigning its entire yearbooks of 1929 and of 1931 to the subject of articulation.

The junior high school, if it lives up to its announced ideals, is a partial solution to the problem of articulation. Bridging the gap between the elementary school and high school has been one of its avowed purposes. How well it is achieving this object is one of the questions asked by both its opponents and supporters. A study by Powers³² indicates that pupils remain in school for a longer time and progress through school more rapidly under junior high school than under the traditional school organization. That this retention and improved promotion rate may not be altogether a gain is suggested by his findings that actual pupil achievement probably is not so great in the junior high school as in the parallel grades under the 8-4 plan; this in turn may be ascribable principally to lower ability of pupils in 6-3-3 than in 8-4 systems in the particular schools that he studied. Fritz³³ uncovered evidence that under the 6-3-3 plan the break had merely been postponed one year, occurring between the ninth and tenth grades instead of, as formerly, between the eighth and ninth grades. It is obvious that the junior high school holds the possibility of making the path of education easier by bridging the gap between units; it holds also the possibility of neutralizing efforts at articulation by merely transferring the location of the gap or of actually impeding

³¹ Chs. 6 and 7.

³² Powers, J. Orin. *The Junior High School: A Study of Instructional Results in a Typical City System.* Minneapolis, University of Minnesota Press, 1927.

³³ Fritz, Ralph A. *An Evaluation of Two Special Purposes of Junior High School: Economy of Time and Bridging the Gap.* University of Iowa Studies in Education, Vol. IV, No. 5. Iowa City, November, 1927.

progress by substituting two gaps for the one which previously existed.

At the upper end of the secondary school period the youthful junior college faces a problem of articulation no less serious. In fact, the difficulties are probably more grave; for this new arrival inherits aged animosities and old misunderstandings which have in the past beset the relationships between high schools and colleges. That the junior college has a real articulation problem to wrestle with is indicated in the findings of Koos²⁴ that during the first two years of a standard college course students repeat approximately four-fifths of a year of work. How much of this duplication is useful and necessary is a matter still to be determined.

One of the outcomes of the recent discussion of articulation has been revived interest in the length of the period of training. The first important call for a shortening of the period of preparation was voiced by the late President Eliot 40 years ago. Baker of Colorado, Harper and Judd of Chicago, Ives of Louisiana, Cammack of Kansas City, and Stewart of Georgia are names associated with the effort to make possible graduation of students from high school at a younger age.

The junior high school has brought enrichment but not shortening of the course; the coming of the junior college has not been accompanied with any reduction in the number of years which pupils are expected to spend in school. It is not astonishing, therefore, that with the subject of articulation holding the stage proponents of a shorter period of schooling should have injected this issue into the discussion.

The 7-4 elementary high-school system obtaining in a number of the Southern States has formed the basis for much of the argument favoring reduction in the number of years of preparation. Existing, as the 7-4 plan does, in juxtaposition with the 8-4 system, comparisons are conveniently made, and students of education, with an eye to economy of time, have naturally asked, Do the results justify the expenditure of money and time involved in retaining pupils more than 11 years in elementary and secondary schools? Three investigations conducted during the past two years are referred to here as reflecting recent approaches to this question.

For the purpose of ascertaining how extensive is the 11-year system, a letter was sent in March, 1928, from the Bureau of Education to the State departments of public instruction in all States where, according to reports on file, schools were operating on the 11-year plan. The States were requested to report the total number of pupils,

²⁴ Koos, Leonard V. *The Junior College*. Minneapolis, the University of Minnesota, 1924.

of both elementary and high-school grades, enrolled in public schools organized on the 11-year plan and on the 12-year basis. With two exceptions the data submitted were for the school year 1926-27. The information secured is as follows:

TABLE 4.—*Distribution by States of pupils enrolled in 11-year and 12-year school systems*

State	Pupil enrollment in 11-year systems	Pupil enrollment in 12-year systems	State	Pupil enrollment in 11-year systems	Pupil enrollment in 12-year systems
Georgia.....	652,907	40,000	South Carolina.....	471,701	None.
Louisiana.....	400,402	None.	Texas.....	1,210,127	7,945
Maryland.....	118,064	141,541	Utah.....	32,143	106,614
Missouri.....	13,367	412,534	Virginia.....	512,520	36,797
New Hampshire.....	3,426	74,248			
North Carolina.....	782,602	41,549	Total.....	4,197,259	861,228

The above table indicates that the 11-year system is more widespread than is generally realized. In the 10 States included, almost five times as many pupils are educated in 11-year as in 12-year systems. Two of the States have no schools organized on the 12-year plan; in four others considerably less than 10 per cent of the pupils are registered in 12-year systems. Compared with enrollments for the Nation as a whole, it becomes evident that more than one-sixth of the public-school pupils of the United States are attending schools where only 11 years are required for completion of the elementary-high-school course.

The Southern Association continued, as a part of its study of freshman college grades, a comparison of grades of students coming from 11-year systems with those of students who graduated from 12-year courses. The results showed that over a 6-year period nine-tenths of 1 per cent fewer failures were registered by students coming from 12-year school systems than were charged against graduates of 11-year schools. The report³⁵ states that "the difference is too small to be of importance."

The commission on length of elementary education, C. H. Judd, chairman, reported³⁶ in 1927. An extensive study of 7 and 8 year elementary systems had been conducted by the commission in Maryland counties, in a considerable number of city school systems of the United States, and in Ottawa and Toronto, Canada. The findings of the investigation were: That pupils in 7-year elementary systems completed school at an earlier age than in 8-year systems; that, while graduates of the 7-year schools were sufficiently well prepared to

³⁵ Proceedings of the Association of Colleges and Secondary Schools of the Southern States, March, 1928. See pp. 219-220.

³⁶ Report of the Commission on Length of Elementary Education. Published by the University of Chicago as Supplementary Educational Monograph No. 34, November, 1927.

enter high school, test results showed a slight superiority of pupils from 8-grade systems; that these differences tended to disappear when the records of pupils were followed into normal schools and colleges. The following interpretation of the findings is quoted from the report:⁸⁷

The commission which prepared this report has been led by its investigations and discussions to the belief that a proper understanding of the function of the elementary school will result in a very general reduction of the time devoted to rudimentary subjects and will result also in an earlier opening of high-school opportunities to all pupils. In other words, it is the belief of the commission that the evolution of the American educational system calls for a more general and a more rapid advancement of pupils into higher courses.

It appears, therefore, that two principal tendencies are operative in the matter of length of the period of schooling. One of these would add two years to the public-school course by providing, after high school, two years of training in junior college; the other would shorten the period of preparation by eliminating one or more years from the elementary-high-school course.

The opposing views are probably not so far apart as may appear at first sight. The belief is not uncommon that by careful organization and by rigorous elimination of nonessentials and duplications it may be possible to complete in 12 years all the necessary content with which pupils are now required to spend 14 years. That this is a practicable plan for students of superior ability few will question; that it is possible of realization with the average student is the contention of many; that students of all levels of ability should be allowed to progress at their natural rate as individuals is an ideal often voiced but infrequently realized.

RESEARCH AND SECONDARY EDUCATION

The amount of research conducted in secondary education is very large. Walter S. Monroe⁸⁸ lists 2,999 theses accepted during two years, 1925-1927, for master's and doctor's degrees in education. Of these, 335 are classified as dealing exclusively with secondary education. Of the 24 major subjects into which Doctor Monroe classifies education the only two for which larger numbers of studies are reported are educational psychology and a consolidated section given to special subjects of the curriculum. In a recent bulletin of the Bureau of Education⁸⁹ 103 of 1,478 research studies are classified under secondary education; here the studies in secondary education

⁸⁷ *Ibid.*, p. 186.

⁸⁸ *Titles of Master's and Doctor's Theses in Education Accepted by Colleges and Universities in the United States Between October 15, 1925, and October 15, 1927.* College of Education, University of Illinois, Urbana.

⁸⁹ *Bulletin of the Bureau of Education, 1928, No. 22, Bibliography of Research Studies in Education, 1926-27.*

outnumber all other classifications except a grouping under the general heading, "Special subjects of the curriculum."

Inquiry into the type of research which is carried on indicates that the majority of the studies relate to past and present practice in organization of schools, curriculum, grading of pupils, retardation and elimination, student activities, training and experience of teachers, school costs, and the like. A considerable group of studies by candidates for degrees deals with early development and current conditions in State and local school systems. The reports of research bureaus in cities and States frequently give results of intelligence and achievement testing programs.

Experimental work under conditions more or less closely controlled is receiving some attention. According to reports from 242 school systems the experiments most frequently concern adaptations made to care for individual differences; teaching methods are next in frequency; size of class is third. A total of 42 experiments on 30 different subjects were reported by the 242 school systems. Some of the experiments are so described as to suggest trial of a new device or method rather than any organized attempt at measuring and comparing results of alternative procedures.

The situation is that, with the exception of comparatively few systems, the public schools have been so busily engaged with the daily problems of providing for the ever-increasing numbers of a heterogeneous pupil personnel that scientific investigations looking toward evolution of new approaches and evaluation of old ones have been left to workers in experimental schools and in schools of education. Experimentation has thus for the most part been conducted by students in educational institutions. The experiments usually are of short duration, involve relatively few cases, and in their results are not comparable with other experiments carried on in the same field.

It appears that there is opportunity here for educational leadership. Thousands of teachers and administrators throughout the United States are eager and able to join a great cooperative undertaking for the solution of problems related to secondary education. It is entirely practicable to select certain such problems for investigation and to conduct studies for their solution in many schools contemporaneously and on a comparable basis. With authorization by Congress of an appropriation of \$225,000 for a 3-year study of secondary education beginning July 1, 1929, it should be possible to shed light on a trail which is now too often shrouded in darkness.

CHAPTER VII

SCHOOL HEALTH WORK

By JAMES FREDERICK ROGERS

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CONTENTS.—Medical and dental work—Studies regarding physical defects—Better teeth—Health education—Nutrition—Anthropometry—Physical education—Sanitation—Clothing—Rural schools—Summer camps—Results of school health work—Nurse training—Teacher training—Parent-teachers—Health of the teacher—Legislation and State supervision.

In the biennium 1926-1928 the three hundredth anniversary of the founding of modern physiology was celebrated. A tercentenary is an exceedingly small fraction of the time since man discovered the use of fire, invented clothes and houses, and began to huddle together under conditions which have rendered knowledge of hygiene imperative to his welfare. It is but a half century since he fully recognized his ubiquitous enemies, bacteria. However, the foundations of physiology and hygiene having been laid, man's brain has been increasingly busy along these lines and even a biennium brings forth knowledge, or applications of knowledge, in school health work that is worth recording.

MEDICAL AND DENTAL WORK

As most significant in the field of medical and dental inspection, or "health examinations," we would place the passage of a law in New York State, which reads as follows:

Physicians to be qualified for certification as school medical supervisors shall possess the following qualifications:

1. Graduation from a medical school registered by the State education department and licensed to practice medicine in New York State.

2. One year of acceptable internship. Five years of successful practice in medicine may be accepted in lieu of one year of internship.

3. Six semester hours of postgraduate work in a school or schools of medicine in such subjects and in such institutions as may be approved by the State commissioner of education. The following subjects indicate the type of instruction that should be included in such postgraduate courses: (a) Medical examination of school children; (b) psychiatric problems of school age; (c) problems of growth and nutrition; (d) preventable defects of eyes, ears, teeth, posture; (e) school sanitation; and (f) communicable disease control.

4. Six semester hours of postgraduate work in a school or schools of education in such subjects and in such institutions as may be approved by the State commissioner of education. The following subjects indicate the type of in-

struction that should be included in such postgraduate courses: (a) Principles of health education, and (b) organization and administration of health education in public schools.

The State commissioner of education may grant a temporary certificate to physicians who present satisfactory evidence of successful experience for three or more years in medical inspection and health service.

The temporary license shall be valid for only one year, but may be renewed twice upon presentation of evidence of postgraduate work as suggested in paragraphs 3 and 4 above.

Where undergraduate medical instruction and training have included special preparation in the field of health service equal to the qualifications set up for postgraduate work, such undergraduate preparation may be accepted for the certification of medical supervisors.

The medical supervisor or inspector has hitherto rarely had any special training for his work. Part-time employment has been taken up, as a rule, to "help along" financially, while full-time workers have usually been so poorly paid that men with special training or superior capacity for this work have not been common.

Since the State of New York pays a bonus to the local community employing a medical inspector it became evident to the State authorities that they would only get their money's worth by making sure that this employee had at least a minimum of special preparation. With this required training the schools of New York will have a better medical service than formerly, even with the same type of men who have been employed. There is a tendency throughout the country toward the payment of higher salaries for directors of school health work, which promises a better personnel for this line of work.

What has been said with regard to the lack of training of school medical inspectors applies about as well to school nurses. New York State officials have not overlooked this fact, and they require, besides the usual professional training, the completion of "at least six semester hours in approved professional courses in health education." A nurse so trained and certified is now distinguished as a "nurse-teacher." It is to be hoped that in time not only the term "school nurse" but also "nurse-teacher" will be supplanted by a title which does not savor of the sick room.

The percentage of corrected defects by which (other things considered) the effectiveness of medical inspection is to be measured seems to be increasing and has reached as high as 85 per cent in some cities. It is impossible to make comparisons in this respect, however, owing to the elasticity of the word "defect" and also of the term "corrected." Strictly speaking, most defects can not be "corrected" at all, as for example, bad vision or defective hearing or a leaking heart, but they may be compensated for or possibly improved by treatment. Since few defects can be "corrected" or

"cured" reports in which these terms are used, when "treated" or "compensated" are meant, are misleading.

In the publications of this bureau emphasis has been placed on the importance of the presence of parents at the physical examinations of their children, since much needed information can be secured from them directly and they in turn can be not only told but shown the physical needs of the child without the expensive visitations of the school nurse so often required to bring about action in regard to defects. Hitherto, it has been necessary to point to the examples of English and Canadian schools but at present it can be stated that a high percentage of parents were present at examinations in Boston during the past year, and in Kalamazoo they were present at 100 per cent of the examinations. Perhaps other cities have gone as far in this direction. Within the year one inspector has complained that the "presence of parents slows up the work of examination." Perhaps it does, and it should where it is run on the speeding-up, piece-work plan too frequently in vogue. Overmuch time should not be spent on examinations and an experienced examiner can find out a great deal of importance in a few minutes, but many cases require much time if nice decisions are to be made, and these should be made. The cost and the risk are too great to recommend without due consideration such procedures as the removal of tonsils, and the wearing of glasses is not an unmixed blessing even when these are rightly fitted. Although the physician chosen by the parents is the final source of decision as to the need for treatment, he may agree only from courtesy with the school physician or he may disagree, both of which decisions are bad for the medical inspector and, in the first instance, may be bad for the child. Some years ago systems were devised by which a hundred or more children could be "run through" the inspection mill in an hour, but it is worthy of note that an average of 20 minutes per child is allowed for this by the city previously mentioned, Kalamazoo. For first examinations this is certainly none too much, and if the health of the school child is as important as it is often said to be, at least 20 out of 50,000 minutes devoted to his schooling each year may well be given over to the appraisal of his physical machinery.

An event of much importance for the future of medical inspection was the organization in 1927 of the American Association of School Physicians, which held its first meeting in 1928. The proceedings will be published by the society.

The training of teachers in the examination of children for physical defects proceeds apace both in training schools and locally in connection with the development of health work, especially in the

absence of school physicians or nurses. In Virginia, where examinations of children in rural schools are made almost wholly by the regular teachers, 95 per cent of the children were examined in the school year 1927-28; 73 per cent were found with defects of vision, hearing, nose, throat, teeth, or nutrition, and 14.5 per cent had all such defects attended to and were enrolled as "five pointers." In one county 100 per cent were examined and 58.8 per cent of those found defective were reported as having all their defects "corrected." In the State as a whole the number of "five pointers" was double that for the preceding year.

STUDIES REGARDING PHYSICAL DEFECTS

For the medical inspector the question as to whether the tonsils of a child are or are not a menace has always been a troublesome one, and a decision in the matter is of the utmost importance, for, if possible, no child should be exposed to the risk nor his parents to the expense of a tonsillectomy. Unfortunately the medical inspector himself has added very little to his own knowledge, nor is he likely to until his records on the subject consist of something more than a cross after the word "tonsils" to indicate that they were apparently "too large" or "diseased" and a similar sign to indicate that they were "corrected." However, one excellent study from school medical inspection records (so far as those records go) has been made by Kaiser of Rochester by a comparison, after a lapse of years, of the condition of children who had had their tonsils removed with the condition of those for whom removal was advised but this advice was not followed. Kaiser published his first observations after three to five years had elapsed following operations. In 1927 (*Journal of American Medical Association*, December 31, p. 2238), he published the results of comparisons after an interval of five to eight years. These studies seem to indicate that there is a considerable reduction in frequency of head colds and sore throat, but the effect on other conditions assumed as related to the tonsils, such as rheumatism, chorea, carditis, are very disappointing. In these cases there was no separation of children with adenoids from those with supposedly dangerous tonsils, and the method of removal is not considered, which leaves much for the future investigator.

Another excellent contribution on this subject in the biennium, from material collected partly in schools, is that of Collins and Sydenstricker, of the Public Health Service ("An Epidemiological and Statistical Study of Tonsillitis," *Public Health Bulletin*, No. 175, July, 1927). The findings of this study are fairly in accord with that of Kaiser.

The Public Health Service has also contributed a "Special Study of the Vision of School Children," by Kempf, Jarman, and Collins (Public Health Reports, Vol. 43, No. 27, July 6, 1928). By the use of a cycloplegic it was found that a large percentage of children who had 20/20 vision by the usual test were very defective. The authors reinforce the statement made in publications of this bureau that the Snellen test should not be used exclusively in the examination of the eyes, by recommending that "any child with symptoms of eye-strain should be sent to an eye physician for careful examination even if the naked eye reads 20/20 on the Snellen chart." This chart is of most importance in detecting myopia which these investigators found in 2 per cent of children at 6 to 7 years and it increases to 9 per cent at 12 years. It is highly important that such cases be discovered and treated.

An interesting contribution has been made in this biennium to our knowledge of "The Physical Status of the Urban Negro Child," by Dr. E. Blanche Sterling, of the Public Health Service (Public Health Reports, Vol. 43, No. 43, Oct. 19, 1928). She reports 31 per cent entirely free from dental caries and in almost 33 per cent of those defective in this particular the amount of caries was very small.

About one-third of these negro children had tonsils which were "considerably enlarged or diseased or both." A relationship between decayed teeth and abnormal tonsils has been said to exist, brought about either through the influence of the bacteria flourishing in the former or from some mutual causal relationship; but these statistics for colored children would seem to dispose of such a theory, for defective teeth are much more common among white children and the proportion reported as having defective tonsils is not usually so high among white children as among negroes.

Certainly in no biennium has so much constructive research along lines of physical defects been reported.

BETTER TEETH

Great progress has been made in the study of the causes and prevention of our most common disease, dental caries. The results of work along this line were presented in 1927 in the publication of the Bureau of Education entitled "Better Teeth." Since the time of that publication reports of a number of studies have been published, all indicating that faulty nutrition, prenatal and postnatal, are the chief cause and that the right feeding of the child even at school age is still a factor in tooth preservation. The lack of fruits, vegetables, and milk in the diet seems to be the most important factors in decay, although other things besides food may enter into the nutritional problem. The methods of prevention of decay worked

out in the Forsyth Dental Infirmary have been applied with excellent results elsewhere both in this country and abroad, and studies are in progress further to improve the technique for these procedures.

There is still an enormous waste of time and money in the removal, or ninth-hour repair of stomatic wreckage, but we may look forward to the application of the knowledge we possess in the detection of decay in its inception, or better, its anticipation by the repair of faults of structure in which decay usually begins. At least 90 per cent of the children can be sent from school with good teeth.

HEALTH EDUCATION

The development of health teaching has proceeded in the direction of the search for firmer foundations on which to build. This is evident in the use of the word "tentative" in the title of many recently constructed "outlines" or "courses of study."

There have been analyses of subject matter (as that by Miss Strang) and some inconsistencies of teaching revealed. The invocation of fairies and clowns seems to be a thing of the past and conventional health plays are mentioned by some as of doubtful value. It has become more and more evident that aside from the few habits, the results of which can be checked by the teacher from observation, there is need of the closest cooperation of the home in order to secure health practices.

The presentation of health information in connection with history, mathematics, etc., has received much attention, but such correlation presupposes a high degree of preparation on the part of the teacher and is easier said than done.

The high school remains the weakest link in the health education chain, the teaching usually being done inadequately and to a comparatively small proportion of the pupils. If our colleges were to require for entrance as much knowledge of the structure and behavior of the physical machinery, with which the student lives and works, as they do of Latin or mathematics there would be a vast change in our high-school teaching both in content and kind as regards physiology and hygiene.

NUTRITION

Nutrition work is becoming more a general feature of school health work with insistence on the practice of habits leading to better nutrition by all, and at home rather than in school. Children are now provided with better lunches than formerly whether they are brought from home or supplied at school. The school lunch in many rural schools has been improved, both as to content and feed-

ing practices, through such simple directions as have been published by this bureau. In Virginia the supervisor of physical and health education has brought about a marked improvement through the very simple plan of the supervised lunch. The children bring whatever is furnished by the parents, but are required to eat together in the presence of the teacher, with sufficient time devoted to the meal. By noting what other children bring and how their food is prepared and by the comments of the teacher there has been an improvement in the content of lunch boxes, while the leisure, with which the food is consumed and other elements of hygiene have brought about a perceptible betterment in nutrition.

• Open-air schools have not been reviewed for a decade and this subject has recently been taken up by this bureau. This study has not been completed but the most striking features of the information received is the variety of minimum temperatures allowed in different schools. Some still follow the early custom of adapting the child to the weather out-of-doors, but in other schools minima of 40°, 50°, 60°, and even 65° are maintained. It is also interesting to note that very few open-air schools claim, as formerly, better attendance than in other schools. This can be accounted for in part by the fact that the regular school buildings in these cities are not now superheated.

ANTHROPOMETRY

• Anthropometry, which reached its height both in interest and in multiplicity of measurements about 40 years ago, has steadily declined until there has been little left of it other than weighing and measuring the height. It was abandoned by the physical educator and adopted by the nutritionist. Only those who worked in college gymnasias in the earlier epoch can appreciate the interest in his physique aroused in the student of that time by the taking and comparison of many measurements. It is true that most of those measurements were taken experimentally and were found to be of little or no intrinsic value, but we have gone too far in discarding so many of them. A revival of interest in this subject seems likely to be inaugurated by the studies of Raymond Franzen, of the American Child Health Association. From his investigations he finds that the breadth of hips is of more importance with relation to weight than is the standing height; while by a combination of measurements, of height, breadth of hips and depth and breadth of chest he can determine with great accuracy the correlative body weight. We may look forward to interesting developments in the practical application of this study.

PHYSICAL EDUCATION

The increase to 35 in the number of States having laws requiring the teaching of physical education and to 17 in the number of State directors of physical education and health has, of course, meant an extension of physical activities in schools. In some States the appointment of one or more assistants to the State director has made local stimulation and direction more possible. In Virginia, where a division was made into 10 supervisory districts, each with a director, these assistants not only visited in one year 4,600 schools, but introduced physical activities for the first time into 1,400 of them.

There has been a steady increase in the number and size of school playgrounds and some attention has been turned toward making them usable for as many days of the year as possible. The provision of after-school supervision of play for all pupils, rather than exclusively for those on competitive athletic teams, has been made in some communities and the need for this is more and more appreciated. Here the school merges with other agencies of civic welfare.

The conduct of interscholastic games is faced rather than ignored by school authorities and it may be expected that before long athletics will be managed by the school instead of the school being controlled by the athletic interests inside and outside its walls.

By a recent revision of the physical education law of Michigan "the superintendent of public instruction shall have supervision and may exercise control over the interscholastic athletic activities of all schools of the State." In Maryland these activities have long been under the control of the State department, while in seven other States having State directors of physical education, these officials are connected with the State interscholastic athletic associations and help to shape their policies.

In New York State an effort initiated by Dr. Frederick Rand Rogers has been made to render coaches and other adults less conspicuous in the management of games and to return them to the hands of the players where they properly belong. Such reforms are already spreading to other States.

The Carnegie Foundation for the Advancement of Teaching is making a study of athletics in colleges and has issued a publication dealing with athletics in schools abroad. Dr. Louis I. Dublin has been conducting an investigation into the longevity of college athletes. From his preliminary report men of such superior motor vigor do not seem to last longer than the average of the general public.

The biennium has brought forth a number of studies both in high schools and colleges of the showing of students participating in athletics as regards intelligence and scholarship. The results of some of these studies have been negative and some positive. On the whole,

there seems little relationship one way or the other unless it be that those who prefer football tend to rank lower in scholarship than those participating in other sports.

In the biennium a committee of the department of superintendence on health and physical education in junior and senior high schools made its report on programs for these schools and this was published by the National Education Association and by the American Physical Education Association.

The use of leisure in our twentieth century world becomes a concern for the educator not only during the period of school life but in preparation for after-school days. The monotony of the daily task of the average adult makes it the more imperative that the lengthening hours outside the office and factory be happily employed. If suitable opportunity and supervision are furnished, physical activities will, by choice, occupy the leisure of a large percentage of pupils of school age, and they are thus better prepared for such use of leisure in later life. The school physical education program therefore links itself with the general recreational system of a community. Whether it influences beneficially the use of leisure out of school hours becomes a test of its value. As Carl Schrader puts it, "Unless we can interest and hold the children during their leisure hours our usefulness in the field of education may well be questioned."

To anticipate the limitations of life in man's later years Sir Farquhar Buzzard, Regius Professor of Medicine of Oxford, suggests—

that a multiplication of interests in early life, the opening up of numerous association paths in the nervous system, is a measure to be encouraged and one which may well be calculated to check the advances of senility. * * * Fashions are notoriously fickle, but every few years there arises a vogue for physical culture founded partly on aesthetic grounds, but largely on the fallacy that our good health has some relation to the size of our muscles and that violent muscular exertion is a valuable antidote to the poisonous properties of mental effort. I do not hesitate to say that I have seen a number of cases of exhaustion neurosis resulting from this popular conception of hygiene, and there is little doubt that confusion reigns in the lay mind in regard to the relative merits of physical culture, the object of which is to develop muscles, and of games of skill, the chief advantages of which lie in the fact that they supply mental recreation. From the gerontologists' point of view, therefore, athletic games are to be encouraged in that they add to the list of cerebral activities, to the sum of varied interests. Even when advancing years prohibit personal participation, the rôle of an understanding spectator is not to be despised.

SANITATION

The problem of ventilation is far from solved either in theory or practice. In the past two years the New York Committee on Ventilation has resumed its studies. The experiments carried on in the

schools of Syracuse and in Cattaraugus County, N. Y., would seem to prove that there is considerably more respiratory illness among children attending newer schools with systems of forced ventilation than in the older buildings with change of air by gravity.

There has been steady improvement in the provision of sanitary toilets, especially in the Southern States where much of this change has been made mandatory by law. The consolidation of schools, with the provision of water-carriage disposal of sewage, has helped toward better conditions along this line.

A survey was made by the school health department of the Metropolitan Life Insurance Co. in 404 schools, housing 243,795 pupils, in 22 States. In 53 per cent of the buildings hot water was furnished for hand-washing, in 80 per cent soap, and in 84 per cent towels. Only about 20 per cent furnished hot water, soap, and towels conveniently located and at least one lavatory for every 40 pupils.

There has been much talk of prophylactic and curative effects of ultra-violet light, and some schools have become interested and special glass has been installed in at least a few buildings of the open-air type. Investigations bearing on the subject have not been encouraging to the use of special glass, since the amount of ultra-violet light transmitted (at least in the latitude of the northern half of the United States) does not warrant the expense. A few minutes in the open air prove more valuable than many hours under special glass.

CLOTHING

Since ventilation is looked upon now as chiefly concerned with the regulation of conditions affecting the elimination of heat from the body, the character of the clothing becomes closely related to it. Some of the recent studies of the New York Commission seem to give evidence of the relation of rapid air exchange to the more frequent chilling of the bodies of those children who have been exposed to wet weather. At any rate, wet clothing and, especially, wet shoes and stockings have long been known to be prejudicial to health. In the schools of some other countries dry stockings are furnished to children. In a few American schools the similar practice of having children keep an extra pair of stockings in their desks for emergency has recently been adopted. Such a simple expedient will no doubt prevent colds, sore throats, and even more formidable illnesses which have an important effect on school attendance.

RURAL SCHOOLS

The promotion of health work in rural schools has probably made more progress in the past two years than in any previous biennium. Legislation in a few States for sanitary improvements has been put

in practice either through departments of health or of education. In Virginia by the division of the State into 10 districts each under the supervision of a director of health and physical education, the water supply was investigated and made safe in more than 100 schools, and toilets were supplied or made sanitary in 800 schools; all of which was accomplished in a single year. Through better teacher-training more regard is had for the physical condition of school children and to their instruction in hygiene. As mentioned elsewhere the school lunch has been improved both as to food and to habits of feeding.

While the teacher working in a rural school on her own initiative can do much, it is by the special machinery possible only in a county or district organization that best work can be accomplished. In 1924 the operation of "school hygiene districts," under full-time health directors, was authorized by law in New York, and such a district was established in Cattaraugus County. In 1928 a second district was organized in Ontario County which will be watched with interest. The organization of county departments of health, which goes on apace throughout the country, has furnished in many of these counties the means for medical inspection and sanitary supervision of rural schools.

Many superintendents and teachers in rural schools are interested in the health of their pupils, but do not know how to go about its promotion. As a help to these persons this bureau issued in 1928 a leaflet entitled "Ten Steps in the Promotion of Health in Rural Schools." The interest in the subject was shown by the orders for thousands of copies which have been received. In Michigan an excellent outline for a "Suggested Health Education Program in Smaller Schools" has been prepared by the State supervisor of physical education. This outline has been presented at teachers' meetings throughout the State.

SUMMER CAMPS

While there is little to relate regarding the development of summer camps in connection with public schools, a number of colleges and universities have recently made use of the camp to bring their pupils in touch with materials studied in courses dealing with nature, such as botany, zoology, geology, and engineering; and at the same time furnish recreational facilities. The summer camp has become, of course, an integral part of the training of those who are preparing for the profession of physical education.

In at least one college camp "classes in art, mathematics, sociology, history, and English are carried on, in addition to a full physical education program."

RESULTS OF SCHOOL HEALTH WORK

It is but natural, especially in an age of measuring and standardizing, that a demonstration of the actual results of school health work should be asked for. In fact such work would be prosecuted with far more vigor if figures were available to show physical and mental improvement. Such statistics as might appeal strongly to the very "practical" man are not likely to be forthcoming, for health is not a static condition, and school progress depends on many factors, the most fundamental of which, an adequate cerebral machinery, being fairly fixed by heredity.

Comparisons of the mentality and physique of school children have shown a definite though not marked relationship, and as a rule children who rank high in intelligence and scholastic tests are comparatively free from serious physical defects. It does not follow, however, that, by the treatment of, defects or improvement of hygiene, distinctly measurable results will always occur as regards school progress. In exceptional cases spectacular change does result, but not a large proportion of retardation can be so reduced. The mind of the taxpayer has been centered too much on the child who, because of serious mental or physical handicaps, fails to keep pace with the scholastic procession. He forgets that many of the ninety and nine who "pass" would do better work with improved physical equipment.

There can be no doubt that for every defect adequately treated or removed and every item of personal or school hygiene improved, the physical and mental machinery of the child reacts more effectively even though not measurably and, other things being equal, his welfare in future is more assured.

While health is not a measurable thing, certain signs of health (as absence of defects, progress in growth, and freedom from disease) can be appraised and deserve to be compared with the school practices which are intended to bring them about. The percentage of defects of school children treated adequately is a measure of the effectiveness of the school medical and dental program. For health teaching, perhaps the most careful appraisal of results has been made in the Malden, Mass., schools by Prof. C. E. Turner. In 1925 he presented data showing improvement in several health practices. In 1928 he presented evidence from a study of height and weight of children exposed to an intensive health education program as compared with like measurements of a control group. The "rate of gain in both height and weight for the children receiving health education was measurably and significantly greater than for the children of the control group." There was not, however, any fundamental change in the height-weight ratio.

The American Child Health Association has been making a thoroughgoing survey in a number of cities of health education methods and results, and the reports of their studies are looked forward to with interest.

It may be asked whether there is not some evidence from mortality records as to the general results of work for the health of the school child in and out of school. The death rates for children from 5 to 14 years of age (and also from 15 to 19 years) have declined somewhat in the past 10 years, but the decline has not been so great as in many other countries, partly because our death rates were already relatively low. Six other countries—Australia, Denmark, France, New Zealand, Germany, and Switzerland—had, in the period 1921-1925, lower death rates at these ages, so there is room for much further improvement in the United States. The health of the child is conditioned by many things over which the school has but a remote influence. In the high school and college, however, we might do more to further appreciation and support of general public health work by our future citizens.

NURSE TRAINING

Ten years ago a school nurse was any nurse, with or without the usual hospital training, who might secure a position in this special field. As her work was chiefly that of exterminating verminous and other skin diseases, giving first aid, and making occasional home visitations, her preparation was usually ample. Comparatively few school nurses to-day have more than the usual training of a bedside nurse, but as many of them now assume responsibility for the promotion of the entire school health program, it is evident that they need special training.

The education committee of the National Organization for Public Health Nursing published in December, 1928, the outline of a course for school nurses which covers four summer terms with winter extension work. It was prepared by Beatrice Short, assistant director of the organization, and Anna L. Stanley, chairman of the school nurses' section. The program is as follows:

First Summer.

1. Principles of public health nursing: Present objectives, scope of work, organization and methods in school nursing. Two points.
2. Family social work: The effects of social disabilities on the family; case method of handling problems; discussion of living standards. Two points.
3. Child health: Standards for normal health and development including habit formation. Discussion of communicable diseases, health hazards and nutrition problems, or educational psychology. Two points.

Suggestions for additional courses for summer or extension work in winter.
Practice work in school nursing under educative supervision. Two points.
English composition. Two points. Public speaking. Two points.

Second Summer

1. Methods of health education in the elementary schools. Adaptation of subject matter and methods to health education. Consideration of various devices used in health teaching. Two points.
2. Educational psychology: Elementary psychology with special emphasis on professional situations. Two points.
3. Nutrition in health education: Includes essentials of adequate diet and food needs for different ages. The nutritive value of food materials with regard to application of such knowledge to health education, or mental hygiene. Two points.

Suggestions for additional courses for summer or for winter work.

Practice in family social work. Four points.

(This would require a full month's work under educative supervision.)

History of education: Introduction to educational problems in a democratic state with special reference to our own national situation. The increased responsibility of the State for education. Two points.

Third Summer

1. Mental hygiene. Development of personality; deviations in personality and behavior disorders of childhood with reference to prevention and adjustment. Two points.
2. Child psychology. Two points.
3. Educational sociology: Social and human origins as backgrounds for consideration of problems of modern society and the sociological method of approach to them. Two points.

Suggestions for additional courses for summer or winter extension work.

Practice work on staff of visiting nurse association under educative supervision (2 months). Four points.

Practice work in health education under educative supervision. Two points.

Physical education: Folk dances, stunts, team games. Two points.

Additional course in English. Two points.

Fourth Summer

1. Public health nursing: This course should give a broad understanding of the many phases of public health nursing, their relation to each other and to educational and social improvement. The organization of public health nursing under official and nonofficial agencies. The advantages, plan of organization and work in a completely generalized or partially generalized service. Two points.
2. Personal hygiene or biology. Two points.
3. Organization and supervision of health education: Principles governing health education in relation to the rest of the educational program. Criteria for selecting materials and activities. Departmental correlation, or teaching of home nursing and child care classes. Two points.

Suggestions for additional courses for summer or for winter extension work.

Public health administration and preventable disease. Two points.

TEACHER TRAINING

There has been steady progress in the improvement in the training of regular teachers for health and physical education work in schools. The physical fitness of the applicant for training is more seriously considered and better medical and sanitary supervision is offered by many schools.

The opportunities for preparation for special work in this field have increased. Whereas a half century ago one might need to travel half across the continent to secure such training, there are now, besides the 14 special schools, 50 public colleges and universities, as many private institutions of this nature, and 40 teachers' colleges and normal schools offering major courses leading to a degree.

Most of the special schools have reached a 3-year basis and some of them now have 4-year courses.

The Harvard University School of Public Health has been added to the institutions of this kind giving special courses for school health workers.

PARENT-TEACHERS

Parent-teacher organizations have been busy in furthering the health work of the schools. The most spectacular of their endeavors has been the promotion of physical examinations of children just before their entrance to school—the "Summer Round-up." In 1925, 102 local associations in 22 States responded to this movement, while in 1927, 2,120 communities in 44 States were active.

THE HEALTH OF THE TEACHER

Considerable interest has been displayed of late in the health of the teacher. Since the bureau's publication on this subject, which was issued in 1926, a committee of the School Health Bureau of the Metropolitan Life Insurance Co. has added some information as regards city schools. Forty-eight superintendents answered its questionnaire and 62 per cent of these reported some kind of health supervision for teachers. "Included in the methods of supervision were health examinations for certification and employment of teacher-applicants, periodic health examinations for certification and employment of teacher-applicants, periodic health examinations and some care for sick teachers."

A questionnaire investigation as to medical supervision in teacher-training institutions, made by Dr. A. O. De Weese, physician and health officer of the State Normal College, Kent, Ohio, would seem

to indicate that more of these schools are giving attention to the physical fitness of persons admitted for training. Ability to manage pupils with ease has more to do with the health of the teacher than any other condition and it would seem of the utmost importance that pupils in these schools should be taken on probation and be given, as early as possible, such experience in actual teaching as will make it evident to them and to others whether the mental wear and tear entailed will warrant further training for such work.

The wide variation in the granting of sick leave was shown in an article in *SCHOOL LIFE* for October, 1927. The subject is, of course, closely connected with the selection of teachers for training and the health supervision of teachers employed. As a group, teachers show comparatively little absence on account of illness, yet by better selection and supervision this absenteeism can be further reduced. Having made its selection and provided for health supervision, the school should be liberal in its allowance for absence on account of illness, for teachers are often at work when they would better be in bed and they should not be made to lose salary because of unavoidable illness. The granting of leave by the cumulative method, more commonly adopted in England, seems to be gaining favor in this country.

LEGISLATION AND STATE SUPERVISION

In the past biennium, two States, Florida and Arizona, were added to the list of those which have laws making provisions for physical education in public schools. There are now 35 States in which physical education is virtually a required subject. In most of these States the law applies to teacher-training institutions. The teaching of hygiene is usually included with physical education.

The following States now have a director of health or physical education or of both in the State departments of education: Alabama, California, Connecticut, Delaware, Florida, Maryland, Massachusetts, Michigan, Minnesota, Missouri, New Hampshire, New Jersey, New York, Ohio, Pennsylvania, Virginia, and West Virginia.

In the following States one or more assistants to the State directors are employed: California, Connecticut, Florida, Massachusetts, Michigan, Missouri, New Jersey, New York, and Pennsylvania.

In at least seven of these States the expenditures for salaries and travel expense of such State officials exceed \$10,000. It is manifestly unfair, however, to make comparisons of expenditures along this line, as the school population would need to be taken into account and also whether subsidies to local schools are allowed, as is the case in Maine,

Nevada, New York, and Virginia. In Maine, for example, the expenditures for the promotion of physical education amounted in 1927 to \$34,500.

In New York State the expenditures are large not only for the direction of hygiene and physical education and for subsidies, but also for the supervision of medical inspection which, in this State, is taken care of by the department of public instruction. In a very few States public funds are spent on school health work through the department of health, as in North Carolina, where, in 1927, \$60,000 was used in the promotion of medical examinations and treatment. In a few States, such as Alabama, Indiana, and Kentucky, the State department of health is active in improving school sanitation, but in about half the States of the country the active promotion of school health work through either State department is meager or absent. In four States, where the physical education law includes provision for a State director, there are no funds for this purpose and no such official has been appointed.

The physical education service of the Playground and Recreation Association of America has been very active under the direction of James Edward Rogers, and much of the legislative action and other State activities in the past two years leading to better State supervision have been in large measure due to his efforts:

Statewise there has been little change in laws or in direction, or lack of direction, of medical inspection. The chaotic condition in this field has been described more in detail in "The Status of School Hygiene in the United States," a paper presented by the author before the American Public Health Association in 1927, and published by that organization.

In one State medical inspection is directed actively by an officer of the State department of education; in an adjoining State the same work is sponsored by the department of health, while in another neighboring Commonwealth there is supervision by neither State department. Specifications as to who may examine for defects, and what defects are to be examined for, are just as diverse.

Half of the school children of the country have never had a physical examination of any kind nor will they have until the teacher-training schools prepare their students for this work, and until some State department is made responsible for the promotion and supervision of school medical service.

Unsatisfactory as are many of our legal declarations and much of our practice as regards medical inspection, it must be recalled that there was no legislation on this subject a quarter of a century ago, and very little was done along this line even in our largest

cities until after the beginning of this century. There have already been some important revisions of the legal enactments on this subject, one of which in New York concerning the qualifications of medical inspectors has already been mentioned.

While physical education has had some recognition in this country for more than a century, few of the State laws making it an integral part of the school program are more than 10 years old. On the whole there has been rapid progress in public appreciation of school health work and we can go forward with improvement in the details of its practice.

CHAPTER VIII

INDUSTRIAL EDUCATION¹

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CONTENTS.—Causes stimulating the development of industrial education—Variety in courses and industrial organization—Improved housing facilities—Part-time and evening schools—Age for entering employment—Increasing—Printing—Model boat and airplane building—School exhibits—Guidance—Tests—Teachers—Summary

CAUSES STIMULATING THE DEVELOPMENT OF INDUSTRIAL EDUCATION

The past two years have witnessed a continued and an increasing emphasis upon vocational-industrial and manual-arts types of work in the school curriculum, and a further adjustment of the work to make it a still more effective factor in the realization of the aims of the public schools. In general there has been considerable growth in the enrollments in these types of courses. In the vocational-industrial courses the increase in enrollment is particularly noticeable in part-time and evening classes. This is indicative of the growing recognition of the value of these types of classes in a vocational-industrial program. Manual arts in the junior high school grades is more and more becoming a required subject. In the senior high school grades a more thoughtful consideration than formerly is now generally given to the organization of courses in accordance with the needs of the different groups and with regard to specific ways in which the training may function in contributing to the objectives of the secondary school.

The housing facilities for shop work and other types of industrial courses have been improved in many places. During the biennium there was an increased realization of the fact that efficient work can not be carried on without adequate shop rooms and equipment. This is indicated by the number of schools that have erected new vocational buildings, built additions to their present ones, or made provisions for shops in new academic buildings. In some sections of the country shops have been provided in new gymnasium buildings.

¹ This chapter does not deal with the administration of vocational-industrial education provided by the Smith-Hughes law. The reports of the Federal Board for Vocational Education cover this subject.

The stimulation of the industrial education program is due to a number of causes. Among the most important ones are:

1. *An increased effort to make the public-school program democratic in fact as well as in name.*—There is a growing demand that the secondary schools assume their full responsibility for meeting the needs of the various groups of students contained within their rapidly increasing enrollments. In the 36 years from 1890 to 1926 the population of the continental United States increased 86 per cent, while the college and university enrollment increased about 550 per cent, and the secondary school enrollment increased almost 1,100 per cent. The student body of the secondary school is no longer the selected, unified group it once was, and with the inclusion, in large numbers, of groups with different attitudes, aptitudes, and opportunities relative to life occupational interests there is the necessity for providing educational training that will have functional values corresponding to the group needs and will be commensurate with the time, effort, and money expended.

In 1926 public-school enrollment in the tenth grade, or the second year of the 4-year high school, was only 52 per cent of the enrollment in the seventh grade. Evidently an important factor contributing to school-leaving during these grades was the lack of a sufficient variety of courses to meet the needs of the different groups included in the school enrollment. A specific example of this situation, together with a plan for meeting it, is found in a certain comparatively large city. In this particular school system in the year 1927-28 there were 90 per cent as many pupils enrolled in the first year of the 4-year high-school system as were enrolled in the last year of the elementary schools, but the enrollment in the second year high school was 27.5 per cent less than in the first year. The superintendent and school board realizing the situation took immediate steps to provide enlarged opportunities in industrial arts, vocational-industrial, and technical subjects with which more nearly to meet the needs of the cosmopolitan character of the secondary school student body. A well-known educator and president of a large State university recently said that "Democratic society has insisted on the school offering training in many lines. * * * Each individual is entitled to that educational opportunity which corresponds to his ability and power to achieve."

2. *A fuller recognition of individual differences.*—Individual differences which are fundamental to a consideration of types of training that should be provided consist not only of differences in I. Q. and mental alertness, but differences in attitudes, aptitudes, and opportunities relative to life occupational interests as they are conditioned by economic and other environmental circumstances. The probability of success in any contemplated line of work is conditioned

not only by mentality as determined by standardized intelligence tests, but also by the opportunity to achieve and the willingness to achieve. The assumption that an individual with a high I. Q. should, because of that fact, train for some one of the professions is just as fallacious as is the practice of putting an individual with a low I. Q. into a shop representing a trade that requires a high degree of skill and ready technical knowledge, with the expectation that he will make good in competition with others with liberal mental endowments. In both instances good mentality is essential to efficiency, and in both instances interest and effort are important factors in ultimate success. It is true, however, that occupational activities vary in their complexity. The less complex activities do not require so high a degree of intelligence as the more complex activities do. It is in these less complex occupations, whether in the field of manufacturing, building, merchandising, commerce, or the professions, that the individual with the lower I. Q. will find his optimum opportunity for success.

During the past two years progress was made toward solving some of the problems connected with individual differences as related to training and placement. Contributions to this end have come from studies and practices of an experimental or pioneer nature carried on by the industrial education, the guidance and placement, and the research divisions in the public schools; by the employment and personnel divisions of industrial plants; and by industrial associations interested in the training and up-grading of employees in the industries they represent. The most important contributions have included studies dealing with the following subjects:

(a) Occupational levels. These studies have furnished valuable information relative to the technical knowledge and skill required for employment in the different levels of a major occupational division of work.

(b) Job analyses made for instructional purposes. Job analyses made by persons with practical experience who have a knowledge of the learning process have added during the past two years very materially to our knowledge of the abilities necessary to do the jobs included in a particular occupation.

(c) Success factors. Considerable attention has been given to the types of abilities that make for success in different occupations. In addition to the factors of skill and technical knowledge, which are essential, there are other factors of a personal character such as specific interests, temperament, emotional stability, and social adjustment which are frequently the causes of success or failure. Little information relative to these questions has been compiled and published, but teachers of vocational subjects, production foremen, and

employment officers are accumulating valuable information of an empirical character on these problems as a part of their observations based upon experience. These various types of studies and experimental practices have set forth more clearly the feasibility of providing vocational-industrial courses and the possibilities which such courses have for vocational efficiency. These have resulted in a stimulation of industrial education in the public schools, especially in the cooperation of the schools with industry in providing practical types of training.

3. *Growth of the junior high school movement.*—The junior high school movement started about 1909. In 1926 there were 1,109 junior high schools and in addition 1,149 junior high school departments in connection with senior high schools. The rapid growth previously made in the junior high school development was continued during 1926-1928. The growth of the junior high school movement has been accompanied by a very material increase in the manual arts work due, first, to the philosophy of the junior high school, which emphasizes the need for providing for individual and group differences, for exploration and discovery of aptitudes and interests, and for an enriched curriculum of general education; and second, to the flexibility of the instructional organization which more easily permits the introduction of shop courses.

4. *Increased recognition of the need for training in abilities necessary for the intelligent use and care of industrial products and services in common use about the home and in connection with leisure time and avocational activities.*—These desired abilities relate both to specific knowledge of an industrial character and to mechanical manipulation. As examples of circumstances which have contributed to the need for such training we may note the increased use of electrical and mechanical appliances in the home, of conventional drawings and symbols as a means of representing ideas in literature and plans dealing with the construction of homes, and of the automobile and the consequent need for abilities relating to its purchase, care, and operation. Courses in these subjects, when carefully organized for the purpose, are of great value in developing abilities which the consumer should have.

Information received by special reports to the Bureau of Education is to the effect that among the most common subjects added during the past two years by school systems to their industrial arts programs are home mechanics, auto mechanics, drafting, and electricity. A number of schools enroll girls in some types of these courses.

5. *Recognition of the economic returns to the State by those who go to work.*—A more general recognition of the early economic return to the State by those who early leave the full-time school to

enter upon employment in the trades and industries was during the past two years an important factor influencing the increase of vocational-industrial courses in the public schools. Such training should be provided not only because the State owes it to these individuals as a social service but also because it pays a financial return on the investment in the way of increased economic wealth.

In 1920, according to the United States Census report for that year, there were 41,614,248 persons 10 years of age and over who were gainfully employed. Of those gainfully employed 30.8 per cent were engaged in manufacturing and mechanical pursuits; 26.3 per cent in agriculture, forestry, and animal husbandry; and 5.2 per cent in professional service. In 1919 there were 10,812,736 persons engaged in manufacturing industries only, of whom 79.4 per cent were males and 20.6 per cent were females. Of this number 120,919 were under 16 years of age. Of these 53.3 per cent were male and 46.7 per cent were female.

6. *Growth of industries.*—The United States is rapidly becoming an industrial nation as evidenced by shifts in population centers. The States which have made the larger relative gains in population since 1910 are, almost without exception, the industrial ones, while the States making the smaller relative gains are quite generally those in which agriculture is the dominant industry.

7. *Cooperative relations with industry.*—During the past two years the cooperative relations developed with industry for the promotion of vocational education have resulted in many places in the enlargement and improvement of the vocational program. These mutually helpful relationships, based on a common interest and for a common purpose, have expressed themselves in various ways, among which may be mentioned:

(1) The establishment of contact or advisory committees, composed of employers and employees, for the purpose of securing their advice and cooperation in the determination of the courses to be offered, the content and instructional material for the courses, the selection of trainees, and the selection and qualifications of instructors.

(2) The participation of industry in the programs of educational organizations resulting in a better understanding by the public schools of the training needs of industry, and a better appreciation by industry of the possibilities of training in and through cooperation with the public schools, all of which is conducive to the development of a feasible vocational-industrial program.

(3) The appointment of coordinators for part-time students who act in an official advisory capacity between industry and the school relative to the employment work and the school training of the in-

dividual students, thus bringing about a unified plan of procedure for work and training. Sometimes the coordinators are men from the industries, and in some instances carry on the work of coordination without expense to the school.

(4) The supplying of suitable equipment by industry for specific types of vocational-industrial courses. For example, in the building-stone industries some of the companies producing building stone or doing construction work in stone have supplied schools with granite, marble, or limestone to be used for instructional purposes together with necessary machines and tools.

(5) *Foremen conferences.*—The growth of foremen conferences as a part of the local vocational-industrial program has had a stimulating effect upon the development of trade courses. There are a number of reasons why this is true. Through such conferences the school gains a very intimate insight as to the kinds of trade courses the local community most needs; often valuable information is obtained as to what the content of such courses should be, and frequently there is discovered a valuable source of supply of trade teachers.

8. *Improvement of mechanical devices.*—Inventions and improvements in machines and mechanical processes are creating needs for additional training courses which are demanding inclusion in the industrial programs of the public schools. For example, the advance in aviation and radio work has already caused courses in some phases of these subjects to be introduced into a number of schools. Scientific discoveries and the invention of labor-saving machinery and tools are constantly bringing about changes in manufacturing processes and creating a demand for trained mechanics. All these change-producing forces have been quite active during the past two years.

9. *Research studies and job analyses.*—Studies by industrial organizations, made for the purpose of increasing efficiency in production, for rating and up-grading employees, and for the selection and training of employees, together with job analyses for instructional purposes made by persons interested in the development of unit courses of training, all have contributed content material for trade courses and thereby have stimulated the organization of such courses.

10. *Universal need for highly skilled mechanics.*—There is a universal demand in the industries for men who can fill positions requiring a high degree of skill and technical knowledge, such as tool and dye makers and builders of precision tools and machines. It is necessary that men for these positions be trained in our own country, as other countries, such as England, Germany, and Russia, are in the same condition as the United States, their demand for such skilled artisans exceeding their supply. The increased use of machines for

performing operations previously done by hand and the demand for refinements in machines to meet the need for machine products worked to smaller dimensions are constantly increasing the need for high-skilled tool and machine builders the world over.

VARIETY IN COURSES AND INSTRUCTIONAL ORGANIZATION

A study of the industrial program in the public schools during the past two years shows an increase in the variety of courses offered. Instruction is now given in subjects which a few years ago would have met with no consideration from most superintendents. There was also further development and modification of plans for the organization, administration, supervision, and instruction relative to industrial courses. Information collected by the Bureau of Education shows that a number of schools have introduced courses in some phase of aviation. For example, the Joliet (Ill.) Township High School now offers a course in aeronautics in which the theory of flying is stressed. Instruction relative to airplane engines is given in connection with the fourth-year work in auto mechanics. Other examples of the newer types of courses follow:

The Frank Wiggins Trade School, Los Angeles, Calif., offers a janitors' engineering course for men employed in janitorial work. The course covers heating, lighting, and ventilating from the standpoint of a janitor's responsibilities. Owing to the demand for service men in the radio industry the vocational education board of Essex County, N. J., made a survey of the radio manufacturing industries in the county. On the basis of this information specific courses were organized in the trade schools of the county to train for production and service jobs in the radio industry. The Santa Barbara (Calif.) High School offers a course in stagecraft in which the students learn to construct scenery, do painting and decorating, and electric wiring for illumination. The high school at Stockton, Calif., offers a course in foundry practice in cooperation with a large harvester company. The instruction is carried on in the factory of the company by an expert foreman. Students for the course are carefully selected with reference to their aptitudes and interest for the work. The Union High School, Fort Bragg, Calif., has developed a plan of vocational and industrial education in cooperation with local industries. The program includes courses in power-plant engineering, laundry work, and linotype work. Bedford (Ind.) High School, in the center of theoolitic limestone industry, offers a course in stone drafting together with work in the actual production of finished materials for buildings. The local companies cooperate with the high school and furnish a mill and necessary equipment for doing production jobs.

IMPROVED HOUSING FACILITIES

Special reports from State boards of education and information from various other sources indicate that during 1926-1928 there was considerable activity in providing additional housing facilities. A comparatively large number of new buildings for industrial work were erected, additions made to old buildings, and shop facilities provided in new elementary and high-school buildings. For example, New York State added about 15 new buildings for industrial education work and provided for shops in about 50 new school buildings. Michigan made provision for shops in 55 new school buildings and erected a few buildings for industrial work. Some States which have a comparatively small program in industrial work made noticeable progress in providing room for shops. For example, Utah added shop facilities in 19 buildings, New Hampshire in 13, Wyoming in 12, and Arkansas in 11. There is a tendency in some States to provide shops in new gymnasium buildings, underneath the inclined seating space and facing the outside of the building. When properly incorporated in the original plans this arrangement is very satisfactory for shop space.

Among the new buildings for industrial and technical work may be mentioned the Central Trades School building, Pittsburgh, Pa., erected at a cost of more than \$2,000,000; the new building erected at Syracuse, N. Y., for the exclusive use of continuation school pupils, at a cost of approximately \$250,000; the new technical high-school building, Washington, D. C., which cost for building, grounds, and equipment \$3,500,000; the new addition to the Lathrop Trade School, Kansas City, Mo., costing about \$80,000; the large addition to the Milwaukee (Wis.) Vocational School, which probably makes this the largest school building in the United States devoted exclusively to vocational and vocational-related subjects; the new shop building at Santa Barbara, Calif.; the vocational school building, Pensauken Township, N. J., costing \$1,000,000; and the new vocational high school, Minneapolis, Minn., at a cost of \$1,600,000.

Notwithstanding the progress made in providing housing facilities for industrial work many reports indicate that additional shops and classrooms are necessary in order to meet the increased demand for enrollment in this type of work.

PART-TIME AND EVENING SCHOOLS

Part-time and evening classes rendered a large service during the past two years in supplying effective training for many whose needs were great. There is a growing recognition of the value of evening trade-extension courses for employed persons and of part-time courses

for employed young people. In addition to the increased enrollment in these types of courses during the past two years, considerable development has taken place with respect to the improvement of instruction, supervision, equipment, and housing facilities. A number of the larger cities have constructed new buildings in which to take care of the increasing enrollment in part-time classes. There is also a general tendency to raise the qualifications for teachers in part-time and evening classes. The continuation schools of New York City are now on a par with the high schools with respect to personnel. The principals of these schools are appointed in the same manner as the regular high-school principals and the principals and teachers are on the same salary schedule.

In some places the growth in enrollment in evening and part-time classes has been quite impressive and is significant of the value attached to such courses by the public. For example, the enrollment of building-trades apprentices in evening classes in New Jersey increased from 100 five years ago to 2,500 at the present time. Both employers and employees cooperate in making the courses successful. Some of the trade organizations pay the necessary enrollment charges of their students. In some places in New Jersey apprenticeship agreements have been made with the school. This is especially true for the printing and carpentry trades.

In 1928 there was an increase of 9,500 pupils in the compulsory continuation schools of New York City. There are 15 centers for continuation classes for employed young people between 14 and 17 years of age. Practically all of the subjects offered in the evening classes are offered in the continuation classes. Vocational guidance and placement work is carried on. During the 1927 school year, 2,356 boys and girls, who were enrolled in part-time courses in five New York City high schools offering cooperative courses, earned \$151,439. The students were in school and in employment on alternate weeks.

In 1928 the Boston Continuation School made a study of 1,200 of the 1,600 girls enrolled in its courses. It was found that they left school beginning with the sixth grade and the dropping-out process continued in succeeding grades through the eleventh. The model grade for leaving school was the eighth. The largest number was employed in candy factories, the artificial flower business, and in the food products industries and service. The greatest number of calls for help came from candy and other manufacturing industries where the work was of a light nature. Factory work paid the highest wages. The weekly wages ranged from \$8 to \$15.

The Washburne Continuation School, Chicago, Ill., is a part-time school for boys, operating on an 8-hour day schedule. Both con-

tinuation, and apprenticeship pupils, ranging from 14 to 17 years of age, are enrolled under the compulsory part-time school law, and attend school once a week. In December, 1927, the number of apprentices distributed among the trades represented was as follows: Carpenters, 575; electricians, 524; machinists, 157; sheet metal workers, 105; painters and decorators, 256; steam fitters, 377. The subjects offered the apprentice group are: English, mathematics, civics, applied science, drawing, estimating, and other trade-related subjects. Shops are maintained for sheet metal, steam fitting, wood-working, painting, baking, electricity, and paperhanging. Much of the equipment for the school was donated by industry.

There are coordinators for the apprentice boys who articulate the work of the school with that of industry. The coordinators are usually men from the industries. The organizations to which the apprentices are responsible are usually very strict in the enforcement of the apprenticeship contract, and if a boy fails to make good in school or fails to attend regularly, his apprenticeship is taken away from him. There is a large waiting list for the steamfitters' course.

Provisions made in 1928 in the laws of the State of New York relative to part-time and evening instruction represent some progressive tendencies toward providing legal regulations affecting these types of public-school courses. The law provides that minors from 14 to 17 years of age, who have received employment certificates and are employed, shall attend upon part-time day instruction. This provision, however, applies only to cities of 20,000 or more inhabitants and to school districts which have 200 or more employed minors under 17 years of age. Boards of education in cities with smaller population may require attendance of minors upon part-time instruction. Attendance upon full-time instruction is required up to 14 years of age, and until 16 years of age if not employed. City school boards are empowered to require attendance of minors from 16 to 17 years of age who are not employed in the full-time day school. In cities coming under the provision of this law, but whose boards of education do not require unemployed minors over 16 years of age to attend the full-time day school, such minors between 16 and 17 years of age, not voluntarily attending upon full-time day instruction, are required to be in attendance upon part-time day instruction.

For part-time day classes at least four hours of instruction per week during the time that the full-time day schools are in session are required. The law definitely limits the time of day during which part-time instruction shall be given by stating that it shall be between 8 a. m. and 5 p. m., on the days that the regular full-time classes are in session, and between 8 a. m. and 12 o'clock noon on Saturday. The law empowers local school authorities, upon the

request of employers, to substitute a half-time system for groups of employed minors in a given occupation.

The law is specific in its definition of what constitutes lawful absence from part-time instruction, and provides that unlawful absences shall be made up by hours of attendance in excess of those otherwise required. It also sets up procedure for determining whether an individual is mentally or physically unable to attend school or to benefit by instruction. The law states that school subjects shall be included for the enlargement of the civic, vocational intelligence, and skill of the part-time pupils. The State department of education is given the power to alter the subjects taught.

Evening schools in cities with population of 100,000 or more are required to be in session for at least 100 nights; in cities with population between 50,000 and 100,000, for at least 75 nights; and in other cities and school districts having 20 or more minors who under the law are required to attend upon evening instruction, 50 nights. In school systems which provide evening instruction in accordance with the State law, minors between 17 and 21 years of age who are unable to use the English language to a degree of efficiency comparable with the abilities required for the completion of the fifth year of the elementary school, and who are not attending the full-time day school, are required to attend upon evening instruction.

AGE FOR ENTERING EMPLOYMENT INCREASING

A number of factors are operating in most parts of the country which tend to increase the age at which young people enter upon full-time employment in the industries. Among the causes contributing toward this end is the increasing responsibility placed upon employers by the operation of liability laws. This has resulted in firms in a number of instances refusing to employ persons as young as they previously did in certain positions. Especially is this true for types of work which involve any particular hazard, such as work about power machinery and certain kinds of production jobs in the steel mills. Then, too, the attitude of labor has influenced this tendency by the stand it has taken for the education of the youth of the country, which means more years in school and a later entry upon employment.

Some employers' associations have also taken a stand favorable to increasing the age for entering the industries. For example, The National Association of Manufacturers has gone on record as favoring employment of children between the ages of 14 and 16 only when certain requirements are met relative to physical fitness, educational training, regulations for hours of work, and prohibited employment in dangerous occupations. Compulsory school laws also

affect the situation by holding children either in the full-time school or in part-time classes for an increasing number of years. Thirty-one States have now enacted some form of compulsory part-time law. A few States have made 18 the minimum age for school leaving. Certain exemptions, however, are provided. The inclusion in high schools, in technical schools, and in trade and other vocational schools of types of work which make an appeal to larger numbers than these schools formerly did, has resulted in increasing the holding power of the schools. The results from these causes and some other subtle influences are that the flow from school to full-time employment has been slowed down for the younger ages.

PRINTING

Printing is one of the school subjects that showed considerable growth during the past two years. This is in keeping with the development of the printing industry, which now ranks among the largest in the United States with respect to wages paid. The American Type Founders' Co. estimates that there are 450,000 persons employed in the printing industry and that the annual payroll amounts to \$560,000,000.

According to a report of the United Typothetae of America 28,537 students were enrolled in printing courses in the United States and Canada in 1926-27. Teachers of printing numbered 443 and institutions in which printing courses were offered, 369. The types and number of institutions offering instruction in printing were as follows: Academic high schools, 88; junior high schools, 86; technical high schools, 22; evening schools, 31; colleges and normal schools, 9; "plant" schools, 10; elementary schools, 29; continuation and part-time schools, 17. The time given to instruction varies greatly according to the school grade in which a course is offered, the objective of the course, and the practice of the school. The range is from 1 to 48 hours per week, and from 5 weeks to 6 years for completion of the course. The report estimates the value of school equipment for printing at \$3,316,960.

New York City has enlarged its program in printing instruction in an effort to meet the demand for trained printers. There has been added to the Central Printing Trades Continuation School a department called the school for machine training, offering instruction in maintenance and repair to hand compositors who have had 4 years of experience in the composing room and have had at least 3 years of training in hand composition, of an apprentice grade, in some approved school.

The operation of the school for machine training is an excellent example of the cooperative relationships that may be established

between schools and industry for the purpose of offering instruction in industrial lines of work. The school is conducted under the direction of the board of education and has the cooperation of the New York Employers' Association, the New York Newspaper Publishers' Association, and Typographical Union No. 6. A board consisting of representatives of these four bodies administers the school under terms of a contract entered into between the four groups concerned. The board of education supplies space, custodial service, heat, light, power, and the instructors' salaries. The other parties to the contract agree to cooperate in providing the machine equipment and the supplies needed for instruction. They further aid in the selection of expert instructors and augment as much as is necessary the salaries paid by the board of education.

Students in the Central Printing Trades Continuation School who have completed three years of instruction in the school for printers' apprentices may take for their final year of apprenticeship training the course in machine training. Apprentices who elect this course are required to attend regularly in order to receive credit for a diploma. Attendance is for 6 hours per week, 3 hours of which are in the afternoon and the other 3 hours in the evening of the same day. The afternoon attendance is on the employers' time, while the evening attendance is on the time of the apprentice. The course runs 40 weeks per year. The Central Printing Trades Continuation School has also organized a school for printing pressmen and a newspaper pressmen's school. Both of these departments are operated along the same lines as is the department of machine training.

MODEL BOAT AND MODEL AIRPLANE BUILDING

Two types of project work included in manual arts courses showed a rapid growth in popularity during the past two years, namely model boat and model airplane building. Of approximately 200 representative school systems of cities having more than 10,000 inhabitants, reporting to the Bureau of Education, 42 per cent offered instruction in model boat building in the year 1927-28, and the same percentage offered work in model airplane building. A large number provide work in both. Seventy per cent of the cities having 100,000 or more inhabitants have courses in model boat building and 70 per cent in model airplane building, with a large number offering instruction in both. Of these cities, with a population between 10,000 and 25,000, only 32 per cent have work in boat building and only 82 per cent in airplane building. The reports indicate that these subjects enjoy about equal popularity in the school program, and that their frequency with respect to the size of cities represents a very regular curve which is in direct ratio to the size of the cities.

A number of schools hold yearly contests at which the boats are judged for design, quality of workmanship, and performance in the water. For example, the boats made in the manual arts department of the St. Petersburg (Fla.) High School are displayed before a committee from the local yacht club, and a silver cup is awarded to the builder of the best boat. The Model Yacht Racing Association of America, which is a member of the International Model Yacht Racing Association, is doing much to promote interest in model boat building and sailing. Many articles have appeared in the periodicals on model boat building, and there are some books on this subject.

Detroit, Mich., was one of the first cities to provide a definite program in model airplane construction in the public schools. The work was introduced in 1923 and has proved to be of great interest to the boys, who frequently remain after the regular school hours for work on their planes. Student airplane clubs have been formed in a majority of the secondary schools of the city.

A number of cities hold local airplane tournaments which serve not only for a public display of the school's work and for the awarding of prizes but also for the selection of a contestant to be sent to a regional or national meet. The first national contest of the Airplane Model League of America was held in Detroit, Mich., in 1927. There were 259 contestants from different parts of the country. The expenses of some of them were borne by newspapers, civic clubs, or other local organizations. A number of valuable prizes were awarded. Two boys won trips to Europe as guests of The American Boy magazine.

The increased attention given to model boat and airplane building in the public schools during the past two years is in keeping with the theory that projects in the manual arts should be in harmony with the interest and ability levels of the pupils and that at least some of them should contribute to the pupils' leisure time and play activities.

SCHOOL EXHIBITS

The past two years have witnessed a growing interest in shop exhibits of the public schools. Periodical literature covering the time of the year when most schools are closing contained many notices of public displays of products of the industrial and manual arts shops of the public schools. This is having a beneficial effect on shop programs. Through such exhibits the attention of the public is called to the work the school is doing. A more intelligent and sympathetic understanding of the industrial education program is developed on the part of the parents, representatives of the local industries, and the general public. Usually this becomes a factor in crystalizing public opinion for the approval and support of the

industrial education program. As an example of local exhibits from the industrial school shops the display made in one of the Young Men's Christian Association buildings in Chicago in 1928 may be noted. Shop work from 35 elementary schools, junior high schools, and senior high schools was placed on exhibition and included miniature speed boats equipped with small motors, model airplanes, products of the print shop, electrical apparatus, art work, metal work, foundry work, basketry, radios, etc.

Sometimes regional exhibits are held. For example, there was held in May, 1928, at the Iowa College of Agriculture and Mechanic Arts, Ames, Iowa, an industrial arts judging contest and display in which more than 60 high schools of the State participated. The exhibits consisted of construction work in wood, metal, fiber, etc., and drawings from the mechanical drafting departments of the schools. The exhibits represented in a concrete way the industrial work carried on in the schools of the State. Prizes were awarded for the best exhibits in each of the different classes of projects included. An interesting feature of the plans governing the exhibit was the provision whereby the schools of the State were classified according to certain common characteristics, and each school entered its exhibits for competition with the schools in the same class to which it belonged. The classification for the schools was: Rural and consolidated schools, small-town junior high schools, small-town senior high schools, urban junior high schools, and urban senior high schools.

GUIDANCE

A great deal of attention has been given during the past two years to the theory and practice of guidance. Programs of teachers' meetings, research studies, and educational literature have dealt to a considerable extent with the problems of guidance in the public schools. With the growing realization of the importance of this work as a factor in the final satisfactory adjustment of the individual into a wage-earning life occupation, the general public has become greatly interested in the discussions of ways and means for making guidance effective. During the past two years a broader view has been taken of the problems involved and less emphasis has been placed upon a hasty attempt to guide inexperienced youth with limited practical training into specific occupations. More emphasis has been placed upon an educational guidance procedure covering a term of years, which aims through various forms of direct and indirect experience to furnish opportunities for the gradual development and discovery of aptitudes and interests and for gaining reliable information as to the training required for specific occupations and the employment

conditions in the occupations. Indirect experience includes reading, study, and observation relative to occupations; direct experience includes manipulative work in a variety of construction materials and in various mechanical operations performed in the school shops and in employment.

One means of providing indirect experience is the inclusion in the program of studies of a course in occupations, usually offered in one of the junior high-school years or in connection with the work in continuation school classes. As an evidence of the tendency to increase the emphasis placed upon occupational studies as a part of a general guidance program, reports to the Bureau of Education for 1927-28 from 215 representative school systems in cities having a population of 10,000 or more, show that slightly more than one-half offer a course in occupations. Of the cities reporting which have fewer than 50,000 population, 40.4 per cent offer such a course, while of the cities having more than 50,000 inhabitants 61 per cent offer a course in occupations. Reports covering the year 1925-26, showed that only about one-third offered a course in occupations, thus indicating a gain of approximately 16 per cent in the number of cities offering such a course.

Notwithstanding the increase in the number of schools offering courses in occupations, and the fact that many schools have teachers who do some counseling and make some contacts with industries for the purpose of finding employment for pupils seeking wage-earning positions, only a small percentage of schools have a coordinated and centralized program covering all phases of guidance. Fewer still have such a program under the direction of one person employed with reference to his special qualifications for the work. A complete guidance program includes studies in occupations, tryout and exploration in mechanical and manipulative types of work, counseling, placement, and follow-up work. In vocational guidance emphasis is placed on individual counseling.

Although the subject of vocational guidance has been discussed for years, its inclusion in local school programs is not general, and in many instances the procedure is varied and often experimental. However, there is a growing demand for the development of guidance work. The committee on resolutions of the National Education Association recommended, in 1927, "that educational and vocational guidance be considered a primary obligation of organized education."

A few State departments of education have outlined guidance programs for the schools of their States, and in some instances have issued bulletins and other publications giving suggestions for the organization of the guidance work and furnishing lists of reference material. A few large cities have made valuable contributions to the

literature suitable for use in courses in occupations, by the production of studies covering different occupations. Each study deals with the training and qualifications necessary for employment in the occupation, the nature of the work, employment and working conditions, wages, opportunities for advancement, and the future of the trade.

In the smaller schools, especially those in rural communities, it is more difficult to organize guidance work than in the large city schools with sufficient student bodies to warrant the employment of special personnel for the purpose and where there are local opportunities to place individuals in a large number of occupations. However, there are found occasionally in rural communities and in small cities practices which are based upon feasible and effective organization plans. During the school year of 1926-27 some citizens of Hunterdon County, N. J., effected the organization of the Hunterdon County vocational guidance committee, whose membership included representative citizens, five high-school principals, the county superintendent of schools, and the secretary of the Young Men's Christian Association of the county. In the beginning the aim of the committee was only to assist the graduates of the high schools in the county to find employment positions best suited to their abilities. However, it soon realized that successful placement was dependent upon the development of previous occupational information and guidance. Arrangements were made whereby the services of the professor of educational and vocational guidance at Rutgers University were secured to meet with the faculty of each of the high schools in the county for the purpose of outlining the essentials of a comprehensive guidance program.

A study was made of the educational and vocational interests of the seniors in each high school. Each senior received counsel relative to further education and to occupational employment. A questionnaire was developed and sent by the committee to former students who were already in employment. By this means information was secured as to age and grade at which pupils left school, reasons for leaving, the nature of initial jobs, promotions in employment, training necessary for particular jobs, etc. Rutgers University assisted in making a report on these questionnaire returns. Later, extension classes in guidance were organized for the teachers under the direction of the county superintendent and programs in guidance were planned for the schools, which are carried out under his direction.

The problem involved in educational guidance, especially in the junior high school, is not to get from pupils through printed tests information as to their present interests and aptitudes, based upon their very limited experiences, so much as it is to furnish them with

opportunities in the form of both direct and indirect experiences through which they may discover and build up aptitudes, interests, and attitudes relative to the choice of an occupation.

There are a number of studies that generally should be carried on by schools, the accumulated data from which would in the course of a few years throw a good deal of light upon some of the problems connected with guidance and placement. For example, there are needed more records as to activities carried on outside of school hours and as to employment for a few years after leaving school. A few schools have made studies relative to such questions. In 1927, according to a published report, a study was made of 758 boys representing a cross section of the student body of the Rindge Technical High School, Cambridge, Mass. Of this number 361 worked after school hours for pay and 397 did not. Of the working group 107 were compelled to work in order to remain in school and 254 worked in order that they might have the additional pleasures their earnings would afford. The workers were distributed in various common jobs. Sixty-four were employed on paper routes, 57 in commercial shops, 37 as errand boys, 7 in libraries, 3 in laboratories, 3 as music teachers, and the remainder in miscellaneous jobs of a common type.

Intelligence scores for each were recorded and some comparisons made on this basis. It was found that there was no difference between the working group and the nonworking group relative to intelligence scores. The workers, judged by the number of failure marks received, were a little more successful in their school work. Of the two working groups, those who were obliged to work had better average school marks, had fewer failure marks, and more honor marks per pupil than did the group who worked to obtain extra spending money. The average school marks for the group obliged to work were higher than for either the nonworkers or the group which worked to earn additional spending money.

The David Ranken Junior School of Mechanical Trades, St. Louis, Mo., has compiled records of its graduates for approximately the past 15 years with reference to their remaining in the trade or a closely related line of work for which they were trained. These percentages for the different trades in which instruction is offered are as follows: Carpentry, 84 per cent; painting, 84 per cent; plumbing, 85 per cent; auto mechanics, 85 per cent; machine shop practice, 81 per cent; steam engineering, 77 per cent; patternmaking, 76 per cent; and electricity, 80 per cent.

A report received from the State Trade School, New Britain, Conn., based on a study of returns from 88 per cent of its graduates in the past 16 years, shows the following percentages of graduates remaining in the trade for which they were trained or in a closely re-

lated trade: Auto repair, 85 per cent; carpentry, 100; machine drafting, 98; electrical work, 79.4; machine trades, 95; masonry trades, 100; wood patternmaking, 78.7; printing, 100; plumbing, 100. Information on the question of the percentage remaining in the trade for which they were trained indicates that it varies with a number of factors, such as local employment conditions in the trades, local opportunities for obtaining employment in other than trade lines of work; and the source and character of the students coming to the trade school.

There is a growing demand that teachers in guidance work and those doing vocational counseling have specific training. New York City has set up special qualifications for teachers who serve as vocational counselors. They are required to pass an examination for a special license to become teachers of vocational and educational guidance subjects. The school board has created the position of director of guidance and placement, who supervises all the work for the city.

The Vocational Service for Juniors, a privately financed organization of New York City, has done much to aid the development of guidance and placement work in that city. Its specific aim is to aid young people to make adjustments to their future work, and to demonstrate to the public the value of such service. It provides scholarships to deserving children to enable them to go through high school or to take a vocational course in a trade school. For the school year 1926-27 this society maintained an average of 98 scholarships, ranging from \$3 to \$6 per week, throughout the school year. Of the 1927 scholarship graduates, 12 are making their way through college, 4 are working and continuing their education in evening college, and 5 are in the line of work for which they were trained.

It is interesting to note that during this year the society received 6,209 requests from employers for help. Of these, 37 per cent were for errand jobs, 23 per cent for semiskilled factory jobs; 15 per cent for office jobs; 10 per cent for mercantile jobs; 4 per cent for skilled clerical jobs; 3 per cent for trade jobs; and 2 per cent skilled factory jobs. The remaining 6 per cent were distributed between miscellaneous, part-time, and temporary types of work.

Courses in occupations and work in guidance and placement are constantly affected by changing conditions in the industries, such as the development of new machines and manufacturing processes, fluctuations in the demand for particular industrial products and services, and the creation of new types of products and services. In recent years there has been a large increase in distribution, assembling, and service jobs. The radio business is an example of this.

It is estimated that from 1920 to 1927 the number of persons engaged in manufacturing, assembling, distributing, and servicing radio products increased from 25,000 to 150,000; the number engaged in the production, distribution, and servicing of automotive products increased about three-quarters of a million; the number engaged in the motion-picture industry increased by 150,000; and the barbers and hairdressers increased from 216,000 to 385,000.

TESTS

Experimental and other forms of research studies carried on during the past two years indicate that the work of developing paper tests for discovering mechanical aptitudes is still in the experimental stage. The question has been raised of the validity of some tests which have been devised for this purpose and there is need of further experimental work to determine whether they really measure native mechanical ability. In fact, the whole question of developing paper tests that will have prognostic values sufficient to warrant their use for this particular purpose is still in the realm of the problematical. In the attempt to devise such tests it must be borne in mind that the ability to answer a list of questions about machines, apparatus, tools, and mechanical processes may or may not correlate highly with the ability to manipulate tools and materials. The information necessary for answering such questions correctly may or may not have been derived from experiences coming as a result of natural interests and abilities. The fundamental factor which brought such experiences into the pupil's life may have been the result, more or less, of chance and environmental circumstances.

The value of performance tests for determining mechanical ability should also be the subject of further research. Although such tests attempt in a direct and concrete manner to determine the pupil's mechanical ability by measuring the quality of workmanship shown on the test, it is not always certain to what extent the abilities manifested are due to native aptitudes or to skill acquired in practice. Moreover, the time and effort, both of the instructor and the pupil, required for giving such tests are important factors in determining the extent to which it is feasible to use them. There are some indications, however, that performance tests may be developed that will yield valuable information for the improvement of instruction, even though their value for discovering native mechanical ability may be exceedingly doubtful.

Progress was made during the past two years in the development of achievement or accomplishment tests in industrial educational subjects. Especially was this true for mechanical drafting in which

subject some objective tests were devised that seem to have value for determining pupil achievement. With the efforts that are now made to set up standards of accomplishment in industrial arts subjects in terms of given units of training, further development and refinement of ways and means for measuring accomplishment abilities may be expected.

TEACHERS

The qualifications that should be set up for industrial arts teachers was the subject of discussion during the past two years. The results of this are reflected in the changes made by teacher-training institutions in their curricula, in the requirements by State boards of education for licenses to teach industrial arts subjects, and by the requirements for employment fixed by some local school boards. A few State teacher-training colleges now offer a 4-year curriculum for industrial arts teachers. Others have provided additional courses, particularly in special methods and shop organization. There is also a tendency for teacher-training schools to provide more shop work, especially with respect to the inclusion of a greater number of shop activities. This policy is in keeping with the increase in the number of junior high schools, as variety in shop activities in these schools is an important factor for realizing the exploratory objective of the junior high school. In some instances an effort was made to provide at least some special work for junior-high-school teachers of industrial subjects. This is an apparent need, as the objectives, plan of shop organization, and methods of instruction vary quite decidedly from those of the senior high school.

Some local school systems are cooperating with State teacher-training institutions in providing extension courses for the upgrading of their industrial arts teachers. The State Teachers College, Santa Barbara, Calif., is offering a number of such courses. A course dealing with the organization, instruction, and activities of the general shop is very frequently included in the extension work carried on in connection with a local school system.

A conference composed of persons engaged in the training of industrial arts teachers in the State teachers colleges and representatives of the State Department of California was called in December, 1926, by the State superintendent for the purpose of considering some of the problems involved in training teachers of industrial arts subjects of a nonvocational type. It was unanimously agreed that 40 semester hours of shop work be prescribed as a basic course, with 10 electives in shop work, making a total of 50 semester hours of shop work required for a degree. The 40 hours of prescribed

shop work include woodwork, machine shop, auto mechanics, wood finishing, electricity, sheet metal, plumbing, leather work, forging and welding, mechanical and architectural drawing, and cement and concrete construction.

As a further example of higher requirements of industrial arts teachers, the State Department of Education of Pennsylvania has ruled that after 1931 all applicants for teaching industrial arts subjects must have three years of college work and that after 1932 such applicants will be required to hold a 4-year college degree.

During the past two years there was much activity manifested by teachers of industrial and manual arts subjects in teachers' clubs and other forms of teachers' organizations. More than a score of new local and regional organizations were formed during this period. These associations had some excellent programs and contributed in no small way to the promotion of industrial types of work, both in respect to the improvement of instruction and the organization of programs to meet existing needs.

SUMMARY OF SOME, PRESENT CONDITIONS, TENDENCIES, AND PROBLEMS RELATIVE TO INDUSTRIAL EDUCATION

1. During the past two years the total number of different specific industrial courses offered by the public schools was materially increased. The tendency is still further to meet the needs of industry and labor by this means.

2. There is a growing tendency to regard vocational-industrial training as cooperative work with industry, in which the school, the parent, and the industry are vitally interested. School authorities are realizing the necessity of seeking the sympathetic cooperation of the industries, including employers and employees, in the development of their vocational-industrial programs.

3. The part-time program showed comparatively large development during the past two years. Part-time work, especially of the cooperative type, is regarded as a very effective method of training.

4. Some of the large cities are organizing their vocational courses with respect to housing and administration according to the trade; that is, on the basis of providing separate trades schools, such as an automobile trade school, a printing trades school, etc. Other cities are organizing trades schools wherein are housed and taught under the direction of one principal a variety of unit trades.

5. Compulsory part-time school attendance laws are increasing. Thirty-one States have enacted such laws.

6. Some studies have been made in occupational levels, but information on this subject is still very limited. Studies to determine the

occupational levels in the major occupational fields are very greatly needed for the light they would throw upon the need for specific training and opportunities for placement.

7. The question as to the kind and amount of training that should be provided for seriously retarded children is still almost wholly unsolved. Studies including all of the major occupational vocations should be made with a view to finding a field of employment for retarded children when given the necessary training.

8. Housing facilities for all types of industrial work were improved during the past two years. In some places there are definite plans for improving the housing facilities for part-time classes.

9. There is an increasing recognition of the need for special qualifications and training for the supervision of industrial arts courses.

10. There is a growing conviction that there should be vocational terminal courses in the junior college for some positions in the intermediate occupational levels in industry.

11. The requirements for obtaining a position as an industrial arts teacher are higher than formerly in respect to both academic and professional work, and to practical training.

12. There has been an increase in the number of schools using the general shop, with its variety of activities, as a type of organization for offering instruction in industrial arts in the junior high school grades.

13. Information from more than 200 representative school systems shows that there was an increase during the past two years of about 15 per cent in the number of schools offering a course in occupations.

14. The age at which youth enters upon full-time employment is increasing.

15. There is a tendency for more schools to offer a course in home mechanics or some type of general mechanics courses.

16. In a few schools girls are enrolled in home mechanics courses. There is an increasing tendency for girls to take work which will enable them better to perform mechanical tasks of a nonspecialized character in connection with home and leisure-time activities. There is also a demand for a type of training for girls which will qualify them to operate and care for mechanical and electrical machines and appliances which they will have occasion to use about the home and in their leisure time.

17. Projects in model boat and airplane construction are very popular in the junior high school.

18. The cost of instruction and the size of classes in industrial arts shop courses are studied in a number of schools by persons interested in the development and improvement of this type of work.

19. The attitude of industrial arts teachers and supervisors toward the use of mechanical aptitude tests is that of intelligent questioning and experimenting.

20. Much interest was manifested during the past two years on the part of industrial arts and vocational-industrial education teachers and supervisors in organizing and promoting the usefulness of local and regional clubs and associations for professional improvement and the development of all types of industrial education.

CHAPTER IX

TRENDS IN HOME-ECONOMICS EDUCATION

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CONTENTS.—Introduction—Organization of supervisors and teachers of home economics—Curriculum reconstruction—Health education—Child development and parental education—Social and family relationships—Home economics in business—Home economics for boys and men—Home economics for adults—Home-economic studies and researches

INTRODUCTION

Home-economics education during the biennium has made notable progress. Among the achievements are the formation of the Organization of Supervisors and Teachers of Home Economics, further curriculum revision, better integration of home-economics instruction with health education, larger opportunities for child development and parental education, organized courses for social and family relationships, increased interest in business opportunities for women trained in home economics, courses for boys and men, greater Federal appropriations, and more research or fact-finding studies in the various fields of home economics.

The formation of the Organization of Supervisors and Teachers of Home Economics at Asheville, N. C., June 24, 1927, was the result of the home-economics conferences held in that city June 20, 1927, and similar ones at various times and places called by the United States Commissioner of Education:

Curriculum reconstruction has occupied the time and attention of supervisors and teachers of home economics all over the United States, and with few exceptions the work of revision has been in addition to their daily school responsibilities. Many of them spent their summer vacations in study—selecting for this purpose those institutions of higher education offering courses in the techniques and methods of curriculum research and educational philosophies underlying curriculum revision.

In a number of cases members of the curriculum-revision committee of a city school home-economics department attended the same institution, registered for the same courses, received the same guidance as to how to interpret the findings of their investigations, and how to apply them to the revision of their own curriculum.

Health is one of the major objectives of home economics. The American Child Health Association found in its study of 53 schools that home-economics instruction in 30 is considered basic to health education, because of the sane attitude of home economics toward food and clothing, cleanliness, care of the home, self-control, self-respect, and individual, community, and national health habits.

The South Bend, Ind., 1928, household-arts course of study includes the statement that one of its general objectives is "to create ideals and attitudes toward health and establish such habits that girls will have an appreciation of health as a personal and family asset and will carry it over into the community as a factor of better citizenship."

Child development and parental education, according to the field worker in that subject of the American Home-Economics Association, is offered in 148 colleges as residence and in 25 as extension courses. Twenty-seven colleges cooperate with nursery schools; 17 have nursery schools administered by departments of home economics; 10 offer research in child development conducted by staff members of the home-economics departments, and 8 have research workers directing the studies in the field of child development and parental education.

During the biennium, the National Research Council and the National Council of Parental Education have awarded fellowships to 48 trained home-economics workers for further study in child development and parental education.

Instruction in "social and family relationships," under that title and others, such as "home problems," "home management," "worthy home membership," and citizen home making, is offered very generally in the departments of home economics throughout the United States.

The objectives of such courses are to develop in the students appreciation of the real functions of the home and its contributions to the happiness and welfare of society, and to the preparation of students for effective participation in the physical, social, and spiritual activities of home life.

Home economics in business is a comparatively new field in education. Business firms, including banking and publishing houses, are appreciating that this type of education trains children and adults in the wise use of economic goods. Therefore such firms are employing trained home-economics workers for the purpose of ascertaining the consumers' demands and directing purchasers so that better values received may be possible for moneys expended.

Home economics is now offered to boys in many sections of the United States. In some cases boys are permitted to take this work

with the girls. This is true in the new Everett High School of San Francisco, Calif., and in the Thomas Jefferson High School, of New York, N. Y.

The Oklahoma Agricultural and Mechanical College, at Stillwater, offers an elective home-economics course which is popular with the men students of the college; and a number of other institutions of higher education offer home-economics courses to men.

Home economics for adults was officially recognized and financially aided by the Federal Government through laws known as Smith-Lever Act (1914), Smith-Hughes Act (1917), and Capper-Ketcham Act (1928). The Smith-Lever and Capper-Ketcham Acts made possible Federal funds for extension work in home economics, and certain Smith-Hughes funds are primarily designed for vocational home economics for girls 14 years of age and above and for adults in all-day, part-time, and evening schools.

ORGANIZATION OF SUPERVISORS AND TEACHERS OF HOME ECONOMICS

Since 1915 conferences have been called at various times by the United States Commissioner of Education for the consideration of problems of home economics in public schools. Such a conference was called upon the suggestion of the president of the American Home-Economics Association by the Commissioner of Education and was held at Asheville, N. C., June 20, 1927, in conjunction with the twentieth annual meeting of the American Home-Economics Association.

At the close of the conference the supervisors decided that they should organize into a homogeneous group for mutual professional helpfulness and for the advancement of home-economics education in the elementary and secondary schools, and that they should relate themselves more closely with the educational conventions conducted by the men and women dominant in the administration of elementary and secondary education. Accordingly, the "Organization of Supervisors and Teachers of Home Economics" was formed. The organization held its first national conference February 24 and 25, 1928, at Boston, Mass., in conjunction with the Department of Superintendence of the National Education Association.

The proceedings of this conference were published by the United States Bureau of Education as Home-Economics Letter No. 3, 1928, under the title "Home Economics in the Junior High School."

The members of the organization voted to affiliate with the National Education Association as the Department of Supervisors and Teachers of Home Economics.

The major purpose of this organization is to obtain "more real home economics for more pupils in our schools." It is stated that this can be accomplished more easily and quickly if: (1) Supervisors all over the United States are organized to promote general understanding of the contributions of home economics to worthy home membership; (2) there is close cooperation between classroom and special teachers, principals, and supervisors; and (3) cooperative studies are made for the improvement of home-economics instruction.

In accordance with this view the 350 or more supervisors and teachers of home economics attending the conference in Boston in 1928 voted to have their organizations undertake in the various sections of the United States cooperative studies of home economics in the junior high schools. The studies were concerned with time allotment, in what grades home economics is required or elective, and subject matter taught. For the purpose of conducting these studies the United States was divided into nine divisions, as used by the Bureau of the Census of the United States Department of Commerce.

The home-economics supervisor of Baltimore, Md., was elected chairman of these divisions and nine other home-economics supervisors were chosen as regional vice chairmen.

The regional vice chairmen were the city supervisors of home economics of Brookline, Mass.; New York, N. Y.; Detroit, Mich.; St. Louis, Mo.; Atlanta, Ga.; Birmingham, Ala.; Tulsa, Okla.; Denver, Colo.; and Long Beach, Calif.

Questionnaires for the studies were prepared by the specialist in home economics of the Bureau of Education and sent to the respective vice chairman, who in turn made copies of the questionnaires and sent them to the home-economics supervisors of the cities in their several divisions. By this method a representative picture was procured of the present practices concerning the problems cited above. The Bureau of Education compiled the material obtained by the questionnaires from the regions unable for any reason to make the compilations. Reports of these studies appear in Bureau of Education Home-Economics Letter No. 5, 1928.

CURRICULUM RECONSTRUCTION

Curriculum reorganization in home economics in our public schools is constantly proceeding. It is stimulated by the desire of supervisors and classroom teachers of home economics to keep abreast with the times, a little ahead of the industrial, social, and economic changes in our civilization, and to incorporate into their classroom practices the reforms needed for better living.

According to Prof. Franklin Bobbitt, no one can speak with entire certainty as to what the curriculum should be, but there appears to

be developing a common understanding among curriculum builders that the curriculum should aim definitely at the improvement of human living and behavior for all persons.

This, however, should not be taken to mean uniformity of behavior, for it is recognized that individual differences of inherent abilities would make such an aim forever impossible even if it were desirable. But wholesome living commensurate with native ability to enjoy should be equal for all.

The aim of education then appears to be high-grade living. To this the departments of home economics and home mechanics are making a worthy contribution by offering training to girls and boys in the daily pursuits of living. Such training aims to lift to a higher level many of the activities of human living.

In the reorganization of the home-economics curriculum it is expected:

First. (a) To determine, by means of studies and investigations, the pupils' interests in home and community; their needs, physical, social, and economic; and their capacities. (b) To develop, in accordance with the findings of these investigations, curriculum content conforming with the interests, needs, and capacities of the pupils and as far as possible to raise these to a higher level. (c) To formulate tests which will aid in determining whether the subject matter taught functions in the daily lives of the pupils and has important educational value for them.

Second. (a) To develop in the pupils appreciation for home and family life. (b) To organize the pupils' home-economics work in such a way that it may serve, if needed, as basic training for gainful occupations whether in the professional or commercial world.

Cities that revised their courses of study during the biennium are South Bend, Ind.; Kansas City, Mo.; Baltimore, Md.; Washington, D. C.; Chicago, Ill.; Long Beach and San Francisco, Calif.; Milwaukee, Wis.; Grand Rapids, Ann Arbor, Kalamazoo, and Flint, Mich., and many others.

The States that revised their home-economics courses in 1926-1928 were Alabama, Connecticut, Florida, Georgia, Illinois, Kentucky, Massachusetts, Michigan, Mississippi, Missouri, Montana, New Hampshire, Oklahoma, Texas, Utah, and Wisconsin.

West Virginia during the biennium conducted a state-wide educational survey. It approached the field of home-economics education with the view of determining how well home economics in the junior and senior high schools contributes to the "controlling aims selected to guide the education of West Virginia boys and girls."

These aims are: "(1) To do one's part as a worthy member of a home in securing and maintaining the best family standards; (2)

to secure and maintain a condition of good health and physical fitness; and (3) to engage in vocational activities."

The survey commission recommends that home-economics teachers of West Virginia "give considerably more attention to this aspect of the curriculum to the end that its educational values may be realized."

The State Home-Economics Association of California issued its first bulletin on three courses entitled respectively "High-school courses in science of the household, nutrition, and citizen home making," with the purpose of promoting interest in and giving "information about these three high-school courses which may be given by home-economics teachers and accepted as satisfying certain high-school graduation requirements."

For example, the course in science of the household is similar in scope and purpose to the general science course usually required for high-school graduation, and may be used as an alternative in satisfying this requirement of one unit of laboratory science for high-school graduation. The nutrition course is designed as an advanced course to follow the one in science of the household but may also be offered as an alternative for the laboratory science unit. The citizen home-making course may be used as an alternative for one unit of credit toward a social science major.

The State Home-Economics Association of Massachusetts gave valuable assistance to the State home-economics survey committee appointed by the State commissioner of education. The findings of the survey committee were used as a basis for building the home-economics program for the junior high schools, or grades 7, 8, 9, in Massachusetts. The committee agreed that:

I. Home economics furnishes subject matter "well adapted to training the minds of boys and girls through purposeful activity" in developing their ability to reason, plan, discriminate, and understand.

II. The home-economics objectives of the junior high school are to build upon the girls' and boys' experiences as participators in home life gained in the elementary school; and to "assist girls and boys to buy, prepare, serve, and care for food in accordance with their families' needs and income; enable girls to make simple garments and instruct girls and boys in the selection and care of their clothing; interest them in the right use of money, the care, management, income, and expenditures of their homes, and develop appreciation for the good selection and arrangement of household furnishings and equipment; stimulate sympathetic, helpful, and cooperative attitudes toward all the members of the household, particularly the younger ones; and offer training in the best welfare of the young child."

The main objective of the 1928 spring meeting of the State Home-Economics Association of Indiana was to set up a work plan for the revision of the State high-school home-economics course of study. This revision forms the present program of effort of the association, and three important studies were outlined for it. They are entitled:

I. High-school girls: (a) Their home differences, (b) attitudes toward home life and parents, (c) social conditions.

II. Working conditions of the school: (a) Housing, (b) equipment, (c) staffing, (d) financing, (e) program, and (f) instructional supplies.

III. Life needs of the girls concerned with the (a) activities of girls, (b) job of home makers, (c) cultural needs, (d) changing homes, (e) vocations, (f) scholastic aptitude-indexes or capacities, and (g) the psychology of learning.

Supervisors and teachers of home economics during the minimum have come to see more clearly that home economics in the comprehensive high school should serve the needs of various classes of girls in accordance with their interests, needs, and capacities, and that among such classes are girls who—

(1) Plan to complete their education in a higher educational institution, but desire home-economics knowledge which will aid them to meet better their daily living needs.

(2) Anticipate high-school graduation and higher educational preparation leading to a professional career for which high-school home economics is basic, such as home-economics teaching, nursing, institutional work, and various positions in the commercial world.

(3) Expect upon high-school graduation to become: Home-making assistants to their mothers, mistresses of their own homes, stenographers or salesgirls, and wage earners in various other gainful occupations.

(4) Leave school before graduation to earn a livelihood by caring for young children, assisting in lunch rooms, cafeterias, tea rooms, and other eating places, helping in clothing-alteration shops, making children's clothing and articles for novelty shops, or in similar ways.

In conclusion, many curriculum builders in home-economics appreciate that—

(1) It is not sufficient to know the pupils' needs as judged by the individual teachers or as revealed by home-economics research committees, but in addition that both teachers and committees should promptly indicate how well the subject matter recommended by them operates at the different ability levels of the pupils.

(2) Orientations in modern educational approaches to curriculum construction are necessary.

(3) An organization composed of the interested school people to carry on the studies and investigations is needed.

(4) A clerical staff to assist in the compilation of the studies is necessary, and, finally,

(5) It requires the entire teaching staff to test with an open mind the finished product.

HEALTH EDUCATION

Adequate nutrition and hygienic living are foremost in health education and occupy a prominent place in any home-economics program. An example of this is the Newton, Mass., school health study, inaugurated in the spring of 1919, and recently reported in Monograph No. 5 of the school-health bureau, welfare division, of the Metropolitan Life Insurance Co. The report states:

Especially significant is the health emphasis in the study of foods and nutrition. The general objective of the work is to teach the needs and uses of the different kinds of food in the body and to develop standards and judgment with regard to the selection of food in its relation to health, through the preparation and serving of meals planned on the health basis. An effort has been made to use these classes as opportunities for the teaching of health ideals and establishing health practices. Hence several years ago the name "cooking classes" was changed to that of "foods and nutrition" and the course was enlarged to include an elementary analysis of foods in their relation to health and nutrition as well as the preparation and serving of foods.

A course in "foods and nutrition" is required of all seventh-grade girls in the schools of Newton, Mass., who twice each week devote to this work two consecutive periods of 50 minutes each, or 100 minutes per class period. Special attention is given to all the class members who are physically below par, with the view of enlisting their interests in adequate dietaries suitable for them. In this city seven years ago milk lunches were inaugurated in one elementary school. To-day every elementary school in Newton, Mass., serves mid-morning milk. Forty-eight per cent of the children in these schools take advantage of this milk service, and all the children 10 per cent or more underweight who are unable to buy the mid-morning milk have it provided for them by the Junior Red Cross.

Boys and girls of the junior high schools who are 10 per cent or more underweight go to the school cafeteria every day for their mid-morning milk, and while there their nutritional progress is observed by the cafeteria director, who is a trained home-economics worker.

During the past year 100 per cent of the underweight cases passing under the observation of the cafeteria director took their mid-morning milk. Also 37.5 per cent of the average number of boys and girls served in the cafeteria, about 400 took milk as part of their luncheon. Concerning this milk service, school principals

report that "while no definite proof can be advanced of improved academic standing or discipline, it seems that the mid-morning lunch relieves much of the tension of the long morning and thereby is a possible factor in achieving a better grade of work with a lessening fatigue."

Aside from forming the habit of milk drinking, school children learn that milk is the best food for promoting growth. Schools in various sections of the country are demonstrating to children by means of actual feeding experiments that animals such as rats, guinea pigs, calves, lambs, and pigs fed on milk as compared with other foods gain in weight much more rapidly and attain a greater growth. Descriptions of such experiments are now found in many of the modern textbooks designed for home-economics classes and may also be had from various other sources, among them the United States Department of Agriculture, National Dairy Council, and nutrition laboratories in many of the privately and publicly endowed institutions of higher education.

The study, "Health Trends in Secondary Education," conducted and published by the American Child Health Association, makes the following pronouncements for departments of home economics:

1. Home economics is a vital subject in the health-education program through its food and nutrition, clothing, housing, child care and training, and family relationship units.
2. Home economics can function best in the health-education program when opportunities are presented for the work to be vitalized by way of activities in the school, home, and, if possible, a home-management cottage or apartment.
3. A home-economics trained person should be held responsible at all times for the nutrition program of the school. This may be directed by a nutritionist, the home-economics teacher, or the cafeteria director, (if adequately trained).
4. The school lunch room is and should be a vital factor in the school health program and this idea should be fostered at all times by a trained home-economics person or a trained dietitian.
5. At no time should the function of the school lunch department be exploited for the purpose of making money.
6. The health education work that permeates the home-economics course should be a part of the boys' school training as well as the girls'. Provision should be made for the boys to have an opportunity to take this work, including nutrition, food selection, care and selection of clothing, child care and training, budgets, and social relationships of the family.
7. The home-economics department should utilize other courses in every way possible and thus work toward a coordinated health-education program.

The child-health demonstration committee in its final report, covering a 5-year health program in Fargo, N. Dak., assigns to home economics an important place in the health-education program. The Association for the Improvement of the Condition of the Poor, of New York, N. Y., in the educational work conducted by its nutrition bureau, emphasizes adequate nutrition, personal hygiene, and home

cleanliness. In school health programs generally adequate nutrition, or well-balanced meals, and hygienic habits are recognized as fundamental and essential factors.

Proper diet is an important phase of every Boy Scout's training. The official Boy Scout pamphlet on Camp Health, Safety, and Sanitation gives what Boy Scouts should know about keeping their camp sanitary, themselves fit, and what constitutes a healthful diet.

The July, 1928, number of the *Journal of Home Economics* reports a school-community health program in which the home-economics department in a consolidated rural school of Elida, N. Mex., held the central position in the entire health program for this community. The program was especially concerned with the health needs of the children, and the efforts of the home-economics department resulted in better health examination for the children, establishment of a lunch room in the grade school and interesting the entire rural community in better nutrition and general health education.

CHILD DEVELOPMENT AND PARENTAL EDUCATION

The status of child development and parental education in the field of home economics is described in three bulletins issued during the biennium.

These bulletins are: United States Department of the Interior, Bureau of Education Bulletin, 1927, No. 17, "Typical child care and parenthood education in home-economics departments"; Merrill-Palmer School, Detroit, Mich., "A survey of public-school courses in child care for girls"; and American Home-Economics Association, Baltimore, Md., "Child development and parental education in home economics, a survey of schools and colleges."

According to the *Twenty-eighth Yearbook of the National Society for the Study of Education*, these three publications contain the best data compiled on the subject.¹ The twenty-eighth yearbook was largely produced during the biennium by a committee composed of some of the outstanding leaders on preschool and parental education. Also, this yearbook ascribes to the vision, foresight, and leaders of home economics the establishment in 1922 of the first nursery school to be used as a laboratory for the education of young girls in the care and training of children.²

Since that date, and especially during the biennium home-economics departments in many State colleges, universities, and privately endowed institutions of higher education, have either established

¹ National Society for the Study of Education. *Twenty-eighth yearbook*. Bloomington, Ill., Public School Publishing Co., 1929. Vol. XIV, p. 366.

² National Society for the Study of Education. *Twenty-eighth yearbook*. Bloomington, Ill., Public School Publishing Co., 1929. Vol. XIV, p. 28.

nursery schools or provided other opportunities for the observation and study of young children by student teachers. In addition the Manual Arts High School of Los Angeles, Calif., opened a nursery school in connection with its home-economics department. This is the second instance of this kind in the United States. Practically all of the home-economics courses of study, State and city, revised during the biennium have provided a unit in the care and training of preschool children.

The 1927 syllabus of home economics for high schools of Illinois states its objectives in child care and training are the development of appreciations of (a) responsibilities involved in the intelligent and systematic care and training of babies and young children and the privileges attached thereto; (b) lack of adequate knowledge and training of many women for their duties as mothers; (c) sources of information and opportunities for gaining child-training knowledge and right habit formation; and (d) importance of surrounding young children with worth-while and beautiful things, such as books, toys, pictures, and songs. The syllabus outlines the learning activities for high-school pupils to be: (1) The preparation and discussion of children's problems and their solutions; (2) methods of bathing, dressing, and feeding the baby; (3) preparation of its food; (4) establishment of proper health habits; and (5) cause and cure of common behavior difficulties.

The State home-economics course of study for Texas, issued June, 1928, contains suggestions for child care and guidance for girls below the eighth grade, the eighth, and above. South Bend, Ind., includes in the hygienic course of its home-economics course, issued in 1928, lessons on the responsibility of parenthood and an understanding of the underlying principles involved in the mental and physical care of young children.

An important accomplishment during the biennium is the establishment of the Washington (D. C.) Child Research Center. Funds for this project were made available to the American Home-Economics Association from the Laura Spelman Rockefeller Memorial. During the year there were enrolled in classes offered at this center 72 students of college grade, 2 graduate students, 170 parents, and 33 other persons in study groups.

SOCIAL AND FAMILY RELATIONSHIPS

Practically all departments of home economics in the junior and senior high schools offer some instruction in the social relationships of the family. Outlines of such instruction in the various home-economics courses of study appear under such captions as "citizen home making," "home management," "home and community,"

"home problems," "the girl and society," "family and the home," and "the social relationships of the family."

To determine whether parents considered the above subjects of sufficient importance to incorporate them in a home-economics course Daisy Alice Kugel, graduate student in home economics at Teachers College, Columbia University, in 1927, prepared a questionnaire and distributed 800 copies, largely to mothers. The questions asked concerned the following major topics: Relationships within the family group, changes affecting family life, marriage and its responsibilities, business practices in the home, family-community relationships, infant care, and health of the family.

Replies were received from 510 persons in 14 different States. The answers were largely from mothers who had daughters in school. Practically all of the persons replying expressed themselves in favor of including such instruction as the above topics suggest in the home-economics courses.

Of the number replying 46 per cent approved introducing into the home-economics course of study at least 50 of the 53 topics outlined in the questionnaire; 51 per cent as against 49 per cent favored the inclusion of the topic on companionate marriage; from 63 to 71 per cent favored the discussion of topics on prenatal life, divorce, and desertion; and from 69 to 70 per cent approved instruction on the family income, its proper division among the members. Also 90 per cent of the parents replying feel that in the home-economics classes the following topics might be considered with profit: Cultivation of personal traits such as courtesy, loyalty, love of desirable home life; proper distribution of home responsibilities for all the members of the family; money management, investments, savings, and the wise use of the family income; effect on family life of commercially prepared foods and ready-made clothing; responsibility for law enforcement; and observance of general health habits.

The parents further expressed their interest in the questionnaire by such appended comments as, "I wish my girls had had home economics like this"; "The teaching of the above subjects should be made compulsory"; "The schools can teach these subjects much better than the home"; "Boys and girls would become better parents if we taught these subjects."

The December, 1928, number of the Home-Economics Counselor of New Mexico, reports a most helpful method in teaching to high-school girls social and family relationships. The work centers around the girl's own home and school life and has for its objectives the development of the girl's appreciations for her responsibilities in making her home the happiest place to live in and the school a delightful community to work and play in. It is suggested that the

teacher in planning the problems for the unit in social relationships bear in mind that the problems meet the interests of the class members, represent real situations in the girls' environments, and develop their thinking, reasoning, and judging, with the final outcomes of right attitudes toward the responsibilities of home and community life.

The syllabus of home economics for the high schools of Illinois gives its objectives for the course in family relations to be desirable family relationships based upon factors essential to wholesome family life, such as (1) prevention of divorce and juvenile delinquencies; (2) development of high standards of ethical behavior, moral conduct, personality traits desirable to all members of the family; (3) the best ways of using leisure time; (4) desirable attitudes to different members of the family; (5) methods of analyzing right and wrong family situations and suggesting ways and means for promoting successes and failures in family life; (6) promotion of suitable recreation for various members of the family, home activities interesting to all the members, (adults, adolescents, elementary, and pre-school children); and (7) a cooperative attitude toward the family budget.

The State Home-Economics Association of California is the first to outline a course on family relationships whose academic credit is interchangeable with a course listed in the social-science departments.

Long Beach, Calif., requires of every girl for high-school graduation a semester's course in home economics in which the students meet five times per week on budgets and home management.

The February, 1929, number of the Michigan Home-Economics News Letter presents excerpts on methods of teaching family relationships used by supervisors and teachers of home economics in the following cities of that State: Byron, Detroit, East Jordan, Flint, Fordson, Grand Rapids, Ironwood, Midland, Saginaw, Vassar, and in the Michigan State Normal College at Ypsilanti.

A high-school course on family relationships was developed during the biennium by a former director of teacher training of the department of home economics of the University of New Hampshire.

This course deals with (a) the meaning and purpose of the family, (b) the history of the home, (c) the responsibilities of the various members of the family, (d) the relations between the older and the younger generations in the home, (e) learning to live in the home, (f) qualities desirable in home members, (g) family courtesies and customs, (h) the responsibility of the home in the preparation of children for life, (i) the home as a source of character building, (j) religion in the home, (k) the use of leisure time in the home, (l) the forming of friendships by young people, (m) romance and its part

in the girl's life, (*n*) personal attractiveness, (*o*) marriage, (*p*) dangers that threaten the home, (*q*) the girl who leaves home for a career, (*r*) the relation of the home to the community, (*s*) contributions of the outside world brought into the home, and (*t*) the art of family life.

For each topic is outlined a list of thought-provoking questions and a selected bibliography bearing directly upon the problems suggested.

A course similar in nature, called "Social Training," is required for graduation of all girls in the Julia Richman High School of New York, N. Y.

During the summer of 1926 Vassar College held a "euthenics institute" whose central themes were family relationships and the young child. These things were discussed from the angles of the pediatricians, psychiatrists, sociologists, psychologists, home economists, mothers, teachers, newlyweds, and prospective brides. The personnel of the institute was composed of graduates from various colleges and universities.

This type of education on the family is now offered in home-economics departments in many institutions of higher education, both public and private. The first home-economics departments to offer such instruction are the State universities of Wisconsin at Madison and of Wyoming at Laramie.

HOME ECONOMICS IN BUSINESS

The services of trained home-economics women in business appear to form the link between the agencies of production and those of consumption. Evidence of this is seen in the rapidly increasing demands of business firms for trained home-economics workers to direct newly established departments of home economics. Concerning this comparatively new home-economics service Jessie M. Hoover, director of the home-economics department in one of the largest merchandising institutions in the world, says:

Business concerns recognize that the consumer is eager for reliable information regarding the merchandise she purchases and therefore seek to answer her insistent demand. Investigations have shown business that the field of home economics furnishes this direct contact between business and the home maker. Forty-five different types of business concerns are developing home-economics departments and employ more than 200 trained home-economics women to handle the work.

Our own home-economics department cooperates with the various merchandise divisions of our company and with its hundreds of chain retail stores located in all sections of the United States as well as our central analytical laboratory which tests samples of all merchandise before it is offered for sale.

Our department is organized under three main projects: 1. Home equipment—including appliances and furnishings. 2. Home beautification and color harmony. 3. Textiles and clothing—color and design.

Through our department we establish contacts with organized home makers, such as women's clubs, church groups, parent-teacher associations, home-economics extension groups, and similar organizations.

To these groups of home makers we present the facts about values, and the best methods of selecting and using merchandise. We instruct them: (1) In the application of lacquer, enamel, and other interior finishes; (2) how to refinish old furniture, do upholstering, select suitable and effective kitchen equipment, and choose suitable colors and fabrics for different types of individuals.

We send illustrative materials on consignment to certain official groups for educational talks or exhibits, such as curtains and draperies, dinner ware, kitchen equipment, health shoes, and textile fabrics for home sewing.

We cooperate with Federal departments, universities, colleges, and schools in securing their advice regarding educational trends and in turn furnish merchandising facts of value to these organizations.

Our company encourages research in home problems by supporting an annual home-economics fellowship and our home-economics department directs the extensive cooperations which our firm extends to the girls of the 4-H clubs, and furnishes authentic merchandising information as to values to millions of home makers.

Another outstanding business organization through its home-economics department keeps in touch with the interests of the housewife and with every type of organization and educational institution interested in home economics by means of published reviews of experimental work; cooperation with women's organizations; commercial food departments; releases; bulletins; recipes; motion pictures; lectures; illustrative material, such as exhibits, slides, menu plans, charts, etc.; discussions; food classes; demonstrations; institutional material for hospitals, tea rooms, restaurants, dormitories; and consultations.

The membership in the "home economics in business" section of the American Home-Economics Association has increased within five years from 17 to approximately 300 members in 1928.

Service may be rendered in this new field of home-economics education by home-economics graduates either without or with practical experience.

Majorie M. Heseltine, chairman of the home economics in business section of the American Home-Economics Association, reports that—

Positions for those of the first type are for the most part limited to assistantships in test kitchens, home service departments of public utilities companies, and the educational departments of manufacturers of foods or of other household commodities. The work of these positions is largely of a routine nature, requiring accuracy and painstaking devotion to details. There is evidence that such assistants are rarely promoted to more responsible positions in their own companies because of their lack of experience with the broad home-economics

field. Occasionally a home-economics trained person is able to enter a more responsible position immediately upon graduation through personal contacts or outstanding ability.

Salaries for this class vary in different parts of the country and according to the qualifications of the candidate.

Positions for those of the second type are in (a) the home-service departments of public utilities which employ trained women for demonstrating foodstuffs or household equipment, broadcasting, and preparing or supervising the preparation of literature to be used in promoting "educational campaigns."

(b) The educational departments of (1) manufacturers of food products, textiles, soaps, dyes, and household supplies; (2) trade associations and life insurance companies as demonstrators, lecturers, supervisors of the field staff, testers, research workers, and editors. Some educational departments maintain a fairly large staff, but on the whole the entire activities of each establishment are conducted by one trained women.

(c) The editorial departments of women's magazines, certain trade journals, and newspapers. Some newspapers maintain demonstration kitchens in which the work done is comparable to that performed by the public utilities companies.

(d) Certain plants which manufacture foods or household appliances, department stores, and trade associations which maintain research laboratories directed by home-economics women well grounded in the physical sciences.

(e) A few department stores and banks in the large cities which maintain a budget advisory service to aid depositors and patrons in saving and in wise purchasing.

(f) A limited number of advertising agencies where trained women on a full or part time basis act as consultants on advertising copy, publications, and photography to be used in promoting "educational campaigns" on household utilities.

Salaries for persons rendering the foregoing services are not standardized. One large home-service department of a public utilities company requires two years' successful experience in teaching or home-economics demonstration work. A food company, which maintains a fairly large staff of field workers, demands some experience preferably along demonstration lines.

In general, it seems desirable that the candidate for a home-economics position in business should have familiarity with the general educational field, including the extension service, and have special training in subject matter concerned with her field.

Grants for studies in home economics have been made by individual companies and trade associations. Notable among these are the Institute of American Meat Packers, Chicago, for the study of

cooking meats; Evaporated Milk Association, Chicago, for relative digestibility and value of evaporated milk as compared with fresh pasteurized milk, and relative values of evaporated milk as compared with raw and pasteurized milk from the standpoint of content of the various vitamin B factors; Hills Brothers Co., New York, for the quantitative determination of vitamin C content of several Dried products, especially canned grapefruit; Fleischmann Co., New York, to determine the action of yeast in dough, to study vitamin B retention; Welch Grape Juice Co., Westfield, N. Y., for the value of grape juice in nutrition; Charles B. Knox Gelatin Co., Johnstown, N. Y., for the determination of the nutritional value of gelatin and development of feeding formulas and recipes for invalid cooking; National Canners' Association, Washington, D. C., for determining vitamin content, especially retention of vitamins B and C, in canned foods; Ball Brothers Co., of Muncie, Ind., for establishing home-canning time tables for nonacid vegetables and meats processed by the hot-water method; and the National Live Stock and Meat Board, for determining the "factors influencing quality and palatability of meat," a cooperative project in which 23 colleges are helping. Many other researches can not be mentioned for lack of space.

Manufacturers realize the need of scientific information concerning their respective products, and they appreciate that this information may be had from the research departments of colleges, universities, and industrial research laboratories. Science and business are interdependent one upon the other and through cooperation can make a greater contribution to society.

Recently a trained home-economics woman from the business group was appointed trade commissioner for Norway and Sweden, with headquarters at Oslo, Norway. She is the third woman, but the first woman trained in home economics, to be honored with such an appointment.

HOME ECONOMICS FOR BOYS AND MEN

Whereas the advisability of offering home-economics instruction to boys was seriously questioned even five years ago, to-day it is offered to junior and senior high-school boys in many cities of the United States.

Although handicapped for lack of sufficient laboratory facilities and teaching staff there has been a steady growth in the number of cities and in schools making this instruction possible for boys of junior and senior high-school grade.

The Thomas Jefferson High School of New York, N. Y., offered in the fall of 1928 a semester's course in nutrition to a mixed class

numbering 155 boys and girls. In this class were 87 underweight and 68 overweight children. During the term the underweights each averaged a gain from 8 to 10 pounds; the overweights averaged each a loss in weight of 10 to 12 pounds. Two students, each 60 pounds overweight, lost more than 20 pounds each and without a single day's absence from school. Ten students gained more than 10 pounds each, 2 gained 14 pounds each, 5 showed improvement, 2 were ill, and 3 did not lose weight because they could not control their appetites.

During the second semester more boys than girls registered for the course. Among the registrants were prominent members of the ball team. They wanted to become "more fit." Others have joined the class for the purpose of learning how to live properly.

The June, 1928, home-economics report for the Board of Public Education of Philadelphia, Pa., states that—

Boys' classes in food increased in the one high school in which it was offered and a boys' camp cookery club had a large enrollment in another coeducational high school.

Nutrition classes were filled to overflowing in the high schools, and in several of these schools special opportunities were given to underweight boys who are especially anxious to be of normal weight and good health, and are alert and responsive to instruction directed toward these ends.

In one special school the boys were given a chance to learn to take care of their own clothes; to learn to patch, mend, sew buttons on their garments, and to wash and iron their own blouses. An extension of this work is urged, and much more could be done for these boys were there shower baths available that would make possible an increased emphasis on personal cleanliness.

According to the report of the division of home economics of the Board of Public Education of Philadelphia, Pa., for the year ending December 31, 1927, the boys of the Overbrook High School, soon after its opening, asked for a course in nutrition and camp cookery. This request was granted and a small class was organized as an experiment.

The popularity for the course grew to such extent that at the close of the school year in June, 69 boys registered for the work to be given in the fall of the next school year. The boys showed keen interest in the work and desired information related to the "maintenance of their own health and strength."

In the special schools the home-economics work for both boys and girls was so acceptable "that deprivation of the privilege of doing this work was a punishment and opportunity for the instruction a real honor."

The 1927 report of the school superintendent of Boston, Mass., gives an account of the contributions of home economics to the boys of the Boston Disciplinary Day School. Here the boys are taught how to buy, prepare, and serve food because it was found that hun-

gry, ill-nourished children could not be taught with profit. Moreover, these boys had lost interest in their homes and it was thought they could thus be led back to their firesides. The boys look forward to the time spent in the kitchen. Three classes go there daily. The first group buys and partially prepares the food. The second group continues the food preparation, prepares the food counter, and sells the food in cafeteria style. The third group cleans up and puts the kitchen in order. Each day the menu is changed; the food is sold at cost.

Whereas many of the boys used to spend their spare cash in "smokes, sweets, and movies" they now spend it for wholesome food. This practice has resulted in better health condition for all of them. In a recent survey for anemic children by the State nurses only 5 per cent of the boys were found to be underweight. The boys take pride in keeping their uniforms spick-and-span and enjoy laundering their caps and aprons.

Many of these boys come from broken homes where the home environment is far from normal and where boys are lonely, neglected, and as a result resort to willful disobedience to show their individuality.

During the school year of 1926-27 the school enrolled 226 boys; of this number 71 per cent lacked a normal home life, 80 per cent of their parents suffered from chronic illnesses, and many of the homes were mere hovels. Despite this condition the school authorities feel that no matter how humble the home it is where the boys desire to be, and it is far better for them to be there than in the best-regulated institutions.

The goal of the school is to reduce institutional commitments, prevent homes from being broken, help the underprivileged to better conduct. To these objectives the school authorities feel that the boys' experiences and activities in the school kitchen and cafeteria are of paramount value.

The Oklahoma Agricultural and Mechanical College, at Stillwater; University of New Hampshire, at Durham; State College of Washington, at Pullman; North Dakota Agricultural College, at Fargo; and a number of other State colleges and universities offered some instruction to men students in nutrition, social etiquette, family relationships, household budgeting, and related subjects.

HOME ECONOMICS FOR ADULTS

Home economics for adult women is now offered by many agencies. Among these are 31 institutions of higher education offering correspondence courses in home economics and the Smith-Lever Act of 1914 provided a permanent nation-wide system of cooperative

extension work in agriculture and home economics between the States and the Federal Government.

According to the Official Record of June 13, 1928, of the United States Department of Agriculture, the system under the Smith-Lever Act has grown in 14 years "from one which in its first year of operation employed men agents for agricultural work in 928 counties and women agents in 279 counties to its present size of a total staff of approximately 5,000 technically trained men and women, including county workers, specialists, and administrative workers."

The number of homes in the United States adopting better practices because of this service in 1927 was 1,179,408, an increase of 140,455 over the previous year. The practices included better food preparation and preservation, nutrition, clothing selection and construction, home management, house furnishing, and home and health sanitation.

The Capper-Ketcham Act of May 22, 1928, provided additional funds, making possible to men and women and boys and girls desired home-economics information that State agricultural colleges and the United States Department of Agriculture possess.

The value of adult education through extension services has been epitomized by the chief of the office of cooperative extension of the United States Department of Agriculture in the following:

A good home, a satisfying home, is oftentimes more a matter of work and of right planning and right thinking than of an increased income. From all past experience we know that the average increased income due to our extension efforts is going to be small. It is false doctrine to put off improvement of the home and an enlargement of one's life pending an increased income. The rose growing over the door, the shrub screening the foundations, the smooth lawn are more matters of work and desire than of increased income. Fruits and fresh vegetables for the table, milk and honey from the cellar are more matters of planning and work than of increased income. Neighborliness is not a matter of increased income, nor is sociability, a clean and orderly home, or wholesome thinking, and yet these are the things that make up the greater part of man's life and give to him his greatest satisfactions. They are matters of the will and the spirit and all go into the making of the kind of home that men want.

The Smith-Hughes Act, passed in 1917, made possible in 1928 home-economics instruction to 175,944 women and girls above the age of 14 years. These adults were enrolled in classes held at a time most convenient for them; either in evening, part-time, or all-day schools. In addition, a total of 56,056 women and girls received home-economics training in the foregoing types of classes not Federally aided but wholly supported by State funds. Some of the States offering such opportunities to its adult womanhood are Arkansas, Georgia, Indiana, Louisiana, Mississippi, New York, North Carolina, South Dakota, Virginia, and Wisconsin.

Private organizations, national in character, offering home economics to adult women are the Young Women's Christian Association, American Red Cross, Association for Improving the Condition of the Poor, of New York, N. Y., American Child Health Organization, National Dairy Council, and others.

HOME-ECONOMICS STUDIES AND RESEARCHES

The spirit of research, according to Sir William Henry Bragg, Director of the Royal Institution of Great Britain, "is like the movement of running water and the absence of it like the stagnation of a pool." Research represents a belief that no matter how well things appear to be going they may be made to go better by careful seeking and a better understanding. Beyond what appears on the surface there is much to be discovered for the betterment of mankind.

Home-economics research in the land-grant colleges received a tremendous impetus through the passage of the Purnell Act in 1925. Up to that time research in these colleges was federally aided in only four States, but three and one-half years later 42 States received from the Purnell fund for research in home economics a total appropriation of \$251,474, or 10.47 per cent of the entire appropriation made available through this act. Florida, Mississippi, New York, and Texas had in 1928 for home-economics research more than 25 per cent of the total Purnell fund allotted to each.

According to the specialist in foods and nutrition of the Office of Experiment Stations of the United States Department of Agriculture, in the official record of that department, there are now under investigation in the land-grant colleges more than 100 projects in the field of home economics. Sixty of these are in foods and nutrition, 5 in textiles and clothing, 26 in the social and economic problems of the home, and 9 on home/problems chiefly concerned with equipment.

The keen interest in curriculum research for elementary and secondary education manifested in educational circles all over the United States has stimulated home-economics investigations in these fields.

Bureau of Education Bulletin, 1928, No. 22, lists, among other studies in education, those completed in home economics during the fiscal year of 1926-27, and there is in preparation a list of home-economics and other studies completed for the fiscal year of 1927-28. The mimeographed bibliographies of the Bureau of Education on research studies, including home economics in progress for 1927-28, were published respectively in March and May of 1928.

Bureau of Education mimeographed Home-Economics Letters Nos. 4 and 5, published in June and September, 1928, respectively,

report studies concerning the circumstances surrounding the election of home economics in the senior and regular high schools, and cooperative home-economics studies in the junior high school as to time allotment for 1927-28; extent home economics is required or elective in grades 7, 8, and 9; and home-economics subject matter taught in these grades.

The fifth and sixth yearbooks of the department of superintendence of the National Education Association of the United States, respectively, list home-economics studies in progress and completed during the biennium for junior and senior high schools.

In addition, the *Journal of Home Economics* contains abstracts from periodicals and reports of studies in many of its numbers, for the years 1926, 1927, and 1928, on food and nutrition; textiles and clothing; child development and parental education; household equipment and management, including cooking, heating, laundering, lighting, house construction, refrigeration and storage, ventilation, and use and care of household appliances.

The 1928 March, April, and May numbers of the *Journal of Home Economics* describe the field of research as concerned with the economic and social problems of the home.

Among other notable studies in public-school home-economics education made during the biennium are: "The placement of home-economics content in junior and senior high schools," and "The administration of home-economics in city schools," by Annie Robertson Dyer (New York, Teachers College, Columbia University, 1928).

CHAPTER X.

COMMERCIAL EDUCATION

By J. O. MALOTT

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CONTENTS—Increased enrollments in commercial education—Trend of objectives—Changing requirements of business positions—Commercial occupation surveys—State and regional studies—Analyses of the duties of business positions—Recent developments in secondary schools—Commercial teacher training—Higher education for business—Conferences—Conclusion.

Business and responsibilities of business are growing. Increasingly large numbers of opportunities in business are developing. The requirements of the positions are changing constantly. Increased efficiency of the personnel in businesses of different sizes and types is dependent more definitely from year to year upon effective preparation. Likewise, there is a growing realization that a full appreciation and an intelligent consumption of business services is dependent to some extent upon a general knowledge of commerce and business. The number of persons preparing for business is increasing rapidly. As a result, education for business is increasing in scope and definiteness.

During the biennium there has been more progress in discharging the vocational and social responsibilities of this phase of education than in any similar period. Particularly in the secondary schools, there has been a further development of general business courses designed to provide information regarding the fundamental principles of business practice that should be part of the equipment of every member of society regardless of his vocation; to develop a fuller appreciation of the complexity of modern business and its services; and to raise the standard of everyday business contacts of the citizen in the home and community. The outstanding developments, however, pertained to the making of studies of employment opportunities in business and of the requirements of business positions. In fact, considerably more progress has been made in the accumulation of information about the requirements than in actually meeting them. Even in meeting the requirements more progress has been made in providing technical information and skills than in the development of abilities to deal effectively with people. It is the consensus of opinion among the leaders that a more efficient and continuous pro-

gram of education for business and about business based upon first-hand knowledge of conditions is urgently needed.

The purpose of this report is to set forth, briefly the status and outstanding developments in the program of education for business during the biennium 1926-1928. A review of the education and business literature, including general and special reports pertaining to statistics, city and State school systems, universities, conferences, courses of study, research, and business men's organizations, reveals the operation of many factors in the process of modernizing the traditional program of commercial education. The term "commercial education" is used to include that education and training which prepares specifically for an understanding of the relationships and the performance of activities in business.

INCREASED ENROLLMENTS IN COMMERCIAL EDUCATION

Approximately 1,000,000 pupils in the public and private high schools, private business colleges, and universities are definitely preparing to enter business occupations. The number is increasing annually. Two-thirds of those enrolled in business curricula are women. The number of women taking business subjects is increasing more rapidly than the number of men. The greatest increase of women in business subjects is in the secondary schools.

From 1922 to 1928 there was an increase of 72 per cent in the enrollments in the commercial subjects offered in the public high schools. Of the total number preparing for business occupations two-thirds are in these schools. Approximately 17 per cent of all pupils enrolled in the public secondary schools are pursuing commercial curricula. In addition to the number preparing for business occupations, other pupils are taking one or more commercial subjects for non vocational objectives.

In the secondary schools a large increase appears in the number of pupils enrolled in commercial arithmetic, typewriting, commercial geography, and elementary business training. Prior to the biennium enrollments in the traditional subjects, shorthand, typewriting, and bookkeeping, had increased more rapidly than enrollments in other subjects. The number of pupils pursuing typewriting courses continues to exceed the number in any other commercial subject. The second and third largest enrollments are in bookkeeping and shorthand, respectively. Although the enrollments in practically all of the commercial subjects are increasing, the rates of increase are comparatively small in shorthand and bookkeeping. The chief reasons for the small increases in the enrollments in the latter subjects are that: These subjects were well established prior to the biennium; commercial teachers are beginning to require more rigid

standards of achievement; the courses in these subjects in many cities have been moved from the first two years of the high school to the last two years; and more pupils realize that these subjects are not essential to obtain certain types of office and store positions.

Of the total number preparing for business occupations only 57,728 were majoring in business subjects in the colleges and universities in 1926. The number of these institutions reporting commerce and business curricula increased from 129 in 1924 to 132 in 1926. In the institutions offering these curricula in 1926, there were 2,575 instructors of business subjects, which represents an increase of 16 per cent over the number reported in 1924. During the same period, there was an increase of 21 per cent in enrollment in these curricula. Eighty-four per cent of those pursuing commerce courses in these institutions are men, but the percentage of increase for women during the 2-year period is greater than that for the men.

Collegiate facilities for obtaining a general business education are expanding. Although only 132 offered ~~curricula~~ curricula in business, approximately 400, or half of the colleges and universities, offered some business courses. Approximately one-half of the colleges and universities offering curricula in business have only one or two courses in each of three or four subjects in this field. Such institutions ordinarily permit the students to pursue a general business major. Such a curriculum provides orientation in general business but seldom prepares for proficiency in highly specialized initial opportunities.

The list of higher institutions offering a sufficient number of specific business courses to prepare for immediate job proficiency or a career in any specialized field is comparatively small. For example, of the 127 higher institutions offering courses in foreign trade and foreign service in 1928, 65 reported only one course in this field; 26, two courses; 8, three courses; 8, four courses; 2, five courses; 2, six courses; 5, seven courses; 2, eight courses; and 9 reported ten or more courses. Although 358 higher institutions offered courses in accounting in 1928, approximately only 10 per cent of that number offered a major in this subject. In regard to other specialized curricula a trend is toward specialization in function among the collegiate schools of commerce. Data show a concentration of students pursuing particular kinds of specialized training in a comparatively small number of institutions. During the two-year period, there were very few changes in the lists of schools emphasizing such curricula as merchandising, insurance, transportation, or banking and finance.

TREND OF THE OBJECTIVES

During the past two years, there was much discussion regarding the objectives of commercial education¹ and the place of commercial education in the general education program.² The expression of the differences of opinion has helped to clarify many of the problems and bring about greater harmony. Particularly has the increased emphasis on definite vocational objectives stimulated those urging the broader social objectives to develop more fully their point of view.

There is general agreement that the commercial curriculum should be designed to prepare for the activities of life, emphasizing preparation for occupational efficiency; the commercial subjects in the curriculum should be so organized as to coordinate vocational education and training with those initial and promotional opportunities in business found ordinarily in the local communities; and the commercial subjects and the vocations into which they lead should be designed to offer to the student a new, unifying, and continuing experience in which each of the seven cardinal principles³ has an essential and related part. The vocational objective as discussed during the biennium requires that the standards of achievement in school should very definitely be those that are acceptable standards for employment. An increasingly large number of commercial teachers believe that those students who seek their livelihood in business occupations should not have their occupational careers jeopardized by lower standards because so much of vocational and social happiness is dependent upon their vocational efficiency.

Although the trend of the primary objective of commercial education is more definitely toward preparing for increased proficiency in initial and promotional opportunities in business, many students pursue commercial subjects for other purposes. The selection of and the emphasis on the commercial subjects varies according to the different objectives. Most closely related to the primary vocational objective are the background and guidance objectives of those who have not definitely decided upon a vocational career. Next, there are the many diversified occupations to which business education and training can contribute generously. For both of these groups the chief contribution of the commercial subjects is vocational. Never-

¹ McKinsey, J. O. Objectives and Methods in Business Education. In Stanford Business Series No. 1. Stanford University Press, Stanford University, Calif., 1926, pp. 122-137.

Research in High-School Commercial Studies. In Sixth Yearbook, Department of Superintendence, National Education Association. Washington, D. C., 1928. Ch. XXIII.

² Lomax, Paul S. What Should Be the Place of Business Education in American Education? In The Balance Sheet, vol. 9, No. 7, March, 1928.

³ Cardinal Principles of Secondary Education. Bureau of Education Bulletin, 1918, No. 35. Washington, D. C., Government Printing Office.

theless, the nonvocational values of this phase of education are ordinarily comparable in quantity and quality to those of other special subjects. This is due to the great similarity between certain business and social activities.

Another objective that has been emphasized during the biennium pertains to the fact that business education is fundamentally a program of economic education. Junior business education in the junior high schools and courses in economics, commercial geography, and other marginal social sciences and business subjects in the high schools and colleges represent an endeavor to provide general business education. This objective pertains to the broad social and economic values that are coextensive with all human endeavor. The cultivation of this marginal responsibility of the social sciences and business education—the refinement of the instruction materials and of the organization of these phases of education—should result in a more satisfactory attainment of the vocational objectives and the non-vocational values of commercial education.

CHANGING REQUIREMENTS OF BUSINESS POSITIONS

Inasmuch as the primary objective of commercial education is preparation for job proficiency, increased attention has been given to the changed and changing requirements of business positions.⁴ These changes have been caused primarily by the creation of new business enterprises, the application of the principles of personnel management, the development of new methods in business, and introduction and refinement of office machines. Various steps in the evolution of office and store occupations began earlier and have been more rapid in the large companies than in the smaller ones.

Among the most significant changes regarding business positions are: The breaking up of the duties of former office and store positions into a large number of highly specialized jobs; a tendency toward standardization of the business positions; development of objective measures of the achievement of the workers for grading and classification; a tendency toward requiring specialized preparation for each position; a trend toward substituting workers with technical training for those without such training; the lessening of the opportunity for the workers in a particular business position to study the duties and requirements for higher positions; the creation of lower, intermediate, and higher occupational levels; and the upgrading of the upper levels of these occupations into business professions.

⁴The Changing Requirements of Education for Business. *Journal of Commercial Education*, 57: 108, 1928.

Coyle, Grace L. *Present Trend of Clerical Occupations*. New York, The Woman's Press, 600 Lexington Avenue, 1928.

The changes in the requirements of business positions have been made more rapidly than changes in the program of education for business have been made to meet these needs. Prior to the biennium period the adjustments in the business training program were retarded chiefly by the failure on the part of commercial teachers generally, first, to accept the primary vocational objective; second, to make the necessary studies of the needs of students preparing for business occupations; and third, to apply the findings of such studies in course of study revisions.

COMMERCIAL OCCUPATION SURVEYS

A clearer understanding of the objectives and an awareness of the changing requirements of business positions have encouraged the making of studies designed to give a fact basis for commercial education. Each of the studies has sought to procure information on one or more of the following factors: (1) Kinds and requirements of initial positions which dropouts and graduates obtain; (2) kinds and requirements of promotional opportunities; (3) duties, traits, difficulties, etc.; (4) standards of proficiency on the job; (5) most appropriate content and the most efficient methods of instruction to attain these standards; (6) technique in guidance, placement, follow-up, and other functions.

The extent to which commercial occupation surveys have been conducted during the past two years is positive evidence that commercial education is entering upon a new era of scientific curriculum revision to meet definite vocational objectives. More progress has been made regarding the first step in the program for the revision of these curricula during this period than in any previous 2-year period. Not less than 50 commercial occupation surveys and follow-up studies have been in progress or completed. Many studies of placement data have been made. Practically all of the larger school systems and universities are contributing data regarding opportunities in business.

CHICAGO, ILL.

A timely investigation was conducted in Chicago, Ill., of all types of beginning office positions filled by boys between the ages of 14 and 19, regardless of whether special school training was a prerequisite. Although the study⁵ reports some data regarding the 4,169 girls in initial positions, it is devoted almost entirely to the 4,158 boys employed in their first jobs by 57 firms in that city. Data from this study explained to a certain extent the trend of enrollments in

⁵ Vocational Guidance Bureau. A Study of Clerical Positions for Boys in Large Chicago Offices. Board of Education, Chicago, Ill. Occupational Studies, No. 15, 1928.

commercial education that are due more to self-adjustment by the pupils than to organized guidance.

One of the findings of great significance in guidance, course of study revision, and placement pertains to the distribution of the employees in different types of positions. Forty-two per cent of the boys and less than 5 per cent of the girls were reported as messengers. It is equally significant that 25 per cent of the girls and one-half of 1 per cent of the boys were engaged as stenographers, typists, and dictaphone operators. Fifteen of the 4,169 girls and only 8 of the 4,158 boys were employed as bookkeepers. The report indicates that boys enter the nonrecording types of jobs for which little special preparation is needed, and that girls go directly into typing, filing, or machine operation for which they have been trained. Preparation for initial positions, salaries, promotional opportunities, and other problems are discussed in the report.

GRAND RAPIDS, MICH.

The local Office Managers' Association cooperated with the Board of Education of Grand Rapids, Mich., in conducting a commercial-occupation survey, which was completed in 1927. Data were gathered on a large number of important problems, including clerical training, placement, machine operation, and desirable traits for office workers. The report shows that higher percentages of the employees were in bookkeeping and stenographic positions in that city than in some of the larger cities in which similar surveys have been made. The number of smaller offices studied in the Grand Rapids survey probably accounts for the higher percentage of bookkeeping and stenographic positions. In 1927-28 the findings of the survey were applied in the revision of the courses of study for commercial subjects and in the introduction of a course in machine operation. Equipment for the classes in machine operation is moved annually to each of the five high schools in turn, in order that all of the commercial pupils may have an opportunity to take the new course.

The following extracts are indicative of the progress in collecting and using commercial-occupation data in secondary commercial education in an increasingly large number of cities:

The special activities concerning commercial education in the Grand Rapids schools during the past two years may be briefly stated as follows: The making of a commercial survey, the introduction of a number of office appliances, and a revision of the courses of study for the junior and the senior high schools.

In October, 1926, our superintendent of schools, Mr. Leslie A. Butler, appointed a committee on commercial education for the purpose of revising the present courses of study and to effect a better unification of all commerce work in the various departments of the city.

Since nothing had ever been attempted in the nature of a survey for Grand Rapids, the committee immediately agreed that it would be worth while to attempt something along this line before considering any changes whatever. Consequently, a plan was arranged and carried out. * * * The survey tended to make a closer contact between the school and the business office as well as to furnish some definite ideas to be incorporated in new courses of study. It is recommended by the committee that future and more extensive surveys be made.

FRESNO, CALIF.

An example of cooperation for the improvement of the secondary commercial education program was the study of commercial conditions in Fresno, Calif., conducted by the division of vocational education of the University of California and the State board of education in that State. The study was concerned with requirements and opportunities for employment in local offices and stores; extent to which the local program was meeting the community needs; programs for commercial education in other communities in that State; and recommendations for adjusting the business-training program to the needs of the community. The study was a part of a comprehensive survey of vocational education^a in that city.

Offices and stores were found to present the largest field for employment. The study embodies elements of a commercial-occupation survey and job analysis. The report contains for each major business occupation a summary of findings regarding initial and promotional opportunities and prerequisites for employment, such as age, training, and business experience. Among the recommendations of the survey committee is a decisive step forward in a guidance program. The committee recommends achievement standards in specified subjects as prerequisites for entrance into the major vocational curricula, and that in case certain standards are not attained at the time the pupil wishes to enter the curricula he be compelled to pursue specified subjects without credit.

RICHMOND, IND.

In 1926 a commercial survey was made in 90 per cent of the business firms of Richmond to answer the following questions: "Does the commercial department of the schools equip its graduates to fit into the vocational needs of the community? Are all the graduates absorbed in our community? Is the training adequate to meet the requirements expected of the graduates of the departments?" The commercial teachers and pupils conducted the study. Data regarding the major groups of business positions show the following dis-

^a A Study of Vocational Conditions in the City of Fresno. Division of Vocational Education of the University of California and the State Board of Education. Berkeley, Calif. University of California, Berkeley. General Vocational Education Series, No. 2, Division Bulletin No. 20, Ch. V, 1926.

tribution: Selling, 32.5 per cent; clerical and secretarial, 29.8 per cent; bookkeeping and accounting, 16.2 per cent; machine operation, 14.5 per cent; miscellaneous, 7 per cent. Other data gathered in this survey pertained to labor turnover in the offices, training of employees in different kinds of positions, desirable personality traits, office equipment, and other factors.

Some of the findings of the survey are: The sales people in Richmond are not adequately trained and more training should be offered in that subject; since there are many small business firms in the city, graduates from the commercial department should have a general business training; an employment bureau is needed; and 85 per cent of the employers desired the commercial department to follow up the placement of the graduates with advice and suggestions to increase the efficiency of the employee.

Although there has been much similarity in the kinds of data gathered, as well as in the findings of the commercial occupation surveys in different communities, a number of studies are unique. For example, in Dayton, Ohio, a follow-up study was made of 841 commercial students who graduated from the Stivers High School during the 10-year period from 1915 to 1925. Pittsburgh, Pa., followed up 1,000 of its commercial graduates. Follow-up studies were made in Minneapolis, Minn., and Philadelphia, Pa. In New Bedford and Springfield, Mass., the local chambers of commerce cooperated in making commercial occupation and office equipment surveys. In Lincoln, Nebr., a survey⁷ of the commercial occupations and the training of 4,024 men and 2,274 women in offices and stores was conducted. Similar occupation surveys, some of which included a study of office equipment, were conducted in Flint and Hamtramck, Mich.; New Haven, Conn.; Ia Crosse, Wis.; Oakland and Modesto, Calif.; Johnstown and New Castle, Pa.; and a number of other cities.

STATE AND REGIONAL STUDIES

Improvements in the programs of education for business made possible by the commercial occupation surveys conducted in the cities have led to the making of a number of state-wide and regional studies. The problems and combination of problems studied have varied greatly and have given direction to improvements of different kinds. Many of these studies have been made in cooperation with the State departments of education by graduate students at the universities. Fifteen local commercial occupation surveys were conducted in connection with one of these studies.

⁷ Noll, Effie M. The Commercial Curriculum of Lincoln High School and the Needs of the Community. In Education Research Bulletin No. 4. University of Nebraska, Lincoln, 1927.

Due to the fact that comparatively few commercial occupation surveys reported data regarding promotional opportunities in business, the "Survey of Occupational Histories of Iowa Commercial Students,"⁸ by Dr. E. G. Blackstone, is significant. The report, which is a study of 2,897 drop-outs and graduates from the commercial departments of the high schools of Iowa, contains data regarding initial jobs, job sequences, tenure, and other factors. The report contains evidence of the increased need for guidance, clerical, and salesmanship courses. Probably one of the most valuable facts pertains to the percentage of office and store employees who secure executive positions from each type of job. The report shows that clerical and salesmanship positions lead to executive positions as frequently or more frequently than do the bookkeeping and stenographic positions.

The most comprehensive survey⁹ pertaining to secondary commercial education conducted during the biennium was submitted as a graduate thesis by Dr. F. J. Weersing at the University of Minnesota. The study was conducted in cooperation with the department of education in that State and was composed of three main parts: (1) A detailed survey of commercial education, to discover the actual status of this subject in the public high schools of a typical mid-western State. (2) A survey and job analysis of commercial and clerical occupations and of the general or nonvocational uses of commercial education, to discover the proper aims of commercial education. (3) An evaluation or appraisal of commercial education as it was found to exist, in terms of the aims set up by the job analysis and leading to a series of constructive suggestions for the further improvement and possible reorganization of the subject.

The findings of the survey pertain to a large number of problems and provide a basis for reorganization of the program. Mr. Weersing pointed out the need of understanding the vocational and non-vocational objectives. He emphasized the need for courses to prepare general business workers and sales people. His data led him to the conclusion that the local school authorities should provide better facilities for pupil guidance, placement, and follow-up. He recommends that local commercial occupation surveys and other fact-finding studies be made to provide for city and State programs of commercial education a solid foundation of facts.

Harvard University has distributed 15,000 questionnaires to leading business men in the United States in an attempt to ascertain

⁸ Blackstone, E. G. Survey of Occupational Histories of Iowa Commercial Students. In University of Iowa Monographs in Education. State University of Iowa. Iowa City, November, 1928.

⁹ Weersing, Frederick J. The Administration of Commercial Education in the Public High Schools of Minnesota. In Monographs in Education, State University of Iowa, Iowa City. First Series, No. 9, November, 1928.

the reasons for their success. The survey is an attempt to obtain first-hand information regarding the social classes from which business leaders are recruited, the extent of their education and training, and pertinent facts regarding their business biographies. The study is sponsored by a large number of prominent business men and is conducted under a grant from the Milton Fund. From the results of the study the authors hope to be able to present facts regarding comparative opportunities in the various social classes for advancement in business and whether the tendency in modern business is toward wider diffusion or closer restriction of such opportunities.

The National Federation of Business and Professional Women's Clubs undertook as one of its major projects for the year 1926-27, an occupational study of its members. This detailed study of the experience of a group of nearly 50,000 women, active in a variety of occupations, offers an unusual opportunity to gather information never before collected about the work of business and professional women. The chief aims of the study are (1) to provide an accurate occupational record of the members of the National Federation of Business and Professional Women's Clubs, and (2) to make available reliable vocational information to younger women who have not yet found their places in business or the professions. The study is also designed to throw light on such problems as earnings, training, promotion, placement methods, and other factors in the hope of assisting women to render increasingly effective service in the business and professional world. Data from approximately 15,000 returns were compiled during the biennium at the bureau of business research, School of Business Administration, University of Michigan, Ann Arbor.

Many other commercial-occupation surveys and studies pertaining to secondary and higher education for business have been made. Follow-up studies of the graduates from the high schools of Wisconsin and Connecticut were reported. The latter study showed that 77 per cent of the graduates from the high-school commercial courses in Connecticut were actually engaged in commercial occupations. State-wide studies were conducted in various phases of secondary education in California, Indiana, Kansas, Oklahoma, and Wyoming. Dr. C. O. Ruggles, of Harvard University, conducted a survey of the opportunities in the public utility companies. St. Louis (Mo.) University has in progress a survey of the local opportunities in business for drop-outs and graduates from the collegiate schools of commerce. The study pertains also to the need for evening school courses in that community. One portion of the survey of the land-grant colleges under way at the Bureau of Education is devoted to a study of the business biographies of the graduates from

the commerce and business courses of these institutions. Placement and follow-up data from the colleges and universities, as well as reports on the employment records of business firms, have contributed to a better understanding of the requirements for business occupations.

The commercial-occupation surveys and follow-up studies have shown and are continuing to show the relative importance of preparation for various types of initial and promotional opportunities in business; they have demonstrated the need for definite preparatory and extension training for a greater variety of business positions; they have given direction to the coordination of the training courses with employment opportunities; they have given direction to the organization of intensive undergraduate, postgraduate, and evening-school courses of various kinds and lengths; they have provided data for the purchase of equipment; and they have revealed many of the changes that are taking place regarding requirements for business positions. To a less extent the surveys have revealed through job titles some information regarding actual duties; some have provided data regarding desired traits, attitudes, and personal qualities; and a much smaller number have contributed valuable information regarding promotional opportunities in business occupations. In fact, the data gathered in these surveys have been the greatest force in breaking down the resistance to definite job training in a program of education for business. The leaders are now devoting increased attention to analyses of the duties of business positions.

ANALYSES OF THE DUTIES OF BUSINESS POSITIONS

Although relatively large numbers of schools have not applied the findings of commercial-occupation surveys to the organization of commercial education, some progress has been made in the next major step, namely, job analysis. The job analyses that have been made are pioneering efforts directed toward greater definiteness in commercial education and toward increased efficiency in business positions.¹⁰ Not only is it necessary to know what drop-outs and graduates are doing in the sense of knowing their job titles but it is necessary to have detailed analyses of the personality traits, duties, and difficulties of employees on the lower, intermediate, and higher occupational levels of the various business positions. To date the job analyses have had comparatively little effect on the selection of content or other problems. A number of steps in the process of curriculum revision are necessary before these data can be used successfully in a training program. Instructors either in the secondary schools

¹⁰ Annual Report of Personnel Research Federation, 1927. Personnel Research Federation, (Inc.), 40 West Fortieth Street, New York, N. Y.

Leffingwell, W. H. A Neglected Business Function That Wastes \$6,000,000 a Day. The Magazine of Business, Vol. LV, No. 5, pp. 549, 551, 576, 579.

or in the colleges and universities have difficulty in making much use of these studies in their original form. In fact, comparatively few fully appreciate the significance of job-analysis technique in course of study revision.

CLERICAL WORK

The analysis of the duties, traits, and other requirements of clerical workers conducted by F. G. Nichols and others at Harvard University, in cooperation with the National Association of Office Managers, is a comprehensive research study.¹¹ The significance of the study is increased by the fact that training for sales and clerical positions is the most neglected phase of the program of education for business. In addition to the analysis of the duties of the clerks, other important phases of the study pertain to the trends in clerical occupations; training and experience of those in various types of clerical positions; additional training needed; the grouping of clerical duties in units for course of study construction; and the proper place in the high-school curriculum for the various units of clerical training. This report had an immediate and definite effect in giving direction to improvements in course of study revision and in equipping commercial departments throughout the country. The day, evening, and continuation schools will find this report helpful in developing courses to prepare for efficiency in the clerical trades.

Another very complete analysis of general clerical duties was made under the auspices of the Board of Education, Cleveland, Ohio, and the office managers' group of the Cleveland Association of Credit Men. In November, 1926, committees were appointed "to analyze the duties of the clerical workers other than those whose work is primarily stenography and bookkeeping, and to build a course of study for the training of this group." The recent commercial occupation survey in Cleveland and the observation of the office managers that large numbers of clerks had no vocational preparation prompted this study.

The committee's report is an outstanding contribution to course of study building in commercial subjects. In making this study an index number was obtained for each duty by taking into consideration the following: The frequency of the duty in the day's work; the difficulty or ease of learning the duty; and those duties best learned on the job and those to be learned in school. After the duties were thus ranked, they were arranged in three levels for curriculum-making purposes: Those to be stressed in class and practiced until automatic; those to be discussed in class until understood; and those to be mentioned or referred to in class.

¹¹ Nichols, Frederick G., and others. *A New Conception of Office Practice*. Harvard University Bulletin in Education, No. XII. Cambridge, Mass., Harvard University Press, 1927.

BOOKKEEPING

An analysis of the work of bookkeeping positions in Cleveland, Ohio, initiated by the board of education in 1923 was completed in 1926.¹² "The Tentative Course of Study in Elementary Accounting," published by the board of education in 1928, is based upon this research.

Bookkeeping Duties and the Commercial Curriculum, a graduate thesis completed by Dr. Benjamin E. Strumpf in 1926 at New York University, contains a frequency ranking of 479 duties of bookkeepers, an analysis of the difficulties of learning the various duties, an analysis as to where the duties can be learned to best advantage, and supplementary data for the development of the bookkeeping curriculum. Using data regarding the actual duties of bookkeepers and an analysis of what they need to know to perform more efficiently such duties, the author reveals many shortcomings of the current bookkeeping courses and textbooks. The author states: "In a word, there are no real standards to guide us. * * * It devolves upon us to write an ideal course of study and a textbook to match." He suggests a procedure to be followed in the development of curricula to prepare for increased proficiency in bookkeeping positions.

A Job Analysis of Bookkeepers' Duties,¹³ a graduate thesis prepared at the State University of Iowa, Iowa City, pertains to the duties of bookkeepers in a city of 20,000 inhabitants. This study indicates also that certain nonbookkeeping duties are so frequently required that they should be made a part of the high-school bookkeeping course of study. The most significant of such duties pertaining to clerical work is typing, handling of cash, and banking duties of the simple sort. At Bliss College (Columbus, Ohio) a study of bookkeeping duties performed by, and bookkeeping information necessary for, certain types of nonbookkeeping executive positions is in progress.

STENOGRAPHY

The most comprehensive contribution to the analysis of the work of stenographers completed during the biennium was made by B. F. Kyker, in connection with a graduate thesis at George Peabody College for Teachers, Nashville, Tenn. Although the author did not compile so large a list of the duties of stenographers and secretaries

¹² Jones, Lloyd L. Job Analysis in Bookkeeping. University of Iowa Monographs in Education, July, 1926, pp. 145-151. State University of Iowa, Iowa City.

¹³ Nyquist, R. E. A Job Analysis of Bookkeepers' Duties. In University of Iowa Monographs in Education. First series, No. 8. Jan. 1, 1928. State University of Iowa, Iowa City.

as is reported in *Analysis of Secretarial Duties and Traits*,¹⁴ he gathered various types of supplementary data pertinent to the vocationalizing of the stenographic curriculum. Emphasis is placed upon the problem of the selection of content for the secondary curriculum in stenography. The study shows also that the place of the major vocational training in stenography should be in the latter part of the high-school course or in subsequent courses. An interesting feature of the study is the effort to gather data regarding standards of performance of the duties. The findings of this investigation are in such form that they can be readily used by course of study committees. Interpretation¹⁵ of the analyses has been made for instructional and course-of-study purposes.

EXECUTIVE POSITIONS

Problems in the analysis of the business positions on the higher occupational levels are more difficult. More factors enter into the problems concerning which executive decisions are made. Many of the factors are almost intangible and difficult to list and analyze. Because of these difficulties and because of the lack of general acceptance of the values of job analyses for revision of the collegiate curricula in business, contributions in this field are coming chiefly from a small number of institutions.

The Research Bureau for Retail Training, University of Pittsburgh, has made outstanding contributions to the analysis of the duties of buyers, floormen, merchandise managers, sales people, and executives in stores.¹⁶ The school attempts to find out exactly what the person to be trained has to do and to collect and organize the content and develop methods of procedure which should indicate exactly how to perform these operations. In cooperation with department stores in that city, the duties of executives in the stores were analyzed. The findings of these studies were used as a basis for the training courses. The difficulty analyses made by the school are in some respects more closely related in the training program than the duty analyses.

The American Council on Education, Washington, D. C., is making an analysis of the duties of certain executives in the Federal Government and has fostered similar studies of the work of execu-

¹⁴ Charters, W. W., and Whitley, I. B. *Analysis of Secretarial Duties and Traits*. Baltimore, Williams & Wilkins, 1924, pp. 75-96. Contains a frequency ranking of 871 secretarial duties.

¹⁵ Barnhart, E. W. *Analysis of the Work of a Stenographer*. In *American Shorthand Teacher*.

¹⁶ *Personnel Research in Department Stores*. Research Bureau for Retail Training, University of Pittsburgh, Pittsburgh, Pa., 1926.

tives in business. The American Management Association and the Personnel Research Federation, both of New York City, are encouraging further activity along this line.

These and other studies, particularly those made by business firms for private use, have resulted in the accumulation, during the past two years, of a fund of detailed information about the actual duties, difficulties, desired traits, etc., for business positions. Such studies represent the kind of contributions that the leaders believe should be and must be forthcoming for all business occupations before definite efficient vocational curricula can be organized. The development of job analysis technique has encouraged a few investigators to study not only the duties to be performed in the various business positions but the standards of performance in quantity and quality. For example, they believe it is not sufficient to know that a certain percentage of the office and store employees are stenographers nor to know that to transcribe business letters is one of the 871 duties performed by stenographers. They believe that for purposes of personnel and salary administration it is essential to know for the various occupational levels of stenographers what are the standards of performance in quantity and quality in transcribing material of different degrees of difficulty and under other controlled conditions. Only by obtaining, interpreting, and testing such data about business occupations and by more careful study of the pupils and students entering business curricula is it possible to offer them intelligent guidance, adequate training, and extension education that will enable them to make the most of their opportunities.

RECENT DEVELOPMENTS IN SECONDARY SCHOOLS

The dominant interest in secondary commercial education is in curriculum revision. In the process of rewriting the commercial courses of study considerable progress was made in certain communities in the application of the findings of commercial occupation surveys to the organization and administration of commercial education. There was much less progress in the application of the findings of job analyses, and research in methods of instruction. Sufficient research studies have been made, however, to give direction to a complete reorganization of secondary commercial education on a fact rather than on an opinion basis. Furthermore, there is increased evidence of a clearer understanding of the objectives and of the place of commercial education in the secondary curriculum.¹⁷

¹⁷ Lomax, Paul S. Commercial Teaching Problems. New York, Prentice-Hall, (Inc.), 1928.

JUNIOR HIGH SCHOOL

Significant developments in junior high schools center around the junior business training courses.¹⁸ The number of schools that added this subject was fourteen times as great as the number that discontinued it in the past three years. Eight times as many added elementary office practice as discontinued it. The only other commercial subjects that held their own numerically were commercial geography and typewriting, the latter increasing only 20 per cent in the 3-year period. Approximately twice as many schools discontinued as added the following subjects: Commercial arithmetic, spelling, penmanship, bookkeeping, and shorthand. If the present trends continue, the time is not far distant when junior business training and commercial geography will be the outstanding leaders in the junior high schools of the small communities and junior business training, elementary office practice, and typewriting in the larger communities.

The literature¹⁹ pertaining to commercial education in the junior high school is focused upon the development of the junior business training course. The administrators are seeking a general business course in harmony with the objectives of the school. The leaders in the social sciences point to the need of general business information for all. Those interested in vocational guidance consider the course as a subsidiary step in the guidance program. Those who study the drop-out tables and junior commercial occupation surveys emphasize the need of helping the pupils who leave school early. Practically all consider the course as prevocational for those who pursue the major commercial courses in the senior high schools. Gradually there is developing general agreement concerning the objectives and content. New textbooks, courses of study, teachers' manuals, magazine articles on methods of instruction, and a few methods courses for teachers have motivated the classroom instruction in the subject. The city and State superintendents of public instruction in special reports to the bureau indicate that the greatest difficulty in the development of the junior business training courses is that of obtaining teachers who can motivate the instruction. The developments of the past two years will undoubtedly overcome the present difficulties and lead to further introduction of the general business information and elementary office practice courses.

¹⁸ Lewis, E. E. and others. Junior Commerce Curriculum. In Fifth Yearbook, Department of Superintendence, National Education Association, 1927. Ch. XVIII, p. 430.

¹⁹ Commercial Education: Junior Business Training. Bibliography. Bureau of Education, Department of the Interior, Washington, D. C.

SENIOR HIGH SCHOOL

The trend of developments in the senior high schools relates to closer coordination of the training program with initial employment opportunities.²⁰ Many contributions have been made in the efforts to revise the course of study according to research data collected during the past two years. A greater variety of courses has been developed particularly in the large schools and in the high schools of commerce. The development of clerical training, machine operating, and cooperative retail selling courses has made possible improvements in the guidance programs. These and many other interrelated developments indicate that secondary commercial education is overcoming its traditional handicap and is rapidly entering a new era of definite training for occupational efficiency in a wider variety of initial positions. Although greater emphasis is placed on the vocational objectives there is also more interest in the development of a balanced curriculum. More highly specialized training frequently releases more time for general education.

The most significant trend in harmony with changing requirements of positions filled by pupils leaving the secondary schools has been the development of clerical training and machine-operating courses. For many years well-managed high schools in the larger cities have offered such courses. During the biennium there was an increase in the number of schools that have offered specialized training in office practice and in the operation of special machines. Outstanding progress in the development of clerical training and machine-operating courses is reported from New Bedford, Springfield, and Boston, Mass.; New Britain and New Haven, Conn.; Providence, R. I.; Cleveland, Ohio; Philadelphia, Pa.; and Grand Rapids, Mich.

No phase of commercial education has greater opportunity for expansion and has been retarded more than retail selling. As a result of certain difficulties, prejudices, insistence upon the traditional curriculum, and the dearth of qualified teachers of salesmanship in secondary schools, fewer than 100 cities in the United States have cooperative part-time courses in this subject. Initiative for the organization of these courses has frequently come from local merchants. During the past two years researches²¹ and courses of study that should facilitate the development of these courses have been made. Nine large cities recently prepared courses of study for this

²⁰ Lee, E. A. *Objectives and Problems of Vocational Education*. New York, McGraw-Hill Book Co., (Inc.), 1928, Ch. V.

²¹ Decker, D. D. *The Objectives, Content, and Methods of Retail Merchandising Education in the Secondary Schools of California*. Graduate Thesis, University of Southern California. Los Angeles, Calif., 1928.

subject. Instruction material has been prepared specifically for clerks in meat markets and grocery stores.

Many refinements have been made in cooperative training in New York, N. Y.; Los Angeles, Calif.; Boston, Mass.; Portland, Me.; Wilmington, Del.; San Jose, Calif.; and in a number of other cities. Reports of excellent progress, particularly in training for retail selling, are coming not only from the large cities but from cities having a population of less than 25,000. The time to be devoted to actual experience, plans for granting credit, curricula in which cooperative courses are offered, arrangements concerning compensation, and other factors vary greatly in the different communities. Confidence in the chief objective, namely, helping pupils to bridge the gap between schools and business positions, together with experiments in the plans for administering the work, is encouraging the extension of cooperative training. Nevertheless, some of the school systems that pioneered and contributed most to the development of cooperative training of commercial pupils discontinued this phase of the work.

Other significant developments related directly and indirectly to methods of instruction, tests, and measurements,²² placement, evening schools²³ and supervision.²⁴ The courses of study were revised or are in process of revision in Pennsylvania, Indiana, and Maine, and in a large number of cities, including Harrisburg, Lancaster, New Castle, and Pittsburgh, Pa.; Lansing, Mich.; New Britain, Conn.; Somerville and Springfield, Mass.; Sioux City, Iowa; Dallas and San Antonio, Tex.; Newark and Elizabeth, N. J.; Chicago, Ill.; and many other cities. An increased number of day high schools, including those in Boston, Mass.; Detroit, Mich.; Tacoma, Wash.; and Jamestown, N. Y.; inaugurated the 1-year intensive commercial course for seniors and postgraduates. Greater efficiency was achieved in the guidance of commercial pupils in Cleveland, Ohio; Portland, Me.; Berkeley, Calif.; and other cities. Prognostic tests²⁵ were given in a national survey by one of the publishing companies and efforts were made to obtain a correlation between the intelligence quotients and success in certain academic subjects with success in particular business subjects. The 1928 an-

²² Commercial Education: Tests and Measurements. Bibliography. Bureau of Education, Department of the Interior, Washington, D. C., 1928.

²³ Worley, R. J. Commercial Education in the Evening School. *In* The Balance Sheet, 8: 13, November, 1926.

²⁴ Neuner, John J. W. Why a City Director of Commercial Education? *In* The Balance Sheet, 8:12, April, 1927.

Blackstone, E. G. The Supervision of Commercial Education. *In* The Supervision of Secondary Studies. Uhl and others. Ch. VIII. New York, Appleton.

²⁵ A Nation-Wide Study of the Results Obtained from the Hoke and Rollinson Tests. *In* The American Shorthand Teacher, 8: 123, December, 1927.

nual report of the superintendent of public schools in Boston, Mass., and of the director of commercial education in Philadelphia, Pa., give especial attention to the developments in commercial education in these cities.

PRIVATE COMMERCIAL AND BUSINESS SCHOOLS

During the past two years there has been a tendency among private business schools to seek junior college and collegiate standing. Many of the schools have sought the privilege of granting degrees in commerce and business. The larger and probably the better-managed schools are endeavoring to attract high-school graduates rather than those who have dropped out of high school. For success over a long period these schools are very definitely dependent upon satisfactorily preparing their pupils for job proficiency and upon finding suitable employment for them. The majority of these schools realize, therefore, that high-school graduates, or those who have had from two to four years of high-school education contribute more to the reputation of their training programs than do students with less education. The endeavor on the part of a large number of these schools to obtain students of higher qualifications is in harmony with the up-grading requirements for business positions.

Additional accrediting associations among private business and commercial schools have been organized. During the past two years the oldest one, the National Association of Accredited Commercial Schools, has been active in endeavoring to raise the standards of these schools. The association has been particularly active in creating a spirit of cooperation and in developing higher standards of administration and better educational programs. Realizing the need for a greater variety of types of training and the need for constant improvements to meet changing conditions this association has had many committees at work on different problems. Reports of educational committees and one special report²⁶ should be beneficial to these schools.

COMMERCIAL TEACHER TRAINING

Different groups of leaders emphasize, respectively, the philosophical and scientific approaches to determine the content, organization, and emphasis in commercial teacher training in undergraduate as well as graduate and extension courses. The exchange of opinions and the investigations²⁷ have revealed the need for data regarding duties of commercial teachers in initial and subsequent positions.

²⁶ Nichols, F. G. The Problem of the Private Business School. *In Accredited News*, 7: 8, December, 1927.

²⁷ Bibliography of Research on Commercial Teacher Training, pp. 417-419. *In First Yearbook, Eastern Commercial Teachers Association*, 253 Lexington Avenue, New York, N. Y., 1928.

Many believe that when training is to be given for a specified vocation the first step is to determine the requirements of that occupation and then to provide the most efficient known devices for enabling the trainee to meet those requirements. The accepted procedure then is to work from occupational demands to the building of the commercial teacher-training curriculum which, of course, should provide for more than mere technical training. The social significance of education, business, and education for business are very important factors.

The elimination of some of the two and three year curricula and the organization of additional 4-year courses have resulted in some confusion regarding the objectives. Frequently the objectives of the new curricula are comparable to those of the collegiate schools of business. Some set up the objective of preparation for highly specialized positions including certified public accountancy. Reports from some of the teachers colleges and normal schools indicate that many times more students are pursuing the commercial teacher-training curricula than could be absorbed within the respective States. The reports frankly state that the students do not intend to teach. So far as the commerce departments are concerned, such institutions might be considered regional or State trade schools offering technical preparation for business on the junior college and university levels. Nevertheless, the major burden of commercial teacher training continues to rest upon the undergraduate curricula in teachers colleges and normal schools. Many developments in the practical training program have come from these schools.

During the biennium a number of studies were made regarding the commercial teacher-training curricula, subject combinations taught by commercial teachers, the preparation of those in service, and other factors. Among the States in which studies were made are Kansas, Illinois, Minnesota, Missouri, New Jersey, Ohio, and Oklahoma. One study was made regarding the emphasis placed on technical training and general education, respectively, in the commercial teacher-training curricula in different types of institutions.

In a study²⁸ conducted by Miss Ruth Hoadley, she finds that:

From 9 to 40 months is the time necessary to complete a commercial teacher-training course, the average being 31 months. The range of subjects is so broad and their contents such as to indicate that schools have given little thought to determining what basic training is essential for commercial teachers. * * * Under the present situation the teacher goes into the field with inadequate background of definite methods and procedures; * * *, to counterbalance the dearth of methods courses, practice teaching would need to be given in all institutions. * * * Business training is required by only 20 out of 59 schools. In the light of all the advantages accruing to the commercial teacher from such experience, this is a deplorable situation.

²⁸ Hoadley, Ruth. Status of Commercial Teacher Training in the United States. In Iowa Monographs in Education, State University of Iowa, Iowa City. First series, No. 9, 1928.

A unique system of practice teaching has been developed at the State Teachers College at Indiana, Pa. A number of typical high-school commerce departments in near-by towns and cities have been turned over to the commercial teacher-training department as practice-teaching centers. These centers are directly supervised by full-time local supervisors. They are also supervised one or two days each week by the regular members of the commercial teacher-training faculty, each member of which is given one full day every week for this purpose. Graduation from the recently organized commercial teacher-training curriculum at Fresno, Calif., requires one-half year of business experience along the line in which the student is majoring. Other reports on new and worthy developments were received chiefly from those State teachers colleges and normal schools in which commercial teacher training is concentrated for the respective States and from the large universities.

HIGHER EDUCATION FOR BUSINESS

Increased attention has been devoted by the collegiate schools of business to the problems of training for executive levels of business occupations. Harvard University is approaching the task by developing case material about business situations. The University of Chicago is developing the functional approach, pertaining to production, transportation, and communication, and is insistent upon the importance of understanding the social and physical background of business activities. The University of Pittsburgh has been active in analyzing the work of executives for purposes of curriculum construction. Many other institutions, as well as leaders in particular fields, are contributing much toward this problem.

During the past two years additional facilities have been provided for the increasingly large number of students pursuing commerce courses. Harvard University was the beneficiary of the George F. Baker Foundation, established through the gift of \$5,000,000 from George F. Baker, for erecting suitable buildings and endowing the research of the school. The entire new plant of 10 buildings was completed during the biennium. Northwestern University, through the Wiebolt Foundation and other contributions, was enabled to add to its downtown facilities for meeting the rapidly growing demand for late afternoon and evening classes. Among other institutions at which new commerce buildings were completed or dedicated during the past two years are the University of Illinois, University of Alabama, and Georgia School of Technology. New colleges of commerce were organized at Miami University, Louisiana State University, University of Florida, and the University of Idaho.

Schools of business are placing increased emphasis on research as an essential in enriching and giving greater reality to the business courses. Additional bureaus of business research were organized during the past two years at Boston University, Temple University, University of Buffalo, University of Detroit, University of Georgia, University of Iowa, University of Kentucky, University of Oklahoma, and University of Texas. One of the developments immediately following the Bureau of Education survey of Rutgers University²⁹ was the organization of a bureau of economic and business research in 1927. Plans were developed for the organization of similar bureaus at Louisiana State University, University of Missouri, University of North Dakota, and St. Louis University. In addition to the bureaus of business research, organized by the higher institutions, many of these schools have cooperative relationships with separately organized research agencies.

Beginning in 1926 the American Association of Collegiate Schools of Business issued five reports on research projects in progress and completed by members of the association. These reports have been helpful to small as well as large business firms and municipalities in their adjustment to the constantly changing economic and business conditions. The making of these investigations in the current problems of the various business communities has had a stimulating effect on the pupils and instructors. At the University of Nebraska and Ohio State University plans were developed for all members of the staff to conduct research studies periodically.

Other outstanding developments pertain chiefly to the expansion of the curriculum; business experience as a requirement for graduation; and extension education and institutes for merchants, accountants, and real-estate salesmen. University of California, University of Missouri, and a few others enlarged their offerings in personnel management, the need for which was emphasized in a recent report by the American Management Association. The greatest expansion of the courses was in accounting. Two institutions introduced courses in commercial aviation. Columbia University and a number of smaller schools organized short, intensive curricula in technical business subjects for those who do not intend to graduate. Such curricula seek to meet a rapidly growing need that has been neglected in many institutions. Additional institutions organized cooperative part-time training, and the University of Missouri and the North Texas Agricultural College are planning such courses. Summer school courses for executives and additional endowments for the training of executives were made available. The outstanding con-

²⁹ Klein, Arthur Jay, director. Survey of Rutgers University. Department of the Interior, Bureau of Education, Washington, D. C., 1927.

tribution to the literature on collegiate education for business was made by Dr. Leon C. Marshall.³⁰ The reports of many deans of colleges of commerce and presidents of universities emphasize the necessity of increased funds to meet the growing demands for business courses, business libraries, and statistical and research facilities. These and other developments during the past two years have been definite responses to the growing needs of business and the cultivation of closer relationships with business men.

CONFERENCES

The programs of commercial education conferences of the past two years have pertained chiefly to research and constructive group undertakings. The Eastern Commercial Teachers' Association, in 1927, adopted a 3-year professional program to result in the preparation of three yearbooks on foundations, curriculum-making, and administration and supervision of commercial education. The 1928 yearbook³¹ is an excellent beginning of this program.

At each of the Iowa Research Conferences on Commercial Education, held in 1926, 1927, and 1928, under the auspices of the State University of Iowa, reports were made of the outstanding researches completed since the previous meetings. The calling of the conferences and the distribution of the published reports³² were an important service to secondary commercial education. The conferences have been a factor in cultivating the research attitude, in encouraging commercial teachers to conduct studies, and in speeding up the application of the findings. The researches reported at the conferences have pertained to a wide range of important problems. In 1928 a joint meeting was held with the National Association of Commercial Teacher Training Institutions.

The leaders of the commercial teachers' associations are realizing the opportunities and the responsibilities of such associations. The constitutions of the new associations set forth objectives that indicate a vision of greater service. The two purposes for the organization of the Ohio Commercial Teachers' Association in 1928 were reported³³ to be: First, the securing of a State director of commercial education, and, second, the raising of the standards for commercial teachers. Committees were appointed to make recom-

³⁰ Marshall, Leon C., and others. *The Collegiate School of Business: Its Status at the Close of the First Quarter of the Twentieth Century.* Chicago, Ill., University of Chicago Press, 1928.

³¹ *Foundations of Commercial Education. 1928 Yearbook.* Eastern Commercial Teachers' Association, New York. The secretary, 253 Lexington Avenue, New York, N. Y.

³² *Research Studies in Commercial Education, I, II.* University of Iowa Monographs in Education, State University of Iowa, Iowa City. First Series, No. 7, July, 1926; No. 8, January, 1928.

³³ *The Business Educator*, 33: 32, May, 1928.

mendations regarding the organization of commercial education in the junior and senior high schools, respectively: At the 1927 meeting of the American Vocational Association a committee was appointed to prepare a report on the need of city and State supervisors of commercial education. The Virginia Education Association conducted a survey of commercial education in that State in 1927-28, and has submitted its report to the State department of education. The North California Commercial Teachers' Association appointed a committee in 1926 to investigate the possibilities of the appointment of a supervisor of commercial education in that State, and in 1928 such an appointment was made. The regional groups of commercial teachers in Nebraska and the Commercial Teachers' Association in Oklahoma are gathering data for course of study revision. In a number of the States the associations are sponsoring State contests⁸⁴ in commercial subjects and rendering other services.

In addition to the meetings of the American Association of Collegiate Schools of Business, the Pacific Collegiate Economic and Commercial Conference, and the regular meetings of collegiate instructors in the various fields, conferences were held in connection with the dedication of the new commerce buildings at the University of Illinois in 1926,⁸⁵ and at Northwestern University in 1927. Among the outstanding contributions at the collegiate conferences was a report⁸⁶ by Dr. J. O. McKinsey at the conference held in connection with the opening of the graduate school of business at Stanford University. Doctor McKinsey outlined a worthy program for analyzing executive and staff positions in business for purposes of curriculum construction.

CONCLUSION

Lack of general acceptance of definite, worthy objectives based upon the changing, yet known or knowable requirements of business positions, is retarding the progress of business education. Although this phase of the educational program is undergoing many changes and is receiving more attention annually, the requirements of business positions are continuing to change more rapidly than the preparatory and extension education programs are readjusted. Even in curriculum revision the emphasis has been on the traditional com-

⁸⁴ Slinker, Clay D. A Survey of Commercial Contests. Research Studies in Commercial Education. III. University of Iowa Monographs in Education. First Series, No. 9, Nov. 1, 1928, p. 57. University of Iowa, Iowa City.

Colvin, A. O. The Pros and Cons of Commercial Contests. The Balance Sheet, 10: 68, 1928.

⁸⁵ Conference on Collegiate Education for Business. University of Illinois, Urbana, Ill., 1927.

⁸⁶ McKinsey, J. O. Objectives and Methods in Business Education. In Stanford Business Series, No. 1, Stanford University Press, Stanford University, Calif., 1926, pp. 122-135.

mercial subjects rather than the actual employment opportunities and requirements which are fundamental in effective vocational education. The development of vocational and professional curricula in other fields has not materially affected education for business. Furthermore, there has not been a full realization of the educational significance of general business information for all students, occupational levels, diversity of employment opportunities, desirable mobility in business positions, and the relation of job proficiency to vocational and social happiness.

The consensus of opinion is that the outstanding need in the program of secondary commercial education is supervision. Every investigation of this problem has emphasized the urgent need of city and State supervisors. No other phase of secondary vocational education has so many students enrolled, is composed of so many subjects, or prepares for so vast a variety of gainful occupations; no other phase has so little supervision to give direction to research and to obtain a prompt and general application of the findings of worthy investigations. As a result of the lack of supervision and the operation of the many retarding influences, there is a wide variation in the stages of development of business education in the different communities. This phase of education is passing concurrently through the stages of introducing, lengthening, upgrading, and differentiating the curricula, and developing programs of guidance, placement, and supervision. The rapidity, extent, and effectiveness of the adjustments are dependent largely upon local leadership. In communities having supervisors of commercial education or principals of high schools of commerce, the possibilities of such leadership have been successfully demonstrated. In fact, the commercial occupation surveys, job analyses, studies of standards of achievement in business positions, and refinements in the methods of instruction—all of which can be credited to relatively few workers in this field—are examples of the kinds of service necessary to develop progressive commercial education.

The extremely rapid development of new and diverse industries, the equally rapid modification of older industries and business practices, the reshaping of domestic and foreign business relationships, and recent economic changes indicate emphatically the growing responsibility of education for economic and business leadership. A continuing, capable leadership, schooled in the social implications and obligations of business, to cope with new and complex problems of management, is increasingly important for our general welfare. Various aspects of this leadership can be analyzed and programs of guidance and training can be scientifically developed. Although some pioneering has been done and a few additional studies are in progress, this important subject is deserving of far more thorough

and critical study than it has received. Inasmuch as biographies of business leaders indicate that there are different approaches to the higher executive positions, research should determine to what extent collegiate business education is achieving its objectives, wherein the program can be made more effective; and to what extent curricula combining commerce with engineering, law, and other subject-matter fields should be developed.

The 93 collegiate schools of commerce, with their 31 bureaus of business research and constantly expanding facilities, are in a position to make personnel studies, the findings of which if and when applied should change materially the character of higher education for business. There is need for a program of personnel studies centering around the opportunities and requirements of initial and promotional opportunities of the drop-outs and graduates, including studies of: The students who apply for the business courses; the needs of these students for curricula of different kinds and lengths; the educational and occupational biographies of former students or workers in a given region or industry, emphasizing those factors that are significant for promotion; duty, difficulty, and trait analyses of intermediate and higher occupational levels in particular occupations and industries; and appraisal by the former students of the curricular and extracurricular practices. The use of standardized forms and procedures in conducting such studies will make possible the compilation of the data on a nation-wide basis.

Other significant problems of this phase of education at the close of the 2-year period pertain to the slowness not only in accepting but in distinguishing between definite social-science and vocational objectives of business education; tremendous increase in enrollments, particularly of women; introduction of the traditional courses into the high schools of the smaller communities without readapting the content to the needs of those communities; failure to promote courses in retail selling, clerical training, and machine operation in accordance with the needs revealed by surveys; slowness to study the possibilities and difficulties of part-time training; failure to develop a continuous program of education for business, particularly as regards post-secondary training requiring less than four years; slowness to develop guidance programs based on studies of those who are successful on the various occupational levels of different business positions; slowness to develop commercial teacher-training curricula and certification based on actual requirements of teachers in initial and subsequent positions; and failure to provide an experimental school for conducting research and applying the findings in order to prevent many years of trial and error procedures and amateur experimentation in thousands of schoolrooms.

CHAPTER XI

ADULT EDUCATION ACTIVITIES

By L. R. ALDERMAN

Specialist in Adult Education, Office of Education

CONTENTS.—Introduction—Ability of adults to learn—State activities—Illiteracy—Education of the foreign born—Modern life demands education—Parent education—College and university extension—National adult education associations—Home reading courses.

INTRODUCTION

There has been increased interest and activity in the field of adult education during the biennium 1926-1928. The term "adult education" is used in so many ways that the question is often asked, What is adult education?

"Adult education" came into general use in the United States soon after the World War. The shock of the war so aroused men and women that they began to look for a means to prevent such a calamity from ever happening again. It was more clearly seen that a people can not by any machinery or form of government exonerate themselves from responsibility for the acts of their Government. When mistakes are made by rulers, the people must suffer the consequences. This concept forces one anew to the conclusion that education of the whole people is most important. Men saw that rank and promotion in any military organization depend much upon education. The war revealed the fact that a very large number of men of military age were unfitted for general military assignment because of the lack of ability to read ordinary communications or to convey information by writing. From the National Academy of Sciences came the shocking announcement that about one-fourth of the American Army were not functionally literate.

The World War also revealed anew the fact that America is made up of many nationalities; that there were sections of this country which were essentially foreign in language, customs, and ideals. Assimilation had not gone on as fast as it was generally believed. Citizens generally saw that if this country was to enter into any action that required a united people it was necessary to assimilate this large number of foreigners. The alien himself saw that in order to carry on in this country it was necessary for him to become naturalized. The demand for instruction for our alien population received a great stimulus. The movement was called by the general

name of Americanization. Almost every large community established classes for preparing the foreign-born for American citizenship. To these classes, where the alien was taught to read and write the English language, came also native-born citizens. The term Americanization evidently did not fit and, to avoid its use the term "adult education," which has a much broader significance and was well-known in Europe, came gradually into general use.

Adult education was accepted as a challenge by many grown people. Adult education became a slogan for continued education. Numerous organizations adopted it as their objective. New organizations were formed to promote various phases of education for grown men and women.

Another reason why so much interest has been manifested in adult education is that a much larger number of our people have more leisure than ever before on account of the wider use of machinery and the improved organization of business. This increased leisure, viewed by some with alarm, makes adult education on a large scale possible. Whenever men are free from the necessity of putting forth all their efforts for immediate objectives they begin to think of more remote and ultimate objectives. The efforts to discover these ultimate objectives and to adjust one's life in harmony with them is what some people have in mind when they speak of adult education. Since the average man's contacts with the world have increased in number and meaning within the past few years, his environment may be said to be limited only by his ability and industry. Our times in a new sense motivate continuing education.

Adult education is the cause of much optimism because an increased number of people see in it a remedy for uninteresting and pessimistic old age. Perhaps the greatest contrasts in life are noticeable in men and women after 45 or 50 years of age because some are able at this time to make a transition from interests that are largely physical to those that are more largely mental and spiritual, while others for some reason do not make this important transition, and their old age is, therefore, uninteresting and pessimistic—one of the greatest tragedies in life.

Those who have thought much on the subject have given up the idea, at present, of stating accurately just what adult education is. They are content, for the time being, to give some outstanding characteristics of formal adult education, namely: (1) The work must be voluntary; (2) it must be taken during leisure time; (3) it must be somewhat continuous and consecutive.

There is no agreement as to how old the individual must be before his studying may be said to come under the head of adult education. Some claim that the individual must be 21 years of age or more; others claim, for practical purposes, that if the studying is carried

on under the conditions enumerated above by persons who have passed the compulsory school age it may be called adult education.

ABILITY OF ADULTS TO LEARN

The discovery and proclamation on the part of eminent psychologists that learning ability does not stop with maturity has greatly stimulated expectations as to what might be accomplished in this field of education. There is speculation as to whether the attention of educators should be focused upon the education of adults or upon the education of children and youths. There is no doubt that educational thought in this country, during the last half century at least, has been focused principally upon the training of young people. There are many who claim that American education has not measured up to expectations, because educators have not followed their students into mature life and thereby gaged the success or failure of their educational methods by the success of their students. There are probably few who would not agree that the ultimate end of education is to produce the largest possible number of educated adults. Hence, the system of education of youth is the best which contributes most to this end.

Probably the most outstanding event during the biennium in the field of adult education was the publication of "Adult Learning," by Dr. E. L. Thorndike and others, which study reveals very clearly that learning ability is tenacious. Doctor Thorndike says:

If an adult class were to be divided into two sections, one expected to make rapid progress and the other expected to make slow progress, age would be practically worthless as a basis for the division. * * * The misinterpretation of a careless comment on the fixity of adult habits has afflicted popular pedagogy with an erroneously exaggerated estimate of the lack of plasticity—or learning power, or modifiability—of adults. This exaggeration may have helped to preserve the custom of confining education to early years, a custom for which there is, in my opinion, no ultimate justification of any sort. There certainly is no justification for it on the grounds of the futility of education of adults. * * * The provision of opportunities whereby adults can learn those things which they are able to learn and which it is for the common good that they should learn is a safe philanthropy and a productive investment of the nation. * * * Adult education suffers no mystical handicap because of the age of the students. On the other hand, it is not freed by the nature of its clients from any of the general difficulties—of adaptation to individual differences, stimulation of interest, arrangement for economy in learning each element, and organization of the subject of study so that each element of learning shall help all the others as much as possible and interfere with them as little as possible.

President F. B. Robinson, of the College of the City of New York, says:

Comparing youth and middle age I find that there is hardly a subject in our curriculum that the average mature mind will not grasp with equal ease and with superior understanding. Take two men of equal intelligence, one 45 and

one 20, both in good health and with good habits, both free from hampering worries, and turn them loose on a new subject in which they are both interested. One finds immediately that the man of age and experience has all the advantage.

STATE ACTIVITIES

Since education in this country is a State function, it is desirable to know what is done by State departments of education to provide opportunities for those who can not take advantage of the regular day-school sessions. The information contained in the following table was compiled from questionnaires received from State departments of education:

Adult education activities as reported by State departments of education

State	Has State enacted legislation to provide education for—		Number of State supervisors of adult education in terms of full-time supervisors		Does State give financial aid to local communities for adult education?		Per cent of cost of adult education provided by State	Local communities having public-school classes for adults July 1, 1926, to June 30, 1928	Enrollment in all adult classes (native and foreign-born)			Institutions giving training courses to teachers of adult classes	Has State an illiteracy commission?	
	Adult for-igners	Adult native illiterates	Yes	No	Yes	No			1928	1926-27	1927-28		Yes	No
Alabama	X		X		13 ²	X	70	436		13,757	0		X	
Arkansas		X	X		1	X	0		1,163	3,459	1	X		
California	X		X		11 ²	X	(1)		46,641	56,801	4		X	
Connecticut	X		X		2	X	15	54	8,743	9,246	1		X	
Delaware	X		X		2	X	98	73	2,276	2,271	1		X	
District of Columbia														
Florida	X		X		2	X	100	17		299	2		X	
Idaho	X		X		0	X	0				0		X	
Illinois	X		X		0	X	0				0		X	
Iowa		X	X		0	X	0				3		X	
Kansas		X	X		0	X	0	3			0		X	
Louisiana		X	X		0	X	0				0		X	
Maine	X		X		2	X	66 ²	20			0		X	
Maryland		X	X		0	X	0	1	6,187	6,551	1		X	
Massachusetts	X		X		2	X	50	95	25,123	25,086	2		X	
Michigan	X		X		0	X	0				2		X	
Minnesota	X		X		0	X	50	47			0		X	
Missouri		X	X		0	X	0				0		X	
Montana	X		X		0	X	0				0		X	
Nebraska	X		X		4	X	86	12		1,206	1		X	
Nevada	X		X		0	X	(1)	5			0		X	
New Hampshire	X		X		0	X	(1)				0		X	
New Mexico		X	X		0	X	0						X	
New York	X		X		6	X	50	130	74,900	75,000	10		X	
North Carolina	X		X		0	X	0	18	1,082	1,182	1	X		
North Dakota	X		X		0	X	50	25					X	
Ohio	X		X		1	X	0	35		24,596			X	
Oklahoma		X	X		0	X	0	500	5,000		0	X		
Oregon	X		X		1	X	0	12	1,800	2,000			X	
Pennsylvania	X		X		2	X	(1)	12	19,500	22,443	2		X	
Rhode Island	X		X		2	X	(1)	20			2		X	
South Carolina		X	X		1	X	75	688	11,967	9,775	1	X		
South Dakota	X		X		1 ²	X	50	0	42	655			X	
Tennessee		X	X		0	X	(1)						X	
Texas		X	X		0	X	0						X	
Utah		X	X		0	X	0	4					X	
Vermont		X	X		0	X	0	3			0	X		
Washington		X	X			X	(1)	18		7,481		X		
West Virginia	X		X		0	X	(1)	100			0		X	
Wyoming	X		X			X		25		520	0		X	
Total	26	14	25	12	31 ³	21	19 ²		2,439	204,424	262,308	34	6	32

¹ State aid to local districts varies.

² In the District of Columbia school funds are provided in part by taxation upon property in the District of Columbia and in part from the Treasury of the United States.

³ Schools for adults are provided in 17 centers.

It will be noted from the foregoing table that 26 States report that there has been legislation pertaining to the education of foreign-born adults and that 25 States report that there has been legislation for the education of adult native illiterates. Seventeen States indicate that they give supervision for adult work from the State department of education and that the supervision in terms of full-time supervisors amounts to a total of $31\frac{3}{5}$ persons. From the reports of State departments of education which provide supervision of adult education work, it will be seen that the amount of supervision ranges from six full-time supervisors, in the State reporting the most, to one-tenth of the time of one supervisor in the State reporting the least.

Twenty-one States report that they give financial aid to school districts which provide adult classes. The State paying the largest per cent is Delaware, which provides 98 per cent of the cost. Fifty per cent is the most common division of the cost of adult education between the State and local community.

The States reporting give 2,439 communities as holding classes for adults and the total enrollments as 204,424 for the year 1926-27, and 262,308 for the year 1927-28.

Thirty-four institutions of higher learning are reported as offering training for teachers of adults. Six States report that they have illiteracy commissions.

A few examples of adult education activities, based on reports of the respective State departments of education, follow:

Connecticut.—Adult education in Connecticut has been confined during the past two years to the education of non-English-speaking adults in reading, speaking, and writing of English and in civics. In this particular field, there has been: (a) Marked interest shown by the towns of the State, both large and small; (b) considerable increase in registration and marked increase in average attendance in spite of restricted immigration; (c) greater number of teachers seeking training in this particular field; and (d) much better instruction offered in the classes.

“Restricted immigration has emphasized the necessity for education, for intelligent citizenship. * * * It has brought home civic responsibility, and the classes contain thousands who have long been alien residents of this country and yet unable to speak English. The value of English-speaking communities is being impressed deeply on town officials.”

The above comment by the Commissioner of Education of the State of Connecticut shows the effect which the law restricting immigration is having upon the desire for education by aliens who are already here.

Delaware.—The rural adult class work in this State should be of interest to rural dwellers everywhere and to all others who are concerned with rural-life problems.

During the past two years the expansion and extension of activities in rural districts of Delaware have been noteworthy. In 1927-28, 1,178 men and women came together for study and discussion in 52 centers of rural Delaware. Their ages ranged from 16 to 80 years, 60 per cent being between the ages of 21 and 55 years. They were farmers, merchants, teachers, preachers, housewives, engineers, bee-keepers, postal clerks, highway policemen, factory employees, and others. Their previous education ranged from none whatever to university graduation.

Each individual in these groups wished to know more of the world in which he lived and worked, and to participate more fully in its life and development. The means by which these ends could be achieved varied with different groups and different communities. As far as its resources would permit, the public-school system of the State provided that form of educational activity desired by each group. Classes conducted as a result of these desires provided for the study of country-life problems, economic and industrial history, State and National Government, parliamentary law, community organization, current history, salesmanship, industrial arts, poultry husbandry, elementary reading, writing, and arithmetic.

A large number of these classes were held in one and two room school buildings in isolated sections of the open country. They met 2 nights a week for 10 weeks in the months of January, February, and March.

Teachers qualified to lead these groups, it is reported, were extremely difficult to secure because of the time and effort required for traveling to the different centers. Among those who served were university professors, specialists in the State departments of health, agriculture, and marketing, rural school supervisors, school superintendents, directors of bureaus in the State department of public instruction, business men, high-school and elementary-school teachers.

From one of the most remote sections of the State came a request for a course of 10 lectures. The subjects to be covered in these lectures were health, music, science, Delaware history, rural-life development, cooperative marketing in Denmark, world-mindedness. When the wisdom of such a comprehensive program was questioned, a member of the community making the request said: "We want to have a little bit of many things this year, so that we may know what we want to study in detail next year."

To assist and advise the director in the development of adult education in rural Delaware, a council has been formed consisting of one representative from each center in the State. This council met three times in 1927-28.

The desire of the adult population of rural Delaware for opportunities for growth and development is the natural outcome of the program of community organization carried on by the State Parent-Teacher Association for the past eight years.

At the union graduating exercises of the adult evening classes of Delaware, an interesting feature of the exercises was the reports from chosen students of the various classes. The students who made reports ranged in age from 25 to 60 years. The reports showed that both vocational and cultural subjects had been studied and four outstanding results were emphasized, namely: (1) New intellectual interests by the members of the classes had been discovered; (2) sources of helps for individual study had been learned; (3) the social life of the members of the classes had been made richer; (4) valuable information in various fields of knowledge had been acquired.

As the program progressed it could be seen that both pupils and teachers were enthusiastic over the winter's work and that plans were under way for an enlarged program for the next year.

This development in Delaware has succeeded largely because of the leadership of the State department of education.

Pennsylvania.—The report from this State gives such a clear picture of its comprehensive adult educational program that it is reproduced here in some detail.

I. Objectives for the biennium, submitted in 1926:

(1) Increase of enrollment in schools and classes for immigrants and native illiterates; (2) system of follow-up and enrollment of new immigrant arrivals; (3) modification of courses of study to meet needs of immigrants and native illiterates; (4) development of state-wide plan for acceptance of public-school credentials in lieu of naturalization examinations; (5) special study of immigrant education problems through University of Pittsburgh; (6) development of home classes for foreign-born mothers; (7) experimentation in the administration of standard evening high schools; (8) development of high-school correspondence courses; (9) establishment of bases for extension education reimbursement; (10) the coordination of extension education agencies; (11) the establishment of extension centers; (12) the formulation of minimum standards governing university extension credit-course instruction; (13) the formulation of minimum standards governing summer high-school instruction in advanced-credit courses; (14) the development of systematic

and recreational reading courses not too academic in their nature for the masses; (15) the publication of needed bulletins in extension education.

II. The extent to which the objectives for the past biennium were realized:

Of the 15 objectives mentioned, creditable progress has been made in realizing 10. This section will be arranged under two major captions: (1) Objectives toward which definite progress was made; (2) objectives toward which little or no progress was made.

(1) Objectives toward which definite progress was made: (a) Increase in enrollment: Total enrollment of immigrants in public-school classes, an increase during the biennium from 18,562 to 22,443, or more than 20.8 per cent; total enrollment in extension elementary schools, an increase from 8,100 to 13,123, or more than 62 per cent; total enrollment in extension secondary schools, an increase from 35,300 to 36,305, or more than 2.2 per cent. These enrollments are exclusive of Smith-Hughes vocational evening classes throughout the State. (b) Development of home classes for foreign-born mothers: Unusually well done; enrollment of foreign-born mothers in home classes conservatively estimated at 4,000; many cities now employ full-time home-class teachers, Pittsburgh leading the entire Commonwealth with 16 such teachers, seven of whom were added to the force during the past year. During the same year Philadelphia added one home-class teacher, Aliquippa added one, and work was begun for the first time in Butler, Butler Township, Clearfield, Williamsport, and North Braddock. There is constantly growing interest and support in this work. (c) Modification of immigrant-education courses: Courses have been markedly modified throughout the Commonwealth to meet the needs of the new immigrant who reaches our shores well educated in his native schools; intensive courses differing radically from the traditional courses offer opportunity for speedy learning of the English language and an early finding of one's place in the educational régime of this country. (d) Experimentation in the standard evening high school: Well and thoroughly done; minimum standards formulated and approved and evening high schools being accredited according to such standards. Philadelphia was first to have a fully accredited evening high school, and others followed. (e) Establishment of basis for reimbursement: Completed; minimum standards formulated and approved; policy of inspection and report as basis for approval established and procedure rather fully defined, including policy with regard to scope of classwork which will be reimbursable under the law. (f) Coordination of extension education agencies: Well under way; several special State conferences and one general State conference were held during the biennium; virtual agreement to plan has been constantly evident; university extension

is only phase of coordinated program not yet agreed upon by agencies concerned. (g) The establishment of extension centers: Part of the coordination program, but little actually done; indirectly it has stimulated the organization of the Johnstown and Erie centers now maintained by the University of Pittsburgh. (h) Formulation of minimum standards governing university extension instruction: Standards fully formulated and submitted; not yet approved by the State council of education; action taken by council upon recommendation of superintendent looking toward early conclusion. (i) The formulation of minimum standards governing accreditation of summer high-school instruction in advanced credit courses: Well under way; minimum standards fully formulated to become effective during summer session of 1929 and distributed to public-school superintendents maintaining such classes for review and criticism before approval is requested. (j) The publication of needed bulletins in extension education: Bulletin of scope and administration of extension education fully prepared and manuscript submitted for approval; bulletin on function of extension education prepared and manuscript submitted for approval; bulletin on bibliography in process of preparation, dealing with immigrant education exclusively.

(2) Objectives toward which little or no progress was made: (a) Development of follow-up and enrollment system for new immigrant arrivals; (b) development of state-wide plan for acceptance by naturalization courts of public-school credentials in English and citizenship in lieu of naturalization examinations; (c) special study of immigrant education problems through medium of university master's theses and doctor's dissertations; (d) development of system of high-school correspondence courses for directed study; (e) development of recreational and systematic reading courses of a nature not too academic in service to rank and file workers of the Commonwealth.

South Carolina.—The report from the South Carolina State Department of Education will be interesting to many people and especially to those who know something of the excellent work which has been done in that State.

Under the adult education department comes the organization and supervision of all instruction for pupils over 14 years of age who have not completed the elementary grades. Emphasis has been placed on teaching those who have never gone to school or who have gone very little.

In order to meet all needs, four types of schools have been organized: (1) Night or continuation schools in mill villages, taught by day-school teachers for two or three nights a week during the winter; (2) all-year schools, taught by special teachers employed by the mills and the State not only to give instruction to groups of workers but to

go into the homes to teach the mothers; (3) lay-by schools in country districts, taught during August by specially prepared teachers who are willing to devote one month's vacation to such instruction; (4) two opportunity schools which are literally college vacation schools for workers.

The ultimate aim of adult elementary education in South Carolina is not only to teach the mastery of the fundamentals but to awaken in the pupils some intellectual curiosity so that they may become readers and be able to identify themselves with community development. Therefore, the course of study is organized around practical problems of every-day life and thus, while the pupils are mastering the "3 R's," they are given an opportunity to study health habits; good manners; budgeting; saving; our Government, what it is, what it does for us, and what we can do for it; inspiring biographical sketches. During the past year two units of work were given on travel, culminating in a visit to Washington, in August of 1927, by the opportunity-school pupils, and one to Charleston, in the spring of 1928, by the continuation pupils.

A review of the year's work is both encouraging and discouraging—encouraging because of the demand for more schools and longer terms; discouraging because a reduction in the appropriation not only has made it impossible to meet this demand but has necessitated the supervisor's devoting her time to office detail rather than to the organization of schools and to the professional direction and training of teachers. Nevertheless, schools have been organized in 32 counties. The following figures were compiled from the reports of the 312 schools.

	White	Negro	Total
Number of schools	251	61	312
Number of teachers	382	93	475
Total enrollment	7,405	2,370	9,775
Number of students over 21 years of age	3,664	1,601	5,325
Number of students under 21 years of age	3,741	709	4,450
Average attendance	4,756	1,690	6,446
Number of students in first grade	1,722	689	2,420
Number of students in second and third grades	2,524	871	3,399
Number of students in fourth grade and above	3,082	801	3,883
Number of students taught to read	902	394	1,296
Number of students taught to write	1,040	437	1,477
Number of students perfect in attendance	1,305	321	1,626
Expenditure per pupil	\$3.62	\$1.45	\$3.09
Total expenditure	\$26,862.00	\$3,454.00	\$30,316.00

The pupils ranged in ages from 14 years to past 70, with the average age 25 years and 6 months, in grade ability from no schooling to 7 years, with an average of third grade. Of the 475 teachers employed, all held first-grade certificates except 3 white teachers and 15 negro teachers. Practically every white teacher had some special training before beginning work.

Elementary education of adults is difficult because—

(1) Public-school officials have not generally accepted the responsibility for furthering night schools. These schools are expected to run with little direction and are often given only that part of time and money which is left after the day-school program is carried out. The per capita expenditure for night school (white) pupils last year was \$3.62, as against \$60.25 for day-school pupils.

(2) It is difficult to secure and hold trained teachers because the salary is too small for the demands made upon their energy, ability, and sympathy.

(3) Adult pupils, regardless of ambition, are tired, sensitive, often undernourished from poorly prepared food, and handicapped through low earning ability. A study of 164 life histories of opportunity school pupils, 90 per cent registering from textile communities, presents a cross section giving the background of the lives of 4,000 pupils enrolled in the night or continuation schools. Most of the pupils were reared in homes with not fewer than six children. Forty-eight (30 per cent) of the pupils had lost one parent. The average age was 21 years and the average age for starting to work was 14 years. The average schooling was 40 months, with fourth-grade ability. The median salary received was \$13 a week, out of which the average pupil assisted in the support of three people. Fourteen per cent were married, with an average of three children to a family.

The work in mill villages was much easier than in rural districts because of the superior educational advantages and of the generous support given by mill executives. A laissez faire attitude was found in the country which could be overcome only through personal contact of the teacher with landlords and pupils. Long distances made this difficult in a short-term school. The pupils in the rural sections were 9 years older than those in the mill communities, the average age being 30 years. The average schooling was 25 months, 15 months less than that in mill communities; the earning capacity was also less than that of the mill pupils.

The past 10 years have witnessed the greatest educational progress in the history of the State. In evaluation it must be borne in mind that all results can not be measured and that all progressive movements and organizations have played a part in bringing about better conditions. The marked improvement in the public schools has been one of the determining factors in the educational awakening but likewise the night schools have hastened this awakening. The figures which follow show the value of the work accomplished by the night schools.

From 1900 to 1910, when there was little concerted effort against illiteracy, the reduction in the number of illiterates was 4,133 (7

per cent), while from 1910 to 1920, the decade in which night schools were generally organized, the reduction in the number of illiterates was 11,500 (22 per cent).

The five counties leading in adult work during the past 10 years show a gain in white day-school enrollment of 37 per cent and a gain of 11 per cent in average attendance. Contrast this with the five counties reporting few adult schools where the enrollment gain was only 14 per cent and the average attendance only 6 per cent.

The gain in seventh-grade enrollment in five counties furthering adult work was 86 per cent, while in five counties, where little work was done, the gain was only 21 per cent.

More important than the instruction in the classrooms has been the reflex influence of the schools. To illustrate, a few excerpts are given from teachers' reports:

Those who have shown an interest in previous campaigns show the fact in many ways, more pride in the appearance of their homes, their yards, and themselves.

Mr. ——— has started his children to day school and has brought his wife and older son to school with him every night. He regrets now that his four married daughters never went to school a day, for he now sees the value of an education. He hopes they will have the chance of going to an adult school.

Mr. ———, with whom I board, is one of my pupils. He had never been in school a day in his life until several years ago when he entered a lay-by school. To-day he is superintendent of his Sunday school and a leader in his community.

As a rule, the adult-school pupil becomes a booster for his school. Through civic instruction and friendly relationship with his teacher he is given a new self-respect and is made to appreciate the State services at his command and to see his obligation to himself, his community, and his family. He becomes *a part of*, rather than *apart from* his neighborhood.

It will be noted that the largest number of pupils in the night schools were in the third, fourth, and fifth grades, demonstrating a desire for more learning on the part of those who have had some advantages.

Practically one-half of the pupils were within the public-school age.

Is it right to make provision for the fortunate child privileged to attend day school and not for those who are forced out of school because of economic need, parental avarice, or indifference? There are thousands in South Carolina who would study at night if proper provision were made. Even when the compulsory education law is passed there will still be a demand for after-work-hour education, for some children must necessarily be bread winners, and as education becomes more diffused a larger majority of the people in the State will desire opportunity to study during leisure hours. As an

illustration, there were enrolled during the past year in the night schools of one town two 15-year-old boys who, before they were 14 years of age and through no fault of their own had thrown on their shoulders the burden of the support of a mother and six and seven younger children, respectively. When they entered the mill three years ago they registered in a night school as first-grade pupils. Their earning capacity has increased during the three years from an average of \$4 a week to \$11 a week, and each year has found them in night schools developing into desirable types of young manhood. These cases are typical of many others, for last year there were enrolled in the night schools 4,450 pupils between the ages of 14 and 21 years. For the education of a similar number of day-school pupils, between the ages of 14 and 21 years, the State spent last year \$156,551, in contrast with \$13,740 on these young folk who attended school after long hours of work.

It should be borne in mind that both South Carolina and Alabama excelled all other States in the Union in the matter of the reduction of illiteracy between 1910 and 1920.

ILLITERACY

There has been an effort in some States by school officials and outside organizations to reduce the number of illiterates in those States before the 1930 census is taken. This work has been difficult because it was hard to locate those persons who could not read or write. In some cases the names and addresses of illiterates reported in the 1920 census were secured from the Bureau of the Census. It was found that after a lapse of five or six years so many of those reported by the Bureau of the Census as illiterate had moved their residence that this information was of little value. In some places local censuses were taken, and it was found that there was considerable variance between these records and those reported by the United States Bureau of the Census. The State Department of Education of Nebraska has undertaken to ascertain at the time of the annual school census in June the names and addresses of all adults in the school districts, together with information as to whether they can read and write. This information will be most valuable in planning the elementary instruction needed by those beyond compulsory school age.

When it is so well known that illiteracy of parents is a handicap to the district in training their children and to the general prosperity of the community it is difficult to understand why there is not more activity in all States to reduce illiteracy to a minimum.

In organizing a program for the reduction of illiteracy among those beyond compulsory school age voluntary workers can be of great assistance in at least three ways, namely: (1) By ascertaining

who and where the illiterates and the near-illiterates are; (2) by bringing to the attention of the boards of education the importance of providing instruction for these persons; and (3) by helping to recruit students for classes. This last is a matter that requires time, tact, and patience. The service can best be performed by some one who is known to the prospective student or to some of his friends, as grown illiterates are usually timid and suspicious.

Experience in most States has shown that voluntary workers should not attempt to give actual instruction to illiterates unless they happen to be trained teachers. Even if the voluntary worker is a trained teacher it is claimed that best results are obtained by having the class organized as a part of the regular school system, so that the students may carry on from year to year.

Illiteracy is not a matter that can be removed by a few lessons unless we are willing to assume that the mere writing of one's name makes him literate. It takes many lessons to teach an illiterate to read well enough to get pleasure from what he reads and thus acquire the habit of reading.

EDUCATION OF THE FOREIGN BORN

More and more the foreign born are seeking opportunities for education, with naturalization as an objective.

There also has been during the biennium an awakening to the importance of education of foreign-speaking women who, on account of the number of children in the home or because of racial customs, can not at first be induced to attend regular afternoon or evening classes. Instruction in the homes of these foreign mothers has proved a very effective means of orienting them to American ways. It is found that after a relatively few home classes these mothers often are willing to attend the regular afternoon or evening classes provided by school authorities.

MODERN LIFE DEMANDS EDUCATION

Employers in industry are beginning to look more and more into the causes of accidents, with their attendant slowing down of production. They find that many accidents are due directly to the inability of employees to read warning signs and to understand the principles involved in the operations which they perform. In times past an employee was a lone worker with a certain amount of labor to perform. Under the conditions of modern manufacturing one employee depends upon the work of another employee, and all are apt to be managing a complicated machine, so that the education of each employee is of vital concern not only to the employer but to every other employee of the system.

In our complicated age, with the very rapid substitution of mechanical devices for manual labor, it is found that the undereducated man is hardest to become rehabilitated in new employment.

PARENT EDUCATION

Parent education, which is receiving much attention, is looked upon as an important approach to the education of boys and girls. The most dominating influence in the life of a child is that of his parents and other adults in the home. It was found in some of the remote mountain sections of Buncombe County, N. C., that before the adults were brought into the evening schools it was almost impossible to secure regular attendance of children at the day schools. The attendance of parents in evening schools in one year increased the day-school attendance of children from 68 to 86 per cent in some districts. Superintendents of city schools are discovering that evening schools have a decided, wholesome effect not only upon the attitude of the children of parents who attend them but upon the attitude of large groups of adults, as most adults who attend evening school belong to various organizations which are led through their influence to support the school program. Our motto has been "Educate all of the children of all of the people," but we find that we have not succeeded in this because we diagnosed the case to be much more simple than it is. We find that we can not educate all of the children without also educating all of the people.

There is a growing tendency on the part of school administrators to acquaint parents with the month-by-month objectives of the day schools, as it is found that parents can strengthen pupils in their school studies. This is especially true in drill subjects, such as learning the multiplication tables, tables of measurements, and spelling. Many believe that this plan has great possibilities in parent training, as most parents have a natural desire to keep up with their children in educational matters.

COLLEGE AND UNIVERSITY EXTENSION

Universities and colleges, through class work held outside of regular hours or outside of the institutions, and through correspondence courses, promotion of debates, forums, conferences, loan of books, and by what are called "package libraries," are doing much to advance many phases of adult education. This field is almost unlimited and will grow with the demand for such service. Almost any individual or group can now receive guidance and help from some college.

A decided movement in adult education is the part which urban universities are taking. Classes are organized to meet the needs of adults who need special subjects. These classes, in many cases, are organized in down-town centers; for example, Cleveland College of Western Reserve University has taken as its main function the education of adults.

A question which is receiving much attention in the field of adult education is, should institutions of secondary and higher education give credit to those who are studying under the conditions outlined in the preceding pages as "adult education"? Many desire to have adult education free from the conditions now imposed in connection with the granting of credits and degrees. However, if adult education is to assume the significance that many predict for it, it will not be confined to the boundaries set for it by any particular group. Many will desire credit, and the officials who grant credit under the authority of the State will be asked to give credit. Far-seeing educators are trying to find a way for granting credits that will stimulate the greatest possible number of people to undertake bona fide educational endeavor in fields most suited to their needs and will not lower educational standards. It is freely granted, however, by students of this subject that as matters now stand many students (this is more true of adult students), in order to secure credit, are required to pursue studies in which they have but slight interest and to forego the study of other subjects in which they have a vital interest because of the arbitrary precedent for giving credit for the one and not for the other. And what is more pertinent to adult education, accrediting agencies have not yet evolved a satisfactory plan for giving credit for work done by those who are not regular resident students.

NATIONAL ADULT EDUCATION ASSOCIATIONS

During the past two years there has been marked activity on the part of two national organizations which have as their main purpose the promotion of adult education. The department of adult education of the National Education Association has held several meetings which have given a picture of what is now taking place in the elementary education of adults. At these meetings valuable committee reports have been published in *Adult Education* (previously known as *Interstate Bulletin*), the official organ of the department.

The American Association for Adult Education has held two national meetings, has sponsored lines of research, and has fostered the publication of a number of valuable studies, in addition to that by Doctor Thorndike, mentioned previously, among which appear two very important studies concerning the whole field of adult educa-

tion in Buffalo, N. Y., and Cleveland, Ohio. These surveys are valuable not only to the residents of these cities but to all cities which may desire to make similar studies. In most cities there are people who are interested in aiding their communities to secure well-rounded adult education programs. Even a tentative study in many cities will show that cooperation and coordination of the existing educational and recreational agencies will give additional educational opportunities to many people. From the Cleveland survey, we quote:

From the point of view of the community's fundamental interest in education, particular organizations, such as schools, colleges, and museums, are seen to be instrumentalities of value in so far as they are useful in achieving an educational purpose; they are to be strengthened, modified, supplemented, or abandoned according as they fulfill this purpose. It is, in fine, the paramount functional unity of the educational process that makes necessary the correlation and expansion of the community's institutional mechanisms under such leadership as shall envisage the process as a whole.

Under this interpretation of the term education, existing and potential educational activities in the community may be divided into two large groups: (1) Those concerned with the education of persons who are registered as regular full-time students in educational institutions, and (2) those concerned with the education of persons above legal school age who are not enrolled as regular full-time students in an educational institution.

In Cleveland the potential student body in the second group numbers over 750,000, while the first group numbers approximately 250,000.

"Adult education" is understood, then, to be the conventional term for all those educational activities that fall, by more or less common consent, within the second group. * * *

Practically all adults are engaged in some sort of occupation—in industry, commerce, home-making, the professions. This occupation constitutes their chief interest and claims the major portion of their day. Around it are centered all other activities. Manifestly, to plan an educational program for adults without reference to this central activity and interest is to court failure.

On the other hand, adult education is not to be thought of as limited to instruction having a distinctly vocational purpose. In addition to being a productive worker, each adult is also a social being, a citizen, a member of some home, a physical organism, and an individual with highly significant mental and spiritual potentialities. Therefore, no complete program in adult education may neglect proper provision for continuing the education of those, whether native or foreign born, who feel, or can be brought to feel, a real need for educative experience in each of the following fields of adult activity and interest: English and other subjects, habit formation in citizenship, parental and other home activities and responsibilities, health activities and habits, guidance in spare-time activities.

HOME READING COURSES

Realizing the need for broadening and strengthening home reading of worth-while books among the American people, representatives from four national organizations, namely, the United States Bureau of Education, the American Library Association, the National Congress of Parents and Teachers, and the National University Exten-

sion Association, met in April, 1928, in Washington, D. C., to cooperate in formulating plans for furthering home reading.

As a result of this meeting a specific program was unanimously adopted, and each organization assumed a definite part in its development. According to this plan, the Bureau of Education and the American Library Association, separately or jointly, will prepare graded, annotated reading courses on general and special subjects, as may be requested by organizations or even individuals, and print and distribute these courses within the limits of their respective budgets; they will also give publicity to this project. While the Bureau of Education and the American Library Association formulate these courses, they may not always have at hand the requisite data for their construction. In such cases they will endeavor to secure whatever help is necessary from outside specialists equipped to give such data.


When these courses have been prepared and distributed, the American Library Association notifies the various library purchasing agencies that there probably will be a demand for the books contained in these reading courses.

The National University Extension Association adopts and promotes, as a part of its extension program, the reading courses issued by the Bureau of Education and the American Library Association. The extension division of each of the universities and colleges subscribing to this program issues on its own behalf certificates of achievement to those persons who satisfactorily complete reading courses.

For the service attendant upon examining summaries of books, giving suggestions, and issuing a certificate a small fee may be charged by an extension division; otherwise the services of the extension divisions are free.

The National Congress of Parents and Teachers actively promotes the use of these courses by the formation of reading and study groups and also devises plans for making available in interested communities the books required for these courses.

While these four national organizations have initiated and are sponsoring this plan for the promotion of more worthy home reading, all other interested organizations may cooperate in the project.



CHAPTER XII

SOME PHASES OF NURSERY-KINDERGARTEN-PRIMARY EDUCATION .

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CONTENTS.—Enriched environment—A new type of educational literature—Children's introduction to reading—Reconstruction of report cards—Nursery school and parent education—Children's progress aided in kindergarten and first grade—Contributions from research for teaching problems.

Three terms which refer to "the child" as the center of education have come into common use during the 1926-1928 biennium. The terms, "the whole child," "the child-centered school," and "creative expression," when translated into current practice, indicate significant progress in educational procedures.

The "whole child" indicates the several phases of child development which are now considered in many school programs, particularly those for nursery schools, kindergartens, and the first grades. These programs have emphasized social behaviors or character development equally with achievement in the school subjects; physical development is considered in its relation to social and intellectual development, not alone as an end in itself; home and school programs have set similar standards for the child's 24-hour day and for his progress from the nursery school through the kindergarten and elementary grades.

The school program that is "child centered" has emphasized the necessity of providing an environment in which the potential abilities of individual children are discovered and developed. The program provides activities of interest to children through which skill in reading, arithmetic, in social cooperation, and other social and intellectual abilities develops. It offers occasions for the self-initiated or original work frequently termed "creative expression." During such work a child's unanticipated skills and talents, as well as his lack of ability, are exposed to the teacher. With such information the teacher gives individual guidance, capitalizing each child's strength and achievement.

Such procedures as those briefly described indicate that the progressive program of education during the past two years has been

essentially constructive and positive. The program has placed a new importance upon the educational influence of environment. Fundamentally accepted in principle for the past 5 or 10 years, the actual demonstration in classroom practice of an adequate educational environment has been more widespread and more frequently stimulated and supported by scientific research than it has in the past. Instances of this demonstration in practice, which are suggestive of many others, are discussed in this report.

ENRICHED ENVIRONMENT

School environment was formerly understood to refer merely to the physical surroundings in which a child lives. As now defined, the term includes the behaviors and thinking of those persons with whom the child comes in contact. The child's responses in thought and action to everything he sees, feels, and of which he becomes conscious have long been recognized. The need for providing the kinds of situations which guide his responses into proper habits and attitudes and toward adequate knowledge is a part of the recent emphasis on the value of enriched environment.

Two researches give pertinent illustrations of the influence of environment upon expressed intelligence. A study made by the Family Welfare Society, of Atlanta, Ga., and reported in the *Georgia Educational Journal* for December, 1927, showed that 12 and 13 year old children in underprivileged families had an average of 20 points lower I. Q. than their 4 and 5 year old brothers and sisters. The cause of this deterioration of I. Q. was laid to home conditions. In this environment there was no social nor intellectual stimulus nor regularity of living. There were no playthings, and the parents made no effort to provide worth-while experiences for the children nor to have conversations which would increase their fund of knowledge or ability to express themselves.

Among the outstanding studies reported in the *Twenty-Seventh Yearbook of the National Society for the Study of Education* is one giving the effect of environment in contrast to inheritance upon children's expressed intelligence. The influence of environment on the intelligence, school achievement, and conduct of foster children, as reported in the study, shows that children in better foster homes gained considerably more in measured intelligence than did those in poorer homes; that children adopted at an early age gained more than those adopted at a later age; that siblings placed in better homes expressed superior intelligence over those placed in poorer homes; that unrelated children in the same home resembled each other in intelligence. The findings for children who were not selected for

adoption because of their brightness show decidedly that enriched environment increases children's expressed intelligence.

Such support from research has proved helpful to administrators in justifying the introduction of newer types of teaching method and equipment and in developing courses of study based on newer educational objectives. The studies give added support to the teachers and school administrators who have been following progressive ideas of education. School practice has not, however, waited upon research. A report made in 1926 by Mrs. Hughes, of the Milwaukee State Normal School, on creative activities in her first grade described the situation provided for the children enrolled:

Modern psychology and pedagogy have given us enlightenment as to the real meaning of education * * *. We are now providing a happy, colorful, and joyous environment where children may really live together * * *. The new environment provides many avenues to help children express their ideas, and provides many educative materials * * *. The teacher has a very definite part in the new régime. Her function is "to set the stage" in this new environment, so that children may find worth-while activities.

In such a program every effort is made to protect the child from his particular social handicaps and to safeguard and to promote his mental and physical health. The teacher in this situation must be equipped with a wide range of knowledge, with a keen sensitiveness to children's reactions to classroom procedures, with techniques for discovering the causes for children's social and intellectual disabilities, and for carrying on remedial measures. Such a teacher also needs a social skill in establishing a classroom atmosphere which begets activity and happiness in the child and in creating rapport with parents in the home.

Assistance for classroom work in matters of behavior problems and social welfare has been provided in many school systems by visiting teachers who go into the homes and by psychological service. To the department of research in the Los Angeles public schools there has been added a division for the study of children of preschool age. A nursery school has been established as a laboratory. It is anticipated that through this laboratory information will be obtained which will be of direct service to teachers of young children, not only in matters pertaining to behavior of children but also in problems of teaching techniques. Corrective work with high-school pupils has been a major feature of this research department's program. It is now accepting preventive work with the young child as of equal and perhaps of greater importance.

An example of cooperation which helps classroom teachers with materials for instruction is found in the close affiliation between the public library and the public schools of Kalamazoo, Mich. The children's department of the public library has established "a children's

house." In this house not only books are available for the children and the teachers, but mounted photographs, stereoscope pictures, stereopticon slides, and mounted exhibits showing industrial processes may also be borrowed for classroom use. A museum of local historical interest and of foreign material is well arranged for classroom visitation.

These two examples indicate types of service to assist teachers in providing a more adequate educational environment. Many others could be mentioned such as the transportation provided by several cities for school children to visit art museums, botanical and zoological gardens, and places of civic and industrial interest. In fact, there is little limit to the possibilities for enriching the school environment.

A NEW TYPE OF EDUCATIONAL LITERATURE

Many timely reports of creative work in education have been issued during the past two years by universities, teachers colleges, boards of education of public-school systems, and by private organizations. These reports both printed and mimeographed, are the beginning of a new type of educational literature which is making a definite contribution to current practice of progressive education. In times past, such reports have been confined to privately supported schools and institutions and to research centers. It is particularly significant to note that current contributions are now coming from all types of public and private institutions interested in the education of young children. Problems presented from many individual points of view add materially to the suggestiveness of the help available for those about to inaugurate new methods or materials of teaching.

The subjects covered in these reports include creative activities in classroom work, equipment, and supplies for activity curricula, reports on conditioning young children's behaviors, studies in character development, and reports of individual and coordinated effort in conducting programs of child development and parent education.

The Boston public schools have issued a bulletin entitled "Training the Emotions, Controlling Fear." This study not only shows how children may be helped to control the fear impulse but it includes outlines for classroom discussion which will guide the teacher in helping the children to overcome their fears. A study from the department of statistics of the public schools of Flint, Mich., covers the types of movable and stationary desks and seats for the primary grades. The institute for the coordination of women's interests, of Smith College, describes the nursery school as a social experiment. A report from the commonwealth fund presents a group of papers to show the relation of the child-guidance clinic to the community, giv-

ing the viewpoint of a clinic, the juvenile court, the school, the child-welfare agency, and the parent. The National Research Council, committee on child development, has issued a directory of researches under way in child development. The Teachers College of the University of Nebraska describes the educational activities inherent in an air-mail and a railroad project carried on by primary grades. The State Teachers College at Moorhead, Minn., describes two experiments in conduct education, and the State Normal School in Milwaukee, Wis., has issued a series of pamphlets on creative activities in the kindergarten-primary grades. Between 60 and 70 such pamphlets have been received by the Bureau of Education during the past two years. They dignify current achievements, suggest new projects, and encourage other groups of workers both to experiment with educational method and procedure, and to give to others the benefit of their achievements.

CHILDREN'S INTRODUCTION TO READING

There seems to have been slower progress in making a psychological approach to the teaching of reading, arithmetic, spelling, and handwriting, traditionally accepted as "fundamental" subjects, than to nature study, fine and industrial arts, and the sciences. However, correlation of subject matter in units of work has motivated the teaching of these subjects. Through a single activity such as dramatization there is a definite need for reading and for writing plans and records of progress, and for number activities to estimate and measure for costumes and scenery. An appeal is made to the children's interests and abilities. In fact, such units of work give a definite purpose for developing skill in all subjects through drill, whether individual or group. Programs so planned are easily detected by the classroom visitor who sees small groups of children independently engaged in a variety of both construction and drill activities.

Using beginning reading as an example, an effort was made to discover the extent to which changes in methods of teaching the more traditional subjects have taken place in current practice during the past two years. Three questions were asked of students enrolled in Dr. Laura Zirbes' class in methods of teaching reading, Teachers College, Columbia University, in the summer of 1928. The following is a summary of the replies received from the instructor and from 14 graduate students¹ working in city and State school systems

¹ These students included 5 general supervisors and assistant superintendents, 4 critic teachers, 2 directors of remedial reading in public-school systems, 2 elementary school principals, and 1 State supervisory agent. They represented 10 States and the Canal Zone.

and in teacher-training institutions throughout the country. The three questions were: (1) What have been the outstanding points of progress in teaching reading to beginners during the past two years? (2) To what extent is this progress actually in practice in your classrooms? (3) What influences seem to have retarded progress?

Progress in methods of teaching beginning reading.—Replies to this question are summarized as follows: Experiences and activities of interest to children are considered the best content for first lessons in reading. By this method the meaning of what is read is emphasized at the outset, book reading becomes a means to an end instead of an end in itself, abstractions are eliminated, life situations of interest to children are immediately connected with school work, and the child's initiative is used and his desire to read is whetted.

Methods of teaching beginning reading, based on children's interests and experiences, emphasize different procedures from those which the stereotyped "systems" encourage. Reading is now considered a life activity and handled as such rather than as a formal school subject; it is, therefore, not confined to a reading period but used in all experiences of the day's program. Teachers are capitalizing the interests children bring to the classroom and in addition are providing rich and varied experiences before beginning the definite teaching of reading. The children's own vocabulary is used as a starting point for the addition of many new words in their daily conversation and in their reading lessons. Kindergarten teachers are assuming a definite responsibility with their pupils in providing rich experiences, in building vocabularies, in developing clear-cut diction and enunciation, in providing practice in the use of complete sentences, and in stimulating curiosity regarding material to be read.²

The practice of teaching children to read by first comprehending the meaning of *wholes*, such as the sentence, before they are taught to recognize phrases and words, is widely accepted. The teaching of these wider units helps to prevent slow and laborious reading. Phonics is used to meet individual needs rather than presented as formal drill to all children. Premature stressing of phonics is avoided, since it tends to fix habits of word calling and short perceptual span units. There is less emphasis upon oral reading and more upon silent reading. More attention is given to individual differences in reading, in ease of learning, in interests, and in difficulties. Informal tests are

²National Society for the Study of Education. Twenty-fourth Yearbook. Part I. Report of the National Committee on Reading. Bloomington, Ill., Public School Publishing Co., 1925. 26 p.

used to record progress in acquiring skill instead of depending upon the exclusive use of commercially made "seatwork." Wider reading experiences, guided by the teacher, are preferred to intensive work in mastering a few selections. Care is taken to prevent strain and other emotional disturbances which formerly resulted from the undue pressure on reading power.

The extent to which these progressive ideas in teaching are in actual practice was chiefly described by those giving information as "not widespread" and as "50 per cent." Students leave the training schools with the new ideas of reading method, but frequently take positions in school systems where formal methods of teaching and "systems" of learning to read are required of the teachers. In some school systems the new ideas are still in the experimental stage. To introduce these, one school system first used a single classroom as a laboratory for experimentation. In this way the value of the methods studied could be proved with a view to later adoption by other first grades. Extensive reading is encouraged so far as materials are available.

Factors retarding progress in methods of teaching beginning reading are arranged in the order of frequency with which they were mentioned. Parents, school superintendents, boards of education, and the general public often have a wrong attitude toward new ideas of teaching method. Many parents want children to read too early and do not realize the values of soliciting children's interests to increase their knowledge and skills. There is a lack of appreciation on the part of many school superintendents that child study instead of subject matter forms the basis of teaching method. Many superintendents still require teachers to use formal and traditional methods of teaching. Public opinion generally favors a more formal type of teaching.

Many teachers are not acquainted with the psychology of an activity program and are not prepared to carry a teaching program on that basis. This is sometimes due to a lack of recent study or training, and sometimes to a definite "mind set" against change in procedure. Either a total lack of supervision or supervision which disregards the new philosophy of child study has hindered the progress of new methods of teaching beginning reading. This has particularly affected the inexperienced teachers working in their first positions. Suitable reading material is a necessity for the new program of teaching reading. The library of books necessary to supplement sets of readers is often lacking.

Other statements of hindrances include curricula based wholly on subject matter; promotion requirements for first grade based upon the mastery of a certain number of books or pages read; expectation

of uniform progress for all children; large classes which make it difficult for teachers to provide for individual differences among the children; daily programs divided into short periods; programs of testing which emphasize achievement to the exclusion of growth.

All of the hindrances to the practice of using new methods of teaching reading are remediable. Popular magazines are arousing general interest in child study in relation to learning. More teachers colleges and normal schools are basing the theory and practice work offered their students on the new ideas of developing skills through interests. More experienced teachers are enrolling each year in the summer sessions and extension departments of teachers colleges and universities. Teachers' professional organizations are including demonstration work and discussion of modern school practices in their programs of meetings. Mechanical work involved in preparation of typed or mimeographed materials needed by teachers is cared for in many school systems by clerks assigned to assist in elementary school buildings. A sound basis for changing certain undesirable promotion requirements is given in a recent investigation³ which shows that a 6-year chronological age does not in itself constitute readiness for reading.

In some instances, public schools and practice departments of teacher-training institutions are offering special assistance to teachers by the appointment of teachers of remedial reading. Teachers are studying and have more knowledge about the techniques of teaching in their relation to activities of the school program and to the important objectives of social behaviors now generally emphasized. These constructive influences may well bring to the children throughout the country greater ease and happiness in learning to read. They may also guide public opinion in thinking of learning to read as a thought-getting and thought-expressing process rather than one of alphabet or word recognition.

RECONSTRUCTION OF REPORT CARDS

Measures of pupil progress, recorded on report cards for the benefit of parents, have, perhaps, been less affected by the new ideas regarding curricula or methods of teaching than have any other one part of the school program. This may be due both to the fact that teachers do not have confidence in modern educational methods, and to the difficulty of explaining newer educational terms and methods of rating to school patrons and to the lay public. To effect changes

³ An investigation of practices in first-grade admission and promotion. Mary M. Reed. New York City, 1927. New York City; Teachers College, Columbia University, 1927. 126 p. (Contributions to Education, No. 290.)

in content and in form of such a personal record as a report card requires a carefully planned educational program for the parents. Findings from a study of 419 cards in current use for kindergarten-elementary grades indicate how few reflect modern principles of education. The mechanics and contents of the cards were studied for evidences of the following new educational objectives emphasized in recently constructed curricula: Importance of character development; correlation of subject matter; emphasis on individual instruction; use of standardized tests; appeal to children's interests and use of their experiences in school programs; cooperation of school and home; recognition of the educational value of extracurricular activities; encouragement of appreciative and creative expression in such activities as art, music, and literature.

On the greater number of cards studied, the pupils' behaviors are rated only under the general traditional terms of "conduct," "deportment," and "effort." Comparatively few cards list from 4 to 20 such behaviors to be rated as courtesy, cooperation, obedience, initiative, self-control, etc. On still fewer cards the behavior traits are classified, defined, or placed in relation to specific situations. For example, "Courtesy—Listens attentively while others are talking; avoids interrupting the person speaking; shares work and play material with others." A major number of the behaviors defined are stated in such negative forms as "wastes time," "gives up too easily," and "is discourteous." In only rare instances have "social studies" or "units of work" supplemented lists of detached subjects. Just as infrequently are ratings given for such specific types of skills as oral and silent reading. Few ratings relate the individual child's achievement to his individual capacity and to standard norms. "Creative expression" and the pupil's individual interests are given space on the cards in only a few instances, and advantage is rarely taken of the opportunity to capitalize parent cooperation in the child's all-around education.

No one card reporting pupil progress can be used satisfactorily by all school systems. Curricula and administrative organization of classes and supervisory units in individual cities require individual consideration. The groups of lower and upper elementary grades seem to need different items for rating and different methods of rating. In constructing a new report card, parent cooperation is proving both helpful and economical. Such cooperation familiarizes parents with the new objectives of education and enlists their aid in strengthening the school's efforts to develop desirable habits in the children.

A program that is being developed in San Francisco as a test of effectiveness for its activity curriculum, which has been in use

for three years, is expected to lead the way to a reconstruction of the report card. A detailed inquiry has been submitted to parents who have indicated their willingness and ability to cooperate by keeping records. This inquiry, which is arranged in two columns, is headed by such objectives and activities accepted for the school program as *habits* of sharing responsibilities, of motor control, of health, of table behaviors, and of rest and relaxation; *attitudes* of courtesy, of respecting the rights of others, of fairness in dealing with others, of self-reliance and initiative, and of respect for law and authority; *use of school subjects and materials*, such as language, use of materials, nature work, reading, numbers, and music. In one column are statements of the desired school attainments and in the other are statements showing a possible carry-over of these attainments in the home. Space is left in the second column for insertions and a blank page is left for written explanations. To illustrate: Under "Sharing responsibilities" the first statement in column 1 is "Hangs up hat and coat. Takes care of rubbers and umbrella." In column 2 the first statement is "Puts away own clothes" and the parent is requested to check one of the following terms, "voluntarily," "when reminded," "when scolded."

Parents so initiated into the new objectives of school work can be depended upon for cooperation when a change from a traditional type of report card is desired. The desired goal is for records of progress which shall be sufficiently comprehensible to parents, teachers, and children to assure intelligent and unified effort in helping a child progress socially, physically, and intellectually.

NURSERY SCHOOL AND PARENT EDUCATION

Objectives and procedures of every new movement, to which many organizations actively contribute, are in a condition of continual change. The nursery school is such a movement. Specific contributions are made to its program by people from the fields of education, nutrition, psychology, and mental and physical hygiene. Due to these contributions, most of which are based on scientific research, there has been no crystalization of the programs of education for young children in nursery schools. Questions which are still controversial include the size, kind, and quantity of play materials and of physical apparatus; the amount of independent personal care and care for property to be expected of children at the 2, 3, and 4 year age levels; the size of group which a nursery school teacher can handle, and the desirability of conducting any organized group work; the amount of indoor and outdoor play; adequate provision of food for midmorning, noon, and afternoon lunch; the values of conducting nursery schools a full day or a half day; types of records

to be kept each day, each week, and at other times during the school year; the details of physical examination considered essential and methods of preventing contagion; adequate methods of giving mental and social tests.

Even this list of controversial questions does not complete the problems continually arising in nursery schools. A wholesome outlet for these questions has been provided at the annual meetings of the International Kindergarten Union, at the conference on research of the committee on child development of the National Research Council, and at the biennial conference of nursery school workers called by the National Committee on Nursery Schools.

A subcommittee of this National Committee on Nursery Schools has continued its study of minimum essentials for nursery-school education. Due, perhaps, to the many points of view of those cooperating in the work, the committee has found it a difficult task to outline the minimum requirements for nursery schools without apparently determining procedures which could be interpreted as typical. A need for the minimum essentials is found in the number of informally organized schools using the name "nursery school" without providing trained teachers and consultants to guide the work.

The number of nursery schools listed by the Bureau of Education in 1926 was 67, and in 1928 it was 121. Many of the schools listed in 1926 did not continue and many new ones have since been opened. Of those listed in 1928, there are 68 which were opened during the years 1926, 1927, and 1928. The 121 schools are located in 70 cities in 27 States and the Territory of Hawaii.

A total enrollment of 2,573 children is reported from 107 of the nursery schools, with a median enrollment of between 16 and 20 children. There is an average of 9 children per teacher, with, however, a certain amount of assistance from student teachers, research workers, nurses, or parents.

The median length of day for all the nursery schools listed in the directory is between 6 and 8 hours. In this way all the problems of growth connected with the child's eating and sleeping habits, as well as the social problems and those connected with handling play materials, are brought to the attention of the teacher. Nearly all the schools operate for 5 days a week; 2 schools in orphanages operate 7 days a week; and 7 schools, 2 supported by tuition fees, 4 caring for the children of working mothers, and 1 located in a hospital, run for 6 days a week.

For all nursery schools there is one main service to be rendered. That service is the education of young children and their parents. In addition, some schools act as demonstration and teacher-training centers and others as research laboratories. Of the schools listed by the Bureau of Education, 74 are organized specifically for the edu-

cation of young children and their parents; approximately half of these schools are supported by tuition fees and the other half by philanthropic organizations; 10 nursery schools included in the 74 are located in public-school buildings, but only 4 of these are wholly supported by the school systems. Thirty-two nursery schools act as demonstration or teacher-training centers for departments of home economics and education in colleges and universities. Three schools offer demonstration facilities for home economics courses in institutions of high-school level. Twelve nursery schools act as laboratories for institutes of research in child development.

Few advocate that nursery schools be made a part of public-school education. This would be hardly defensible until more definite techniques of teaching young children have been determined and until a larger proportion of the 4 and 5 year old children are cared for in kindergartens. However, nursery schools are being organized as demonstration centers in a few public-school systems and teacher-training institutions. They inform the teachers of all grades or the students in training about the educability of preschool children. Opportunity is provided for the observation of the reactions of children much younger than those with whom teachers are accustomed to work. They are able to see the simple elements of behavior in their earlier phases of development. The public-school nursery school also makes preparental education possible. In Detroit, Highland Park, Mich., and Los Angeles, Calif., both elementary and high-school pupils have opportunity to observe and to participate in the work with young children, learning something of the responsibilities of parenthood.

Education of the children's parents is cared for in nursery schools in several ways. These include daily conferences with teachers, discussion and study groups, home visits by the school staff, and observation of and participation in the actual work with the children. In 14 nursery schools the mothers, and in one or two instances the fathers also, are expected to give stated time to participation in the nursery school program.

The nursery school exercises marked influence in furthering parents' observation and study of their children. Such observation and study focus attention upon the home environment as a most significant factor in controlling children's social and intellectual growth as well as their physical development. The importance of fitting the home to the child is emphasized. This refers both to actual provision of space and of proper proportioned equipment for children, and also to the standards of home programs. Study groups provided for parent education have placed special emphasis upon the necessity for parents to control their own emotional and intellectual life because of its influence upon their children.

In keeping with the growth of interest in the education and welfare of young children, a committee of seven, with 124 associates and contributors from the National Society for the Study of Education, has assembled material during the past two years for the yearbook "Preschool and Parental Education." A complete picture of programs contributing to the development of young children and to the profession of parenthood has been prepared. The history and the purpose of the preschool and parental education movement have been summarized; detailed descriptions of the organizations and programs of work of child-welfare agencies, day nurseries, clinics, nursery schools, and kindergartens have been prepared; a survey has been made of all projects sponsoring parent education, as well as an extensive survey of completed research in the fields of preschool and parent education.

This yearbook specifically shows the breadth of interest in preschool education. It also shows appreciation of its importance in relation to the whole gamut of growth which determines the success of childhood and adult life.

Another indication of the breadth of interest in preschool education is found in the variety of sources from which inquiries concerning nursery-school education have come to the United States Bureau of Education. These inquiries suggest that there is perhaps as wide a variety of organizations vitally concerned with the education of young children as there is in any other one phase of education. Aside from superintendents of schools, from those in charge of departments of education in universities and colleges, from directors of teacher-training institutions, teachers, and others engaged in the school program, inquiries have been received about preschool education from the following agencies: National organizations, such as the American Federation of Labor, American Sociological Society, American Child Health Association, and American Red Cross; from Federal bureaus; from State boards of health, public welfare, agriculture, and control; from county bureaus of health and home advancement; from municipal departments of health, of public and infant welfare, of child guidance, of "institutes and agencies," of research; from clinics for infant feeding, committees on preventing delinquency, and from juvenile and family courts; from municipal and philanthropic charities, community chest committees, public charity associations, day nursery associations, social settlement centers; from foundations which aid projects in preschool and parent education; from organizations such as parent-teacher associations; and from public libraries, editors of periodicals, and consulates and educators in foreign countries.

There is evidently a definite and a widespread appreciation of the need to establish right beginnings of adequate personal, social, and

intellectual habits and attitudes in young children. There is, also, widespread appreciation of the need for making a profession of parenthood.

CHILDREN'S PROGRESS AIDED IN KINDERGARTEN AND FIRST GRADE

Benefits children receive from attending kindergarten have been well described in two research studies recently completed by Edward W. Goetch and Ada S. Woolfolk, respectively.⁴ Mr. Goetch compares achievements in the elementary school of children with and without kindergarten experience. He finds that kindergarten children have a higher scholarship and a higher social ranking, based on teachers' estimates; that they have higher intelligence and achievement scores and a higher educational age according to objective tests; and that they have fewer failures in promotion and more regular progress through the elementary grades. "The kindergarten is an important factor in later elementary school achievements in preparing pupils to undertake the work of the first grade successfully and in enabling them to maintain almost unbroken progress through the first six grades."

With the opening of public-school kindergartens in Atlanta, Ga., an opportunity was given to test the value of kindergarten attendance in aiding underprivileged children to overcome the influence of an adverse environment. A group of 75 children were given the Stanford-Binet test. Part of this group went to kindergarten and part were unable to go. At the end of the school year, the children were retested and only those who went to kindergarten showed improvement in mental development.

Establishing and maintaining kindergartens in a public-school system depend largely upon the knowledge school patrons and school administrators have of the educative results of kindergarten attendance. Results from such studies as those reported are of definite value to those seeking information.

The extent to which city school systems now provide kindergarten education is indicated by the number of their elementary-school buildings which house kindergartens. Data from a sampling of 160 city school systems maintaining kindergartens representing cities of all population sizes, located in 41 States, give the following information:

⁴The Kindergarten as a factor in elementary school achievement and progress. Edward W. Goetch. University of Iowa Studies: Studies in Education, Vol. III, No. 4, 1926.

The mental growth of the preschool child in the dependent family. Ada S. Woolfolk. Georgia Education Journal, Vol. 20, No. 4, December, 1927.

Elementary-school buildings housing kindergartens in 160 cities

Population	Per cent of elementary-school buildings that house kindergartens	
	Median	Range
100,000 and more.....	61.5	16-100
30,000 to 100,000.....	91.5	13-100
10,000 to 30,000.....	83.0	5-100
Fewer than 10,000.....	100.0	20-100

The per cent of buildings having kindergartens in some of the larger school systems is reduced by the fact that some elementary buildings contain only upper grades, and the kindergartens are housed in buildings with the primary grades.

The ratio between kindergarten and first-grade enrollments indicates the use that parents make of the opportunity to send children to kindergartens. In considering the figures given, however, certain facts must be kept in mind: The proportion of elementary-school buildings housing kindergartens in these 160 cities, as indicated in the first table; the general custom of providing more rooms for first grades than for kindergartens, though one kindergarten room generally cares for two enrollments each day by having different groups attend morning and afternoon sessions; waiting lists maintained by many cities for kindergarten enrollments, although 6-year-old children are rarely refused admission to a first grade. The following figures indicate a fairly high proportion of first-grade children who have had kindergarten experience:

Kindergarten enrollment compared with first-grade enrollment in 160 school systems

Population	Per cent of kindergarten to first-grade enrollment	
	Median	Range
100,000 and more.....	48.0	15.0 -127
30,000 to 100,000.....	75.5	23.0 -210
10,000 to 30,000.....	70.5	8.0 -128
Fewer than 10,000.....	70.5	.04-384

Cities having a decidedly larger enrollment in kindergartens than in first grades evidently provide a 2-year differentiated curriculum in the kindergarten. In 29 of the States having permissive or mandatory laws for the establishment of kindergartens the entrance ages are 3, 4, or 4½ years.

It has been said that the kindergarten is naturally the recruiting and receiving division of the school system. It has many functions in regulating school entrance, in establishing valuable contacts with the children's parents, and in enlisting assistance from such public and private agencies as contribute to the protection and the supervision of the development of infants and young children. These functions of regulating school entrance are assumed by the first grades in school systems which do not maintain kindergartens.

Rules and regulations provided by boards of education for controlling entrance to kindergarten and first grade list but few requirements and seldom suggest possible home preparation of the child for school entrance. There is a surprising indifference to the responsibility which should be placed with this port of entry to the school system. A study of kindergarten entrance requirements reported by 108 cities showed that in 98 cities children are admitted solely on a chronological age, at 4 or 5 years. Ten cities require a mental test, but none mentions records of personal or social characteristics nor physical examinations. It has been stated frequently that tests administered to young children before they feel at home in their new environment undoubtedly give inaccurate results. Consequently many school systems include the test for mental age during their year's program, though they do not mention it in their rules for admission. At the close of the child's year or two years in kindergarten the school should have records of his home and social background, of his physical condition, his mental age, and his personal characteristics. Such records give the school a foundation for grade and group classification.

Adaptations of curriculum are made to meet the needs of both slow and rapid learners, mental and social maturity being determining factors in grade placement and group classification. To meet the individual needs of children entering kindergarten at 4 years of age, several curricula have been constructed to cover two years of kindergarten experience. A notable example of this is the "Suggestive Curriculum Material for the Four and Five Year Old Kindergartens" developed by the Wisconsin State Kindergarten Association. This material analyzes the typical responses of children at these age levels and suggests specific educational objectives and activities with materials, in plays and games, language and literature, drawing, and other art experiences for each age. To this beginning, other phases of kindergarten work will be added. The whole curriculum is in loose-leaf form allowing for alterations and insertions.

Entrance requirements for first grade reported by 97 cities are also based chiefly on chronological age. Ten cities, however, definitely state that chronological age must be supplemented by a mental age

of 6 years or by a record of kindergarten attendance. Several cities now require kindergarten attendance as a prerequisite for first-grade entrance regardless of chronological age. In her study "An Investigation of Practices in First-Grade Admission and Promotion," Dr. Mary M. Reed includes the following statements in the interpretation of her data:

The use of chronological age as the decisive factor for the admission of children to first grade shows a tendency to hold to traditional objectives, to disregard the findings of scientific research, and to ignore the value of kindergarten learning as a basis for first-grade work on differing levels of ability.

The lack of correspondence between the chronological age factor for the admission of children to first grade and the reading factor for the promotion from low first to high first grade tends to disregard those curriculum objectives which are based upon continuity in developing traits important for the individual and social life of a child at this stage of growth.

To admit children to first grade on a chronological age basis and promote them on a reading achievement basis without scientific placement of reading inevitably tends (1) to lead both teacher and pupil to place emphasis on a narrow aspect of the curriculum and to neglect the outcomes from a balanced curriculum, comprehending leisure, practical efficiency, health, and citizenship, and (2) to place emphasis on curriculum content for which children may not be mentally, intellectually, emotionally, or physically ready.

Many schools in New York City have extended their kindergarten program to include informally organized first-grade work under the name "kindergarten extension classes." In a social and informal environment, the curriculum covered in these classes is a step in advance of the kindergarten and includes the activities 6-year-old children need and enjoy. An investigation of the value of these classes was made by the district superintendent in charge of Districts 43 and 44 and reported in the 1927-28 Report of the Superintendent of Schools, New York City, page 401:

The value of the training received in the kindergarten and kindergarten extension classes has been a moot question since their establishment. During the past year I made a study of the age-grade progress reports of the present 4B grade in the schools of these districts with the view of finding out the relative progress of pupils receiving this training and of those not receiving it. My survey showed that the children having had both kindergarten and kindergarten extension training made the best progress and those having kindergarten training only made better progress than those who entered school in the 1A grade.

For children of a 6-year chronological age but a lower mental age, several school systems, including Rochester, N. Y., Seattle, Wash., and San Francisco, Calif., are providing preprimary classes or slow-moving first grades. These classes provide "work on his own level" in an atmosphere of success for the child of slow mentality or for the foreign child with a language handicap. It has been found that children repeating first grade are more apt to repeat the failure in

later grades, due as much to negative mental attitudes early acquired, as to inability. The preprimary grades give an opportunity to discover individual differences in reading readiness before the child is placed in a grade where the acquisition of that skill is necessary. As these children make certain desirable social adjustments and give evidence of reading readiness, they may be transferred to classrooms where the children are progressing at a more rapid rate. The plan is a less formal version of the X-Y-Z grouping used in certain cities. These plans help to classify children on ability levels during the first years of their school life. Opportunity classes are organized in most large school systems to care for older children who are retarded. No system of classification has been generally adopted to care for younger children of slow mentality or for those who lack social adjustment.

The value of preprimary groups in Rochester, N. Y., was studied by a committee appointed by the superintendent of schools. It was found that by placing approximately one-fourth of the children completing kindergarten in preprimary grades, that the resulting increased proportion of successful children has warranted the continuation of the experiment. Further experimentation is being conducted in Rochester with slow-moving classes in the third and fifth grades for the purpose of giving the slow child definite opportunity to keep his intellectual and emotional balance through the elementary school.

The large amount of retardation in first grades throughout the country has prompted these plans for caring for individual differences of young children. The advisability of introducing a new name, preprimary, for one of the early grades has been questioned since there has been continual controversy about the use of the name kindergarten to denote the first unit of the elementary school. The name "preprimary" is used in certain situations to satisfy patrons that the child of a 6-year chronological age is having some form of first-grade work. It also prevents the child's discouragement on being retained a second year in either the kindergarten or first grade. The differentiated 2-year kindergarten curriculum as used in Wisconsin provides for the slow-moving children without introducing a new grade name.

To make adequate provision for individual differences among children and to assure continuity from grade to grade, it is necessary for teachers to be able to work with any of the different age levels within the first school unit. Training for teachers of young children, offered in a majority of colleges and universities, covers the entire unit of kindergarten-primary education and, in many instances, also includes preschool and parent education.

CONTRIBUTIONS FROM RESEARCH FOR TEACHING PROBLEMS

A number of plans have been devised to give practical aid to classroom teachers. Supervision is the aid most commonly provided. In a few city school systems the supervisory program is so organized that helping teachers, skilled in some particular phases of school work, go into classrooms to demonstrate, to guide and, occasionally, to stay until the classroom teacher's problem is well on its way to solution. Demonstration schools have been provided in some school systems. Teachers may go to them for observation of some special teaching technique or for help with some detail of classroom management or arrangement. In both cases, supervisory and demonstration school programs, investigations are continually in progress to discover more effective ways of solving teaching problems. The reports, previously mentioned, of studies and of work accomplished by different educational agencies offer practical examples of available assistance for all teachers and school administrators.

Findings from scientific research seem to be more helpful in analyzing and solving practical teaching problems than they have been heretofore. Special contributions have been made by research to behavior problems involved in curriculum construction, in teaching techniques, in language development, and in child personality. Findings of special help are illustrated by the following digests of certain studies completed within the past two years⁵.

Self-measurement of teaching techniques.—Under the headings of "Adaptation of routine procedures so as to promote in the children both physical development and desirable habits, attitudes, and skills" and "Adaptation and use of the school situation for the children's need for educative work and play," Doctor Bain analyzes teaching techniques to be used with young children. Under these headings a scaled analysis is made of 28 observable teaching procedures with which a teacher may evaluate her own work.

The teaching procedures include physical care of the classroom such as cleanliness, lighting, and ventilation. They include descriptions of the teacher's and children's responsibilities in developing habits of personal hygiene; care of personal property; protection from physical danger; and promotion of health expressed in posture,

⁵ Lists and digests of other researches may be found in the following publications:

Bibliography of research studies in education, 1926-27. Washington, Government Printing Office, 1928. (U. S. Bureau of Education. Bulletin, 1928, No. 22.)

Child development abstracts and bibliography. Issued by Committee on Child Development, National Research Council, Washington, D. C.

Twenty-eighth Yearbook of the National Society for the Study of Education, Preschool and Parental Education. Part II. Research and Method. Public-School Publishing Co., Bloomington, Ill.

⁶ Teaching in nursery school, kindergarten, and first grade. Bain, Winifred S. New York, Teachers College, Columbia University, 1928. 123 p. (Contributions to Education, No. 332.)

food assimilation, rest, and repose. They include desirable social and emotional adjustments, provision for creative work and for artistic expression, for solving problems, and for attaining skill in reading, writing, and number work. Items listed on the scale may easily stimulate teachers to think of their teaching techniques in specific terms—terms associated in each case with both their own and the children's behaviors or modes of thinking. Any teacher can compare her rating on the different scales with that of 30 nursery school-teachers, 98 kindergartners, and 103 first-grade teachers.

Child personality observed in spontaneous conversation.—A guide to teachers in observing personality traits expressed by children in their spontaneous conversation is offered by the first of a series of studies dealing with child personality.⁷ Records of 3,125 remarks made by kindergarten children were analyzed to discover characteristics of personality of this age child. Approximately 40 per cent or 1,275 of these remarks were descriptive of the traits termed "self-assertion—e. g., of personal power, of self-display, of interjection of self into a situation, of defense of one's feeling of ownership, of resistance to interference, of contradiction, of commands, threats, and derision." "The photographing of the whole kindergarten child in action reveals him as essentially a defender of his individuality, a nonconformist, a relatively unsocial being." A guide to teachers is given in the deduction that the life of the kindergarten-primary child is essentially individualistic, but that it also is a life in which social adjustment must be made gradually. It must necessarily be a period in which the child is becoming acquainted with the verbal side of his environment—a stage of linguistic experimentation and of dramatic play.

Truthful and untruthful children.—Some relationship may be said to exist between the characteristic of assertiveness in young children and the characteristic in untruthful children of making overstatements. Overstatement was found by Doctor Slaght⁸ to be the strongest statistical measure of untruthfulness.

The findings from his study of truthful and untruthful children in grades from the fourth to the tenth show that untruthful children are inclined to overstate. Whether this was done with intent to misrepresent or from the desire to gain social recognition could not be determined by the data. Untruthful children tend to express overconfidence and self-assurance. They are less inhibited mentally

⁷ Studies in child personality. I. A study of the language of kindergarten children. Harold Rugg, Louise Krueger, and Arsenia Sondergaard. In *Journal of Educational Psychology*, Vol. XX, No. 1, January, 1929.

⁸ Untruthfulness in children: Its conditioning factors and its setting in child nature. W. E. Slaght. University of Iowa Studies. Studies in Character, Vol. 1, No. 4. Published by the university, Iowa City, Iowa, February, 1928. 79 p.

in the presence of an exciting situation. They show evidence of being more vacillating, more impulsive, and have less reliability in judgment and less emotional stability. They are the product, as a rule, of poor home environment, both cultural and economic.

The truthful children seem to have the more stable and centrally coordinated personality, to show a decidedly wider range of information about facts and situations regarding home and social life, nature, mechanics, literature, religion, etc. They were, on the whole, from better home surroundings.

Close relationship exists between favorable home environment and truthfulness. The study may suggest to the teacher certain methods of handling social-moral situations in school. A rich environment, stimulating many ideas and continuous activity, unquestionably fills the child's mind and keeps him busy. An honest, constructive attitude on the part of the teacher helps to lift the children's spontaneous responses to the level of honesty. Knowledge of home conditions can not help but assist the correction of behavior difficulties expressed in school. The parent-education movement is leading to cooperative endeavor with the schools which will assure careful consideration of the child's needs during his 24-hour day.

Influence of teachers' language upon children's conduct.—Another study focuses the teacher's attention upon the language she uses with children.⁹ It emphasizes the control of conduct through language and the effect expressed approval has upon children's learning. Positive results followed experiments in both situations.

How preschool children may successfully solve problems.—Thoughtfulness in solving problem situations can be encouraged with very young children.¹⁰ An analysis of techniques which aid children to handle problems courageously and successfully gives specific suggestions to teachers of children at all age levels. The techniques are quite characteristic of the positive, constructive attitudes maintained toward children by nursery school teachers. They effectively draw out the children's latent abilities. In summary, the analysis indicates that interesting situations which are not too stimulating arouse a solving approach conducive to the arousal of insight; the attention of self-conscious children should be specifically directed to the problem and away from themselves; children lacking in self-confidence and who are overreliant upon adult approval should be encouraged to try out all possible approaches to a problem; children

⁹ The relation between early language habits and early habits of conduct control. Ethel Busnell Waring. New York, Teachers College, Columbia University, 1927. 125 p. (Contributions to Education, No. 260.)

¹⁰ The solving of problem situations by preschool children: An analysis. Augusta Alpert. New York, Teachers College, Columbia University, 1928. 60 p. (Contributions to Education, No. 323.)

should be taught to vary their solving procedure to avoid unwarranted persistence on one aspect of a problem which interferes with seeing the problem as a whole and hence with the arousal of insight; children who tend to become easily discouraged require individual presentation of the problem to insure at least partial success, since failure renders insight in a particular situation impossible and colors the approach to subsequent problems.

Children's responses to the teachers' behavior patterns.—Sufficient attention has not been given to the effect of teachers' attitudes upon children's behavior. The same idea applies in other situations in which people having different degrees of authority work together. Many practical suggestions for such situations can be taken from Doctor Wickman's study.¹¹ He defines behavior problems as those forms of behavior declared undesirable and unwholesome by social and personal approval. In so far as the children's behaviors attack the teachers' moral sensitivities, personal integrity, authority, and immediate teaching purposes, they are recognized by her as problems in behavior; in so far as behavior is agreeable to teachers, respects their authority, fits in with their teaching purposes as well as their ethical beliefs, it is considered desirable behavior.

There is a tendency for teachers to counterattack children's undesirable behaviors without considering that children are more naturally aggressive and experimental than adults. Teachers require special training to understand what constitutes normal behaviors. They need to be informed about the social and physical backgrounds of children in their classrooms. They also need instruction in methods of treating behavior problems which are caused by emotional disturbances. This is a definite challenge to those in charge of curricula for teacher-training institutions.

School as a behavior-forming situation.—In "The Child in America,"¹² reports are given of important surveys and typical programs for child study in the United States and Canada. They show how the school is tending to assume responsibility for the "whole child" and to convert its program, at least for the lower age levels, into a behavior-forming situation. The summaries in this book are encouraging. What the schools have accomplished thus far in broadening and enriching their programs may be but an indication of a far richer future for the children.

¹¹ Children's behavior and teachers' attitude. E. K. Wickman. New York, Institute of Child Guidance, The Commonwealth Fund, division of publications, 1928.

¹² The Child in America. William I. Thomas and Dorothy Swaine Thomas. New York, Alfred A. Knopf, 1928. 583 p.

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CHAPTER XIII

TEACHER TRAINING

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CONTENTS.—Definition and scope of teacher training—Increased professionalization of teaching and of teacher training—Growth in number of teachers colleges, schools of education, and other training agencies—State control of teacher training—Financial support—The teacher-training staff—Increased supply of trained teachers in relation to the demand—The raising of State certification requirements—Selective measures applied to applicants for training—Revision and construction of the curriculum—The training school—Improvement of faculty instruction—Teacher placement—Training of teachers in service—Conclusion

Among the outstanding trends in teacher training during the biennium 1926-1928 may be noted some tendencies which have been growing cumulatively in force for about two decades. Some of these tendencies, as reported by responsible officials of the institutions which train teachers and by State departments of education, or which are disclosed by examination of research studies, reports, and other publications in the field, are the following:

1. Development of a clearer conception of the definition, scope, and objectives of teacher training.
2. Increased professionalization of teaching and of teacher training.
3. Growth in number of teachers colleges, and schools and colleges of education.
4. Increase in direct State control of teacher-training agencies and the consequent development of more unified and effective State teacher-training programs.
5. Increase in financial support of institutions and agencies which train teachers.
6. Raising of standards of qualifications for the staffs of the training institutions.
7. Increase in the number of trained teachers in relation to the number of teaching positions available.
8. Raising of State certification requirements.
9. Development of a greater degree of selectivity in the choice of trainees.

10. Improvement of teacher-training curricula.
11. Development of training school facilities and offerings.
12. Improvement of instruction in the training institutions.
13. Development of more effective institutional facilities for the placement of teachers.
14. Enlargement and increased diversification of training-in-service programs.

DEFINITION AND SCOPE OF TEACHER TRAINING

What constitutes a trained teacher? The answer changes with each decade. In round numbers, 1,000,000 teachers at the present time are required to instruct something like 32,000,000 children and adults in the classrooms of this country. In a great variety of ways and to varying degrees of completeness these teachers have all been "trained" for their work. Among the States having 75 per cent or more of their public-school teachers with preparation equivalent to two years beyond secondary education are: Connecticut, Arizona, Massachusetts, California, New Jersey, Rhode Island, New York, Utah, Oregon, and perhaps a few others. About eight States have less than 25 per cent of their teachers with two years of college-grade training. These percentages are approximate only, as data are extremely difficult to secure. The typical State the country over probably has slightly less than 50 per cent of its teachers with two years of training above secondary education.

"Standards" of training also vary among different groups of teachers. Typically, a graduate of a 2-year normal school, or a teacher with equivalent training, with one or more years experience in teaching, will meet the standards for the elementary schools of the average American city at the present time. In the elementary schools of a few of the wealthier or more progressive cities and States, and in the accredited high schools, a bachelor's degree, including work in professional education courses, is considered the standard for an adequately trained teacher. This is a tentative minimum standard for all teachers often suggested by educators. In the colleges and universities, a trained teacher may possess varying amounts of academic or technical training ranging from one to three years of graduate work, but typically, neither experience in teaching nor training in professional education is required. In typical rural elementary schools a high-school graduate with about a year's additional work in education and academic subject matter is accepted as a trained teacher. In most colored elementary schools the requirements are still lower.

The nature of the cultural, technical, and professional subject matter, which constitute part of the equipment of teachers, like-

wise varies greatly among the many types of instructors. Teacher training includes cultural elements but its aim is not primarily cultural. Objection is sometimes made to the term "teacher training." The term "teacher education," however, is also inadequate. A teacher must possess not only scholarship; he must be able also to exercise the skills of a practitioner. Actual practice work with children for the development of teaching skills is a distinguishing element in the preparation of teachers. The training of teachers is conducted on varying levels; but the professional training ordinarily given a public-school teacher is not the equivalent of that commonly demanded for medicine or law. The term "professional education" should be the ideal one, but it does not apply to much of the work of the teacher-training high schools and of the county normal schools.

The general public often thinks of teacher training as referring to the work in professional education only. Skill in the use of an ample and well-selected body of subject matter is, perhaps, an even more important element in the training of a teacher. Ideally, a teacher should be at home in all the common fields of human knowledge. Preeminently, he should be in the finest sense a person of culture. The teacher trainer is interested, too, in the development of scores of marginal abilities and traits, such as those included under the loose terms "personality" or "character."

A marked tendency during recent years is to define teacher training in terms of its immediate objective, which is specific preparation for a very definite type of teaching, supervisory, or administrative service. Teacher training can not be well understood nor confidently undertaken apart from a thorough knowledge of the requirements of the specific positions to be filled. This is a scientific basis upon which to build a training program.

Teacher training, then, consists in the provision of opportunities for a prospective teacher to acquire the requisite body of knowledge, the professional attitudes, the teaching skills, and the capabilities for future growth, which are demanded by the specific requirements of the position to be filled.

INCREASED PROFESSIONALIZATION OF TEACHING AND OF TEACHER TRAINING

The increased professionalization of teaching and of teacher training is a noteworthy tendency of the past few years; it has been relatively a short time since almost anyone who wished to realize a little money out of a high-school education could secure a job in the schools. Since progress in teacher training is intimately associated with progress in public education as a whole, some tendencies

toward the professionalization of public-school teaching are of interest. Such teaching more and more partakes of the nature of the learned professions of medicine, law, and theology. The members of such recognized professions are licensed, or are otherwise differentiated from the laity by recognized authority. Teaching has been characterized during recent years by decidedly improved standards of certification. Again, professional workers enjoy certain advantages in tenure, and usually are able to accumulate enough to retire in some comfort, or are the beneficiaries of retirement or pension laws. The increase in tenure and retirement laws for teachers has been marked during the biennium.

Further, a professional organization usually insists that its members give reasonable observance to an established code of ethics. Codes of ethics for teachers are constantly formulated, and the general underlying principles in the best of these codes are well understood and reasonably well observed by most teachers.

Public recognition characterizes professional work; one indication of public recognition of workers is the amount the public is willing to pay for their services. The average teacher's salary has more than doubled during the past decade; the increase ranges from slightly over \$600 to \$1,300. Even when the decreased purchasing power of the dollar is considered, cultural and professional improvement are now more nearly within the means of the teacher. Again, well-established professional organizations among professional workers are almost universal. The enrollment in the National Education Association has increased from 10,104 in 1918 to 181,350 in 1928, and in State education associations from 200,000 in 1917 to more than 600,000 in 1927. Finally, adequate and distinctive professional training, specific in nature to meet the needs of specific positions, must be given workers in order that they may render the expert service which perhaps is the chief characteristic of a profession. Such professional training, the better teacher-training institutions now afford.

Probably no one factor in the upbuilding of truly professional work in the training institutions is more important than scientific study and research in teacher training and in related aspects of education. Many research agencies are contributing to the increasing body of knowledge available. One measure of the increase in research in teacher training during the past decade may be found in the number of master's and doctor's theses produced in this field. In 1917, W. S. Monroe reports one doctor's thesis in the field of teacher training; in 1927, 20 were listed for the single year. In 1917, 13 master's theses were produced; in 1927, 100. During the decade, a total of 76 doctor's theses and 386 master's theses were reported in the field of teacher training, or in closely related fields. Nearly half of

the total number of both kinds of theses reported during the decade were produced during the past two years—a remarkable contribution for such a limited period.

Comparatively little research in education is undertaken in the normal schools and teachers colleges in comparison with the amount of research carried on in the large colleges and schools of education in the universities. The reasons are fairly obvious. The offerings of the 2-year normal schools are of the lower collegiate level only. Instruction on graduate levels is offered in perhaps not over a half-dozen of the State teachers colleges. State funds for research in the newly established teachers colleges have been strictly limited, and neither adequate personnel nor material facilities for thoroughgoing research programs have been provided. Furthermore, the conception is still commonly held that teacher-training institutions have a specific training function which precludes the undertaking by these institutions of work that traditionally has been held to be the somewhat exclusive prerogative of the universities.

While several teachers colleges, which are financially or otherwise in a position to do so, are making appreciable progress in the field of research, a still larger number of institutions are neglecting abundant opportunities to carry through most profitable scientific or semiscientific studies of their own institutional problems. As a first step, institutional officials should establish adequate channels through which information concerning the functioning of their own institutions could be promptly secured. The teaching load of a few qualified staff members could be reduced, and such individuals put to work on institutional problems.

As the number and complexity of research productions increase, the gulf widens between the research worker in education and the practitioner in the public schools. Experienced teacher trainers who are also skilled interpreters of scientific findings are increasingly in demand. The average classroom teacher reads publications devoted to practical teaching devices rather than technical and scientific articles and books. Prospective teachers are now given more instruction in up-to-date institutions in the more easily applied principles and techniques of research applied to classroom activities.

The American Association of Teachers Colleges, after considerable preliminary work in the formulation of standards and in the inspection of teachers colleges, adopted in February, 1928, a list of accredited institutions, including 65 class A teachers colleges, 7 class A junior teachers colleges, and 3 class B junior colleges. Changes in standards are adopted from time to time, and the lists of institutions will be enlarged or otherwise changed from year to year in

keeping with the observance by the institutions of the standards adopted. The steady pressure exerted by the association on the teachers colleges and normal schools during recent years is undoubtedly one of the outstanding factors contributing to the development of teacher training as a professional activity.

Among other organizations which contribute directly to the general professional advancement of teacher training may be mentioned the National Society of College Teachers of Education, the Association of Departments of Education in State Universities and Land-Grant Colleges, the City Teacher-Training School Section of the National Education Association, and the National Association of Supervisors of Student Teaching. So closely related is teacher training to the whole field of professional education that almost every active professional organization of educators contributes in some way to the general upbuilding of professional teacher training.

GROWTH IN NUMBER OF TEACHERS COLLEGES, SCHOOLS OF EDUCATION, AND OTHER TRAINING AGENCIES

The outstanding trends in the growth of teacher-training institutions are the continued increase in the number of teachers colleges, the decrease in the number of State and county normal schools, and the general expansion of offerings by almost every type of training agency. Some of these tendencies may be noted below:

Number of training institutions

Year	Teachers colleges	State normal schools (including 3-year institutions)	Private normal schools	City normal schools	County normal schools
1919-20	46	137	60	33	95
1921-22	80	110	63	34	95
1923-24	88	108	67	29	90
1925-26	101	102	64	27	108
1927-28	137	69	59	28	46

The 36 institutions added to the list of teachers colleges in 1927-28 are distributed over 15 States. Most of the 4-year institutions were developed from 2 and 3 year normal schools by the addition of a year or two of work. While the 2-year curriculum is usually retained in the 4-year organization of courses, the number of 2-year normal schools is constantly decreasing. There is a prevailing belief that four years' work, including professional training, should constitute the minimum preparation for elementary teachers. In 1920 two-fifths of all students enrolled in teacher-training institutions were enrolled in teachers colleges. In 1928 three-fourths of all students in teacher-

training institutions, as a result of the increase in number of teachers colleges, were enrolled in the 4-year teachers colleges.

The number of institutions which train teachers as a secondary or incidental function can not be definitely stated; by far the larger number of approximately 975 colleges, junior colleges, and universities contribute to the training of teachers, supervisors, and administrators for American schools. Many of the small liberal arts colleges and junior colleges, having discovered that as many as half or more of their graduates enter teaching, are setting up training programs to meet State certification requirements. Most of the State universities, land-grant colleges, and women's colleges, and many of the large private higher institutions of learning have well-developed departments, schools, or colleges of education; and it is in the graduate schools of such institutions that most educational leaders receive their advanced training. Many of the State teachers' colleges are developing regular training programs for secondary-school teachers, as in New Jersey. Graduate work is also undertaken by the teachers colleges as increased State support is provided. These lines of development have in some States reawakened the old question of the limits to be set to expansion among State-supported higher institutions of learning offering similar work.

A continual decrease in the amount of subcollegiate work offered by the training institutions is reported. Such work is tolerated in progressive schools chiefly to serve a diminishing group of ill-trained but mature teachers. The organization of the college work is now kept distinct from that of the work of secondary grade. Considerable demand for the continuance of this type of training still comes from backward sections not yet able or ready to pay the salaries demanded by normal-school graduates.

A lively discussion has been carried on during the biennium concerning the function and probable future of the teacher-training high school and of the county normal school. A few States, such as Michigan and Wisconsin, have county normal schools. About half the States of the Union have established, or recognized in State law, teacher-training courses or departments in high schools. Several States with excellent standard normal schools or teachers colleges maintain such training units. Courses in education are offered in more than 3,000 high schools located in almost every State. The teacher-training objective, however, is not commonly foremost in such schools.

The demand for the type of training which is offered by the county or local high-school teacher-training unit arises largely through the demand for teachers at very low salaries in rural and semirural sections. A large proportion of the teachers in the colored schools also

receive training of secondary grade only. There are, undoubtedly, needs for teachers in some localities which are not met by training institutions which offer work only on higher professional levels. Teacher-college graduates will not accept the salaries and living conditions in many rural sections.

About half the State superintendents or State officials concerned are more or less actively opposed to the county or high-school training unit. It is indorsed without qualification by very few State departments. The remainder accept the unit on its merits as an expedient that they would like to think is temporary. The number of States which will accept high-school graduation as sufficient scholastic preparation for teaching has decreased approximately 15 per cent during the past five years. A marked decrease, as in Ohio, in the number of county teacher-training units is reported over the biennium. The tendency is against a general increase in numbers of teacher-training high schools and county normals.

Suitable types of regular normal school or teachers college training may be adapted to meet the needs of the rural or other communities that actually suffer from a scarcity of teachers, but temporary concessions to necessity should not obscure the ultimate goal of full professional training of collegiate grade for every teacher.

Enrollment of teachers in summer schools during the biennium reached the highest point in the history of the summer school movement. An estimate has been made that at least one teacher in four each year attends sessions of this convenient training agency. The summer terms range from 5 to 12 weeks in length. A steady increase is reported in the number of institutions with the longer terms, and of institutions which make the summer term an integral part of the regular session. Practically all the teachers colleges and the majority of the normal schools offer work during summer sessions. An increasing number of technical schools, universities, and liberal arts colleges make special provisions during the summer months for teachers by offering courses in education and in general subject matter. Well-known educators are in constant demand for such work. A dozen or more of the universities and other institutions in the leading countries of Europe and South America now definitely bid for the attendance of American teachers; examples are Oxford University, The Sorbonne, University of Buenos Aires, University of Brazil, and the University of Mexico. The number of such institutions is steadily increasing.

Growth in the number of schools, colleges, and equivalent major divisions of education has been an outstanding tendency during the past decade. More than three-fourths of the State universities now have schools or colleges of education; approximately half of these schools or colleges have been organized within the past decade. Some

of the advantages claimed for this type of organization are: The teacher-training policies and programs are determined by the teacher trainers themselves, and not primarily by specialists in subject-matter fields; the professional school has exclusive control of the necessary professional advisement of students; the teacher-training curricula are determined by those who should be in a position to decide what knowledge, skills, and attitudes a teacher should have; and there is a greater possibility of proper teacher placement and follow-up work. After the organization of a school or college of education, however, a problem still remains. Typically five-sixths to seven-eighths of a teacher's preparation in college or university is in strictly academic or technical subject-matter fields other than education, and therefore most of the training of the prospective teacher is usually done by instructors outside the school or college of education. Hence the administrative problem arises as to the best ways and means of organizing a genuine professional program of training extending over four years of work.

A rather difficult problem is presented in many universities and colleges in which teacher training is offered in a number of separated departments. Many of the staff members who teach academic or technical subject matter quite naturally have little interest in the field of professional education or of teacher training and often have had the additional academic distrust of a new subject-matter field. On the other hand, the claims of some of the earlier followers of the new science of education were characterized more by the exuberance of adolescence than by the humility of experience. All this would have led to more or less salutary exchanges of opinion and consequent benefit to all concerned, had not the matter been confused by the bane of college administration—overdepartmentalization. The free ventilation of the minds of faculty members by the cross currents of thought and attitude prevailing in an institution of higher learning has been shut off too often by high administrative walls. The relative amount of financial support to be accorded the several departments of the institution, the development of curricula, the determination of lines of administrative authority, and agreement on the major division in which trainees shall register, become unduly troublesome problems.

Institutional authorities who have been most successful in establishing harmonious and fruitful relationships among separated departments engaged in teacher training have first of all assumed definite responsibility for such relationships. It is true that superior personalities among staff members go far toward compensating for deficiencies of institutional organization. With some fine souls, almost any type of organization seems workable. But wise administrators, with modern personnel methods in mind, are learning to

protect their staff members from undue hindrances in the progress of their work and from strain in their personal and professional relationships.

STATE CONTROL OF TEACHER TRAINING

A growing tendency is noted for the State departments of education to assume a greater measure of direct control over the State-supported teacher-training institutions, and this tendency is indirectly affecting the teacher-training programs of private institutions. The State is, of course, the ultimate authority over all State-supported public education, although so much authority has been delegated in the past to local units that not a few teacher-training and other higher institutions have operated in "splendid isolation and majesty."

The reasons are apparent for the assumption by many of the State departments of measures of authority commensurate with their responsibility. The task of supplying the increasing number of new teachers required yearly in the public schools has become extremely heavy; standards for teachers' qualifications have become higher; the character of training agencies has become more diverse; conflicts instead of unity of effort have often arisen among training institutions; the administration of certification regulations has become more difficult; and the amount of State funds allotted the several institutions has become much greater, necessitating more supervision over expenditures of such funds.

In 1900 only one State exercised direct supervision by professional staff officers of teacher training. In 1926 Alabama, Connecticut, Indiana, Massachusetts, New York, North Carolina, Ohio, Pennsylvania, Virginia, and West Virginia had regular divisions or bureaus of teacher training. Teacher-training work in high schools is commonly supervised in some degree by the State department. Direct State control of the certification of teachers had just begun in 1900; now three-fourths of the States exercise such function, and all the remainder of the States offer some kind of oversight or semiprofessional supervision over the certification of teachers.

Some of the most common functions now undertaken by the State departments which affect teacher training are: (1) The certification of teachers; (2) the promotion or direction of conferences and group meetings of teacher trainers; (3) direction or supervision of extension, reading circle, and other forms of in-service training; (4) accreditation of teachers from other States; (5) inspection of teacher-training institutions; (6) placement of teachers; (7) advisement in the selection of the teacher-training staff, including the president or principal of the institution; and (8) the conduct of a

large variety of miscellaneous activities, such as informal advisory services to the institution.

Supervision of instruction by the State, and by counties, cities, and other local units, is really a form of teacher training; the growth of such work is one of the major tendencies of the century in education.

In 1926, 10 States had established the position of State director of teacher training. This important office serves to coordinate the teacher-training activities of the department of education and usually to afford some degree of professional guidance and service to the training institutions. A continued growth in the number of such offices is to be expected; only with the development of highly trained professional staffs is much genuine assistance in the professional activities of the teacher-training institutions to be expected of the State departments. Without such staffs only general clerical, inspectorial, or statistical work is possible.

Constant opportunity is afforded the State departments of education to contribute materially to the professional teacher-training programs of the country. There is a constant demand for the scientific upbuilding of certification requirements. There must be some degree of uniformity, within the several States in the entrance and graduation requirements for curricula leading to specific teaching certificates. Minimum requirements must be established for such subjects as music, art, physical education, and so on.

The definite limits to State department activity have not so far been established. Such limits are at present largely conditioned by the financial support accorded the department by the State, and the consequent size and professional qualifications of the staff. The qualifications of the typical State director of teacher training include graduate training equivalent to that required for the M. A. degree, and six or eight years practical experience in teaching or other public school work.

The development by the State department of professional leadership, as well as of administrative authority, is a marked tendency of recent years. The development of such leadership has become most desirable, for the job of raising standards in teacher training and of coordinating such activities in a State is tedious and complex. Professional knowledge and some courage are demanded to unify the diverse teacher-training programs of strong and well-entrenched institutions of higher learning, while small and weak teacher-training institutions may often profit by professional assistance.

The relationships of teacher-training agencies to the Federal Government steadily become more significant and fruitful. The Bureau of Education, the Federal Board for Vocational Education,

and other agencies of the Federal Government have rapidly enlarged their programs of service to the educational public. In the Bureau of Education, a variety of professional services is offered in addition to the usual service of collecting and disseminating statistics and other data on education. A specialist in teacher training was appointed during the biennium. A survey of the land-grant colleges was begun. A part of this survey includes a detailed investigation of vocational and other forms of teacher training in 69 institutions located in every State in the Union.

FINANCIAL SUPPORT

The property valuation of normal schools and teachers colleges has increased more than one-third during the past decade. Ten years ago there were about half a dozen teachers colleges with valuations of a million dollars or more; now there are more than a score of such institutions. Eight or nine teachers colleges have valuations of from two to three million dollars each. In 10 years approximately 50 schools show incomes increased by 200 per cent or more; at least two show an increase of from 1,000 to 1,400 per cent. The receipts from the States for maintenance and capital outlay have likewise greatly increased. Examples of the most liberally supported institutions are the State Normal College at Ypsilanti, Mich., which reports for 1928-29 a total of \$887,855 from the State for maintenance, \$250,000 for permanent improvements, and some additional income from other than State funds; Western State Teachers College at Kalamazoo, Mich., reports \$867,000 receipts for maintenance; and State Teachers College, Cedar Falls, Iowa, reports \$633,500 receipts from the State for maintenance, a moderate sum for permanent improvements, and \$200,000 from sources other than State funds.

Teachers colleges and normal schools in 1928 reported \$22,171,374 in endowments. Gifts and bequests in 1926 amounted to \$8,728,950—nearly five times the amount in 1924. Later data are not available.

Recent efforts have been made to calculate expenditures on a unit basis with some interesting results. The cost of giving a teachers college student nine months training, in terms of current expense, is reported to be over six times as great in one institution as in another in a different State. The size of the student body determines much of this difference. Current expenditures per student in teachers colleges are typically nearly twice as great in institutions with less than 400 enrollment as in schools of more than 1,700 enrollment. The approximate median annual cost per pupil to the State in terms of current expense is about \$300 in normal schools, and \$270 in the teachers colleges.

The expenses of students in teachers colleges and normal schools are lower than in any other type of higher educational institution. According to a study made in the Bureau of Education, minimum expenses in the teachers colleges average \$335 per year, covering tuition, fees, board, room, and incidentals. More than one-fourth of the men and one-sixth of the women work at outside occupations during term time and earn half a million dollars annually. Eleven per cent of the men and 4 per cent of the women are entirely self-supporting. The percentage of students who work at outside occupations is much less in teachers colleges than in other types of higher institutions; many, however, earn additional money by teaching at intervals before graduation.

THE TEACHER-TRAINING STAFF

In the teachers colleges and normal schools a distinct effort is made to raise standards of training for staff members. In California, for instance, three-fourths of the teachers college faculty must possess master's degrees or higher by 1930. The departments, schools, and colleges of education of the universities and other higher institutions are now qualitatively as well staffed, except for training supervisors, as the academic departments. The practice a few years ago, when trained men in education were hard to secure, was to pick instructors from almost any related subject-matter field, such as philosophy and psychology, for work in the new field of "education." Abundant trained personnel is now available.

Much room for improvement still exists in the training of the staff of the normal schools and teachers colleges. The typical teacher-training institution has less than 10 per cent of its faculty with the doctor's degree, and less than half of the typical staff have the master's or doctor's degree. In teaching experience the showing is more favorable; training supervisors, for instance, average nearly 13 years' experience in public-school work. The low scholastic standard, however, for training supervisors and demonstration teachers, one-fourth of whom do not hold the bachelor's degree, has been a cause for constant dissatisfaction. If the training school is to be the heart of the institution, the staff should at least equal the other members of the faculty in training, salary, and faculty rank.

The American Association of Teachers Colleges sets as a minimum standard of training for members of the faculty who give instruction in the college departments at least a year of graduate study in their respective fields, with recommendations for even higher standards; while the immediate requirement for teachers in the training school is the bachelor's degree, with eventual training equal to that of teachers in the regular college departments.

The standards of the American Association of Teachers Colleges are not fixed, but are constantly rising. As a result, the steady pressure exerted upon the training institutions to raise the amount of training of their faculties has evoked much discussion. Most objections offered to the increasing quantitative requirements for training are based on the fact that it is difficult to secure really superior teachers who possess the doctor's degree for the salaries most training institutions can afford to pay. No one can intelligently question the value to a college instructor of ample scholarship of the right sort.

The objections raised to the nature of the training which the teachers college faculty member secures in the universities should receive a sympathetic hearing by the large graduate schools and colleges. The average staff member in the teachers college is given little or no opportunity to use the elaborate research techniques which he so laboriously acquired in his graduate training. He is called upon in the teachers college to instruct young people in superior classroom teaching, but he is given no training in such work in the university, nor is he given any particular encouragement to acquire the art for himself. He should know a great deal about elementary education, but the supply of doctors of philosophy adequately equipped with a knowledge of this field is entirely insufficient for the needs of the training institutions.

Fortunately, at least two or three of the larger universities which train teachers have made definite provisions for many of these specific needs of future instructors in teachers colleges. There is good reason to believe that the type of instructors that is in greatest demand in training institutions will be supplied in more ample measure in the near future.

The teaching load of instructors has always been excessive in training institutions, but it has been steadily reduced until now the average in accredited institutions is around 16 clock hours per week of classroom work. This average is slowly diminishing.

Salaries for professors in the teachers colleges and normal schools which have a system of academic ranking have increased during the biennium about 11 per cent; the salaries of faculty members with less than the rank of professor, 10 per cent. The increase in the salaries of all teachers in the smaller institutions in which a system of academic ranking is not usually established was 7 per cent. The increase in the salaries of training supervisors in both types of institutions was only 4 per cent in the two years. According to statistics collected by the Bureau of Education at the close of the decade, the median salary of professors on the basis of nine months' service is \$3,000, to which should be added \$450 for summer session work. The median salary of instructors with less than the rank of pro-

fessor is \$2,200, or \$2,600 including summer session work. In institutions with no system of academic ranking the median for all teachers is \$2,400, or \$2,780 including summer school work. The median salary of training supervisors is \$1,875 for nine months, and \$2,330 including summer school work. The median salary of the president or principal is \$6,000. As these data include colored schools, normal schools, and teachers colleges, a wide range in amounts of salaries exists among the institutions considered. For example, the salaries, including perquisites, of the presidents of teacher-training institutions, range from \$2,700 to \$10,000 or more.

INCREASED SUPPLY OF TRAINED TEACHERS IN RELATION TO THE DEMAND

The existing supply of professionally trained teachers, conceived in terms of genuine social needs, is totally inadequate. When considered in relation to existing certification requirements, and in relation to the minimum requirements in training demanded for employment, there is an apparent quantitative oversupply of some types of teachers at the close of the decade in many sections of the country. An oversupply of elementary teachers is reported, among other sections, in portions of New England, as in Massachusetts, and in the Middle Atlantic States, as in New York.

The number of students enrolled in all types of institutions which train teachers is more than half a million. This is more than 400 per cent greater than the number undergoing training two decades ago. During the same period, the number of teaching positions has increased by approximately 35 per cent. During the biennium, there was an increase of enrollments in perhaps two out of three teachers colleges and normal schools. The decreases reported in the enrollments of a number of teacher-training institutions during the biennium are significant. Some institutions have forestalled such decreases by making careful studies of local and State needs for beginning teachers, and of redirecting institutional training programs accordingly. Such local studies often disclose actual shortages of trained teachers for certain subjects.

The system of distribution throughout the country is rather faulty. Despite the reputation of teachers as birds of passage, there is now demand in some quarters for means of increasing the mobility of the teaching population. At present four-fifths of the graduates of a typical teachers' college or normal school obtain their first positions within 150 miles of the institution.

Unless other factors operate, the usual result of an oversupply of workers in most occupations is a lowering of wages or salaries.

Educational leaders are hopeful that the prevailing salary schedules for teachers may be at least maintained at the present levels, and perhaps increased, as a result of public appreciation of the services of teachers with superior qualifications. Hence educational leaders in many States are advancing the standards of qualifications of teachers by such means as raising State certification requirements, lengthening the training period, and better selection of trainees. These movements necessitate scientific adjustment of salaries and construction of salary schedules which adequately compensate teachers who have met the requirements of improved standards. Many progressive city school systems are now making such adjustments. In the rural schools, which usually suffer from an undersupply of well-trained teachers, such adjustments have been hastened by the application in several States of improved equalization programs in the distribution of State school funds.

The complex problems involved in a consideration of teacher supply and demand are of major importance to teacher-training institutions, to State departments, to employers of teachers, and to the teachers themselves. Among the States which report progress in the investigation of the difficult problems involved are Arkansas, California, Illinois, New York, Ohio, and Pennsylvania. The need is urgent for the establishment of more adequate basic records of the number of trained teachers of different types and qualifications, and for the initiation of intensive research based upon such records.

RAISING OF STATE REQUIREMENTS FOR CERTIFICATION

Raising of certification requirements among the States is one of the outstanding tendencies of the biennium. A movement toward the centralization of the power of certification directly into the hands of the State, instead of allowing such power to remain in the hands of local districts, counties, and cities, has been proceeding many years. Thirty years ago only three States issued and controlled all teachers' certificates. In 1926, 36 State departments exercised such powers. Certification on the basis of examination continues to decrease, while certification on the basis of institutional training continues to increase. At present, all States grant one or more certificates primarily on the basis of professional training.

Little uniformity exists among the States as to certification requirements. Such requirements are determined often by local necessities and traditions. Many of the States give little or no recognition to certificates granted outside their boundaries.

Nearly all the States, in one way or another, are raising standards by enforcing higher minimum scholarship requirements, usually

extending the application of such requirements over a period of years. Low-grade certificates, such as those granted on examination or as temporary credentials, are dispensed with as the supply of trained teachers is increased. Course requirements for life certificates have been raised from two to three or four years in several States. There is a tendency, in a few localities to abandon altogether the life certificate. Among many other States raising standards for the higher-level certificates may be mentioned Michigan, New York, New Jersey, California, and Colorado.

The raising of certification requirements results in a much larger job for the several types of training agencies; in Pennsylvania, for example, of more than 8,000 teachers taking summer courses in the 24 colleges and universities offering accredited work, 80 per cent during the past year were completing requirements for converting their existing teaching certificates into more advanced credentials.

The good effects of the raising of certification requirements may be illustrated in almost every State. In Virginia, for instance, the number of teachers who are normal-school and college graduates has doubled in the past five years. The advancement of certification requirements was one important factor in this raising of the level of teacher preparation.

In the formulation of salary schedules teaching experience is often given more weight than training. Certification requirements, however, more often raise standards of training than of experience. The salaries paid teachers eventually determine the amount of training which it is economically feasible for teachers to acquire. Many State departments, however, have not taken full advantage of present possibilities for raising standards by means of increased certification requirements. The States that are the last to raise standards may be among the first to witness a lowering of teachers' salaries.

The requirements for professional work in education subjects continue to rise; 16 to 20 semester hours in professional education is the typical requirement for graduates of colleges who plan to teach in high schools. There is, however, a very wide range of requirements in this respect among the several States.

Not the least important among tendencies in certification is the increasing practice of granting certificates for special types of teaching positions. Among these are the several academic subjects, vocational subjects such as agriculture and home economics, nonacademic subjects such as music and art, and special differentiated grade positions such as primary, intermediate, and junior high school work. In almost half the States some kinds of special certificates for principals, supervisors, or superintendents are provided.

SELECTIVE MEASURES APPLIED TO APPLICANTS FOR TRAINING

By far the greater number of officials and instructors of the teacher-training institutions desire more effective selective measures applied to the increasing number of applicants for training. Teacher training is definitely vocationalized; its aim is not that of the cultural college; and teaching requires and deserves better personnel than many other vocations. The quantity of human material now available affords a propitious opportunity to insist upon better quality. Consequently, a variety of selective measures has been employed with varying degrees of effectiveness. A general strengthening of formal admission requirements by the institutions has been a desirable first step. The most common measures thereafter adopted are:

1. The use of intelligence and other psychological tests. More than one-third of the teachers colleges and normal schools now use, before or after admission, intelligence tests such as those devised by Otis, Terman, Thurstone, and Thorndike. It is recognized that the correlation between abstract intelligence and success in teaching, is not very high, but extremely low intelligence should, as a rule, mean elimination of the deficient applicant.

2. The recommendation of the applicant's former high-school principal is required in a substantial number of institutions. This method is limited in usefulness, if such recommendation does not contain definite information concerning specific traits of the applicant.

3. Certificates of health are required in about half the institutions. Once largely a formality, the health examination has become a valuable means, not only of keeping out students of low vitality, poor health habits, or those handicapped by disease, but it also affords an important guide for remedial measures to be undertaken later by the institution.

4. More than a dozen teacher-training institutions require a superior scholarship record in high school before admission to the freshman class. A certain percentage only of the high-school graduating class, such as the upper 50 per cent, are eligible for admission to these institutions.

After admission to the institution the selective process is continuous. Nearly half of the teachers colleges at the end of the first term or semester directly or indirectly eliminate varying proportions of the unfit, largely on account of poor scholarship. A minimum number of "quality points," indicating satisfactory scholastic marks, are occasionally required for graduation. Students in about a dozen institutions are not admitted to practice teaching who have not attained a minimum scholastic average. Lack of conformity to com-

mon social or ethical standards and voluntary withdrawals account for some eliminations.

No selective measures have been discovered that alone are satisfactory. Scientific study of the whole problem is urgently needed. No scientific method has been discovered by which to measure accurately most of the human traits which have a direct bearing on success in teaching. With the very inadequate means at hand, an extremely coarse sieve is provided, but a rapidly growing use of the means we have, or of better means to be devised, may be confidently expected in the future.

The consensus of opinion is that the best predictive measures of future teaching success are intelligence tests, high-school scholarship marks, and marks made in the training institution. But the groups of traits so measured are composites of only a limited number of abstract intellectual traits. A very superior personality or well-balanced emotional characteristics may often compensate for moderate deficiencies in scholarship. Very few applicants for training, if any, should be accepted whose mental, physical, or emotional deficiencies are decidedly greater than those typical of the general population of the country.

The increasing urbanization of the general population is leading to certain shifts in the composition of the student body in the training institutions. Typically, the teacher is country reared, but it is noticeable at the close of the biennium that the proportion of trainees of urban origin is greater than of rural origin in several States, such as Michigan, Pennsylvania, and Massachusetts. The trainees in municipal normal schools and teachers colleges are, of course, usually local city students. In the large cities, a considerable number of teachers are of foreign-born parentage; in New York City, for example, over half the students preparing to teach in the elementary schools have one or both parents foreign born.

The number of men who are preparing to teach is slowly increasing. About one teacher in five is a man. About one in seven was the proportion in 1920. The number of men had been decreasing steadily for a half century prior to 1920; 50 years ago approximately three-sevenths of the teachers were men. Most men are in public-school administrative work, in college teaching, and in high-school work, especially in certain vocational subjects. Very few men are in elementary school teaching; the proportion is largest in the rural schools of the South.

There has been much discussion during the biennium of the possibilities and methods of both educational and professional guidance. Effective programs in these fields, however, must be based upon more thoroughgoing research than has yet been made, if these move-

ments are to eventuate in more than expressions of pious hopes. A detailed knowledge of the fluctuating demands for teachers trained for specific positions and of the needs of teachers in the field, a thorough and detailed analysis of the abilities of the student, more adequate support of institutional placement agencies, and an intensive and continuous education of employers of teachers in the selection of teachers trained for specific jobs, are all highly desirable as elements of thoroughgoing guidance programs for prospective teachers. The responsibility in the majority of institutions for the selection of teaching as a vocation, or of the field of specialization in education, is placed upon the student; chance influences too often determine his choice. There is a sufficiently large number of failures and near failures among young teachers to justify much more careful guidance programs. The prevailing method, that of post-graduation tryout, is antiquated and extremely wasteful of human effort and possibilities.

REVISION AND CONSTRUCTION OF THE CURRICULUM

Curricula construction and revision are bringing about one of the most noteworthy advances of recent years in teacher training. Established textbooks, traditional offerings, and the pronouncements of subject-matter specialists are running the fire of critical inspection and evaluation. Older methods of curriculum construction are being displaced in part by a newer and more scientific method of procedure, and many constructive achievements are noted in the formulation of training curricula.

A disposition prevails in the most fruitful curriculum revision programs to pool the activities and findings of many contributing agencies. In the first place, an expert curriculum builder plans the program of revision. The entire teaching force is usually organized into a working body. Numerous committees select, evaluate, and organize curriculum materials. Often officials of several institutions cooperate in state-wide curriculum revision programs, as in Oklahoma, Pennsylvania, and West Virginia. The educational scientist is called upon to select and apply many of the techniques of the study. For instance, he may point out the necessity for determining the personal traits, the development of which is essential to a teacher, and he may analyze the specific teaching and managerial activities undertaken in the classroom. An illustration of the work of the educational scientist is found in the recently completed Commonwealth Study. The philosopher and the educational sociologist outline the broader considerations governing the job of teacher training as a whole. The subject-matter specialists assist in the selection and organization of curriculum materials. The educational psy-

chologist determines the most effective ways of modifying the mental and emotional behavior of the prospective teacher and of the children whom the teacher will later instruct. The school administrator decides upon the relative amount of financial support to be given the teaching of each curriculum element. Finally, the expert curriculum builder brings together and coordinates the activities of all the contributing agencies engaged in the work of curriculum revision.

Remarkable growth continues in quantity, and corresponding improvement is maintained in quality, of professional education subject matter. Between one-fifth and one-third of the courses offered in teachers colleges are in the field of education. In the 4-year teacher-training curricula of the colleges and universities one-eighth to one-sixth of each curriculum, on an average, is in the field of professional education. This proportion varies greatly among the higher institutions which are governed largely by the certification requirements of the several State departments of education. In the early part of the century, the teachers of "education" had little to teach that was not to be found in older subjects or in the experience of practitioners. Now the difficulty is to choose from an embarrassment of riches. It is very difficult to organize and professionalize properly what is chosen. Many topics taught in education courses may be quite academic in nature, and worthless as professional material. Excessive duplication among courses is still common. Terminology is confused. And the failure of many courses in education, as taught, to change very materially the skills, emotionalized attitudes, or possibilities of growth of the prospective teacher is a constant challenge to the conscientious teacher of professional education.

Increasing specialization by workers in the broadening field of education has led to the differentiation of curricula in nearly all types of teacher-training institutions. A common recommendation of educationists is differentiation of offerings into primary, intermediate, junior high school, and rural school work. At present, the teachers college curricula leading to special-type diplomas or degrees are, in order of frequency: Home economics, 2-year normal work, elementary teaching, intermediate teaching, music, mechanical arts, and commercial education. Many other curricula are offered, such as those for junior high school, kindergarten-primary, rural school, and other types of work. In the State universities and in the larger private institutions, there are almost as many teacher-training curricula as there are majors in subject-matter fields; approximately 40, for instance, were offered near the close of the biennium at the University of Minnesota.

Rural school leaders have often asserted that the many special needs of rural teachers are not adequately provided for in general teacher-training curricula. Many teacher-training institutions are

now making provision for special courses, differentiated curricula, or special departments designed to care for the training of prospective rural teachers. In Connecticut, some training in the rural school aspects of education is required of every student in the normal schools. Not more than one teacher in eight, however, the country over, is definitely preparing for rural school teaching.

The best results are secured in the preparation of rural school teachers in fully organized rural school departments, which are found in their most complete development in 12 or 15 institutions. Adequate differentiation of offerings and activities in such departments is characterized by rural school laboratory or practice work, distinct groups of trainees, differentiated curricula, extension and follow-up work for graduates and ex-students, a staff trained for rural school teacher preparation, and specific and adequate financial support. Some objection has arisen to the development of special rural school departments. The arguments are that fundamentally most of the elements in the rural school curriculum are common to other curricula; that rural school curricula are too meager; and that there is little point in this age of rapid interchange of population to further set off the rural group from the urban one. Probably the matter of increased costs for separate rural education departments inspires some of these objections. It must be admitted that in a locality where existing curricula are inadequate to provide for the teacher needs of the rural population, there is certainly a direct responsibility not met by the training institution. This is a responsibility to be shared, however, by States or localities which do not offer sufficient inducements in salaries or living conditions to make it worth while for teachers to prepare for rural school work.

The names of the degrees conferred by the institutions give little indication of the nature of the curricula offered. In the teachers colleges the B. A. degree is still most common. It is granted in two-fifths or more of such institutions. Other degrees conferred include the B. S., B. S. in Education, A. B. in Education, Bachelor in Education, and others. Comparatively few State teachers colleges confer graduate degrees.

A majority of the teachers colleges still use the plan of offering majors or minors. There is a growing tendency in many of the colleges and universities which train teachers to dispense with these terms in connection with the offerings in teacher training; neither the term "major" nor "minor" denotes very well the program of professional studies and activities undertaken.

Entirely too little agreement exists among State teachers colleges as to what courses should be required, or as to how many should be required. In education, for instance, slightly more than half the

courses offered in the several curricula, on the average, are prescribed. Slightly less than one-third are directed electives and about one-fifth are free electives. The required subjects in education in half or more of the teachers colleges are: Observation or practice teaching, principles of teaching (or of education), educational psychology, special methods, history of education, introduction to teaching (or to education), and educational measurements. Two courses only, practice teaching and educational psychology, are uniformly required in the teachers colleges. In the 2-year normal schools, the number of prescribed subjects, both in education and in academic subject matter, is much greater than in the 4-year institutions. In the colleges and universities the required undergraduate subjects in education correspond roughly to those in the teachers colleges; emphasis, in the colleges and universities, is put more on courses in education bearing on high-school teaching, and not so many courses in education are required for graduation.

The content and organization of the subject matter in the several professional courses, as taught in the better schools, are subject to constant change as research advances and as a better understanding is attained of the needs of teachers. In psychology, for instance, there is a decided tendency to cut down on the strictly technical phases of the subject. The value of many topics in general psychology to a busy teacher is often questioned. More actual observation and study are now made of the mental and emotional reactions of children. The laws of learning applied to particular subjects are stressed. Emphasis is put on such topics as behavior, tests of personality, and mental hygiene. Thorndike has emphasized additional possibilities in adult learning, and Charters and Horne, among others, have suggested improved techniques in character education.

Introduction to teaching or to education is comparatively a new study but it is a popular one. A number of the best teachers offer some regular observation work with children in connection with the course. The aim of the course is not yet sufficiently clear in the minds of many instructors, but, nevertheless, educators usually agree as to the value of the work.

In the special methods courses, instructors are getting away from the earlier textbook presentations of simple teaching devices. Without practice in the use of such devices the point of diminishing returns in their presentation is soon reached. The best teachers of special methods are now endeavoring to take hold of subject matter in a fundamental way and to instruct and drill the prospective teacher in its proper selection and presentation to children. This method is a safe rock to anchor to; less fundamental methods of teaching shift with the tides.

Educational measurements, under various titles, are usually offered as a two or three semester hour course. In some institutions the subject matter in this field is taught as a part of educational psychology. Educational measurements is a rapidly growing field; more than 550 educational and mental tests were available in commercial quantities at the close of the biennium. The emphasis is now on diagnostic testing. Some attention is given to informal test construction. Very simple statistical procedures only are presented. The chief emphasis is on tests of nonintellectual traits, such as attitudes, character, and emotions. Analytical measures, rather than general blanket measures, are now applied to intellectual traits.

Principles of education continue to draw, with constantly shifting emphasis, from philosophy, sociology, psychology, methods, practical experience, and common sense. The realization is growing that "principles" in education, as in other fields, are relative. They are largely dependent for their validity, in a rapidly changing age, upon the stage of advancement of educational science and philosophy.

History of education, while still required in many teachers colleges, occupies a less and less important place in the training program. The tendency now among progressive curriculum builders is to leave the subject out entirely in the 2-year curriculum and to require it for one term or semester in the third or fourth year of the 4-year curriculum.

The professionalization of subject matter continues to afford a fruitful topic of discussion among many leaders in teacher training. The normal schools and teachers colleges, as a whole, are inclined to emphasize the teaching of professional education. The liberal arts institutions and the technical schools which train teachers are more inclined to trust in the efficacy of academic or technical subject-matter offerings. The proponents of the idea of professionalized subject matter busy themselves with the idea of preventing a lopsided development of teacher training in either professional education or in traditional subject-matter offerings.

While the concept of professionalized subject matter has not yet been reduced to a very workable form, it represents undoubtedly the most valuable attempt made so far to reconcile some very troublesome differences of opinion in curriculum construction. In some fashion or other, the concept affects the organization and practice of teacher training in most of our progressive institutions. The most promising growth in the development of the idea is to be found in progressive institutions with professionally trained staff members who are given abundant opportunity to participate in the teaching of children in the laboratory school, and to experiment in subject-matter

presentation. While many excellent instructors admit their inability to define professionalized subject matter, nevertheless, as a result of thoughtful experimentation and fruitful experience in the teaching of children, such instructors give special treatment to academic or technical subject matter that differentiates these materials rather markedly from the traditional courses in such fields. The best instructors afford prospective teachers new views of familiar material. Larger possibilities are revealed for the use of such material in the public schools, and the methodology which the trainee often unconsciously acquires is in the highest sense professional. These outcomes, which are inherent in the definition of professionalized subject matter, are now quite commonly attained in the best work of expert teachers.

The arts and science subjects are, of course, standard content in most teacher-training institutions. The humanistic studies are uniformly a required element in some degree in nearly all curricula. Such subjects are largely cultural in function, but since they are a part of the necessary equipment of a teacher they are also of professional value. The sciences are offered not only as elements in the prospective teacher's general education but also as preparatory training for some of the vocations. The liberal arts and related offerings of many of the larger teachers colleges have become sufficiently adequate to result in the accreditation as standard 4-year colleges of a number of such institutions by the North Central Association of Colleges and Secondary Schools.

The so-called special subjects, such as public-school music, art, and physical education and health, have become almost as "regular" as English or student teaching. These special or nonacademic subjects are usually required in most normal schools and teachers colleges and in varying degrees in the colleges and universities. The present demand for teachers of such nonacademic work is illustrated in the field of health and physical education. An estimated number of 20,000 full-time teachers of the subject are employed in the schools of this country.

The demand is growing rapidly for the establishment of new courses and curricula for the training of teachers of subnormal children. An estimated number of 1,000,000 subnormal children of grammar-school age, most of whom are educable, are becoming the increasing concern of public-school officials. More than one-third of the States have recognized in some way in school legislation the needs of these important groups of future citizens. School employment officials, however, have been forced by the inadequate supply of trained teachers for exceptional children to draw almost entirely upon superior teachers whose chief qualifications are experience and

personality. A dozen or more institutions, such as Teachers College, Columbia University, and the Training School at Vineland, N. J., now offer special work for teachers of subnormal or of superior children.

The demands for teachers of vocational agriculture, home economics, trades and industries, commercial work, and similar subjects have led to vigorous and sustained programs of teacher training in these fields during the past 10 years. The amount of financial support available is an important factor in curriculum development. Under the provisions of the Smith-Hughes Act Federal funds for the training of vocational teachers, supervisors, and directors of agricultural subjects and teachers of trade and industrial and home economics subjects, has made available for the current year a total of approximately \$1,100,000, which is matched by State or local money. Many of the wealthy States, especially those in which agriculture is an important industry, have added very greatly to the Federal funds available for each State.

Many of the existing trends in teacher training as a whole are reflected, of course, in the training of teachers of vocational subjects. The field is a virile and growing one, and constant and fruitful efforts are being made by leaders in vocational education to evaluate and redirect their programs. Among many items engaging current attention may be mentioned the expansion of teacher-training offerings in home economics; the formulation of clearer objectives for each type of training activity and training agency, following continuous studies of the requirements of vocational teaching positions and the individual needs of trainees; the formulation of definite standards for each training agency; and increased provisions in the construction of curricula for the training of local leaders, such as supervisors and directors.

Standards of admissions have been greatly strengthened in practically all the State teacher-training institutions, and the laxity in some schools, which was a source of concern a few years ago, has been largely eliminated. The American Association of Teachers Colleges has set a minimum quantitative requirement for college entrance at 15 units of secondary-school work or the equivalent. Such work must be in secondary schools approved by the State department of public instruction, and of similarly approved quality and quantity, or must be evidenced by the results of examinations. The regulations governing the admission of special students correspond fairly closely to the regulations adopted by the liberal arts colleges. Instances of present practice in respect to the matter of admissions are shown in the Pennsylvania State normal schools for which students qualify for entrance only if graduates of 4-year high

schools approved by the State department of public instruction. Beginning in the fall of 1928, Michigan State normal schools will accept only graduates of high schools accredited by the University of Michigan.

Criticism of the scholarship of young teachers by employers and complaint concerning subject-matter deficiencies of newly admitted high-school graduates have led to the adoption of several expedients to remedy these conditions. A few teachers colleges require the student to pass examinations in certain elementary school subjects before admission or before actual teaching is begun. The old type review courses for college credit have nearly all been discontinued. Various kinds of noncredit "hospitalization" or "make-up" courses are now offered. More attention has been directed to the needs of the high school in respect to its function as a preparatory agency for teacher-training institutions. About a dozen training institutions now cooperate with high schools in arranging secondary-school courses of study for students who plan eventually to enter the teachers colleges.

In graduate work in education a new emphasis is seen in the recent modification of regulations in the University of Southern California and in Stanford University. The usual research work necessary for the completion of the dissertation is largely dispensed with, and the time thus saved is devoted to the mastery of academic, technical, or professional content. Perhaps 75 per cent of all graduate students who secure a doctor's degree, other than in medicine, law, or theology, enter teaching, and research or the job is only a minor activity for most of them. More teachers are needed who are especially trained for work in the junior colleges, normal schools, and colleges. The new graduate programs of study which lead to a practitioner's degree are designed to prepare such teachers.

Of all the tendencies in curriculum revision and construction during the biennium perhaps the outstanding one is the displacement of the old method of constructing curricula on the basis of frequency of practice in the larger institutions and the adoption instead of more scientific methods of curriculum construction. Such scientific methods include the study of personal traits of the prospective teacher which are important as professional assets and the study of the specific activities which teachers undertake on the job. As a result of such studies, efforts are now made to improve the quality of instructional materials rather than merely to increase the quantity. Teacher trainers have been convinced that the two, three, and even four year curricula are not long enough. Now they are becoming convinced that such curricula are neither wide enough nor deep enough. They have come to an increasing recognition of the present limitations of the

training institutions in respect to the professional development of the trainee not only in sound scholarship of the right sort but also in appropriate emotionalized attitudes, professional ideals, and capacity for future growth.

Sensing in somewhat uncertain fashion the needs which have long been pointed out by the public and by employers of teachers, institutional officers have made many changes in methodology, in curriculum offerings, and in institutional activities, to the end that personality, managerial ability, character, attitudes, and a host of related traits might receive recognition in the training programs. The teaching of health and physical education and of art and music has been given attention. The offices of dean of men and of women have been established. Character education has been attempted. Extracurricular activities and offerings of many kinds have been fostered, but the objectives of all such activities and offerings have never been unified, nor, indeed, quite clear.

The time now seems near when all these so-called extracurricular training activities and agencies may be definitely incorporated as integral and essential parts of a newer and broader curriculum. Sound scholarship of the right sort will always be the keystone utilized by curriculum builders. But in the whole arch many stones are needed. It is not impossible that many of these may yet be discovered to be the odd pieces which have been long relegated to the rubbish heap.

THE TRAINING SCHOOL

The training school is theoretically considered the center around which the whole training program should revolve. It is the laboratory school work that chiefly characterizes teacher training. The minimum amount of student teaching accepted in the standards of the American Association of Teachers Colleges is at present 90 clock hours. The average teachers college actually requires a larger number of hours. As a rule, four semester hours or six quarter hours of college credit are granted for 90 clock hours of work. The minimum required in the colleges and universities varies but is usually considerably less than in the teachers colleges. The amount is often determined by the minimum accepted for certification by the State departments.

Some of the aims most commonly accepted at present for student teaching are: To enable the inexperienced teacher to feel at home in the classroom; to give individual assistance to each teacher in personal problems of classroom management and instruction; to develop favorable emotional and intellectual attitudes toward teaching and education as a whole; to secure a degree of control over the

simple techniques of instruction and pupil management; and to develop the capability for further growth.

The training school building is an integral part of most of the normal school and teachers college plants. Considerable attention is devoted to the improvement of the plans for such buildings. The special needs of a training school building are legion in respect to practice rooms, model administrative offices, conference rooms, offices for training supervisors, and abundant facilities for special training programs. Slightly more than half of the State universities have their own training school buildings. Near-by high schools are often utilized instead and the public-school teachers are frequently empowered to act as training supervisors or demonstration teachers. Nearly all the teachers colleges have their own fully controlled training facilities, slightly less than three-fourths have separate buildings, and about two-fifths have additional training facilities in the public schools.

The consensus of opinion now is that an ideal situation provides for a campus school for the development, under constant supervision, of teaching skill. Public schools should also be utilized when possible, for in them the trainees may best obtain exposure to typical school conditions. The training program, either in campus or in off-campus schools, usually functions much better when under the complete control of the training institution. Local conditions, of course, sometimes render this impossible.

"Apprentice" teaching, that is, student teaching during which the trainee leaves the institution for a limited period and teaches or assists in teaching a regular class, apparently gains ground very slowly if at all, owing among other reasons, to the expense and difficulty of supervision. In some institutions, such as Ohio State University, the work has been very highly developed and excellent results are secured.

In general, training-school curricula, for obvious reasons, follow in some degree the State courses of study. The improvement of such courses of study is within the province of the training school and is undertaken in some way in a growing number of up-to-date institutions. Between one-fifth and one-fourth of the teachers colleges make their own training-school courses of study.

There is an increasing tendency to base instruction of trainees on actual analyses of their needs; one study, for instance, shows the difficulties reported by student teachers to be, in order of frequency: Devising and managing educational seat work, managing two or more sections of children simultaneously, teaching beginners, teaching children how to study, teaching phonics, teaching subject matter in the common branches, and pupil management.

In methodology, the training supervisors, while usually up to date, are moderately conservative. Only a few traces remain of the Herbartianism of a generation or so ago. More self-direction is permitted the trainee as well as the pupil. The desirability of controlled conditions in typical training exercises, however, remains unquestioned.

The office of director or dean of training is now becoming common. A high type of professional worker is developing in this position, which, under the presidency, is one of the most important in the whole institution. A superior type of training supervisor is growing up who occupies a sort of intermediate level between the director of training and the regular demonstration teacher. An important function of the director of training may well be to develop and maintain coordination of the instructional activities of the training supervisors and demonstration teachers with the instruction of the main institution. Such coordination is at present an outstanding need both in the academic program of instruction and in the laboratory-school training program.

A number of small liberal-arts colleges and junior colleges are endeavoring to realize their primary aim of offering liberal education and at the same time to train teachers. The necessity of establishing an expensive laboratory-training program is leading to difficulties in a number of these institutions as progressive State departments continue to set standards higher and higher.

In general, most institutions are not wholly satisfied with their existing student teaching facilities. The training school typically does not afford anything like all the exercises desirable for the extraordinarily varied practical experiences necessary for the preparation of a well-trained teacher. The expense of maintaining special housing facilities and a typical training staff of 10 or 12 members is quite large. Often the number of training-school pupils is inadequate. The training staff is usually undertrained. Probably the chief directions of future progress will center about the raising of qualifications of the training-school staff, the provision of additional plant and facilities, and improvement of the materials and techniques of training discovered as a result of the rapidly increasing amount of research in the field.

IMPROVEMENT OF FACULTY INSTRUCTION

Great interest has been expressed during the biennium in the improvement of the instruction offered by the teacher-training staff. The influence of example in teaching is particularly strong in institutions which train teachers, and it is inconsistent to maintain expensive demonstration schools and at the same time permit slipshod

work among the regular instructors of the institutions. The chief means undertaken for the improvement of college and normal school instruction are:

1. The requirement of greater scholastic training for instructors. The mere possession of the Ph. D. degree, however, offers no assurance that a specialist is a good classroom teacher.

2. The requirement of more work in professional education, more especially in courses dealing with elementary teaching. The value of such work apparently depends somewhat upon the courses taken, upon their practical application, and upon the attitude of the individual instructor toward improvement.

3. Increased requirements in teaching experience for staff members. The colleges and universities do not usually stress such requirements. Teachers of education in the normal schools and teachers colleges, especially the training supervisors, are usually expected to have public-school experience.

4. Supervision of instruction. This has been undertaken in a few institutions, as, for example, in Colorado State Teachers College, at Greeley. It is difficult in most institutions to secure men with suitable personality traits and sufficient professional and general training to influence very much the general faculty body. Tradition is all against "supervision" which involves routine inspections and autocratic demands from above. However, advances have been made in helping the younger or more inexperienced instructors, in some cases by direct supervisory assistance. Improvements in methods of constructing tests and examinations and of the proper selection and presentation of subject matter are examples of the activities undertaken.

5. Cooperative research projects undertaken by staff members on institutional problems. Very satisfactory results have been secured in a few institutions, such as the University of Minnesota.

6. Curriculum revision. Duplications among courses and topics are reduced, better selections of materials are made, courses are better defined, and lines of curriculum expansion are determined.

7. Specific recognition of superior teaching ability by increase of salary or by promotions. Little progress is noted in this apparently logical method of stimulating faculty advancement.

TEACHER PLACEMENT

There is a growing realization among teacher-training institutions that the complete cycle of institutional service to the individual and to the State is not rounded out when the student leaves the institution. Curricula are frequently differentiated with great minuteness; the

student is trained for primary or intermediate work or for work in one or two academic subjects. Upon graduation, however, chance or fancy too often determines the kind of position secured. Some boards of education do not yet realize the desirability of specialized training for their teachers. A blanket normal school diploma or a degree in any field suffices. The tendency is for the teacher to take the first attractive position, as determined by salary, good location, or perhaps necessity, which is offered. When conditions are such that teachers secure positions unlike the ones for which they were prepared, the differentiated training program may be even less effective than an undifferentiated one.

Definite organization of placement activities is highly desirable in any institution. Even a part-time placement officer must be given adequate facilities and time to do thorough work. At present, of the normal schools and State-supported universities and colleges which train teachers, approximately one-fifth make no definite provisions for placement service. Individual professors, the president, and various training officials assist the best students to any attractive positions that happen to be reported vacant. In about one-fifth of these publicly supported institutions, some official, such as the director of training or dean of education, assists part time in the placement of teachers. In these institutions there are no placement bureaus. In about three-fifths of all teacher-training institutions definitely organized placement bureaus function for the benefit of employers and prospective teachers.

In all, the cost of placing a teacher ranges from \$8 to \$12 per registrant in the typical institutions. Most of the institutions charge the students no fees for placement service. Usually the superior teachers are given first chances at the best positions. Perhaps a third of the registrants, usually the less promising ones, are left to shift for themselves and quite often secure places for which they have had little specific preparation.

There is at present no adequate recognition of the possibilities of making the placement function a decidedly professional one; the work is still too largely clerical. A scientific study of the actual needs of new teachers on the job should go hand in hand with the development of a thoroughgoing placement service. The specific weaknesses and needs of teachers in the field are too often inadequately reported to the institution. The placement bureau could study its function as a connecting link between the instructors of the institution and the teachers of the State. As a result of such studies considerable improvement could be made in the nature of existing objectives of the placement bureau and of the institution as a whole. Other studies could be made concerning such matters as the quali-

tative demands of the teacher market and concerning ways and means for improving the present irregular distribution of teachers over the district served by the institution.

TRAINING OF TEACHERS IN SERVICE

The training possessed by the average teacher is two years or more below the tentative standard set by most educators as a desirable minimum. Teachers with one or two years training must keep abreast of rising requirements from year to year. Improvement in educational methods and teaching techniques are constant. Even the teacher originally well trained, after three or four years experience, tends, as his work becomes routinized, to reach a standstill in professional improvement. Teachers have subscribed to the belief that the best time to learn anything is the time when one needs or wishes to know it. Institutionalized training conducted intensively over a comparatively brief period is not enough. Hence a variety of agencies has arisen to care for the needs of an increasing number of teachers who realize that professional education, as well as education in general, is a lifelong process. Class extension courses, correspondence courses, conferences of teachers, both graduate and undergraduate summer school work, short courses, and other professional education programs of training in service, have been soundly established as integral parts of fully developed institutional and State teacher-training programs.

The State, county, or city usually sets up a program of supervision which is really a form of teacher training, and which, of course, frequently includes service to the normal school graduate. Occasionally, the normal school or teachers college establishes a follow-up semisupervisory program for recent graduates. Examples of this service are found in the Central Missouri State Teachers College, in the Eastern State Teachers College of South Dakota, and elsewhere. Another plan of training in service which is found occasionally is that of local or regional conferences of young teachers as in the normal school at Westfield, Mass. Itinerant teacher training is undertaken chiefly by colleges of agriculture. This service is designed primarily to help the recent graduate of the institution to put into practice what he has learned and otherwise to hasten his professional development.

The extension of training into the period of employment is illustrated at the State Teachers College at Buffalo, N. Y. The college has an agreement with near-by institutions which enables graduates of the institution to receive advanced college credit for probationary work in teaching centers in Buffalo. Strong advisory teachers are a necessary part of the plan. This program extends

over a period of three years, during which as many as 12 college credits may be secured. At the University of Cincinnati certain graduate students may secure credit for work toward the M. A. degree for successful teaching done under controlled conditions in the city schools. This work is carried on in connection with the students' university work in education.

An example of the possibilities of evening school work for teachers is shown at Seattle. More than 800 teachers and principals registered during a recent session for credit in professional courses. City authorities suggest that such a number invites comparison with the enrollment of many fair-sized colleges.

Almost without exception all the agencies and activities for training in service have increased in both number and scope during the biennium. Above all, they have become largely professional in objective and method.

The training institution which confines its activities to the campus alone is losing sight of one of the most significant tendencies of the decade in the whole matter of the professional education of teachers. It is passing by an excellent opening for future expansion of institutional service to the State.

CONCLUSION

Of the dozen or more tendencies in teacher training during the biennium which have been briefly outlined, which are most significant? All the trends mentioned are too closely related in cause and effect to evaluate as separate movements. Slight advancement in one phase of educational activity may be more significant than great advancement in another. In each tendency discussed, however, there are in varying degrees evidences of genuine progress.

Teacher training and public-school education naturally share the same tendencies. Coincident with the growth of wealth the financial support of public education has more than doubled in a decade and the number of students in the schools has increased far more rapidly in proportion than the population of the country. This is evidence that the confidence of the general public in education has been maintained and extended. The public, which pays the present annual bill of \$2,000,000,000 for education, does so only because it is getting in the main the services it wishes; that is, not only the maintenance of the existing level of social intelligence, but also a satisfactory increment of the elements of civilization it prizes most.

As never before, social leaders perceive that the continuation and advancement of an increasingly complex civilization are absolutely dependent upon the work of the teachers. They transmit the major portion of the social heritage from generation to generation replacing

the losses due to human disability and death. Society is not content to have novices and incompetents despoil the materials and break up the machinery of progress.

In the last analysis, however, it is the *margin of increase* from generation to generation in the desirable elements of our social heritage that alone justifies an increase in our immense program of public education. The enormously increased support, then, of society for public education and for teacher training is an outstanding tendency which has a twofold meaning; it is the recognition by society of value received, and it affords abundant proof of the fundamental faith of humanity in its own progressive evolution. Increased support of education demands greater service in return by teachers and by teacher trainers. The increased standards of selection and of training for teachers, the increase in number of teacher-training agencies, and the improvement of their offerings are but the ways and means of justifying the support by society of the most outstanding agency of human progress—the public school.

As to the immediate needs of the future, the necessity is clear for maintaining the necessary flexibility of organization and viewpoint among the training staffs which will assure the easy dissemination among them of the increasing flow of professional knowledge available. The teacher trainer must depend in large part for his professional advancement upon the discoveries of a great number of constructive educational and social agencies. But he himself has abundant opportunity for creative work of the highest order. This type of work is, in fact, his daily occupation. More scientific study of teacher training and the development of a larger supply and more vigorous type of educational leadership than at present exists in the field are, perhaps, the outstanding needs of the future. The further professional education and training of the teacher trainers themselves, therefore, will afford an excellent index to future progress.

CHAPTER XIV

PARENT EDUCATION

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CONTENTS.—Governmental activities—State activities—Private agencies promoting programs of parent education—National Congress of Parents and Teachers—Organizations in large cities—Periodicals for parents—International Federation of Home and School—Results of inquiry into world cooperation of home and school, by Miss Marie Butts.

Significant progress has been made during the biennium 1926-1928 in the parent education movement, which is one of the developing phases of adult education. This progress is due principally to the efforts of parents and their groups and to many national, State, and local public and private agencies. In several States, scattered and isolated efforts were brought together and, where previously projects were carried on ineffectively, good teamwork was established with favorable results.

GOVERNMENTAL ACTIVITIES

Distinct contributions to parent education have been made through the service of several governmental departments; such as the Department of Labor, Children's Bureau; the Department of Agriculture, Extension Service and Bureau of Home Economics; the Department of the Treasury, Public Health Service; and the Department of the Interior, Bureau of Education.

Under the designation of home education, the Bureau of Education of the Department of the Interior has conducted a project of parent education since 1913. During the past two years the activities of this service have been reorganized, and they now include the preparation of material for parent education; conducting studies in the progress of this phase of education and in other fields; rendering advisory service on the education of parents and the care and training of children; and preparing bulletins and pamphlets relating to these activities.

In addition to studies already begun, the Bureau of Education has prepared and issued reading courses for parents and for boys and girls containing questions or suggestions and references. The program now under way includes the issuance monthly of circular letters on parent education, the completion of studies already begun,

and the preparation of reading courses on a wide variety of subjects. In connection with its home economics work a survey of the progress of child care and training in elementary, junior and senior high schools, and in higher educational institutions was issued by the Bureau of Education.¹

7 During 1927, two other studies of similar nature were issued by agencies outside the Government, one of public-school courses on child care for girls, by the Merrill-Palmer School, and the other on child development and parental education in home economics, by the American Home Economics Association.

Through its research activities and studies of conditions under which children live, and through its other activities, such as leaflets, folders, dodgers, bulletins, films, and reports, the Children's Bureau has given aid to parents and others interested in infant and maternal welfare in recognizing and combating malnutrition, in preventing and correcting poor posture and developing good posture in children, and has assisted State and local agencies in the development of programs of child care, especially of the delinquent and handicapped child.

Of particular and immediate educational value to parents in rural districts are some of the contributions for the betterment of home conditions for the family which have been made by the Extension Service and the Bureau of Home Economics of the Department of Agriculture. In addition to research work and cooperation with State agencies in many fields affecting the home, that department has made demonstrations of labor-saving devices for the conservation of the time and energy of the rural housewife; it has organized home projects for boys and girls; and it has issued bulletins and leaflets on planning and recording family expenditures, proper methods of preparing and cooking meats, and suggestions for designing and making children's rompers and sun suits and dresses for little girls for all occasions.

STATE ACTIVITIES

In a few States, parent education has been incorporated into the public education program. In California, for instance, the State department of education and the State university at Berkeley have united in a state-wide program of parent education. This project includes a nursery school in the Institute of Child Welfare in Berkeley in which children may be studied by laboratory methods; training is given in the analysis of situations connected with problems

¹ Whitcomb, Emeline S. Typical Child Care and Parenthood Education in Home Economics Departments. Washington, D. C., Government Printing Office. (U. S. Bureau of Education. Bulletin, 1927, No. 17.)

of child life; parents of children attending the nursery school are provided with opportunities for consultation and with reliable information; and study groups of parents are formed in cooperation with existing agencies such as parent-teacher associations, women's clubs, and the American Association of University Women.² These organizations take the initial steps to form the groups but when they are organized they are conducted under State laws and by conforming to specified conditions they are entitled to support from public funds and become a part of the public-school system. It is reported that in connection with this work 164 discussion groups numbering approximately 5,000 persons were organized in 1927-28.

In 1928 at Berkeley, the Institute of Child Welfare included in its research program such projects as the description and measurement of the development of children; factors influencing development, nutrition, nursery schools, and miscellaneous projects.

The extension division of the University of California at Los Angeles conducted, in 1927, for members of parent-teacher associations and others interested in child welfare, a group of courses which included the preschool child, constructive programs of home education, behavior of children, and household management.

In the department of education of the summer sessions of 1928 of the University of California at Los Angeles and Berkeley, courses were conducted for training leaders of parents' groups and for parents on problems of child development.

The California State Board of Health, in its bureau of child hygiene furnishes outlines for mothers' study clubs, issues leaflets, circulars, etc., on many phases of child life and thus supplements the work of the public agencies described above.

Another excellent program for parental education varying somewhat in its methods of procedure is conducted by the University of Minnesota in cooperation with related agencies. The Institute of Child Welfare, which conducts a nursery school for research purposes, carries on studies in child development, trains leaders in the field of child life, and disseminates scientific information through conferences with parents, publications, and extension service.³

A free correspondence course for residents of Minnesota for which, during 1927, 3,900 individuals are reported to have enrolled, was conducted by the Institute of Child Welfare. To persons who reside outside of Minnesota this course is offered at a nominal fee. Lessons include the following subjects: Importance of early growth,

² The Nursery School at the Institute of Child Welfare. Berkeley, Calif., University of California. Parents' Bulletin No. 1, April, 1928. 10 pp.

³ Bulletin of the University of Minnesota, Institute of Child Welfare. Announcement for the years 1926-1928. Minneapolis, Minn. Vol. XXX, No. 5, Jan. 24, 1927. 11 pp.

physical growth and development, diet and clothing, children's diseases, mental growth of the child, learning, emotional habits, eating and sleeping habits, etc.

Courses of six or more lessons on child care and training have been given through the Minnesota Agricultural College to study groups in some counties. Organizations having common aims and purposes in harmony with the college form study groups in cooperation with the college. During 1926-27 in Minneapolis, St. Paul, and Duluth, two 3-credit extension courses were given in cooperation with the general extension division.

Conferences on child health and parent education were organized through the cooperation of many local agencies in Minneapolis and St. Paul, in 1927 and 1928, and brought together specialists for the discussion of the child for the benefit of parents. It is reported that at St. Paul 300 fathers attended one session of the conference.

The Iowa Child Welfare Research Station, established in 1917 under public funds which were subsequently augmented by grants from a foundation, carries on its research studies not only in laboratory preschool groups of the University of Iowa but also in a children's hospital, the university elementary school and high school, and in the homes of Iowa City. This station, which is reported to be the first of its kind in the United States, acts as a coordinating center for the child welfare research of the university. Fundamental problems on physical, mental, moral, and social development are studied and students are trained in the care of children. Conferences and institutes on child study are conducted for parents, teachers, and others whose interests are allied.

PRIVATE AGENCIES PROMOTING PROGRAMS OF PARENT EDUCATION

At Harrisburg, Pa., in 1928, a state-wide conference on parental education was held which was attended by 30 representatives from city school boards, university faculties, social work and adult education agencies, national and State organizations of parents and teachers.

A committee of the Pennsylvania Congress of Parents and Teachers was appointed to survey and report on all parent-education work carried on in Pennsylvania and to formulate concrete plans for using all educational and social agencies in the development of a State program of cooperation in this phase of education. This committee outlined a 4-year program in parenthood which has been published by the Pennsylvania Congress of Parents and Teachers.*

* Education in Parenthood. Year I—The Home Background. Pennsylvania Congress of Parents and Teachers. 1928. 10 pp.

General specifications for the guidance of experts chosen to prepare the material for this project cover 31 topics, namely:

Year I—The home background.—(1) Some essentials in the home; (2) heredity; (3) environment; (4) the partners in parenthood; (5) partnership adjustments; (6) home organization; (7) health; (8) the intellectual setting.

Year II—The preschool age.—(1) Before birth; (2) infancy and early years; (3) the nature and the instincts of the preschool child; (4) habits and what to do with them; (5) some more habits; (6) health—later and now; (7) play and playmates.

Year III—The school child.—(1) The elementary school years; (2) making the most of habits; (3) attitudes and aptitudes; (4) social development and adjustments; (5) recreation; (6) what your child reads; (7) succeeding in school; (8) when and how, for things your child should know.

Year IV—Adolescent youth.—(1) The nature of adolescence; (2) the emotional background; (3) attitudes and habits; (4) social needs; (5) educational guidance; (6) vocational guidance; (7) recreation and health; (8) the intellectual and spiritual.

The publication included thought-stimulating questions; questions suitable for a parent-teacher association meeting; reports of experiences and home projects; the use of the home as a laboratory for carrying out suggestions for procedures, observation, and the development of habits in parents and children; and annotated references.

At Columbia University, New York, the Institute of Child Welfare Research of Teachers College, which is a center for research in child life and parent education, is used for the various research activities of Teachers College in problems of child development. This includes some of a nonacademic nature. Demonstrations and experiments are conducted by the institute which, in training leaders in the field of parental education and child development, makes use of the study groups organized by the Child Study Association of America as demonstration centers.

Cooperating with other agencies, the findings of scientific research in child welfare are made public. The activities of the institute, according to reports of the university, include: Intensive study of children in the nursery school or psychoeducational clinic, maintained in connection with the institute for 16 children between 2 and 4 years of age; problem children and the effect of their surroundings; a clinic for educational research; child care; the training of students in the technique of obtaining and compiling scientific data regarding children; a study of factors in the home that influence sleep; and the problems of child-caring institutions.

Under the direction of the home-study division of the department of university extension of Columbia University, in 1926, radio lectures (for parents) were broadcast once each week from October to June on the health of children of all ages. Outlines of the lectures were furnished in advance. The lectures covered: Factors preceding birth which influenced the health of the child, health of the infant, the runabout child, and the adolescent child.

In 1927-28, the Washington (D. C.) Child Welfare Research Center was organized. The following eight local organizations, including three governmental agencies, are represented on the executive committee and consulting staff of this center: Bureau of Home Economics, Public Health Service, Bureau of Education, American Home Economics Association, American Association of University Women, National Research Council, George Washington University, and University of Maryland. A director of research and four teachers constitute the staff of the center which has facilities for 25 children whose ages approximate 3 years. Contemplated in the plans of this center are classes and conferences for the parents of children enrolled, and observation and research in the development and growth of these young children.

The educational program of the Merrill-Palmer School of Detroit, Mich., includes preparental and parental instruction. Three types of courses are given through individual instruction to: Parents of children attending the nursery school, parents of children brought for consultation, and outsiders seeking assistance from specialists. Group instruction is given to persons outside the nursery school through special lectures and organized courses.

The course in parental education offered by Cleveland College, Western Reserve University, is designed especially to meet the needs of parents and others interested in the welfare of children. The problems of health, nutrition, housekeeping, art in the home, the psychology and education of the child in each period of its growth, family relations, parental education leadership, fathers' problems, and parent-teacher work constitute the subjects treated in this course.

Baylor University, Texas, the Universities of Georgia and of Cincinnati, and home economics departments in many schools and colleges offer instruction of some type or other on child development and family life or on related subjects.

FOUNDATION GRANTS ENCOURAGE PARENTAL EDUCATION

In order to develop the field of research in child development and parent education, the Laura Spelman Rockefeller Memorial has appropriated funds, beginning in 1924, which make possible the development of centers for scientific research, national fellowships, activi-

ties in some phase of parent education in several private organizations, and the research work conducted by the Committee on Child Development of the National Research Council.

The purposes of this foundation in making various grants are specifically stated in reports to be "for scientific research, the preparation of teaching materials, the training of leaders for child-study work, and practical organization of parent and teacher groups for the study of child life and child welfare."

Centers for research in child life and parental education are in operation under these grants at University of California, Teachers College of Columbia University, University of Iowa, Iowa State College of Agriculture, University of Minnesota, Yale University, State College of Agriculture of University of Georgia, College of Home Economics of Cornell University, and State Department of Education of California, and elsewhere.

This foundation has made it possible through grants for several organizations to extend their programs of service to parents. Among these are: American Association of University Women, American Home Economics Association, Child Study Association of America, Committee on Child Development of National Research Council, Cleveland Foundation, Child Welfare Research Center, Washington, D. C., and other agencies.

CHILD STUDY ASSOCIATION OF AMERICA

This organization, centered in New York City, arranges and conducts local and regional institutes, conferences, and training classes, and assists the Institute of Child Welfare of Columbia University in its demonstrations and experiments in child study and parental education. The formation and development of study groups is reported by this organization as its basic work. Fifty-four graduate students, eight of whom were fellowship students, are reported to have been registered for a course in parental education conducted jointly in 1926-27 by the Child Study Association of America and the Child Welfare Research Institute of Teachers College, Columbia University. To provide for student practice in leadership 28 special groups were organized. These were connected with various organizations, such as parents' associations, neighborhood houses and settlements, health and welfare centers, churches, and other groups. Ten other groups were organized among foreign-born women for student observation.

Seventy-five qualified workers in parental education or related fields registered for the 10-day institute on parental education held in January, 1927, to bring together for critical examination and discussion the contributions of modern science to this subject.

Twelve groups, conducted at the headquarters of the Child Study Association of America in New York City during 1927-28, having a total membership of 234 persons and under the leadership of experienced staff members, discussed problems of childhood. More than 150 local child study groups, approximating 1,800 members, affiliated with the organization. Lectures and conferences, varying from one to three days each, have been held for fathers and mothers. A 4-week training course for leaders in parental education was conducted in 1928 at the headquarters, in which eight students were enrolled. Reports, pamphlets, lists of books for parents and for boys and girls, manuals for leaders, and *Child Study*, the official monthly organ of the association, constitute some of the publications of the organization.

CHILD-GUIDANCE CLINICS

Child-guidance clinics, developed under the Commonwealth Fund, have been considered community projects requiring in each center the cooperation of all local health, social, and educational agencies. Children from 3 to 17 years of age whose behavior showed undesirable personality traits and habits, which, if not corrected early, might develop into delinquency in adult life, have been placed by parents, teachers, social and health agencies under the child-guidance clinics wherever they are established. Such community clinics have been established in Cleveland, Dallas, Minneapolis, Los Angeles, St. Louis, St. Paul, Baltimore, Milwaukee, Pasadena, and Richmond, and some aid has been given to other cities having some, but not all, of the facilities for establishing such clinics. Variations exist in the organization and methods of the clinics.

It is reported that during the year 1927-28 the Commonwealth Fund granted \$697,000 to develop child-guidance clinics, visiting teacher work in public schools, and other projects related to child welfare.

Following a 3-year demonstration in the visiting teacher service, this work has been established in the public-school systems of 48 communities in 32 different States. It is reported that 15,439 children have been aided in these centers.

The establishment of an Institute of Child Guidance in New York City provides a fully equipped center for research and for practical demonstration for the problems of children and special training of psychiatrists, psychologists, and social workers. Fellowship funds for students in this institute have been established by the Commonwealth Fund and are administered by the New York School of Social Work, Smith College School for Social Work, and the National Committee for Mental Hygiene.

The Commonwealth Fund has issued a pamphlet in which the clinics are discussed in relationship to various social factors.⁵ It also published in 1928 a study in parent-child relationships which contains valuable data for parents drawn from some of the typical experiences of fathers and mothers which have been gathered from records of the clinics.⁶

AMERICAN HOME ECONOMICS ASSOCIATION

The American Home Economics Association has conducted for the past two years to aid teachers a project in child development and parental education, the program for which is in charge of a field worker who gives a service of consultation and makes studies and investigations. This project is associated with the teaching of home economics in schools and colleges. A survey has been made by this organization of the child-development work in day, part-time, and evening classes in public schools and the departments of colleges, and has been issued under the title of Child Development and Parental Education in Home Economics. This association administers the funds granted by the Laura Spelman Rockefeller Memorial for the Washington (D. C.) Child Welfare Research Center. Through its monthly official organ, the Journal of Home Economics, articles on child development and parental education are published together with abstracts of the periodical literature of the field.

STUDY GROUPS FOR COLLEGE-TRAINED WOMEN

The American Association of University Women reports an intensive study during 1927-28 in preschool, elementary, and adolescent education, and has carried on a project of organizing study groups among college-trained women. It is reported that during 1927-28 the mothers of young children and other adults interested in young children constituted the membership of 419 study groups which were organized under the direction of this association. In 23 cities branches of the American Association of University Women cooperated last year with the program of study. The quarterly journal of this association contains a department on preschool, elementary, and adolescent education.

NATIONAL COUNCIL OF PARENTAL EDUCATION

Active leaders engaged in organized programs for parental education formed a national council for parental education in 1926 to pro-

⁵Truitt, Ralph P., and others. *The Child Guidance Clinic and the Community*. New York, The Commonwealth Fund, division of publications, 1928. 106 pp.

⁶Sayles, Mary Buell. *The Problem Child at Home*. New York, The Commonwealth Fund, division of publications, 1928. 342 pp.

note the development of leadership in this field; to act as a clearing house of information on the subject of parental education and allied subjects; to disseminate information of the work being done; to study and evaluate methods, materials, and results in the field of parental education; to encourage the preparation of materials and to foster the development of parental education through existing agencies. The office of this organization is in New York City in charge of an executive secretary. A chairman of the council, consulting director, committee chairmen, and a governing board formulate and direct the policies of the council.

OTHER AGENCIES

Many organizations not already noted are making worthy contributions to the education of parents in mental and physical health and in allied subjects, including Russell Sage Foundation, American Child Health Association, National Committee for Mental Hygiene, Elizabeth McCormick Memorial Fund, Playground and Recreation Association of America, American Social Hygiene Association, American Medical Association, and many other organizations.

NATIONAL CONGRESS OF PARENTS AND TEACHERS

Reports on the progress of parent-teacher associations in the United States set forth the numerical growth, and the trends of these organizations from year to year since 1897, when the movement to bring about cooperation between the home and school began.⁷ Some of the outstanding features of the program of this organization are: The gradual molding of local units as integral parts of the National Congress of Parents and Teachers; the changing emphasis from money-raising activities to a program for the serious study of parent problems; the development of an educational program adaptable alike to rural or city conditions and to national, State, or local organizations; the establishment of cooperative relationships with agencies and organizations whose aims are allied; and the development of a suitable literature to meet the growing needs of organizations and members.

The numerical growth of the National Congress of Parents and Teachers during the biennium of 1926-1928 has reached the high level of 1,275,401 members, an increase of about 32 per cent during

⁷ Parent-Teacher Associations at Work. Biennial survey of education, 1922-1924. Washington, D. C., Superintendent of Documents, Government Printing Office, 1925. 15 pp. (U. S. Bureau of Education. Bulletin, 1925, No. 30.) Parent-Teacher Associations. Biennial survey of education, 1924-1926. Washington, D. C., Superintendent of Documents, Government Printing Office, 1927. 28 pp. (U. S. Bureau of Education. Bulletin, 1927, No. 11.)

the past two years.⁸ The membership in Maine and in Utah is reported to have more than doubled during 1928.

The parent-teacher movement depends for its normal growth upon the excellence of leadership and strict adherence to fundamental purposes and voluntary service of a high character. During the past two years increase in membership has been accelerated by membership drives carried on by local associations in an attempt to attain standards of excellence established by the national organization.

STANDARD AND SUPERIOR ASSOCIATIONS

A standard association, as defined by the National Congress of Parents and Teachers, is one in which there is a membership of 50 per cent of the homes and teachers; an attendance annually of at least 60 per cent of the membership; active, working standing committees, including hospitality, publicity, programs, and membership; six regular meetings during the year; compliance with State by-laws regarding dues; a program planned in advance, based upon certain educational objectives; a local publicity chairman furnishing local papers regularly with the news of the organization; a program celebrating the founding of the organization followed by a gift for State and national extension work; 10 per cent or more of families subscribing for the national and State official organs; no promotion of commercial undertakings or sectarian or political partisanship, and observance of parliamentary procedure in conducting meetings approved by State branch.⁹

To be classed as a "superior association," a local organization must not only fulfill the foregoing requirements but in addition must develop a membership of 75 per cent of the parents and teachers; and 15 per cent of the families in membership must be subscribers to the national official organ. The association must maintain, in accordance with national standards, one active preschool circle. In addition to the committees named for a standard association, it must have six additional standing committees with contacts established with corresponding committees of State organizations. It must give aid in organizing a new association or help one in need; it must send one delegate to the district or council meeting, and one delegate, with expenses paid, to the State convention. It must present or read short messages from national and State presidents at regular meetings. It is believed by leaders in this work that the

⁸ Proceedings, Thirty-second annual meeting, Cleveland, Ohio, Apr. 30 to May 5, 1928. Growth of National Congress of Parents and Teachers, p. 354. Washington, D. C., National Congress of Parents and Teachers, 1928. 530 pp.

⁹ Handbook. National Congress of Parents and Teachers. Standards of Excellence for Parent-Teacher Associations. Washington, D. C., National Congress of Parents and Teachers, 1928. Pp. 68-69.

maintenance of such standards ensures the strengthening and growth of these units. Directions for the work of membership committees have been outlined by the national organization.¹⁰

EXTENSION SERVICE FOR ORGANIZATIONS

The great increase numerically of the National Congress of Parents and Teachers necessitated the establishment in 1927 of an extension division for research at the national headquarters in Washington to study intensively the needs of the field and to devise plans for meeting them. An extension secretary assembled, organized, and evaluated bulletins, magazines, pamphlets, posters, and material on child welfare, of all descriptions; organized a pamphlet service and prepared or arranged sources of supply of visual aids to parent-teacher work, such as charts, maps, slides, etc., which are made available to organizations in membership with State and national congress organizations. This division and the executive division are the units of service maintained at the headquarters in Washington, D. C.

DEPARTMENTS, BUREAUS, STANDING COMMITTEES

Following a study of the departments, bureaus, and standing committees of the National Congress of Parents and Teachers during 1927-28, a reorganization of the machinery of the organization was begun in the interest of efficiency. This resulted in the consolidation of some related activities, the discontinuance of some, and the reallocation of others. There are now 5 committees at large; 6 bureaus and 33 committees allocated in departments, each of which is under the direction of a vice president. In the new alignment there are no committees under the department of organization and research. The committees are grouped under six departments as follows: Department of extension—parent-teacher courses and membership committees; department of public welfare—citizenship, juvenile protection, legislation, library extension, motion pictures, recreation, and safety committees; department of education—art, music, drama and pageantry, humane education, kindergarten extension, school education, student loans and scholarships, and physical education committees; department of home service—children's reading, home economics, home education, standards of literature, social standards, thrift, and spiritual training; department of health—physical hygiene, mental hygiene, social hygiene, and the summer round-up of children; committees at large—child welfare magazine, endowment fund, budget, extension among colored people, and founder's day committees.

¹⁰ Handbook. National Congress of Parents and Teachers. Washington, D. C., National Congress of Parents and Teachers, 1928. 108 pp.

Work of the National Congress of Parents and Teachers is carried on by the officers and the committees, bureaus, and committees at large. The operation of this machinery for child welfare has been previously described in a bulletin of the Bureau of Education.¹¹

PARENT-TEACHER ASSOCIATIONS AND PUBLICITY

The maintenance by the National Congress of Parents and Teachers of a publicity bureau with an active manager capable of conducting not only practical press service necessary to educate the public on the important phases of the movement and its progress but also of training novices in publicity work, has been an important factor in the development of the parent-teacher movement. A country-wide correspondence course in publicity was carried on in 1927-28, and demonstrations, experiments, and institutes were among the activities reported. In consequence, publicity budgets were instituted in 19 State organizations; many State organizations send their chairmen of publicity to conventions; and parent-teacher news is constantly interchanged through local, State, and national agencies. A compilation of plans, methods, and results of publicity work for five years was issued to guide State and local workers in interpreting to the public the meaning of the parent-teacher movement.¹²

SUMMER ROUND-UP OF CHILDREN

During the past two years the summer round-up of children, a nation-wide activity of the National Congress of Parents and Teachers, begun in 1925, to insure the entrance into school of children free from remediable physical defects, has reached new levels. The project was initiated and developed under the direction of Mrs. A. H. Reeve, president, 1923-1928. The main objectives are to give children a better start in life, to reduce the number of children whose work may be retarded by physical handicaps, and to reduce the number who fail to pass into the second grade because of physical handicaps.

Examinations, recommendations, and the correction of defects must necessarily be made by experts, but the decision as to whether the examination shall be made and whether the defects discovered shall be corrected rests with parents. Such a campaign, properly conducted, carries with it an educational value for parents and teachers. Reports indicate that during 1927-28 a total of 2,120 groups in local communities in 44 States participated in this campaign. This was an increase of nearly 40 per cent over the groups

¹¹ Reeve, Margaretta W., and Lombard, Ellen C. *The Parent-Teacher Associations, 1924-1926*. Washington, D. C., Government Printing Office, 1927. 28 pp. (U. S. Bureau of Education. Bulletin, 1927, No. 11.)

¹² Kohn, Laura Underhill. *A Publicity Primer*. Washington, D. C., National Congress of Parents and Teachers, 1927.

registered in 1927 and in the number which carried through the campaign requirements. In Flint, Mich., for example, a local parent-teacher association is connected with every school and a summer round-up is carried on in every association. Cooperation with existing agencies is advocated rather than to set up new machinery for this project. In practice this has resulted in the welding together of national, State, and local public and private organizations and institutions capable of making suitable contributions to this campaign.

In connection with this campaign free medical and dental service is provided for children of indigent families. This is arranged by a committee which cooperates unostentatiously with social agencies prepared to take care of such matters.

Several States, including California, have found it difficult, for one reason or another, to adapt the summer round-up plans of the National Congress of Parents and Teachers to their particular situations. California, has, however, carried on an excellent state-wide child health program for several years.

Registrations for the 1928-29 campaign, before July, 1928, are reported to have been made by 2,432 parent-teacher associations.

The National Congress of Parents and Teachers has adopted the summer round-up of children as a permanent activity of the organization, functioning under its department of health. Among the organizations cooperating actively in this project are the Children's Bureau, Bureau of Education, American Child Health Association, American Medical Association, State departments of education and health, and a long list of experts in health, education, and allied subjects.

COURSES IN PARENT-TEACHER WORK

One of the handicaps of the parent-teacher movement has been the lack of trained, experienced leaders. The National Congress of Parents and Teachers has initiated a constructive program in order to overcome this handicap. Through courses, institutes, schools of instruction, conferences and classes in parent-teacher work, leaders are trained in the technic of the work by regularly appointed officers, field workers, or secretaries of the national organization. Qualified instructors are provided for credit courses in colleges and universities. Two courses are given at the summer school of Columbia University by the executive secretary of the organization. Among the 86 students enrolled in 1927 in this course were superintendents, supervisors, college teachers, deans, supervising principals, high and grade school teachers, some of whom were working for master's or doctor's degrees. A course in parent-teacher work for training normal school, college, and university teachers was instituted in 1926 at Columbia under the same instructor.

Credit courses in the technic of organization, development, and conduct of parent-teacher associations and of program making are reported in 1927-28 to have been given in at least 16 States. They are usually offered in summer sessions by universities, colleges, and normal schools. Schedules have been issued announcing either credit or noncredit courses of varying length to be given in 1928-29 at the following institutions: Alabama College; Alabama Polytechnic Institute; Northern Arizona State Teachers College; Arkansas State Teachers College; San Diego (Calif.) State Teachers College; Adams State Normal School, Alamosa, Colo.; University of Delaware; University of Florida; University of Georgia; University of Hawaii; University of Idaho; Illinois State Normal University; Indiana University; Iowa State Teachers College; Central Michigan Normal School; Northern State Teachers College, Marquette, Mich.; Michigan State Normal College; University of Mississippi; Columbia University, New York; North Carolina College for Women; University of North Carolina; North Dakota State Teachers College; Wittenberg College, Springfield, Ohio; Miami University, Oxford, Ohio; Ohio Northern University; Cleveland (Ohio) College; University of Pittsburgh; Winthrop College, Rock Hill, S. C.; University of Tennessee; Tennessee State Teachers Colleges; Denton (Tex.) State Teachers College; University of Virginia; Marshall College, Huntington, W. Va.

RURAL DEMONSTRATIONS IN PARENT-TEACHER ORGANIZATION

The 5-year rural demonstration in parent-teacher organization in North Dakota which was inaugurated in 1924 at the request of the State superintendent of public instruction has been directed and financed for three years by the National Congress of Parents and Teachers. This demonstration was suspended at the end of the third year in order to give the organizations time to coordinate their efforts within the State. That conditions existed requiring special adjustment is evidenced in the report of the State president for 1927-28 in which it is stated that most of the local organizations are in connection with 1-room rural schools where it is difficult to make contacts with other organizations. Thirty county councils of parent-teacher associations were organized during the year 1927-28 to give inspiration and to close up the gaps between the local and the State organization. The North Dakota organization reports that during the biennium 1926-1928 the membership increased from 8,552 to 23,960.

The National Congress of Parents and Teachers transferred its rural demonstration work in the organization of parent-teacher as-

sociations from North Dakota for the time being to Nebraska late in 1926. The objective for the first year was to organize parent-teacher associations in 10 per cent of the schools in counties participating by September, 1928. It is reported that 47 county superintendents of schools requested assistance in their respective counties. Four field organizers of the national organization worked in the State strengthening weak parent-teacher associations, organizing new associations, addressing teachers' institutes, and training leaders. Two hundred and one associations were organized under this demonstration during 1927-28.

A bulletin entitled "Program Discussion Material for Nebraska Rural Parent-Teacher Associations," prepared by the director of rural education in the State department of education, and issued by the department in 1927, provided basic material for meetings of rural associations. County superintendents report a better spirit of cooperation between parents and teachers, greater interest in the schools, better community spirit, and increase in the number of organizations.

PROGRAMS FOR RURAL GROUPS

The development of parent-teacher associations in rural sections has been a slow and difficult problem. The demonstrations in rural communities in Delaware, North Dakota, and Nebraska indicate what progress may be expected when leaders are trained to organize and when suitable programs are available for rural groups.

Under the guidance of a specialist in rural life of the bureau of rural life of the National Congress of Parents and Teachers, a committee was constituted of 100 men and women nationally known for their contribution to the progress of the farm, the rural home, the rural school, and rural community life.

Three conferences were held by this committee during 1927 and 1928, the first two in Washington, D. C., and the third in Cleveland, Ohio. At the first conference January 6, 1927, the objective of the committee's work was determined: "To consider the environment of the rural child in relation to the seven objectives in education adopted by the congress as its general program." At this conference seven subcommittees were organized and assignments were made for the work of the committees.

The purpose of the rural life bureau is: To place general information at the service of the States regarding those rural life interests which require special research or national action and to prepare practical plans and programs which may be adapted to the needs of the individual rural community.

Special chairmen who were experts in their fields were chosen to work with selected groups of committee members in preparing source material based upon the seven cardinal objectives of education which have been adopted as the program of the national organization.¹³

In building the program for rural parent-teacher associations a conference was held in Washington, D. C., at the Bureau of Education, September 26 and 27, 1927.¹⁴ The objective of this conference was to develop for the programs of rural parent-teacher units such materials as might be useful in carrying forward their work successfully. Participants in this conference were representatives of the Bureau of Education, Federal Board for Vocational Education, Department of Agriculture, Children's Bureau, Public Health Service, American Home Economics Association, National Education Association, American Civic Association, National Catholic Welfare Conference, Better Homes in America, the United States Chamber of Commerce, Southern Woman's Educational Alliance, and officers and workers of the National Congress of Parents and Teachers. Organized into seven groups, each group considered one of the following objectives of education: Sound health, worthy home membership, vocational effectiveness, mastery of tools, technics and spirit of learning, wise use of leisure, useful citizenship, ethical character. The following four questions were discussed: (1) What are the problems which relate to the topic of your committee? (2) What is the solution with reference to these particular problems? (3) What can be done by this organization toward the solution of these problems? (4) What agencies, methods, and plans may be worked out?

The Challenge of Rural Youth to the National Congress of Parents and Teachers was the theme of the third conference held at Cleveland, Ohio, April 27-28, 1928, by the rural life bureau.¹⁵

Twenty-one States were represented at this conference. The report brings out: The desirability of helping the rural population to see the possibilities for satisfactions in rural life; that rural schools offer advantages which are not fully realized by educators; that right conditions in the home, in the school, and in the community are necessary to the proper development of children; and that in order to do constructive work parent-teacher associations should cooperate with all existing agencies engaged in work for the welfare of children in rural districts.

¹³ Rural Life Bureau, National Congress of Parents. Source material for the use of rural parent-teacher association units. 1927. / 40 pp.

¹⁴ National Congress of Parents and Teachers. Conference on rural life, September 23-26, 1927. Washington, D. C., 1927. 20 pp.

¹⁵ Proceedings. Thirty-second annual meeting, Cleveland, Ohio, Apr. 30-May 5, 1928. Conference of rural bureau, pp. 509-530. Washington, D. C., National Congress of Parents and Teachers, 1928.

PARENT EDUCATION—HOME EDUCATION

The bureau of parent education, formerly called the bureau of child development, which had functioned since 1925 under the direction of Dr. Bird T. Baldwin until his death, was placed in 1928 under the direction of Dr. Lawson G. Lowrey. In this bureau the activities relating to study groups, study courses, and adolescence have been allocated. A course for study entitled "The Young Child,"¹⁰ outlines for individual or group study, published monthly in the official organ of the National Congress of Parents and Teachers; the courses of the United States Bureau of Education; Six Programs by Garry Cleveland Myers; and Study Outlines issued by the American Association of University Women are reported to have been used by many study groups. Topics of interest to the members are selected by other groups and the discussion and lecture methods are used generally.

Approximately 400 study circles for parents were reported in 1927-28 by one-third of the State organizations of parent-teacher associations. California with 185 groups ranks first in number and Illinois second with 100 groups.

According to the report of a conference on parental education held in connection with the annual convention of the national congress at Cleveland, May 3, 1928, four conclusions were reached, namely: That this organization should use books with outlines as the basis of study; that the books selected should contain discussions of the needs of children at different periods; that the materials should be fitted to the needs of the average parent; and that a series of graded programs be prepared.

The home education committee of the National Congress of Parents and Teachers is another agency which conducts a program for the education of parents and others in the home. It encourages reading habits by furnishing reading courses and by promoting the organization of reading circles and the development of library facilities to meet the needs of this work. In 1927-28 this committee worked through 30 State and local home education committees. The materials recommended for the work are the leaflets of the congress, the reading courses and circular letters of the United States Bureau of Education, the reading courses of the American Library Association, and courses of extension divisions of universities.

Four organizations sent representatives to a meeting of the National Committee on Home Education called by the United States Commissioner of Education at Washington, D. C., April 6, 1928, at

¹⁰ Baldwin, Dr. Bird T. The Young Child. Chicago, Ill., American Library Association, 1928. 34 pp.

which the following program, subsequently adopted by the respective organizations represented, was recommended:

1. The Bureau of Education will prepare graded, annotated reading courses on general and special subjects, as may be warranted by public demand. These courses will be prepared in printed form and distributed free of charge. The bureau will also undertake to give wide publicity to the project of home reading and study courses.

2. The American Library Association will (a) continue the preparation and publication of its Reading With a Purpose series; and (b) use its good offices in urging upon local libraries, State libraries, and library commissions the desirability and importance of cooperating in making available to readers the books required for the successful pursuit of these courses.

3. The National Congress of Parents and Teachers will actively promote the use of the reading courses prepared by the Bureau of Education, the American Library Association, and the respective university extension divisions, and the formation of reading and study groups for the further use of these courses. The congress will also devise plans for making available in interested communities the books required for these courses.

4. The National University Extension Association will adopt and promulgate as part of the extension program the reading courses issued by the United States Bureau of Education, the American Library Association, and the respective extension divisions. Each extension division subscribing to this program will issue on its own behalf a certificate of achievement to those persons who complete courses to the satisfaction of the issuing institution. For the service of reading papers and issuing the certificate a reasonable fee may be charged. For the present it is recommended that this fee be \$1. It is also recommended that each extension division consider the advisability of popularizing these reading courses and other means of adult education through State committees, congresses, conferences, institutes, and other forms of cooperative endeavor.

This program has been adopted in extension divisions of 16 State universities, and by the university extension division of the Massachusetts Department of Education. Other States are considering the advisability of including it as a part of the extension education work.

In California, during 1927-28, in addition to the reading and study circle work carried on as a part of the State and local organizations of parents and teachers, there were 164 parental education groups with an enrollment of 5,000 parents organized as a part of the adult education program under paid leaders. This state-wide project has the active support of the California Congress of Parents and Teachers.

LITERATURE ON THE PARENT-TEACHER MOVEMENT

Literature on this movement has generally been confined to leaflets and bulletins issued by State and national organizations, by State departments of education, by extension divisions of universities, or by the United States Bureau of Education.

The educational significance and underlying principles of the movement for the cooperation of home, school, and community, and the part the parent-teacher association may take in the development of child life have been set forth in *Parents and Teachers*, a textbook which has been issued under the auspices of the National Congress of Parents and Teachers.¹⁷

School Life, the official periodical of the United States Bureau of Education, carries frequent articles on this movement, and the *Journal of Education*, of the National Education Association, and bulletins of the State teachers associations in many States give space in their columns to further the work.

In a recent study of the parent-teacher organization, the activities of 800 local organizations in 9 States were listed, analyzed, and classified. These States were: California, Iowa, Michigan, New Jersey, New York, North Carolina, Ohio, Texas, and Virginia. Three major problems were stated as objectives of the study: (1) To discover what activities parent-teacher associations usually engage in; (2) to consider what place, if any, such an organization should have in our educational program; and (3) to undertake an evaluation of present activities to see in what ways, if any, redirection of energy should take place.¹⁸

ORGANIZATIONS IN LARGE CITIES

Parents' Educational Bureau.—The work of the Parents' Educational Bureau of Portland, Oreg., an organization whose funds are derived from popular subscription to the community chest, is carried on by the volunteer service of the members of the Oregon Congress of Parents and Teachers, local physicians, and nurses.

Parents whose children register with the bureau are eligible to attend the lectures and discussions on practical problems of childhood which were announced in 1927. The bureau is intended for clinical work with children residing in the city between the ages of 2 and 7 years and of any age up to 7 years outside of the city limits.

PARENTS' COUNCIL OF PHILADELPHIA

During 1927-28 the Parents' Council of Philadelphia had a membership of 913 fathers and mothers in 47 child-study groups which met weekly or semimonthly. The council maintains for its groups a reference and loan library, a bookshop which supplies books for

¹⁷ Mason, Martha Sprague, editor. *Parents and Teachers. A survey of organized cooperation of home, school, and community.* Boston, Ginn & Co., 1928. 317 pp.

¹⁸ Butterworth, Julian E. *The Parent-Teacher Association and Its Work.* New York, Macmillan Co., 1928. 140 pp.

parents which are not easily found in bookstores, a bibliography service, and a speakers' bureau. Publicity has been issued through the official organ, Parents' Council Pilot. Parenthood education for families in the community who desire it is stated as the objective of this organization.

The parents' council furnishes leadership for child-study groups but takes no responsibility for the organization, administration, or housing of the groups which have been formed by parent-teacher associations, clubs, churches, or other community groups.

The program for a course of lecture-conference on personality growth in children was prepared in cooperation with the Philadelphia Child Guidance Clinic in 1928. Leaders in education, psychology, and psychiatry open the discussions which follow the lectures, and members of the group participate.

A monthly bulletin has been issued in mimeographed form as a part of the service of this council.

THE UNITED PARENTS' ASSOCIATIONS OF GREATER NEW YORK SCHOOLS
(INC.)

A series of programs on trends in elementary and secondary education were prepared by a committee of the United Parents' Associations for its meetings in 1927-28. The topics for the program, selected because of their importance in the life of the average child, dealt with what the school is doing for the individual child; the changes in present-day living; education 24 hours a day; progressive movements in education, etc. The speakers' bureau furnished speakers for all topics listed in the program, and, when necessary, speakers in foreign languages were supplied.

In 1928 the United Parents' Associations sponsored a parents' exposition primarily for parents. This project had the cooperation of all local agencies of child welfare. It was reported that 93 outstanding authorities worked on the various committees which arranged the program.

The fundamental purpose for which this organization was established is to awaken and instruct parents as to the importance of improved school conditions, adequate instruction, teachers of the highest type, and other equally important topics.

The organization is serving its member associations by providing a field service on organization problems; helping committee chairmen plan programs; publishing *The School Parent*, the official organ, weekly, except in July and August; giving radio talks; acting as a clearing house; conducting studies on problems affecting the schools, and recommending united action on them.

PERIODICALS FOR PARENTS

The following is an incomplete list of periodicals, some of which are official organs of organizations, which contain popular or technical contributions of educational value for the use of parents or others interested in child life: American Child; American Childhood; Babyhood; Childhood Education; Children, the Parents' Magazine; Child Welfare Magazine; Child Study; Hygeia; Journal of the American Association of University Women; Journal of Home Economics; Mother and Child; Progressive Education; and School Life. There are many more publications which, from time to time, furnish excellent material for parent education; among these are the popular women's journals.

INTERNATIONAL FEDERATION OF HOME AND SCHOOL

A federation of the forces engaged in child welfare throughout the world was organized into an International Federation of Home and School at the meeting of the World Federation of Education Associations in Toronto, Canada, in 1927, and headquarters were established at Northwest School, 1421 Race Street, Philadelphia, Pa.

The organizations represented at this meeting were the Canadian National Federation of Home and School; the National Mothers Congress of Japan; the Union International de Secours aux Enfants, Switzerland; Parents' National Educational Union, Ireland; National Congress of Parents and Teachers, United States; Austro-American Institute of Education, Austria; Ligue de l'Education Familiale, Belgium; National Ministry of Education, China; Department of Education, Cuba; People's College, Denmark; New Education Fellowship, England; Junior Red Cross, France; Prussian Landtag, Germany; Department of Education, Hawaii; Hindustan Association of American and Gwalior College, India; Japanese Education Association, Japan; Department of Education, Mexico.

The objective of this organization is to bring together the forces which are working "in home, school, and community, whether for the purpose of training parents, teachers, or children, for the improvement of the conditions under which boys and girls of all ages live and work and play." The program for the two years 1927-1929 includes: Acting as a clearing house of information on matters concerned with the fundamental purposes; publishing an international news letter; conducting a biennial conference coincident with the meeting of the World Federation of Education Associations; and promoting the organization of national groups.

RESULTS OF INQUIRY INTO WORLD COOPERATION OF HOME AND SCHOOL

BY M^{lle}. MARIE BUTTS

General Secretary International Bureau of Education, Geneva, Switzerland; Chairman, Committee on Education, International Federation of Home and School

In a message to all countries the president of the International Federation of Home and School says:

We fully understand that each nation must have its own special program. We, in the United States, do not claim that our plan of parent-teacher associations is a perfect one, but we know by experience that it succeeds with a great variety of nationalities. We have in our National Congress of Parents and Teachers groups speaking German, Spanish, Japanese, Russian, etc. We have developed here organizations which are not purely Anglo-Saxon but which may be adapted to the varied viewpoints of people of all nationalities.

With the desire of making an inquiry into the methods employed in other countries to bring together the school and the home, a questionnaire was sent out by the International Bureau of Education, Geneva, Switzerland, for the International Federation of Home and School. About 50 replies from departments of public instruction and principals of public and private schools were received. Members and correspondents in more than 50 countries were then asked to send information, and 77 replies came from 32 countries.

In proceeding to make the abstract of the returns, a distinction was made between the official organizations prescribed by law, and the private undertakings. It is important to note that the governments of various countries, far from being indifferent to the movements to bring school and home together have, far more often than is generally believed, made serious efforts to establish conditions of good understanding between the home and the school.

Parents' councils are created by law in several countries, especially those in which German is the language, such as Germany, the territory of the Saare, the Free City of Danzig, and Austria. These councils (Elternbeiräte), at whose meetings the teaching body is invited to be present, permit parents to express their desires as to the education of their children with a view to the establishment of understanding and cooperation between home and school. In Germany large groups are formed for the support of a special type of school to which they may be attached—for example, the Free National Association of Parents of the German High Schools, and the National Parents' Club of the German Intermediate Schools, etc.

Here are a few details in regard to the parents' councils of Saxony. At the beginning of each school year, the parents may, if they so desire, elect a council of parents to which fathers and mothers

whose children attend the school are eligible. Generally, in Saxony, these councils are divided into two sections—the clerical group and the lay group. These councils try to develop a sense of parental responsibility to work with the teachers for the success of the school activities, but they have no authority to interfere with school officials, the teaching force, or the individual teacher. The school-directing committee, established in Saxony more than a half century ago, exercises the right of control over the teachers. Teachers and official authorities are represented on it.

In Hamburg the Council of Parents names the head master. Moreover, the school council is composed of an equal number of parents and teachers, and each school has its parents' publications.

In Danzig the faculty of the primary schools is elected by the school deputies who are named by the citizens and is composed as follows: One-third, residents of the school district; one-third, teachers; and one-third, members of the senate. These deputies seek to establish a close contact and collaboration between the home and school. Formerly this activity was impeded by political considerations, but politics has passed into the background and, it is reported, it is necessary to guard against its reappearance.

In Austria the Parents' Council, comprising one-third teachers and two-thirds parents, with the addition of the president of the city school board, the district school inspector, the school physician, etc., is chosen by the members of the Parents' Association. Since the World War these associations have developed rapidly in Austria. They are to be found in all primary (elementary) schools of Vienna and of the Province, where the majority of the inhabitants are reported to be social democrats. They have to be recognized by law and the decree of August 4, 1922, insists upon their obligation to establish a close collaboration of home and school.

Their activities are especially practical in nature. They furnish funds by the organization of school festivals, excursions, gymnastic lessons, reading rooms, for the purchase of musical instruments, material for manual training, etc. The cost of country vacations for delicate children has been met, but they can not officially organize child protective activities. They have no right of supervision over the teachers, and they must keep out of politics.

Poland has in certain Provinces official councils of parents, and in Holland and in Belgium receptions and meetings are prescribed by law, but this does not mean that they are actually organized everywhere.

It is in Rumania that the Government and the teachers have apparently profited most by the aid of the parents. Each school has its committee, instituted under a law of 1919, and composed of

parents, teachers, local authorities, former pupils, and other interested persons. These committees work for the benefit of the schools along the following lines: The construction or repair of school buildings; planting of gardens; promoting school museums, art classes, libraries; organization of conferences, festivals, courses, vacation colonies, open-air schools; aid for needy pupils, etc. It is due to the support of the parents that after the war it was possible to reconstruct the schools and that they are now functioning satisfactorily.

In some countries there are parents' associations in addition to the parents' councils. They are to be found, as previously mentioned, in Austria; in Bulgaria they are organized in all the secondary schools of the capital. They are also to be found in Australia, where they are called "Parents and Citizens Associations"; they correspond to the parent-teacher associations of the United States. Their by-laws must be approved by the Minister of Public Instruction. They have no teaching jurisdiction and must not interfere in matters of instruction, but their object is to defend the interests of the school and to sustain the teaching body in its relations with the public. They endeavor to promote regular school attendance, give aid to the teachers, and supply funds for the improvement of the schools (playgrounds, books, pianos, etc.). In Western Australia, the parents' associations appoint the school board and are united in a federation called the "Federation of the Parents and Citizens Associations," which publishes a monthly journal. In Victoria the school committees, appointed by the parents and the parents' association, play the same rôle as the parents' and citizens' associations in the other Provinces.¹⁹

It is quite evident that in many countries parents, if they are not organized into councils or associations, are officially represented on school committees, educational commissions, and others of the kind. This is pointed out in replies from Belgium, Scotland, Estonia, Norway, Switzerland, and India. As an example of what is done, in the community of St. Gilles, Belgium, the members of the school committee are: The fathers and mothers of the children attending community schools; delegates from clubs of various activities; post-school and outside of school fathers and mothers in their turn. The fathers and mothers are appointed by the parents of the pupils, gathered in an assembly, which is presided over by the Provost of Public Instruction. At these assemblies, or parents' meetings, the representative of the department of public instruction makes an address on the organization and plan of the teaching in the community.

¹⁹ It should not be inferred that the Australian school boards and school committees have the same functions as our agencies which bear those titles. In Australia teachers are appointed and assigned and schools are maintained by the central government of each State.—*Editor*.

schools and discusses with the parents the best methods of preparing their children for life.

In the elementary schools of Estonia, the parents and teachers meet at least three times a year to discuss educational and pedagogical questions. Their wishes are then submitted to the educational council and to the Kuratorium. The Kuratorium, composed of one-third teachers, one-third school authorities, and one-third parents, concerns itself with financial questions and with school attendance.

For purposes of home education there is in England the Parents' National Educational Union which was founded 30 years ago, well known for its special methods of home education and for organizing the Parents' Union School. Its official journal is the Parents' Review.

In Switzerland the canton of Schaffhausen has a Cantonal Society of Instruction which deals with educational questions and to which belong people of all classes and of all political parties. And at Soleure a decree of May 26, 1877, instituted in each of the 10 districts of the canton, an educational association recruited from the school commission (teachers and friends of the school) of the district.

There is a project under French law which aims to create school councils, whose members are reported to be the mayor of a community, the head masters and mistresses of the school, with an equal number of municipal councilors, fathers and mothers of the pupils, and teachers. These councils are intended primarily to take care of the material interests of the school. An article on the Manual of Elementary Instruction (January 16, 1926) declares:

We conceive of the school council as first of all the center, where will of necessity be united all the subsidies, legal or optional, together with other resources, which the State, the departments, the communities, and private individuals may lend to the school, and as the agent especially authorized to use these credits and these contributions. The council will supervise the fitting up and the maintenance of the local schools; will take the necessary hygienic measures; will create gardens, studios, experiment stations, etc.; but it shall not interfere in the organization of the curriculum. The principal shall maintain his educational independence. Thanks to the school council it will be possible to attach to the school the civic personnel so that it will become autonomous from the financial point of view.

In Paraguay each public school has a people's educational commission, composed of parents and teachers, and appointed by the national council of education.

From this enumeration of facts taken from the report which was based upon replies to an inquiry, a conclusion has been drawn that in spite of the many praiseworthy efforts which are briefly described, the problems of cooperation of the forces of home and school have not yet been solved. The two groups still oppose and contradict each other. The reasons for this incompatibility have been given

frequently in detail: The lack of education or of interest in educational matters on the part of parents; distrust on the part of the teachers, who do not like to have the parents interfering in their affairs; social prejudices; politics, etc. In Norway, for example, we are told that the supervising committees, composed partly of parents, have only increased the difficulties of the teachers, especially in matters of discipline, and have even caused attacks to be made upon the teachers in the labor papers. In such countries as India, where the new generation is far removed from the old, the parents would have difficulty in giving really effective cooperation. An English correspondent points out that it would be difficult to create an association of parents and teachers in England because societies are already too numerous; the social conditions do not allow the success of organizations of the type found in the United States; and the English teachers are professionals, men of certain technique, individualists, and little disposed to allow themselves to be counseled or aided by parents. In South Africa in response to the questionnaire it was stated that the school administrators are already so largely controlled and influenced by the public that they do not need to meet with the parents; in another section it is the opinion of the superintendent that parent-teacher associations would not be very useful in the rural districts because the teachers are already in daily contact with the parents, but in the cities they might render invaluable service.

In spite of all difficulties and although progress may be slow, the cooperation of home and school is steadily advancing. It engages more and more people, and methods are being improved. When these methods, adjusted to meet the needs of each country, shall have been centralized by a strong organization directing them definitely toward the same end, it will be possible to fully realize this community of action between parents and teachers.

CHAPTER XV

EDUCATIONAL BOARDS AND FOUNDATIONS

BY HENRY R. EVANS

Editorial Division, Office of Education

CONTEXTS.—General Education Board—Rockefeller Foundation—Laura Spelman Rockefeller Memorial—Carnegie Corporation of New York—Carnegie Foundation for the Advancement of Teaching—John F. Slater Fund—Jeanes Fund—Phelps-Stokes Fund—American Field Service Fellowships for French Universities—Commission for Relief in Belgium Educational Foundation—Baron de Hirsch Fund—Kahn Foundation for Foreign Travel of American Teachers—Commonwealth Fund—Julius Rosenwald Fund—Payne Fund.

GENERAL EDUCATION BOARD¹

The General Education Board has, since its foundation in 1902, to June 30, 1928, appropriated \$176,689,425.54 for the promotion of education in the United States. Of this sum \$112,163,437.95 was paid to colleges and other institutions for whites; \$12,991,854.75 to institutions for negroes; and \$1,317,023.91 to miscellaneous objects.

The sum of \$17,487,062.74 was appropriated by the board for the year ended June 30, 1928; in addition there was appropriated from income of the Anna T. Jeanes Fund for Negro Rural Schools the sum of \$9,624.33, making a grand total of \$17,496,687.07. Of the total of \$17,487,062.74, \$12,462,000 represents appropriations from principal and \$5,025,062.74 appropriations from income.

The receipts of the General Education Board were as follows: Balance, June 30, 1927, \$14,204,582.64; refunds on account of payments made in previous years, \$30,234.52; income, July 1, 1927, to June 30, 1928, \$5,242,433.36; total \$19,477,250.52.

The statement of disbursements of income for educational purposes is as follows:

For whites.—American Journal of Pathology, \$7,500. Universities and colleges: Endowment and general purposes, \$3,478,935; to increase teachers' salaries, \$10,835.60. County school consolidation, \$370.25; fellowships and scholarships, \$55,700; humanistic studies and research, \$569,300; industrial art, \$15,501.14; Lincoln School, \$111,000; medical schools, \$727,861.28; National Academy of Sciences, \$11,327.72; public education (colleges), \$42,500; repairs and reequipment of schoolhouses in flooded Southern States, \$138,432.40; rural school agents, \$38,094.23; State departments of education (di-

¹ Data compiled from report filed with the Secretary of the Interior.

visions of school buildings, information, school service, demonstration in supervision, etc.), \$71,747.96.

For negroes.—Colleges and schools: Endowment and general purposes, \$570,227.49; to increase teachers' salaries, \$13,000. County training schools, \$64,629.06; fellowships and scholarships, \$38,250; expenses of special students at summer schools, \$3,874.42; John F. Slater Fund, \$52,000; medical schools, \$227,607.69; National Research Council fellowship, \$2,500; negro rural school fund, \$90,000; rural school agents, \$99,769.76; summer schools, \$23,810.61; repairs and re-equipment of schoolhouses in flooded Southern States, \$11,567.60; training negro teachers in private and denominational colleges, \$11,222.22.

Miscellaneous.—Conferences, \$1,694.02; improvement of accounting systems in educational institutions, \$542.27; revision of paper on teachers' salaries, \$10,420.03; rural school supervision, \$24,318.85; studies in the field of public education, \$6,273.82; surveys (miscellaneous), \$14,449.68.

Administration, \$226,684.89. Grand total, \$6,771,947.99. Income on hand June 30, 1928, as accounted for in balance sheet, \$12,705,302.53.

President: Wickliffe Rose, 61 Broadway, New York, N. Y.

Secretary: William W. Brierley, 61 Broadway, New York, N. Y.

ROCKEFELLER FOUNDATION

The activities of the Rockefeller Foundation for 1927 are summarized as follows by George E. Vincent, president of the foundation:

During 1927 the Rockefeller Foundation, in disbursing from income and capital \$11,223,124, (1) aided local health organizations in 85 counties of six States in the Mississippi flood area; (2) operated an emergency field training station for health workers in this region besides contributing toward the support of nine other training centers elsewhere; (3) assisted nine schools or institutes of public health and three departments of hygiene in university medical schools; (4) gave aid to 17 nurse-training schools in nine counties; (5) furnished funds for land, buildings, operation, or endowment to 19 medical schools in 14 countries; (6) supported the Peking Union Medical College; (7) paid \$2,000,000 toward a new site for the University of London; (8) helped Brazil to maintain precautionary measures against yellow fever; (9) continued studies of that disease in West Africa on the Gold Coast and in Nigeria; (10) had a part in malaria control demonstrations or surveys in eight States of the southern United States and in 11 foreign countries; (11) aided 10 governments to bring hookworm disease under control; (12) contributed to the health budgets of 268 counties in 23 States of the American Commonwealth and of 31 similar governmental divisions in 14 foreign countries; (13) helped to set up or maintain public health laboratory services or divisions of vital statistics, sanitary engineering, or epidemiology in the national health services of 19 countries abroad and in the State health departments of 16 American States; (14) made grants for mental hygiene work in the United States and Canada; (15) provided funds for biological research at the Johns Hopkins University

and aided investigations in this field at Yale University, the State University of Iowa, the University of Hawaii, the Bernice P. Bishop Museum in Honolulu, and certain universities of Australia; (16) helped the League of Nations to conduct study tours or interchanges for 125 health officers from 44 countries, to supply world-wide information about communicable diseases, to train government officials in vital statistics, and to establish a library of health documents; (17) provided, directly or indirectly, fellowships for 864 men and women from 52 different countries; and paid the traveling expenses of 115 officials or professors making study visits either individually or in commissions; (18) made minor appropriations for improving the teaching of the premedical sciences in China and Siam, for the operating expenses of hospitals in China, and for laboratory supplies, equipment, and literature for European medical centers which have not yet recovered from the after effects of the war; (19) lent staff members as consultants and gave small sums for various purposes to many governments and institutions; (20) made surveys of health conditions and of medical and nursing education in 14 countries.

The income of the foundation during the year was \$9,331,903; the balance carried over from 1926 was \$6,098,647. The following is a summary of expenditures in 1927: Public health, \$3,785,718; medical education, \$4,097,343; miscellaneous, \$2,714,546; administration, \$625,517.

President: George E. Vincent, 61 Broadway, New York, N. Y.

Secretary: Mrs. Norma S. Thompson, 61 Broadway, New York, N. Y.

LAURA SPELMAN ROCKEFELLER MEMORIAL

The Laura Spelman Rockefeller Memorial, during the year 1928, appropriated for educational, charitable, and scientific purposes the sum of \$37,154,933.63, which with contingent appropriations of \$927,124.71 makes a grand total of \$38,082,058.34.

On January 3, 1929, the Laura Spelman Rockefeller Memorial was consolidated with the Rockefeller Foundation and terminated its existence as a separate organization. According to a report issued in 1929, "the increasing interest of the memorial in the social sciences and the development of the Rockefeller Foundation's own program for the advancement of knowledge made it desirable for the principal activities of these organizations to be continued under a single administration."

The sum of \$5,000,000 was appropriated to assist in the establishment of the Great Smoky Mountains National Park.

The continuation of the memorial's activities for the study of child development and parent education, for the improvement of inter-racial relationships, and in cooperation with public agencies will be effected through an appropriation of \$10,000,000 which has been made to the Spelman Fund of New York.

President: John D. Rockefeller, jr., 61 Broadway, New York, N. Y.

Secretary: W. S. Richardson, 61 Broadway, New York, N. Y.

CARNEGIE CORPORATION OF NEW YORK

The following appropriations were authorized by the Carnegie Corporation of New York for the fiscal year 1927-28: Library service, \$140,000; adult education, \$102,000; the arts, \$487,500; educational studies, research, and publications, \$645,750; general interests, \$666,000; total grants authorized from principal fund and special fund, \$2,041,250.

Of the grants made during the current year from the funds applicable in the United States, the largest was to the Institute of International Education. The institute, originally founded by the Carnegie Endowment, but independent since 1923, has, under the leadership of Dr. Stephen P. Duggan, proved of great usefulness both to foreign scholars and students visiting the United States and to Americans contemplating foreign study.

The African program of the corporation is progressing. Says President Frederick P. Keppel, in his annual report for the year ended September 30, 1928:

The Carnegie Corporation really administers two endowments under the direction of a single board of trustees. The major part of its income is limited under its charter to activities for the advancement and diffusion of knowledge and understanding among the people of the United States, but Mr. Carnegie's far-seeing generosity made provision also, by a special gift of \$10,000,000, for the carrying out of the same broad purposes "in Canada and the British Colonies." It is from this second source that the corporation has embarked during the year under review upon a five-year program in British Africa, for which it has set aside the sum of \$500,000. This action followed a visit to Africa and a report to the trustees made by the secretary and the president of the corporation. Thanks to the generous and intelligent help which the corporation received on every hand, and most notably from Dr. C. T. Loram, it has already been able to carry this program forward to a degree which would otherwise have been impossible. Definite grants have been voted, usually providing for annual installments during the five-year period, which aggregate about half the total sum set aside. Responsible local bodies are already selecting representative South Africans for visits to the United States and Canada, and for the selection and oversight of scientific researches, including a major cooperative research upon what is known in South Africa as the "Poor White" problem. Perhaps the most important result of the visits of the commissions sent to Africa by the Phelps Stokes Fund, under the leadership of Dr. Thomas Jesse Jones, has been the development of the so-called Jeanes School, which represents the adaptation of the fruits of our American experience with the southern negroes to the education of the native African. Since 1925 the corporation has been contributing to the support of a Jeanes School in Kenya Colony, and it has now agreed to give similar help to five additional schools, to be established, respectively, two within the Union of South Africa, and one each in Northern and Southern Rhodesia and in Nyasaland. Although none of the gifts made by the corporation in this program have been subject to formal conditions as to the receipt of funds from other sources, it may be said that in practically every case funds at least equal to

those furnished by the corporation are being provided by the Government of the Union or from some other African source.

President: Frederick P. Keppel, 522 Fifth Avenue, New York, N. Y.

Secretary: James Bertram, 522 Fifth Avenue, New York, N. Y.

CARNEGIE FOUNDATION FOR THE ADVANCEMENT OF TEACHING

The Carnegie Foundation for the Advancement of Teaching, in its report for the year ended June 30, 1927, announces progress on bulletins dealing with dental education, legal education; school, college, and university athletics in Great Britain and the United States; the present character and relations of schools and colleges in the United States as compared with those in several European countries; and authorizes the continuance of the last inquiry in a specific study of the relations of schools and colleges in the State of Pennsylvania.

The executive committee received with satisfaction information that retiring allowances from the foundation had been declared

free of income tax in Massachusetts, and approved the recommendations of the president concerning the establishment of a central agency for the sale, purchase, and custody for securities for the foundation, in cooperation with the Carnegie Corporation of New York, the Carnegie Endowment for International Peace, and the Carnegie Institution of Washington.

Desiring from time to time to assist certain educational projects through the Carnegie Foundation, the Carnegie Corporation voted and the foundation accepted, during the year, appropriations of \$10,000 for a study of graduate instruction, of \$10,000 for a study of accredited schools in cooperation with the Association of Colleges and Secondary Schools of the Middle States and Maryland, and of \$3,000 for aid in the publication of miscellaneous educational reports.

In administering the rules for retirement the committee voted that expectation of a retiring allowance is not interfered with by the transfer of a teacher from an institution that was associated with the foundation in 1915 to an institution that had become associated after that date but before the transfer of the teacher.

During the year the trustees received a total income of \$1,389,644 for general purposes and \$23,000 for special purposes, in addition to \$57,862.40 from the endowment of the division of educational inquiry, \$789,644.13 from the general endowment, and \$623,000 from the Carnegie Corporation of New York on account of its appropriation of \$600,000 a year for 10 years for general purposes and of certain specific appropriations of \$23,000. The current expenditures were as follows:

(a) General endowment: Retiring allowances and pensions in institutions on the associated list, \$1,257,770.40; retiring allowances and pensions granted to individuals, \$76,283.64; total retiring allowances and pensions, \$1,334,054.04; pension studies, \$2,640.43; expenses of administration, \$85,560.39; publication, \$5,000.

(b) Division of educational inquiry: General, \$8,636.33; study of legal education, \$10,649.76; study of dental education, \$6,574.08; study of graduate instruction, \$2,000; study of comparative education, \$9,680.05; study of college athletics, \$22,806.77; other studies, \$13,747.50; total, \$74,094.49. Grand total, \$1,501,349.35.

President: Henry S. Pritchett, 522 Fifth Avenue, New York, N. Y.

Secretary: Clyde Furst, 522 Fifth Avenue, New York, N. Y.

JOHN F. SLATER FUND

The following appropriations covering the year 1927-28 were made by the Education Committee of the John F. Slater Fund: Colleges, \$22,050; Hampton-Tuskegee campaign fund, \$10,000; county training schools, \$35,000; special work, \$2,000; total \$69,050.

For several years the Slater Fund has been paying, or assisting in paying, the salary of a professor in the English or science department in each of 20 colleges. The professors to whose salaries the contributions have been made are graduates of, or have attended Harvard, Yale, Dartmouth, Columbia, Chicago, Northwestern, California, Illinois, Howard, Fisk, or some other well-known institution.

Of the 306 county training schools aided by the fund, in 1926-27, there were 82 which report a four-year high-school course: Alabama, 10; Arkansas, 1; Florida, 1; Georgia, 5; Kentucky, 7; Louisiana, 8; Maryland, 2; Mississippi, 3; North Carolina, 17; Oklahoma, 1; South Carolina, 4; Tennessee, 8; Texas, 10; Virginia, 5. There are 66 schools which have dormitories; and 98 which have teachers' homes.

President: James H. Dillard, Charlottesville, Va.

Secretary: Gertrude C. Mann, Box 418, Charlottesville, Va.

JEANES FUND

The Jeanes Fund, for the improvement of negro rural schools, cooperated during the session ending June 30, 1927, with public-school boards and superintendents in 306 counties in 14 States.¹

The 309 supervising teachers, paid partly by the counties and partly through the Jeanes Fund, visited regularly in these counties 9,428 country schools, making in all 51,011 visits, and raising for the purpose of school improvement \$495,845. The total of salaries paid to the supervising teachers was \$273,418, of which \$164,871 was paid by the public-school authorities and \$108,547 through the Jeanes Fund.

The business of these traveling teachers, working under the direction of the county superintendents, is to help and encourage the

¹ One county had 3 Jeanes' teachers; 3 counties had 2; and 3 teachers served 12 2 counties.

rural teachers; to introduce into small country schools simple home industries; to give lessons on sanitation, cleanliness, etc.; to promote the improvement of schoolhouses and school grounds; and to organize clubs for the betterment of the school and neighborhood.

PHELPS-STOKES FUND

The Phelps-Stokes Fund, established under the will of Caroline Phelps-Stokes, who died in 1909, was incorporated by the State of New York in 1911. The act of incorporation directs the trustees to use the income for "the erection or improvement of tenement-house dwellings in New York City and for educational purposes in the education of negroes, both in Africa and the United States, North American Indians, and needy and deserving white students." The capital of the fund is approximately \$1,200,000.

In recognition of the advancement which many negro secondary schools and colleges have made during the 10 years since the report on those institutions was issued in 1916, the Phelps-Stokes Fund, at the request of the Association of Colleges for Negro Youth, recently appropriated \$5,000 to assist the United States Bureau of Education to make a resurvey of the institutions of higher learning for negroes in America. The Bureau of Education has completed this survey, which has been published under the title "Survey of Negro Colleges and Universities." Approximately 40 per cent of the money provided by the Phelps-Stokes Fund and by other cooperating institutions was returned at the conclusion of the survey.

Since the beginning of the fund in 1911, appropriations have been made to various organizations interested in the welfare of negroes in America and Africa. Appropriations have also been made with considerable regularity to a number of negro schools of the secondary and collegiate types, such as Fisk University, Atlanta University, Hampton Institute, Tuskegee Institute, Calhoun Colored School, Penn Normal and Industrial School, and Lincoln University (Pennsylvania).

The fund has also aided the work of the interracial commissions and such conferences as the "National Interracial Conference" held in Washington in December, 1928.

Fellowships have been established in the University of Virginia and the University of Georgia for the study of the negro problem. Both universities accepted these fellowships with the understanding that graduate students should make some phase of the negro problem their special task and that the universities would publish the theses. A special fund has been established at the George Peabody College for Teachers, at Nashville, Tenn., to enable the teachers and students there to visit colored schools and see the actual progress which negroes are making.

In 1920 the fund entered into cooperation with foreign missionary societies and colonial governments for the study of native education in Africa. Through this cooperation two educational commissions were sent to West, South, Equatorial, and East Africa, and two volumes, entitled "Education in West, South and Equatorial Africa" (1922), and "Education in East Africa" (1925), were printed to report the findings of these commissions.

The fund has interested itself particularly in bringing to the United States representative government officials, educators, and missionaries from Africa to make studies of the progress of the negroes in America. About 60 persons have thus been enabled to study negro education at first hand in the United States. In addition, the fund has largely assisted several promising African students to fit themselves in this country for work among their own people in Africa.

Recently the fund has been giving much attention to assisting the Liberian Government through the establishment of a public library, the development of public education, the encouragement of sound education under missionary auspices, and the development of an adequate industrial and agricultural institute on the lines of Tuskegee.

The fund, in addition to its educational work, is interested in improving housing conditions in New York, especially among negroes.

A report covering the work and expenditures of the fund since its foundation has been prepared and will be available for distribution early in 1929.

President: Anson Phelps Stokes, 2408 Massachusetts Avenue NW., Washington, D. C.

Secretary: I. N. Phelps Stokes, 101 Park Avenue, New York, N. Y.

AMERICAN FIELD SERVICE FELLOWSHIPS FOR FRENCH UNIVERSITIES

The American Field Service for French Universities, which is administered by the Institute of International Education, with headquarters in New York City, has for its objective the establishment of "an enduring memorial for the 127 Field Service men who gave their lives in the Great War." It seeks "to develop a better realization and appreciation of the contributions of French universities to science and learning, and to promote mutual understanding and good will between France and the United States. Nine fellowships were awarded for the year 1928-29.

President: Paul D. Cravath, 2 West Forty-fifth Street, New York, N. Y.

Executive Secretary: Archie M. Palmer, 2 West Forty-fifth Street, New York, N. Y.

COMMISSION FOR RELIEF IN BELGIUM EDUCATIONAL FOUNDATION (INC.) AND THE FOUNDATION UNIVERSITAIRE

The Commission for Relief in Belgium Educational Foundation (Inc.) during the calendar year 1927 contributed the sum of \$150,000 for the completion of the Louvain Library. This final donation brings the gifts through the foundation for the building and maintenance of that library to \$665,000. The foundation authorized a contribution of 9,500,000 Belgian francs for the completion of the main group of the new buildings of the University of Brussels at the Solbosch site. This final gift to Brussels University brings the total of gifts and expenditures of the foundation for the Solbosch building program to 31,348,746.77 francs (equivalent to \$1,254,230.50). The foundation has also given this university the sum of 15,000,000 francs for future physical expansion (equivalent to \$681,818.10).

The foundation supported Commission for Relief in Belgium advanced fellowships for Belgians in the United States and three advanced fellowships for Americans in Belgium for the 1927-1928. It likewise maintained its Commission for Relief in Belgium graduate fellowships with 27 Belgian students, including nine renewals and one honorary fellow in the United States for the foregoing period.

President: Herbert Hoover.

Secretary: Perrin C. Galpin, 42 Broadway, New York, N. Y.

BARON DE HIRSCH FUND

The Baron de Hirsch Fund, which was organized on March 13, 1890, was incorporated on February 12, 1891, under the New York Membership Corporation law. The endowment fund, given by the Baron and Baroness de Hirsch, amounts to \$3,800,000. It is used for the aid of resident Jewish immigrants. In addition to the work conducted by its trade school, it also grants agricultural scholarships to Jewish young men between the ages of 16 and 19, at the State Institute of Applied Agriculture, Farmingdale, Long Island, N. Y., and the State School of Agriculture, Delhi, N. Y. The Trade and Industrial School, established by the fund in New York City, offers to young men courses of training that will fit them for employment in skilled trades, such as printing, sign painting, show-card writing, plumbing, machine work, electrical work, and automechanics.

President: S. G. Rosenbaum, Woolworth Building, New York, N. Y.

Assistant Secretary: George Bookstaver, Woolworth Building, New York, N. Y.

KAHN FOUNDATION FOR THE FOREIGN TRAVEL OF AMERICAN TEACHERS

The Kahn Foundation for the Foreign Travel of American Teachers was organized in New York City on January 6, 1911, for the purpose of enabling "men of proved intellectual attainments to enjoy, during one year or more, sufficient leisure and freedom from all professional pursuits or preoccupations, to enter into personal contact with men and countries they might otherwise never have known." It was founded by Albert Kahn, of Paris, France. A report to the trustees, on "Race and Population," was made by Prof. Owen Beatty, of the Southern Methodist University, Dallas, Tex., who was the Albert Kahn fellow for 1926-27. The stipend of the single fellowship is \$5,000.

President: Edward D. Adams, 598 Madison Avenue, New York, N. Y.

Secretary: Frank D. Fackenthal, 531 West One hundred sixteenth Street, New York, N. Y.

COMMONWEALTH FUND

The Commonwealth Fund during the fiscal year ending September 30, 1928, continued its activities in the fields of child welfare, public health, and education. The following appropriations were voted for 1927-28: Commonwealth Fund programs, \$1,675,191.45. Special grants—health, \$89,300; mental hygiene and child guidance, \$218,925; miscellaneous, \$100,205.35. Total, \$2,083,621.80. Special grants are made chiefly to institutions and organizations for the conduct of various educational, social, and philanthropic undertakings, with which the fund has no administrative connection, direct or indirect. Among the more important unclassified grants are included \$12,500 to the Boy Scouts of America, for a study of the effects of scouting in a number of American cities, with the purpose of discovering weaknesses and indicated changes in program.

President, Edward S. Harkness, 1 East Fifty-seventh Street, New York, N. Y.

Secretary, Katherine Hoffart, 1 East Fifty-seventh Street, New York, N. Y.

JULIUS ROSENWALD FUND

The Julius Rosenwald Fund was incorporated in 1917, under the laws of the State of Illinois, for charitable, scientific, educational, and religious purposes. Its total expenditures for the fiscal year ended June 30, 1928, amounted to \$364,831.21. This fund has devoted its attention chiefly to a program for the building of negro schoolhouses in rural sections of 14 Southern States. On June 30,

1928, there were 4,138 Rosenwald schools, a number of them with separate buildings for shops and teachers' homes, standing in the 14 States of the South. During the fiscal year \$301,341 was expended for negro rural schools; and \$6,428.56 for small libraries in 140 rural schools.

President: Edwin R. Embree, 5733 Kembark Avenue, Chicago, Ill.

Secretary and Controller: William B. Harrell, 925 South Homan Avenue, Chicago, Ill.

THE PAYNE FUND

The Payne Fund, which was organized on September 1, 1927, and incorporated April 9, 1929, under the membership corporations law of the State of New York, was founded to provide for enlargement of the activities and interests that developed during the work of members of the fund who first organized as the National Committee for the Study of Juvenile Reading on April 1, 1925. In carrying out its purposes "to initiate, assist, or conduct researches, surveys, experiments, and other projects from which may be developed increased understanding of youth and its needs and capacities for constructive participation in organized society" the fund has (1) continued to provide for the National Committee for the Study of Juvenile Reading; (2) financed the first two years of the survey and planned program of the National Committee for the Study of Social Values in Motion Pictures; (3) established the Payne Fund Committee on Educational Research (in Motion Pictures) cooperating with the University of Chicago, Yale University, Ohio State University, Iowa State University, and New York University in scientific research in connection with motion pictures and youth; (4) financed the Preliminary Committee on Educational Broadcasting for a national survey of the possibilities for radio broadcasting to schools; (5) cooperated with the Ohio State Department of Education in organizing and maintaining the "Ohio School of the Air" broadcasting regular programs for the schools of the State; (6) continued to finance a study of the biblio-psychology methods of Dr. Nicholas Roubakine, of the Bureau of International Education, Geneva, Switzerland; (7) contributed to the Orthological Institute of London for development of a condensed English vocabulary for use of youth in non-English speaking countries; (8) contributed the services of staff radio specialists to assist members of the Department of Superintendence of the National Education Association in developing plans for the participation of organized education in school broadcasting; (9) assisted the magazine Children financially and with staff advisers; (10) continued to maintain two staff members in Geneva, Switzerland, for research in

some of the problems on the program of the League of Nations, including child welfare, public health, opium and dangerous drugs, and migration.

The fund is at present maintained by descendants of the Payne family of Ohio and is using the income on approximately \$2,000,000.

President: H. M. Clymer, No. 1 Madison Avenue, New York, N. Y.

Secretary: Ella Phillips Crandall, No. 1 Madison Avenue, New York, N. Y.

CHAPTER XVI

WORK OF THE BUREAU OF EDUCATION FOR THE NATIVES OF ALASKA

By WILLIAM HAMILTON

Assistant Chief, Alaska Division, Office of Education

In addition to maintaining schools for the native children, the United States Bureau of Education aids entire communities by extending medical aid, by relieving destitution, by fostering commercial enterprises, by supervising the reindeer industry, and by promoting generally the interests of the natives.

The organization of the Alaska division of the bureau consists of the office in Washington with 3 employees; the office in Seattle, Wash., which is the headquarters of the chief of the Alaska Division and functions as the purchasing and disbursing office for the bureau's Alaskan work, with 7 employees; and the field force in Alaska, which, during the fiscal year 1927-28, included 6 superintendents, 177 teachers, 9 physicians, 28 nurses, 3 employees in connection with the reindeer service, 17 employees on the U. S. S. *Boxer* and on the Yukon River medical boat; also 19 cooks, janitors, and orderlies, a total of 269 employees. Ninety-five schools were maintained with an enrollment of 3,742 pupils.

The bureau's vessel, the *Boxer*, continues to render valuable service in transporting appointees, equipment, and supplies from Seattle to their remote destinations on the coast, on the outlying islands, or on the rivers of Alaska. Leaving Seattle in the spring the vessel makes its first voyage of the season through the waters of southeastern Alaska and along the southern coast as far as Kodiak Island; on its second voyage it visits the settlements on the shores of the Alaska Peninsula and of Bering Sea; its third voyage is the long cruise to the Eskimo villages beside the waters of the Arctic Ocean as far north as Point Barrow. The annual visit of the *Boxer* furnishes to many settlements their only means of communication with the rest of the world. Its passengers are the teachers, doctors, and nurses

going to or returning from their voluntary exile. Its cargo includes the lumber and hardware for use in constructing school buildings at various places in Alaska, the coal and food supplies required for a year, and a year's supply of the books, furniture, and equipment needed by the schools. On its last voyage for the season it brings to Seattle reindeer meat, furs, and ivory carvings which are sold for the Eskimos through the Seattle office of the Alaska Division.

Through employing Alaskan natives as sailors, the *Boxer* also functions as a training ship in the educational program of the bureau.

In each of the day schools, in addition to instruction in the usual academic subjects, attention is given to such industrial work as conditions permit. Sewing, cooking, and carpentry are emphasized. Important as the industrial work of the day schools is, it must be supplemented by specialized training in such activities as will enable the natives successfully to meet the new conditions resulting from the advance of civilization. With this in view, three industrial boarding schools are maintained, located at White Mountain on Seward Peninsula; at Kanakanak on Bristol Bay; and at Eklutna on the Alaska Railroad north of Anchorage. The curriculum of these schools includes such industries as carpentry, furniture making, boat building, the making of clothes, shoemaking, sled construction, operation and repair of gas engines, ivory carving, taxidermy, and basket weaving. The innate dexterity of the natives insures their success in these industries.

Having in view the necessity for the training of natives for service in connection with their cooperative stores, instruction is given in typewriting, stenography, clerical work, and business methods. Problems in connection with the reindeer industry are considered. Reindeer skins are tanned and made into garments. Instruction in health and sanitation is given by resident nurses. Directed play includes basketball, baseball, and tennis, as well as the primitive games of the natives themselves. Utilization of Alaska's food supply is stressed. Fish and berries, obtained plentifully during the season, are canned for winter use. The gardens at Eklutna furnish many of the vegetables required and hunting expeditions by the older boys supply the school with the meat of the caribou and the mountain sheep. From these industrial schools students will go directly into the industrial and business life of their communities, applying at once the knowledge and skill gained in the schools.

Experience has shown that teachers appointed from the States to schools in Alaska frequently have difficulty in adjusting themselves to local conditions and to the work for the natives. As the result

of conferences between the United States Commissioner of Education and the president of the Alaska Agricultural College and School of Mines, at Fairbanks, decision has been made to include in the work of that institution courses in the training of teachers for the schools of the natives of Alaska. Graduates from these courses will be considered for appointment by the Bureau of Education. The familiarity of these persons with the climate and general conditions in the Territory is expected to be advantageous.

On January 18, 1928, the school building at Barrow was destroyed by fire with all school supplies and personal effects of the teachers. The teachers and natives borrowed from the school at Wainwright, more than 100 miles distant, and transported by dog sleds, supplies, books, and equipment, and reopened school in a storeroom. Congress promptly made an emergency appropriation of \$16,000 for the erection of a new building and the purchase of supplies and equipment.

During the night of April 1, 1928, fire destroyed the 2-room log school building at White Mountain. Books, equipment, most of the records, the laundry of the boarding pupils, and a quantity of food stored in the building were burned. The building was erected a number of years ago as a day school, long before the industrial school was established. Congress made an appropriation of \$60,000 for a commodious building with its equipment, for a storehouse at Golovin, on the seacoast, and for a power boat to transport building materials and supplies from Golovin to White Mountain.

On June 8, 1928, the school building at Killisnoo, a village in southeastern Alaska, was destroyed by a fire that burned practically the entire village. Most of the natives have moved from Killisnoo to the neighboring village of Angoon.

In the autumn of 1927 the Combined Packers' Association deposited at Kanakanak, in southwestern Alaska, lumber, with plans and specifications, for a boys' dormitory at Kanakanak Industrial School. By special legislation the Secretary of the Interior was empowered to accept officially this gift. At the opening of the 1928 cannery season in May carpenters were sent by the association to complete the erection of this building during the summer months.

Hospitals have been maintained at Juneau, Tanana, Akiak, Kanakanak, and Noorvik. Contracts were entered into with hospitals at Nome, Anchorage, and Cordova in Alaska, as well as with hospitals in the States of Washington and Oregon, for the treatment of Alaskan natives. Several native boys and girls were brought to Seattle for special treatment. The professional service rendered in Alaska during the fiscal year 1928 is shown in the following table:

Medical service by doctors and nurses

Service	By nurses	By doctors	Total
Number of visits to homes	8,725	201	8,926
Number of patients treated	11,304	5,150	16,454
Number of treatments given	31,286	20,659	51,945
Number of births reported	124	39	163
Number of deaths reported	128	30	158
Total days of hospital care	655	14,601	15,256
Out and clinic patients	657	3,988	4,645
Out and clinic calls	10,052	6,399	16,451

In the majority of the native settlements the teachers must of necessity extend medical aid to the best of their ability. In many regions the school is the only place within a radius of several hundred miles where the natives can obtain medical relief, and they make long journeys to secure it. The extent of this service is set forth below.

Community service rendered by teachers

District	Visits made to homes	Medical assistance rendered	Births reported	Deaths reported	Native population served	Number of teachers reporting
Central	2,901	4,701	60	43	1,808	32
Northwestern	2,889	3,394	61	34	2,260	22
Seward Peninsula	4,630	4,633	59	15	2,142	29
Southeastern	3,313	5,192	104	168	4,784	39
Southwestern	1,963	3,544	34	40	1,417	28
Western	5,666	6,306	45	41	2,020	27
Total	19,368	27,770	363	341	14,521	177

In order to extend medical relief to natives scattered throughout the Yukon Valley, the Yukon medical boat was again operated during the season of open navigation. In 1927 it was in charge of Dr. John Huston, detailed from the Juneau hospital, who was assisted by two trained nurses. The boat went into operation at Nenana on June 1, 1927, and its work was very successful during the early summer. Unfortunately, Doctor Huston fell overboard on July 16 and was drowned. After his death the two nurses continued to treat all cases along the river that required medical attention. During the cruise of the boat 1,473 patients were treated and much dental work accomplished, including 884 extractions. The opportunity for securing medical aid is greatly appreciated by the natives and whites in the isolated settlements along the river.

On June 8, 1928, the Yukon medical boat again went into commission with a physician, a dentist, and two nurses as its professional staff.

In view of the fact that a large number of reindeer are killed for food locally and for exportation it is difficult to state the precise number in Alaska at any given date. It is estimated that there are between 400,000 and 500,000 reindeer in the Territory.

The great increase in the number of herds of reindeer in northern and western Alaska rendered it urgent that provision be made for the allotment of grazing lands. By the act of March 4, 1927, authority was granted for the establishment by the Secretary of the Interior of grazing districts in Alaska and for the granting of leases for definitely described areas therein. The provisions of this act are being carried into effect as rapidly as possible. This action will regulate the occupancy of grazing lands by the reindeer herds and prevent friction among the owners of reindeer in regions where the herds are most numerous.

In order to interest the natives in reindeer raising and to encourage them, the reindeer were distributed among them through a system of apprenticeship; the result is a large number of individual owners. In 15 localities native owners of reindeer have combined their herds and formed cooperative associations, thus insuring better safeguarding of their interests, more efficient methods for the sale of meat and hides, economy in the herding, and simplification of the marking of the reindeer, one mark for the entire association being substituted for the large number of marks of the individual owners. These cooperative associations own approximately 160,000 reindeer.

It has been found that the ability of the natives to manage their herds is a condition to their success in the reindeer industry. The Commissioner of Education and the president of the Alaska Agricultural College and School of Mines have entered into an agreement by which a limited number of Eskimo young men will be received by that institution in order to furnish them an opportunity to acquire training to fit them for the independent management of their herds. At the experiment station of the Bureau of Biological Survey, maintained in connection with the college, these natives will be instructed in reindeer husbandry, including selective breeding, the prevention and cure of diseases, the marketing of the meat and hides, and the nutritive value of the various forage plants eaten by the reindeer. They will also be given special courses in the college in cooking, sanitation, hygiene, and such elementary school subjects as are found suitable to their requirements. Six young men, whose expenses are paid by the Federal Government, have entered upon this course. A succession of natives thus trained would provide competent administrators of the reindeer industry and insure its permanent success.

As part of their duty, the teachers in the Bureau of Education's schools in those regions affected by the reindeer industry have hitherto been required to exercise supervision over the herds in the vicinity of their schools. The growth and importance of the industry have necessitated the appointment of a general supervisor whose duties cover all matters connected with the reindeer service, including

the inspection of the herds, the establishment of new herds, the making of recommendations for the issuing of leases for grazing areas, cooperation in the prevention of disease, promoting the marketing of the meat and hides, and furthering all other measures for the advancement of the industry.

One of the problems in connection with the reindeer industry is the providing of a market for the meat, which is greatly in excess of local demands. Progress is, however, being made in this direction. When returning from northernmost Alaska, the *Boxer* calls at Eskimo villages along the Arctic coast north of Nome and takes on board about 500 carcasses, which, at Nome, are transferred to steamers bound to Seattle. The *Boxer* then proceeds to St. Lawrence Island, in northern Bering Sea, and again fills her cold-storage space to capacity with carcasses for sale to dealers in the towns along the southern coast of Alaska and in Seattle.

An incorporated company, with a capital of \$3,000,000, exports large quantities of reindeer meat each season and maintains six plants on the Seward Peninsula, to which reindeer are driven when in prime condition, slaughtered, and placed in cold storage. For the transportation of its reindeer meat from Alaska to Seattle and of supplies needed in Alaska, this company operates the *Sierra*, a freighter with a capacity of 2,000 tons, which makes three round trips during the season of navigation, transporting approximately 12,000 carcasses during the season. The steamers *Victoria* and *Alameda*, of the Alaska Steamship Co., have also been equipped with refrigeration facilities and transport reindeer meat from Nome to Seattle. A cold-storage plant has been constructed on the shore of Bristol Bay for the storage and sale of reindeer meat to the 28 canneries operated in that region during the summer months; surplus meat at the end of the season is shipped to the Pacific coast on the cannery tenders. Flat-bottomed barges, decked over and provided with cold-storage compartments, are towed from deep water into shallow bays and rivers to furnish storage for reindeer slaughtered at Kotzebue, within the Arctic Circle, St. Michael, near the mouth of the Yukon River, and at Kokrines, on the lower Yukon River.

The increase in the exportation of reindeer meat rendered desirable an inquiry into its nutritive value. Chemical and biological analyses of reindeer meat made by the Department of Agriculture, at the request of the Bureau of Education, show that it has high protein, low fat, and comparatively low moisture. This means that reindeer meat possesses high nutritive value in proportion to its weight, which is an important fact in a commodity which is shipped long distances from its source of supply.

CHAPTER XVII

CHANGING CONCEPTIONS OF THE SCHOOL-BUILDING PROBLEM

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CONTENTS.—Evolution of the modern city school building—Some results of a study of school buildings in 90 cities in 33 States—Developing school-building standards—The school site—Methods of conducting school-building surveys—Summary

Progress in the school-building field has been so rapid and so much has been written on the subject during the past few years that it would be impossible to cover adequately all the different phases of this work within the limits of this report. Therefore, only a few subjects will be touched upon which are significant of new developments in regard to the school-building problem. For example, although elementary and high school buildings are of equal importance, considerable space is given to the evolution of the elementary school building of the city school systems because it represents a wider departure from previous types; for the same reason the school-building survey is discussed at length because this is a comparatively new field in which new methods are constantly being worked out.

EVOLUTION OF THE MODERN CITY SCHOOL BUILDING

Probably no type of school building represents such a radical departure from tradition as the modern city elementary school building. To understand its development it will be necessary to review briefly the history of its evolution.

Broadly speaking, there have been three stages in the development of the school building, each of them the result of three important changes in our social and industrial life. In the early pioneer days life outside of school contained many activities of great educational value for children. There were crops to be planted and harvested and animals to be taken care of; cooking and sewing had to be done; and there was work with tools that developed mechanical ingenuity. Man in those days had to live close to the elements and had to depend upon his own ingenuity in dealing with them. Children naturally

shared these responsibilities with their fathers and mothers, and so developed a resourcefulness in meeting all kinds of situations which was of the greatest value in enabling them to become men and women equipped for their social group. For these reasons, it was not necessary for the school to teach anything more than the three R's. This in turn meant that the one-room schoolhouse of those days was adequate so far as school facilities were concerned.

Toward the middle of the last century, however, the concentration of large numbers of people in cities brought about changes in our social life which have vitally affected the whole development of our school system. At first, as the cities developed, there was no recognition of the need of changing in any radical way our educational program and school buildings to meet the changed conditions. The people who founded the cities came from the farms and had had the training which we have just described. It was natural for them to bring to the city the same kind of school which they had attended. But, as many children had to be accommodated in a single school in a city, a one-room schoolhouse would not do. Consequently, 4, 8, or 12 one-room schools were put under one roof. This is the period in schoolhouse planning known as the 1848 period. The buildings were usually three stories high, with large, high-ceilinged rooms, with no corridors, or else a "well" in the center of the building. As the science of lighting and ventilation had not yet developed, children were forced to sit in rooms five hours a day under conditions that developed eye strain, bad posture, and bad respiratory troubles.

Undesirable as these physical conditions were, yet they did not constitute the most serious objections to this type of school. The real objection to it was that it was entirely unfitted to meet the needs of children living in cities. The building itself usually was directly on the street and had little more than a small paved yard for play. The result was that more and more children took to the streets as their only playgrounds. Also, this type of building gave no opportunity for anything but the traditional study of the three R's, and in the growing cities of this period children did not find the opportunities for the wholesome work and play which had been part of the life of children in the pioneer days.

While the cities were small and still had vacant lots which served as playgrounds, the inadequacy of the sit-and-study school was not apparent, but as cities grew in size and became so congested that all available vacant spaces were covered with apartment houses, factories, and tenements, it began to be clear that the school curriculum of a generation ago would not suffice for the modern city child; that the school must counteract the effects of city life upon children. The mounting record of juvenile crime and delinquency, and of deaths and injuries to children from playing in city streets, coupled with a

greater vision and sense of social responsibility on the part of the educational group, has brought about radical changes in the educational program of the schools.

In the first place, it is now recognized that cities are not good places for children, first, because there are usually not sufficient spaces and opportunities for play. The need for healthful, wholesome play is one of the fundamental needs of childhood. Too often the average person has the impression that play is something to be indulged in only after the serious business of the day is over. Play is considered as an ornament; something that is desirable if there is time for it. But play is really more fundamental socially and racially than the "business" of life. Children become acquainted with the world through play, through repeating new experiences over and over until they have some sense of mastery over them; and children have a physical need of play. They need to run, to throw at a mark, to hit at something, to climb, to wrestle in order to develop their bodies and get release from nervous tension. Particularly is this true for the city child since his whole environment develops nervous tension.

In the second place, the city does not meet the fundamental needs of children because it shuts children away from contact with the actual, physical world. A child is curious about the world in which he lives. He likes to analyze it, to form theories about it. He is always asking "Why?" In the old pioneer days when the majority of children lived in the country this curiosity was nourished and developed through intimate acquaintance with all aspects of nature—the earth at different seasons of the year, the stars at night, trees, birds, animals, brooks, rivers, the sea. He was always exploring this amazing world about him, soaking up knowledge about it through his very pores, and by a process of trial and error gaining some sense of control over it. He knew the signs of spring, autumn, winter. He had a healthy respect for the ways of nature and animals, the sea at high and low tide or in a storm, a swollen river, a fallen tree, a drouth, a storm.

This is the kind of subject matter upon which every child should have the opportunity to feed his curiosity. Each generation needs these contacts with the actual physical world for the sake of its own growth and for the preservation of the race. For human beings to shut themselves up in skyscraper cities and bring up generations of children on city pavements and in crowded apartment houses, to give growing children little or no opportunity for any first-hand knowledge of the earth's surface upon which we live, is a menace to the whole future welfare of the race.

Another fundamental need of children which is not satisfied by the city environment unless it is deliberately modified by the schools

is the need of children to construct things. Children in cities no longer get the chance to take part in activities about the home or in community life which formerly were educational in character, for the reason that such activities are no longer carried on in the home. Economic changes have taken certain simple, fundamental educational activities out of the home, and neither optimism nor hope will put them back again. The modern city fails to give children the opportunity to create things with their hands which the simpler farm environment of a generation ago made possible.

Another of the serious problems of the education of children which has arisen out of the effect upon them of city environment is the use of their leisure time. Every father and mother knows what a real problem this is. The investigations of the scientific student of social conditions are revealing some of the disastrous effects of a civilization that gives little opportunity for relaxation and wholesome recreation as an integral and essential part of everyday life. The psychiatrist is showing what are some of the unfortunate psychological effects of starving the emotional life of children.

This means that the school in which children spend so much of their time must give the opportunity for the wholesome, happy expression of the emotional as well as the physical and mental sides of a child's nature. Creating, seeing, and hearing good plays, pageants, concerts, lectures, therefore, become a necessary part of school life and give that release of spirit and stirring of the imagination that is so vitally important in the lives of children—so important, in fact, that if it is balked in its wholesome, natural expression it finds an outlet in a world of phantasy.

It is obvious that if the schools are to counteract the effect of city life upon children by giving them in school the opportunities for the many educational activities which they no longer get outside school, then a very different type of school building from that of the early pioneer days or of the 1848 period is needed.

In the attempt to meet the demands of this enriched curriculum there has been a great deal of experimentation, and it is only within the past 20 years that there has come into existence what is known as "the modern school building," which is of a totally different type from those of any previous period. It contains not only classrooms, but shops, cooking and sewing rooms, nature-study rooms, library, drawing and music rooms, auditorium, and gymnasiums. Moreover, these facilities are found not only in high schools but in many instances in elementary schools. The construction of the building in all its details is in striking contrast to school buildings of the pioneer or 1848 period. The building is essentially flexible, i. e., it is so constructed that it can be added to with the minimum of expense; par-

itions are removable so that rooms can be altered in size to meet the needs of a changing curriculum. Instead of the boxlike type with no corridors, many of the buildings are constructed in the shape of an E, H, or U, with rooms built on one or on both sides of a wide corridor running the length of the building and down the wings. These buildings also usually have an auditorium and one or two gymnasiums. Whether the E, H, or U type, or variations upon them, is used depends upon many factors, such as light, exposure, environment, shape of site, etc.

RESULTS OF A SURVEY OF SCHOOL BUILDINGS IN 90 CITIES IN 33 STATES

In order to determine to what extent this modern type of school building, with its variety of activities, particularly in elementary schools, is found throughout the country, the Bureau of Education recently made a study of school buildings in 90 cities in 33 States. Of this number, 26 cities had a population of 100,000 and more, 48 a population of 30,000 to 100,000, and 16 from 10,000 to 30,000. The total population of the 90 cities was 10,486,439. Returns were received from 2,227 elementary schools whose combined school enrollment was 1,513,420. In the case of 32 cities the superintendents reported that they had platoon schools as well as schools of the traditional type and that 373,702 pupils were enrolled in these schools. Since the type of school organization affects the planning of the building, the returns were tabulated by traditional schools (1,817) and platoon schools (410).

As one of the aims of the questionnaire was to discover how widespread was the tendency to include in elementary school buildings other facilities than classrooms, such as auditoriums, gymnasiums, and special rooms, the following returns to this question are interesting.

Of 2,191 elementary schools, 1,085, or 50 per cent, stated that they had auditoriums. Of the 1,781 schools of the traditional type, 752, or 42 per cent, reported auditoriums. Of the 410 platoon schools, 333, or 81 per cent, had auditoriums.

Of the 2,039 schools which answered the question as to whether they had a gymnasium, 746, or 37 per cent, stated that they had gymnasiums. Of the 1,629 traditional schools, 391, or 24 per cent, had gymnasiums, and of the 410 platoon schools, 355, or 87 per cent, had gymnasiums.

Such educational units as libraries, nature-study rooms, drawing and music rooms, shops, cooking and sewing rooms have been grouped under the term "special rooms." Facilities of this sort were reported by 884 of the 1,817 traditional schools, or 49 per cent. Of

2 this number, 310 had one special room, 213 two such rooms, and 262 three or four special rooms. All the platoon schools reported special rooms, the majority having more than four such rooms.

In considering the above data it should be remembered that many of the buildings referred to in the above summary were old buildings. Suggestive as such data might be as to tendencies to include auditorium, gymnasium, and special rooms in elementary school buildings, yet it was felt that, as many of the buildings were not of recent construction, it would be well to secure the same data in regard to what was considered the most modern elementary school building in each city. This section of the questionnaire included questions on 35 points, of which only the following items will be taken up in this report: Number of floors, capacity of the building, size of the building (number of rooms), number of auditoriums, gymnasiums, special rooms, number of schools having kindergartens. Returns were received from 84 cities, 58 of which had traditional schools and 26 platoon schools. Each of the buildings had been erected within the past 5 years. The following data give a general picture of the types of the buildings:

Number of floors.—Of the 84 modern elementary school buildings 47 had basements. Of this number, 16 had a basement and 2 floors, 6 a basement and 3 floors, and 25 a basement, ground floor, and 1, 2, or 3 floors. Twenty-four schools had a ground floor plus 1, 2, or 3 floors, 14 had 1, 2, or 3 floors without the ground floor, or basement. Only 1 building was a 1-story building.

Size of buildings.—Of the 84 buildings, 68, or 80 per cent, had from 12 to 36 classrooms; 44, or over half, had 16 to 28 rooms. Only one building had less than 8 rooms. Of the 58 traditional schools, 44, or 76 per cent, had from 12 to 36 classrooms; 13, or 22 per cent, had from 8 to 12 rooms. Of the 26 platoon schools, 24, or 92 per cent, had from 12 to 36 rooms. Only 2, or 8 per cent, had from 8 to 12 rooms.

Capacity.—Of the 84 buildings, 23, or 27 per cent, had a capacity of 1,000 to 2,000 pupils; 40, or nearly half, had a capacity of 600 to 1,000, and 21 had 600 or less. Only one had a capacity of over 2,000. Of the 59 traditional schools, only 13 had a capacity of over 1,000. Of the 25 platoon schools, 10, or nearly half, had a capacity of 1,000 or over.

Auditoriums.—Of the 84 schools, 69, or 82 per cent, had auditoriums. Of the 58 traditional schools, 45 reported auditoriums, and of the 26 platoon schools, 24 had auditoriums. In the matter of the capacity of the auditoriums it was found that of the 45 traditional schools which had auditoriums, 34, or 76 per cent, had a capacity of over 500, while 15, or one-third, had a capacity of over 600.

In the platoon schools only 6 of the 26 schools had a capacity of over 500, while only 3 had a capacity of over 600.

Gymnasiums.—Of the 84 modern elementary schools, 51, or 60 per cent, had gymnasiums. Of this number only 28 were in the 58 traditional schools, while 23 of the 26 platoon schools had gymnasiums.

Special rooms.—Sixty-three of the 84 modern elementary school buildings, or 75 per cent, reported that they had special rooms. A further analysis of these returns showed that 38 of the 58 traditional schools reported special rooms as follows: Ten schools had art rooms, libraries, manual-training shops, and home economics rooms; 9 had music rooms; and 3 had nature-study rooms. Of the platoon schools, all had special rooms, 20 had art rooms, 19 had libraries, 17 had music and home economics, 13 had manual-training shops, and 5 had nature-study rooms.

Kindergartens.—Of the 84 cities, 62 replied that they had kindergartens in their modern elementary school buildings. Twenty-two did not reply to this question.

A study of the above data from 84 representative cities in 33 States apparently indicates that it is true that there is a growing tendency in planning elementary school buildings to provide such facilities as auditoriums, gymnasiums, and special rooms, which until comparatively recently have been found only in junior and senior high schools. Schools having the platoon type of organization apparently tend to have a greater number of these facilities, yet it is evident that the traditional type of school also includes them.

DEVELOPING SCHOOL-BUILDING STANDARDS

Having considered some of the features that are more or less common to all modern elementary school buildings, let us now consider some of the problems which have developed in the attempt to provide these facilities. The present elementary school building is a distinct advance on those of previous generations, but, as often happens, the solution of one problem only develops new problems to be solved.

It is one thing to know what educational facilities should be provided in a building; it is another thing to know how to construct a building so that (1) each room may be adequately planned for the work that is to be carried on in it and so that (2) there shall be no waste space. A building constructed for 1,200 pupils and containing classrooms, shops, music and drawing rooms, nature-study rooms, an auditorium, and gymnasiums is far more expensive per pupil than the older type. It is essential that every dollar invested in it should count educationally. If a room is larger than is necessary, this means that the money wasted in this way can not be spent

on additional rooms or equipment. If a room is not adapted in all its details to the requirements of the subject to be taught in it, then the teaching of that subject is made more difficult because of the petty annoyances due to the mechanical mistakes in construction, or money has to be spent on its reconstruction.

The modern school building requires for its construction the combined skills of many people. Since the kind of school building to be erected depends upon the education to be carried on in it, there has to be close cooperation between the school authorities who plan the educational program and the architect. In the larger cities school architects who are part of the administrative staff of the schools or are employed almost continuously on the planning of school buildings give practically all their time to the solution of school-building problems. In addition, the services of the landscape architect and heating, ventilating, and lighting engineers are required. Experts in each of these fields are engaged on working out school-building standards. A survey of the literature on the subject during the past few years shows steady progress in bringing specialists together, particularly with respect to the planning of high-school buildings. Not so much work has been done on elementary schools, due probably to the fact that the additional facilities of the enriched curriculum of the elementary school are of comparatively recent growth. The following data, therefore, in regard to dimensions of classrooms in modern elementary schools, dimensions of special rooms, and the construction of gymnasiums and auditoriums, collected in connection with the school-building survey already referred to, will be of interest to those planning such buildings.

Dimensions of classrooms.—When the dimensions of classrooms in elementary schools are considered it is found that one of the best-known score cards¹ gives the standard for such rooms as 24 by 30 feet. On the other hand, in platoon schools the standard appears to be 23 by 30 or 22 by 30 feet. Although these are generally recognized as the prevailing standards, yet the Bureau of Education survey of the recently erected elementary school buildings in 84 cities shows that there was the greatest diversity in the dimensions of classrooms. For example, in the 50 traditional schools which answered the questionnaire there were classrooms of 33 different dimensions. The dimensions varied from 21 by 28 to 30 by 45 feet. Only 5 buildings had classrooms of 24 by 30 feet. Half the classrooms were larger than 23 by 30 feet. In 21 of the schools the classrooms were wider than 23 feet; in half the schools the classrooms were longer than 30 feet. In the 20 platoon schools which replied to this question 8 had classrooms larger than 23 by 30 feet. So far as these 80 cities are

¹Score Card for City School Buildings, by Strayer and Engelhardt.

concerned, it would seem that the standardization in regard to classrooms has not gone so far in practice as in theory.

Special rooms.—Very little information is available in regard to the dimensions of special rooms. It appears to be the prevailing practice, however, to make the shops in elementary schools a unit and a half large; the cooking and sewing activities are either carried on in two rooms, each slightly larger than a regular classroom, or else there is a combined cooking and sewing room which is either a unit and a half or two units in size. The more elaborate suites for these activities which are found in high schools are usually not provided in elementary schools. In some schools the cafeteria is part of the domestic science suite, and the children prepare the lunches as part of their work in domestic science. In other schools there is a complete separation of these two activities, with the cafeteria in one part of the building and the domestic science in another.

In platoon schools, where considerable attention has had to be given to special activity rooms, such rooms as drawing rooms, music rooms, nature-study rooms are usually the same size as the classrooms, 22 by 30 or 23 by 30 feet. They are specially equipped for their several subjects. For example, the drawing rooms have drawing tables and easels, and usually two sides of the room are covered with cork board for displays. There are cupboards for each child's work. In the music room there are usually tablet-arm chairs instead of desks, and a piano and a victrola. Cork board is also used for the display of pictures of musical instruments, photographs of famous musicians, etc. The nature-study room is usually placed near the geography room, with sometimes a conservatory adjoining both rooms. Both the nature-study and the geography rooms usually have tables and chairs rather than desks, and in the nature-study room there are also sand tables, an aquarium, plants, and often pets in cages. In all these rooms there are cupboards for storing the pupil's materials. The library is usually a unit and a half large, and is fully equipped with library tables and chairs, bookcases, librarian's desk, card catalogue, magazine racks, and bulletin board.

Gymnasiums.—The dimensions of gymnasiums vary greatly and appear to have no relation to the size of the school. The survey showed that although there were very few schools with more than 1,400 pupils, yet the dimensions of gymnasiums varied from 33 by 30 to 60 by 100 feet. There was less variation in schools having the platoon organization. Apparently 40 by 60 feet are the usual dimensions for gymnasiums in platoon schools with a capacity for 1,200 to 1,600 pupils. In schools built from 5 to 10 years ago little provision was made for showers in connection with the gymnasium. For that matter, there were very few gymnasiums in elementary schools. Building plans for more recent schools, however, show that the

tendency now is to provide shower facilities and also locker rooms in which the children may keep their gymnasium shoes and other gymnasium equipment. In many schools there is a small room for corrective gymnastics and also an office for the gymnasium instructor.

Auditoriums.—Judging by reports received on the auditorium, the auditorium in a modern elementary school building is evidently considered to be one of the most interesting units in the building—interesting because of its possibilities and because its purposes, and, consequently, its plans of construction are of very recent development. The modern auditorium is a far cry from the old “assembly room.” The latter room was usually a large, square room with a level floor and a small platform with a speaker’s stand poised precariously on its edge. Originally it was a place where the whole school assembled during the first few moments in the morning to hold “opening exercises.” It was rarely used except for such exercises and special occasions, such as commencement exercises. The pupils took little part in the activities of the auditorium. They usually sat and received announcements from the principal or listened to a talk by some outside speaker.

The auditorium in the modern elementary school, on the other hand, appears to have an entirely different function. The tendency seems to be to use the auditorium more continuously than formerly and to enable the children to develop worth-while tastes for the use of leisure time through seeing in the auditorium good plays, hearing good music, lectures, etc. Increasingly it appears to be the socializing factor in the school, or, as it has been called, “the clearing house for all the activities of the school.” In a recent report on this subject, entitled “A Source Book for Auditorium Teachers,” written by the auditorium directors of the Dallas (Tex.) public schools and published by the board of education of that city, the objectives of the auditorium are summarized as follows:

The purpose of the auditorium period is to furnish opportunities and situations for the exercise and development of abilities for which the usual classroom does not provide.

The ultimate aim, as in all education, is a more thorough development of each child for complete living.

Some of the possible results to be realized by the auditorium work in the lives of pupils are:

1. Discovering and training special abilities in individual pupils.
2. Inspiring and developing initiative, ingenuity, originality, and resourcefulness in response to situations natural in auditorium activities.
3. Making it habitual to use the knowledge and the skill acquired in other departments of school.
4. The appreciation of opportunities to gain valuable knowledge and skill outside of school.
5. The establishment of a livelier interest in school and community life.
6. Acquiring ability to use leisure time wisely.

7. The formation of proper habits of conduct in public assembly.
8. A more accurate and broader knowledge by means of visual education.
9. Motivation of interest in other school work.
10. Increased ability to study effectively.
11. Magnifying the home and the pupil's duties and responsibilities therein.
12. A more wholesome attitude toward other teachers of the school.
13. Valuable training in social efficiency.

As William McAndrew has stated in a report published some years ago:²

The assembly is an opportunity, to be used by conscious planning and purpose, to foster the social virtues, to engender *esprit de corps*, ideals of integrity, loyalty, friendship, respect for the feeling and rights of others, sympathy with suffering and affliction, generosity, unselfishness, helpfulness, cheerfulness, love of work, courtesy, chivalry, heroism, courage, love of truth, reliability, love of right, refinement of thought and heart, and the other ideals which are touched upon if at all only incidentally in courses of study. The inspirational possibilities of the assembly exercises are extraordinary. * * *

The assembly must be "gone to with delight," as Shakespeare says of a true man's business. The loftiest, purest, finest presentations of the social virtues may pall upon the children if unvaried by provision for other human appetites. * * * The assembly must have liveliness and snap, picturesqueness and laughter, motion and color. Amusing stories told and acted are an essential necessity for the full development of the minds of children. There is a wealth of entertaining talent among teachers and pupils which should be capitalized for making school the alluring place which it ought to be. * * * The possible variety of ends to be secured is fascinating in its abundance. You can instruct, amuse, discipline, inspire, and train.

The programs in the auditorium usually consist of plays, illustrated talks by pupils, lectures, concerts, motion pictures, etc. In platoon schools the auditorium is in use every period of the day, and even in the traditional type of school attempts are now being made to use the auditorium more frequently than formerly. If there is continuous use of the auditorium for the type of programs listed above, then it is obvious that the auditorium must be so constructed that it may be practicable to carry out such programs effectively. As indicated by the returns from the Bureau of Education questionnaire on school buildings, the tendency is to have small rather than large auditoriums. A capacity for 500 or 600 appears to be usual in schools accommodating 1,200 to 1,500 pupils. Much more attention than formerly is now being paid to the planning of the auditorium stage and equipment. The stage in the older type of auditorium is often a compromise between the old assembly platform and a theater stage. It is usually very shallow, with almost no wing space and no dressing rooms. In the modern auditorium, however, the stage in an auditorium with a capacity for about 500 is

² The School Assembly, published by the Division of Reference and Research, Department of Education, City of New York.

often 52 feet long and 40 feet deep, with as much wing space as there is playing space on the stage. Usually, there are also two dressing rooms and a property room with lockers for the properties. There are also footlights, flood lights, spot lights, and bunch lights. In other words, the auditorium in the modern elementary school is much on the order of the little theater.

Reports written during the past two years on the auditorium emphasize the fact that as the auditorium unit is an expensive part of the school plant, and as it costs a great deal to change it after it has once been built, it is important that it should be planned in the beginning so as to be of the greatest practical use. If it is true that the auditorium is likely to become one of the most important units in the school for the socialization of the school, it is essential that all of the details of its construction should be so planned that it may function effectively.

Community uses of the auditorium.—Equally important with the development of the use of the auditorium during the school day is the community use of the auditorium. The indications are that the public school is becoming more and more the community center for the particular district of the city in which it is located, and no part of the school contributes more to such community use than does the auditorium. In it are given plays, lectures, band and orchestra concerts, motion pictures, demonstrations of school work, public meetings for discussion of local problems. In other words, it is coming more and more to serve the same purposes as the town hall in the pioneer days; that is, it is a place to which the local community naturally turns for its recreation and for group meetings of all kinds.

Instead of the auditorium being used only occasionally, it is open in some cities four or five evenings a week for nine months in the year. Such extensive use by the adults and youth of the community is important in many ways. It develops a social group spirit among the people of a given community; it tends to develop local talent and the habit of cooperative work on plays and entertainments of all kinds; and it tends to bring the adults to the school and so develops a friendly feeling and mutual understanding between the school and the community.

THE SCHOOL SITE

The recognition of the importance of having large sites for school buildings has come even later than the realization of the need of the modern type of school building, which has just been described. When those who were responsible for the governing of our cities were men and women who had been brought up on the farm it was difficult to persuade them of the importance of providing large play-

grounds for city children. They had always had adequate play space, and it was hard for them to realize to what an extent the city child had been deprived of opportunities for wholesome play. Now, however, that the men and women who are responsible for the administration of our cities are in many cases those who have been born and brought up in cities, it is easier for them to realize the desirability of having adequate playgrounds for each school building.

The literature upon school sites and playgrounds published in the past few years indicates that there is a growing consensus of opinion in regard to the school site on the following points: It should meet the recreational needs not only of the children attending the school but of the adults in the district served by the school; when possible, it is desirable to include in the site not only playground space but park space; care should be taken that the landscaping of the grounds should be beautiful.

Selection of the site—The location of the site is, of course, of primary importance and can only be determined after a careful population study for the purpose of determining population trends. This subject is treated at some length in the next section. Not only should the selection of the site be based upon careful forecasting but it is now generally recognized that it is desirable to purchase school sites ahead of the time when they will be needed. Points that are important to consider in selecting the site, after its general location has been determined from the population study, are the size and shape of the site, the general contour of the land, character of the soil, drainage, distance from through boulevards and main-traffic streets, etc.

The size and shape of sites.—For elementary schools the generally accepted standard appears to be 5 acres for a school of 1,000 to 1,200 pupils; for high schools, 10 to 20 acres. In the large cities, particularly in the East, where the city has grown up around schools planned before the need of large sites was realized, it is difficult to attain this standard except at great cost. The reports of those making surveys of such cities indicate, however, that efforts are being made to approximate this standard. More often than would seem probable there is vacant land near school buildings or municipal playgrounds or land that is not valuable. In many cases playgrounds are built upon the roofs of school buildings. Again, by closing a street and leveling the ground between the street and the building the combined space of the street and the school site gives a more adequate playground than would otherwise be possible. In more recently built cities, particularly in the West, not only are 5 acres often provided for sites for elementary schools and 10 acres for high schools but often the sites are as large as 20 or 40 acres.

In Gary, Ind., for example, 12 of the 18 schools have sites ranging from 10 to 45 acres; 8 of these schools have sites of 20 to 45 acres. All but 5 of the schools have parks or natural woods as part of the school site in addition to extensive playgrounds and gardens.

There appears to be a growing tendency in many cities to place school sites near public playgrounds, or vice versa, in case the park is not part of the school site. For example, in Portland, Oreg., in the case of at least three schools, the school sites adjoin a public playground and park so that the total acreage is nearly double what it would be if these two municipal facilities were separated. The public playground is used by the school as if it were part of the school site, and the school auditorium and gymnasiums are used for adult recreational purposes, in this way eliminating the need for a separate community center on the public playground.

Twenty or thirty years ago the tendency appeared to be to select for school sites patches of land of irregular shapes, which were not desirable for other purposes and consequently could be secured at low cost. At the present time, because playgrounds and athletic fields require not only space but layouts of more or less standardized dimensions, the tendency is to select, so far as possible, sites in the shape of standard city blocks, on level land, and with good drainage.

Location of the school building on the site.—In locating the school building on the site one of the first considerations is to make sure that the building is so placed that it will not interfere with securing adequate play space. If the site is 5 acres or less the building is usually placed close to the street with playgrounds at the rear and gardens or tennis courts at the side of the building. If the site is 10 acres or more the tendency appears to be to have a park or natural woods in front of the school, with the playgrounds at the rear and school gardens or primary playgrounds at the sides. The orientation of the building and its position from the standpoint of the prevailing winds are, of course, of fundamental importance.

Playground facilities.—For elementary schools there are usually playgrounds for the older boys and girls, including tennis courts, baseball diamonds, volley ball, and basket ball courts, etc. There are also playgrounds with playground apparatus, wading pools, sand piles, etc., for the younger children. In addition, space is usually provided for vegetable and flower gardens, and in some schools there are animal-husbandry facilities. In the case of the larger schools and high schools athletic fields with football fields, running tracks, etc., are provided. All these facilities require large playgrounds, particularly in view of the fact that they are used by adults after school as well as by children during school hours. The playground should be, preferably, at the rear of the building, with easy access to the

shower baths, dressing rooms, lavatories, and equipment facilities of the gymnasia. One detail that is important is the provision of fences for the playgrounds. The tendency appears to be to erect an 8-foot fence around the playgrounds and gardens. Another detail which there seems to be difficulty in solving is the question of playground surfacing. The differences in the natural materials available in different localities makes any uniform solution difficult, and yet the surfacing and proper drainage of playgrounds is essential for the successful development of playground activities.

Landscape architecture.—The modern school site must not only be so planned as to meet the requirements of the present day curriculum but it must be planned with an eye to the artistic effect of the whole. Consequently, landscape architecture is now an important part of the planning of the school site. In fact, in many cities the landscape architect reports, before the site is chosen, upon the adequacy of the position and shape of the site and the soil and contours of the land with a view to determining the desirability of the site not only for building purposes but for playground and park purposes.

METHODS OF CONDUCTING SCHOOL-BUILDING SURVEYS

Because the planning of a school-building program which shall provide the type of buildings and site described in the foregoing sections involves the expenditure of a large amount of money, and because such a program should meet the needs of a city for 10 or 15 years, it has come to be recognized that it is important to have preliminary school-building surveys to determine the probable population growth, the number of children to be provided for within 10 or 15 years, the number of schools needed, the location of school buildings, and the probable cost of the program.

During the past two years there has come to the notice of the Bureau of Education at least 30 such school-building surveys in addition to those conducted by the Bureau of Education. The practical value of such preliminary surveys before a school-building program is embarked upon can hardly be questioned. The making of such surveys is, however, still in the experimental stage, and, consequently, a description will be given of some of the methods of conducting such surveys.

In a recent school-building survey conducted by the Bureau of Education the purposes of a city school-building program were given as follows:

General purposes.—The underlying purpose of a modern school-building program is to provide an environment for children within the adult world of the city in which children may have: (1) Opportunities for safe, wholesome, outdoor play activities which they need to give them a foundation of good health for all their future lives; (2) modern school buildings so planned and

equipped that all children may have the opportunity to study under the best possible conditions, to do creative work in shops and special rooms, and to develop tastes for worth-while use of their leisure time. The school should also be so planned that it can be a center for recreational and work activities for adults.

In other words, a school-building program is a problem in social and educational engineering, the purpose of which is to make the city as healthful and satisfying a place for both children and adults to live in as is possible.

Specific purposes.—(1) To eliminate school congestion and provide modern school facilities—including buildings and grounds—both for the present school population and for future growth over a period of 10 or 15 years.

(2) Through a scientific study of population growth to determine population trends.

(3) On the basis of population trends, to recommend: (a) The purchase of adequate sites for both new buildings and additions in those parts of the city where it is evident that buildings will have to be erected; additional sites for existing buildings where necessary. (b) The erection of new buildings and additions which shall provide modern school facilities for the children and which can also be used by adults in the evenings. (c) The reconstruction of existing buildings, where necessary, in order to provide modern school facilities. (d) The abandonment of existing buildings that have outlived their usefulness.

(4) To give a detailed estimate of the cost of new buildings, additions, contents, and sites.

The population study.—The first task in undertaking a school-building survey is to make a population study as a basis for estimating growth in different parts of the city, and, on the basis of these facts and those in regard to congestion and age and size of school, to determine where new buildings and additions should be built and old buildings reconstructed.

A study of reports on recent school-building surveys indicates that there is rapidly developing a scientific technique in the making of population studies. Because the scientific study of population trends in any community should result in a more accurate determination of where buildings are needed, what size they should be, and how many there should be, such studies should represent a distinct financial saving to the cities surveyed.

Another noticeable characteristic of recent surveys is that apparently one of the chief aims of the population study is to so conduct the work that, after the survey is completed, the school authorities may have all the data for carrying on in the future a continuous, up-to-date study of school population growth for each section of the city.

Since there have been many requests for information as to the details of conducting such population studies, the following description of the methods used by the Bureau of Education, which are also characteristic of other school building surveys, is given.

Boards of education asking for school-building surveys usually request that a school-building program be worked out for at least

a 10-year period. In making estimates of the number of children who will have to be accommodated for the 10 years following the survey the building program is based upon the actual number of children living in a city as given by the school census and not upon the school enrollment. The reasons for this are obvious. The purpose of a school-building program is to provide for all children of school age in a city. The school enrollment gives only the number of children enrolled, which is not necessarily synonymous with the number of children of school age living in the city—in fact, is rarely so. When building programs are based upon enrollment the likelihood is that when the new buildings are erected they attract children not formerly enrolled and so it is found that the buildings are congested nearly as soon as they are erected.

Not only does the school census usually give the total number of children from under 1 to 17 or 18 years of age, but also it gives these data block by block for the whole city. The existing school-district boundaries in any city surveyed are usually not based upon studies of population trends, but rather have had to be determined by such facts as the location of existing buildings, which in many instances are not where they should be. Consequently, the tabulation of the number of children, by ages, block by block, and the making of a school population map, showing the number of children in each block by ages, is of first importance. After determining upon the form of school organization upon which the building program is to be worked out, a similar map is made for the different grade groups. If the census for the previous 10 years is available, then similar tabulations are made for that period. Such figures, however, often do not exist.

Important as are the school-census figures, they alone are not sufficient. It is also of fundamental importance to secure the actual and estimated growth in the number of families over a period of years, and it is necessary to secure these data by small geographical areas.

The United States census statistics on the number of families in any given city are available for different 10-year periods, but as these periods do not always synchronize with the year the survey is conducted it is necessary to secure data on the number of families for more recent periods. All groups which make school-building surveys are apparently agreed that the surveys of the telephone companies on the actual and estimated number of families in different cities are among the most reliable and exhaustive studies available. These studies are particularly valuable for school-building surveys because the number of families is based on actual count, because the data are given for small geographical areas, usually called "telephone sections," and because the studies are usually rechecked every three or four years.

Since it is necessary to compare the actual and the estimated number of families with the school-census figures, a map showing the telephone-section boundaries and the number of families in each section is made and the number of children by age groups is allocated within these boundaries, block by block. The percentage of increase in the number of families in each telephone section is then applied to the number of children living in the section at the time of the school census, and thus, an estimate of the number of children for 10 years is obtained. Since the original data are by blocks, it is possible to distribute and redistribute the estimated number of children—according to telephone sections—within present or proposed school districts.

In addition to securing the figures on school population and the actual and estimated increase in the number of families over a 10 or 15 year period, it is also desirable to secure from the local building department of the city the number of new buildings actually erected in the preceding 10-year period and the number of families provided for in these new buildings. Furthermore, if there are many apartment houses in the city, data on not only the number of families having children in each apartment house but also the number of children per family are obtained. This information is secured from the school-census cards and distributed according to apartment houses.

Not only are the figures on school population, number of families, number of new buildings, and number of children per family in apartment houses essential but also many other factors have to be taken into consideration in an adequate population study, such as recent population flow from near-by localities into the city, railroad developments, car lines, boulevards, breaking up and development of estates, the character of each section of the city, public improvements, and the location, block by block, of each dwelling, apartment house, and tenement, retail stores, manufacturing and wholesale establishments, libraries, hospitals, churches, clubs, public buildings, parks, etc.

Having secured all this information, the final "population-study" map is made. Since this map is left in the local board of education offices as the basis for a continuous population study which will in the future make such an exhaustive population study as just described unnecessary, it has been found desirable to construct the map on the following lines: The map should be sufficiently large so that every detail can be easily read. As the geographical areas known as telephone sections are the basis for future population studies, these areas are outlined and then the items listed above are indicated, block by block, within these areas. When the new proposed school-

district boundaries have been determined upon as a result of the study of all the factors in the situation the proposed school-district boundary lines are drawn in colors that make them the outstanding feature on the map. The school buildings to be retained are located, as well as the new buildings to be erected.

At the same time that the population study is being conducted an appraisal is also being made of the existing school plant, including buildings and grounds, the age and type of each building, the amount of money invested in it, the educational facilities which it contains, and its physical condition, together with its capacity and the population trend in the district, in order to determine whether it shall be retained; and if so, for how long.

One of the most important factors in the survey is the study of school sites. In the average city the amount of play space around each school is very small. For this reason, data are secured not only on the number of square feet in each site but also the number of square feet of play space for each pupil, by schools. The correct selection of future sites—their location, size, location of the building, and general layout of the grounds—is of the greatest importance to the whole future of the city.

After the population study and the appraisal of the school plant has been completed and the location, size, and number of buildings and sites, together with the estimated costs, have been determined, there remains the question of how the recommendations for the building program shall be presented. It might seem at first sight as though this were a comparatively simple problem, but those making school-building surveys are agreed that it is one of the most difficult.

There are, broadly speaking, three groups in a community which are vitally interested in school-building problems: First, the educational authorities—the board of education, superintendent of schools, and administrative and teaching force; second, the city government and taxpayers; and, third, the general public, more particularly the parents of public-school children. This latter group also includes some of the second group. The interests of these groups in a survey report are not necessarily identical. For example, all parents are, in general, interested in the report from the standpoint of what is going to happen to the school which their children are attending; the educational authorities want a report which gives the findings of the survey and the recommendations both in a summarized text and detailed statistical tables; the taxpayers are interested in what the cost is going to be.

A study of recent survey reports shows that there is recognition of the fact that the report must meet the demands of all these groups—and be so written that it will be read by them. In other

words, these reports are of interest not merely for the light which they throw upon progress in the technique of making school-building surveys; they are also illuminating as evidence of a growing recognition of the fact that the education of public opinion about educational matters is an important part of the whole school-building problem.

SUMMARY

A survey of the school-building problem during the past few years indicates that:

The planning and erection of school buildings is becoming a highly technical task which demands the combined knowledge and skill of educators, health specialists, building and landscape architects, heating, ventilating, lighting, and sanitation experts.

The modern school building, which has been developed during the past 20 years, represents a radical departure from the school building of previous periods. Owing to changed social and industrial conditions which have deprived children in cities of many of the educational activities which formerly existed in the community life outside of the school, the curriculum of the modern school has been enriched so as to give children much greater opportunities than formerly for a variety of play, handwork, and social activities.

The school building has had to be changed to meet these new educational demands. At the same time advances in the science of heating, ventilating, lighting, and equipping school buildings are making it possible to prevent many of the health defects, i. e., bad posture, poor eyesight, respiratory troubles, etc., which developed in children as a result of the conditions in the older type of school building.

The findings of the Bureau of Education school-building study of modern school buildings in 84 cities in 33 States, which was made in order to determine to what extent modern facilities such as auditoriums, gymnasiums, and special rooms were being included in new school buildings, showed that of the elementary schools studied 82 per cent had auditoriums, 60 per cent had gymnasiums, 75 per cent had special rooms, and 74 per cent had kindergartens. It also indicated that, although standards in regard to size and equipment of auditoriums, gymnasiums, and special rooms were gradually being worked out, these matters were still in the experimental stage.

The planning of the school site, its location, size, provision for playground facilities, gardens, etc., is now of equal importance with the planning of the building.

The tendency to have school-building surveys preliminary to working out school-building programs appears to be one of the well-established techniques in the solution of the school-building problem.

CHAPTER XVIII

REVIEW OF EDUCATIONAL LEGISLATION

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CONTENTS.—Educational investigations and surveys—Recodification of school laws—State administration—State school support—County administration—County superintendents—Consolidation and transportation—Secondary education—Junior college—Adult education—Teachers' certificates—Teachers' pensions—Teachers' salaries—Teachers' tenure—Physical welfare of school children—Safety of school children—Handicapped children—Private degree-conferring institutions.

During the biennium 1926-1928 approximately 1,200 educational acts of general application were passed in continental United States. The outstanding general feature is the increased tendency to employ educational surveys and state-wide investigations as bases for educational legislation.

In recent years legislatures and school officials have manifested increased interest in securing information concerning school conditions and problems as a basis for formulating legislative and administrative policies affecting the schools. Critical public opinion, demanding economy and efficiency, and the growing science of education have largely favored this tendency.

EDUCATIONAL INVESTIGATIONS AND SURVEYS

School surveys became a prominent factor in the administration of city school systems less than two decades ago. Such surveys are now applied to county and State school systems and to institutions and classes of institutions and are of general and special types. From the standpoint of the reviewer of legislation state-wide surveys are of most interest since this is the kind of study that usually contains recommendations of legislation and often results in the passage of new laws. During 1927 more than a dozen state-wide educational surveys or studies were provided for by legislative action.

The Alabama Legislature authorized a state-wide school-building survey. It provided that the character of permanent construction most economical and available in the various sections of the State and the value and adequacy of the present school building facilities shall be studied and that estimates be made as to the amounts needed

to provide reasonably adequate buildings for all public schools of the State.

The Legislature of California authorized three state-wide investigations: (1) Provided for the appointment by the governor of a committee to investigate the present conditions and future possibilities of the public-school teachers' retirement fund and report its findings to the next legislature; (2) directed the State board of education to investigate the supplementary books used in the elementary schools of the State and to report thereon to the State board of control; (3) directed the State department of education to investigate the educational, geographical, financial, and organizational problems of public education in the State beyond the elementary grades and to present a report to the governor for transmission to the next legislature.

Colorado, by concurrent resolution, authorized the governor to appoint a committee of three representatives to study the problems concerning a teachers' retirement fund law and report to the next general assembly.

The Florida Legislature authorized the governor to appoint a commission of five to survey the public educational system of the State, including all schools and educational institutions, and to report to the next legislature. A noteworthy feature of this act is that the survey commission is directed to employ a staff of experts from outside the State trained in educational survey work to make an impartial investigation as to the organization, administration, financial condition, and general efficiency of the educational system in accordance with approved scientific standards of educational research and to make definite recommendations for the improvement thereof. The legislature appropriated \$50,000 for this survey.

An Illinois legislative enactment created a commission of seven members to study and investigate the workings of the general tax and revenue laws of the State and similar laws in other States and to collect full data and information regarding the passage and operation of the same, and report to the next legislature.

North Carolina authorized two state-wide investigations: (1) Created a tax commission of five members to study thoroughly the State taxation system, including cities, counties, and subdivisions and to study taxation systems in other States and places and the classification of property; and to make comparative study of taxation in various phases, including the relationship between State tax and the Federal tax and to report its findings to the governor who shall submit the same to the legislature with recommendations. (2) Created a State board of equalization composed of 11 members who are authorized and directed to study, investigate, compare, and de-

termine the true value of all property subject to taxation in each county which value shall be the basis upon which taxes for the six months' school term shall be levied and collected and the basis upon which the equalization fund shall be apportioned.

Pennsylvania created a commission of nine members and the State superintendent (ex officio) as chairman to study distribution of State subsidies to districts; it also provided that the question of creating a fund for insuring school buildings against fire be referred to the insurance commissioner to make a study of the subject and to report to the next legislature.

The 1928 New Jersey Legislature, by joint resolution, appointed a commission of 15 members to inquire into the work and activities of the public schools and other public educational institutions of New Jersey and other States; to investigate the manner and method by which public-school funds are raised; to recommend an adequate and comprehensive program of education for New Jersey; to suggest methods that would put in practice and economical operation the program recommended and to report to the next legislature; appropriated \$25,000 for this inquiry. Another New Jersey resolution created a commission consisting of nine members to examine the existing relationship of the State with Rutgers University and to recommend to the legislature such reorganization and means of reorganization as may be deemed to be to the best interests of the State.

The Virginia Legislature at the special session of 1927 created a commission to survey the educational system of the State, with especial reference to present conditions and future needs in respect to maintenance, organization, curricula, business management, etc., and to report to the next general assembly.

RECODIFICATION OF SCHOOL LAWS

The practice of adding new school laws and amendments at each session of the legislature over a period of years generally results in illogical arrangement of school codes, and duplications and inconsistencies in school laws develop in many instances.

Within the two years here reviewed more States than usual took legislative action toward revising and codifying their school laws. Alabama provided for complete revision and codification of all laws relating to education. The Legislature of California created a code commission to study the laws relating to the establishment, control, administration, support, and all other concerns of the public-school system and to submit a new school code to the next (1929) legislature. The Connecticut Legislature authorized the State board of education to revise and codify the school laws. The Kansas Legislature created a school code commission to study the school laws of

Kansas and to recommend to the next legislature amendments which it deemed necessary for the purpose of clarifying, revising, and codifying such laws.

Judging from the report of the Kansas commission the steps taken by Kansas are of especial interest and value. The commission established called to its assistance men and women in all walks of life within the State and was aided by others interested in education outside the State. The work of the committee included a comprehensive study of Kansas school laws and problems and in addition a general study of the school systems in other States.

In 1928 the Legislature of Virginia, acting upon the report of the State commission created in 1927 to study the educational needs of the State, made sweeping changes in its school code, especially in respect to the selection of the State board of education and the State and division superintendents of schools. Important constitutional amendments were initiated. Wisconsin revised the principal chapters of its statutes relating to the administration and supervision of public schools.

STATE ADMINISTRATION

The trend of present legislation is toward fixing greater responsibility in the State boards for the administration of the State school systems. Within the 2-year period comprehended in this review several changes in the composition and duties of the State departments were made by legislative enactment. California increased the membership of the State board of education from 7 to 10, and provided for the establishment of a division of schoolhouse planning in the State department of education.

A constitutional amendment in Virginia made a complete change in the composition of the State board of education. Heretofore the State board has been composed of the governor, attorney general, superintendent of public instruction, and three educators elected by the senate from a list of eligibles consisting of one person from each faculty of certain State institutions of higher learning. The constitutional amendment provided that henceforth the State department shall consist of seven members appointed by the governor, subject to confirmation by the general assembly. Under this provision the governor may use his discretion in the selection of members of the State board of education.

Another amendment to the constitution of Virginia provided that the State superintendent shall be appointed by the governor until January 1, 1932. Formerly he was elected by the people. The amendment authorized the legislature, after January 1, 1932, to provide for the appointment or election of the State superintendent in such manner as it may deem best.

During the period of this review the Legislature of Nevada adopted a provision which requires that, in order to be eligible to hold the office of State superintendent, one must be a graduate of the State university or institution of equal standing and must have completed at least 20 credit hours in educational subjects.

New York raised the salary of the State commissioner of education to \$15,000 and the salary of the assistant commissioner of education to \$7,000. New Jersey provided for a fifth assistant commissioner of education, increased salaries of all assistant commissioners to \$7,000, and directed that one assistant commissioner be director of business matters.¹

STATE SCHOOL SUPPORT

Financing public education now constitutes the foremost problem in educational legislation. Within the past decade practically every State has in some way endeavored to equalize educational opportunities by increasing State aid to poor communities. Examples of increased State participation in school support during the past two years are here enumerated.

The Alabama Legislature appropriated \$900,000 annually to be known as the State equalization fund for equalizing education opportunities in public schools, which provides under certain conditions increased support for rural schools, libraries, normal schools, and elementary and secondary schools; it also appropriated \$600,000 for the support of public schools for a minimum term of seven months. The legislature further proposed a State bond issue not to exceed \$20,000,000 for the construction and improvement of public-school buildings, including institutions of higher learning and normal schools, but this issue was defeated at the polls in January, 1928.

The Arkansas Legislature created a State revolving loan fund to aid needy school districts in repairing, erecting, and equipping school buildings. It also created a State equalization fund for free public schools, and authorized the State board of education to fix a minimum school term and a minimum salary schedule for teachers.

California authorized State aid for schools for the children of migratory laborers engaged in seasonal industries in rural districts of the State.

Delaware provided that four-fifths of all license or franchise fees received by the State tax department should be paid to the State treasury to be used by the State board of education for the support of public schools; the State tax on personal and real property was reduced from 25 cents to 15 cents per \$100 valuation.

¹ In 1920 the salary of the New Jersey commissioner of education was raised to \$15,000 per annum.

The Florida Legislature increased the school revenue by levying a 1-cent tax on each gallon of gasoline, by levying an additional one-quarter mill on all personal and real property, and by imposing a State and county license tax on all automobile tire and tube dealers.

The Georgia Legislature provided an equalization school fund by a State tax of one-half cent per gallon on motor fuel and 1 cent per gallon on kerosene. It has been estimated that the revenue from these sources will exceed \$1,000,000 annually. The State department of education is given wide latitude in working out the administrative details in connection with its distribution.

The 1928 Legislature of Louisiana provided additional State school revenue by increasing the severance tax and including in said tax carbon products obtained from natural gas.

A Maine act authorized State-aid increase from \$800 to \$1,200 per annum to school supervisory unions and that no school union shall receive less than \$1,000 per annum.

The Michigan Legislature appropriated \$1,000,000 annually to be apportioned to districts having an "average school membership in excess of the average for the whole State for each \$100,000 of equalized valuation."

A Montana act (ch. 119) created a State common-school equalization fund and made the State board of education the common-school equalization board. This act makes it mandatory for the State board to determine the minimum educational program which shall be equalized, and in determining such program to consider the following factors: "The minimum length of school term, the minimum school-tax levy, the assessed maximum valuation per child in average daily attendance, the minimum enrollment," and such other factors as the said board may deem necessary to carry out the act.

Missouri provided \$35,000 to be applied to the deficiency in the rural high-school aid fund, also \$300,000 for aid of teacher training in high schools.

The Legislature of New York increased State aid to poor districts by allowing \$500 for districts with five or more teachers; \$550 for districts with more than one and less than five teachers, this sum to be \$600 beginning August 1, 1928, \$650 beginning August 1, 1929, and \$700 each year thereafter; \$300 to districts with but one teacher and having valuation not exceeding \$100,000. Increased State aid was granted to still smaller districts. The legislature also allowed apportionment of school funds for teachers in part-time or continuation school on the same basis as for high-school teachers.

In North Carolina an act was passed which provided for more adequate distribution of the equalization fund so that the amount due from the State to counties shall be the amount by which the

necessary cost of six months' school term exceeds the amount produced by a 40-cent levy on \$100 valuation in the respective counties. The State equalization board was authorized to allow \$2,000 to any county when in the opinion of the board the said county has made efforts deserving of aid for the improvement of the teaching personnel. The legislature authorized the issue of State bonds to the amount of \$2,500,000 for special building fund to be loaned to county boards of education to aid in erecting schoolhouses. It also authorized the issuance of State bonds for more than \$2,000,000 for permanent improvement of State colleges and normal schools.

The Legislature of Oklahoma provided for a special school equalization fund and for its distribution by the State board of education for the purpose of carrying out as nearly as practicable the constitutional provision guaranteeing equality of educational opportunities to "all the children of all the people" in the State. This equalization fund is created from 25 per cent of the revenue tax on oil, gas, and other minerals, and the amount that can be expended under this act shall not exceed \$1,500,000 per annum. The fund shall be apportioned on the following bases: (a) Districts must levy a tax of 15 mills before becoming eligible to State distribution; (b) average daily attendance considered; (c) eight months' school term required before becoming eligible to State distribution; (d) weakness of districts as exhibited in their sworn statement as to assessed valuation per child and expenditures per child; (e) transfer and transportation of pupils considered; the State board is authorized to withhold aid where it appears that, because of small attendance in any district, transfer and transportation of all pupils to an adjacent school would be the most advisable and economical program; (f) total annual expenditures per pupil in average daily attendance shall not exceed \$45 per pupil; (g) districts which pay athletic instructors more than \$125 per month shall not participate in this fund.

The Oregon Legislature authorized the State land board to purchase a portion of surplus bonds issued by school districts.

The South Dakota Legislature provided a \$1 tax on each resident over 21 years of age for the support of common schools and appropriated \$40,000 in aid of the common schools to be distributed to the several counties in proportion to the acreage of indemnity and endowment lands in the respective districts in each county.

A Tennessee act authorized the expenditure of \$1,000,000 for building and repairing rural public schoolhouses in the State and authorized the issuance of State bonds therefor.

Vermont provided a new form of distributing part of State aid available for towns. The districts are divided into seven groups according to funds raised by local taxation which are expended for

school support. Other things being equal, the lower this rate the lower will be the State aid, and the higher the rate the higher will be the State aid. Vermont also appropriated \$5,000 for a community schoolhouse fund, and provided that when any district raises money otherwise than by taxation for furnishing and improving buildings or school grounds an equal amount, not to exceed \$100 per year, shall be supplied by the State.

By a constitutional amendment in Virginia the general assembly of that State is allowed greater freedom to apportion State school funds on bases determined by it to be best, and an act of the legislature allowed State aid to high schools on the condition that the local county or city provide at least 50 per cent of the amount furnished by the State.

Washington provided that the commissioner of public lands shall control lands acquired by the State by escheat or operation of law or by gift and that the proceeds of the lease or sale of such lands shall be a part of the county school fund of the county in which said land is situated.

The Wyoming Legislature provided for the distribution of oil, gas, or mineral royalties from leasing of school lands; 33 $\frac{1}{3}$ per cent of such royalties shall be paid into the State treasury and be credited to the land income fund for the benefit of schools.

COUNTY ADMINISTRATION

As compared with other governmental or civil units, the county entered the business of administering public education somewhat late. In general, the community unit, township or district, was the first in the field, but since the beginning of the present century the county has rapidly attained an important place in public education. There is a decided trend toward placing greater responsibility upon the county as a unit in educational affairs. This responsibility, it should be remembered, has shifted from the district and not from the State.

Within the past two years several legislative acts relating to county school administration were enacted. Alabama provided for the consolidation of administration and control of public-school systems in certain counties and for the establishment of county boards of education in lieu of all other city and county boards in those counties. The Legislature of Arkansas sought to increase school efficiency by making provision for county boards of education in certain counties; provided for establishing by vote of the people in any county exceeding 75,000 population, a county school unit system; and authorized county boards of education to dissolve any school district not maintaining 120 days' school or whose daily attendance does not exceed

15 pupils, and to attach said district to adjacent school district, providing the dissolving district is taxed at the minimum rate. A Minnesota act provided for the organization of certain counties as school districts. The Oregon Legislature provided that in districts where the county high school law is in operation any high-school organization may be taken over by the county school board upon mutual consent of the local school committee and county authorities. The Legislature of Texas provided for aid in the formation and maintenance of rural high-school districts according to a county-wide plan. In 1928 Virginia strengthened the county unit act of 1922 by providing that all school finances, except district indebtedness and future capital outlay, shall be handled on a county-wide basis; and authorized county boards of education instead of district boards to establish high schools.

COUNTY SUPERINTENDENTS

The tendency to raise the qualifications required of county superintendents appeared in a few States. Alabama provided that county superintendents must have three years' successful experience in teaching within five years next preceding appointment and that they need not be residents of the county; Arkansas required county superintendents to be holders of valid teachers' certificates; Indiana required county superintendents to have five years' successful experience in teaching and to hold a first or second grade supervisor's license. The most noticeable changes in respect to the county superintendent's qualifications occurred in Virginia in 1928, where by constitutional amendment the State board of education is required to certify to the local school boards of each division a list of persons having "reasonable academic and business qualifications for division superintendent of schools, one of whom shall be selected by said board as superintendent." In pursuance to this amendment the State board of education has adopted the following minimum requirements: (1) Graduation from a standard 4-year college with at least 15 hours of professional training, and two years of practical experience as school principal or supervisor, or five years' experience as a teacher; or (2) graduation from a standard 4-year college with degree of B. S. or A. B. with four years' experience as school principal or supervisor, or six years' experience as a teacher; and (3) general administrative ability as evidenced by practical experience in business or in the business administration of education. Wyoming requires candidates for county superintendent, on or before election, to file with the county clerk their teachers' certificates of as high a rank as first class.

Recent legislation also shows a tendency to increase the salaries of county superintendents in Arkansas, Colorado, Illinois, Indiana,

Iowa, Mississippi, Missouri, and New Jersey. Marked increases in compensation appeared in Illinois and Mississippi.

CONSOLIDATION AND TRANSPORTATION

Recent enactments show a tendency to provide for larger school units in rural communities by the abandonment of small schools, especially one-teacher schools, and by transportation of pupils of such schools to larger school buildings, comprising in many cases several teachers. Legislative provisions encouraging consolidation and transportation during the biennial period under review were enacted in more than half of the States. Below are some examples of such provisions.

The steps taken by Alabama, Arkansas, Minnesota, and Oregon with respect to consolidation have already been mentioned under the subject of county administration. California authorized elementary districts to annex to high-school districts, and allowed transportation in all high-school districts. The 1926 act of Georgia as amended in 1927 provided for the merger of independent school systems with less than 200,000 population into county-school systems. County boards of education or district trustees were authorized to provide transportation of pupils and teachers when deemed for the best interest of the school. Furthermore, the Georgia Legislature required the State superintendent to set aside \$400,000 annually to aid in establishing and maintaining consolidated schools, and authorized him to grant \$500 annually to consolidated schools with as many as four teachers and \$1,000 annually to consolidated 4-year high schools needing help. Idaho authorized nonhigh-school districts to furnish transportation of high-school pupils to nearest high school and pay the expense incurred. Illinois authorized school boards to pay transportation of pupils to school in their own or other districts. Indiana provided for the establishment of joint schools by different districts. In 1928 the Legislature of Kentucky authorized graded common-school districts to consolidate with county districts in order to promote more economical and efficient administration of schools, and required such consolidation where any common-school district fails to provide adequate schools. The Legislature of Louisiana authorized parish school boards to provide transportation for children living more than two miles from a school of suitable grade on the condition that they attend any school approved by the State board of education. Maine authorized towns to furnish board in lieu of transportation of high-school pupils. Mississippi authorized county superintendents to provide for the transportation of children from rural districts in which no school is maintained and provided for the payment of transportation by

said district. Missouri required school boards to maintain elementary schools within $3\frac{1}{2}$ miles by the nearest traveled road of every child or provide transportation. Montana, Nebraska, Nevada, and North Dakota authorized elementary-school districts to unite with high-school districts.

An Oregon act required a petition of 20 per cent of the voters before the matter of uniting or dividing districts may be submitted to a vote of the people. Oregon also provided that when consolidated districts transport pupils of a district which was annexed to consolidated district, the county superintendent shall apportion to the consolidated district the proportion of the State elementary school fund which the annexed district was entitled to receive at the time of annexation. Pennsylvania provided reimbursement to fourth-class districts which provide free transportation to children under 16 years of age. Rhode Island authorized school committees to provide transportation in lieu of providing convenient location of schools. Wisconsin provided for consolidation of certain districts for the establishment of high schools.

SECONDARY EDUCATION

In recent years the legislatures in the majority of States have manifested a laudable effort to provide means for all children to receive secondary instruction. The effort has been not so much in the way of establishing more high schools, but rather in providing means whereby pupils may attend such schools already established. Enactments in this respect generally include one or more of the following provisions: (1) Require high-school districts to accept qualified pupils from nonhigh-school districts when facilities permit. (2) Authorize nonhigh-school districts to contract with high-school districts whereby pupils of the former district may attend high school in the latter on the condition that the former district pay the cost of instruction of such pupils. (3) Require or authorize nonhigh-school districts to furnish transportation or tuition or both to its pupils attending in another district. (4) Authorize high-school districts to provide transportation of resident pupils where, because of distance, it is impracticable for them to attend; or to authorize such districts to pay their tuition while attending a more accessible high school in another district. (5) Furnish board in lieu of transportation. Enactments embracing one or more of the above provisions were made during the two years here reviewed in the following States: California, Colorado, Idaho, Illinois, Kansas, Kentucky, Maine, Massachusetts, Montana, Minnesota, Nebraska, New Hampshire, Pennsylvania, Louisiana, Mississippi, Vermont, and Wisconsin.

Some examples of further legislation which provides for extending secondary educational facilities follow:

An act of Georgia authorized State aid to the amount of \$1,000 annually to consolidated 4-year high schools needing help. The Legislature of Iowa enacted a provision requiring a petition signed by 25 per cent of the voters before the question of abolishing a high school can be submitted to a vote of the people. Kansas authorized certain districts maintaining accredited high schools to levy a direct tax not exceeding 10 mills for the maintenance thereof. The Legislatures of Maine and New Hampshire enacted provisions for substantial State reimbursement to certain towns paying the tuition of its high-school pupils. Maryland provided for the classification of high schools into two groups instead of three; and provided that all graduates of first-group high schools shall be admitted to State-aided institutions of higher learning regardless of whether they pursued the academic course in high school. The Missouri Legislature appropriated more than \$35,000 for the rural high-school aid fund deficiency and \$78,000 for the salaries and traveling expenses of high-school superintendents and inspectors. A Nevada act made provision for organizing parts of adjoining counties into high-school districts. A North Carolina enactment provided that high schools maintaining nine months' terms and meeting all other requirements and offering superior instruction with fewer than 45 pupils in average daily attendance may be considered for standardization. North Dakota authorized the establishment and maintenance of high schools by two or more districts. The Legislature of Pennsylvania permitted districts to arrange with other districts for the education of high-school pupils without county examination upon the approval in writing of the county superintendent. An act of Texas made provision for a State bonus to consolidated rural schools. The Wisconsin Legislature made provision for the consolidation of certain districts for the establishment of high schools and authorized certain common districts to establish such schools.

JUNIOR COLLEGES

The junior-college movement during the period of this review constituted the most impelling measure with respect to higher education which confronted legislators, and, judging from legislative enactments, it is a rapidly advancing movement. Within the two years here considered legislative measures providing for junior colleges were enacted for the first time in 11 States: Arizona, Connecticut, Georgia, Idaho, Iowa, Minnesota, Missouri, Pennsylvania, and Tennessee, in 1927, and Louisiana and Mississippi, in 1928. Moreover, California in 1927 amended its junior-college law of 1921 by repealing the provision relating to the payment of tuition in junior colleges by nonresidents of junior-college districts. Seventeen

States now have statutory provisions for junior colleges. The States enacting such provision prior to 1927 are California, Kansas, Michigan, Montana, Oklahoma, and Colorado.

The principal tendencies of junior-college legislation are: (1) To restrict their establishment to cities or districts which can adequately support such institutions, taking into consideration population and wealth; (2) to provide for their establishment and maintenance under the approval and regulation of State authority.

ADULT EDUCATION

One of the outstanding features of educational legislation in recent years consists in providing means for adult education.

The first enactments after the war for this purpose were prompted and characterized by a feeling of necessity for educating adult immigrants in the principles and ideals of our democracy and in the use of the English language. The blending of this view with the growing recognition of the importance of educated electors as a safeguard to democratic government has led to the movement for more liberal adult education and has resulted in enactments which provide education for adults in general, including those of native as well as foreign origin.

During 1927 laws relating to adult education were passed in Arkansas, Connecticut, Delaware, Florida, Illinois, Nebraska, and Rhode Island. Only a summary of enactments in these States can be given here.

Arkansas changed the name of "The Arkansas Illiteracy Commission" to "The Arkansas Adult Education Commission."

Connecticut required that the State board of education establish a division of adult education and appoint a director thereof, and authorized the school committee of any town designated by the State board of education to appoint, subject to the approval of the said board, a director of adult education. Furthermore, the legislature provided for the organization of and State aid to schools for non-English-speaking adults. Such schools must be established in districts where 20 or more such persons 16 years of age or over shall apply in writing therefor.

An act of the Delaware Legislature authorized the State board of education to create a service bureau for foreign-born residents, to promote the process of Americanizing such residents, and to protect them from exploitation and injustice.

A Florida enactment provided for the establishment of public evening schools, elementary and high, as a branch of the school system which shall be available to all residents, native or foreign born, who are unable to attend any public day school.

An Illinois legislative enactment authorized school boards to establish classes for adults.

A Nebraska act provided for the establishment of adult immigrant education services in the department of education for education of adult aliens and others, under the direction of the State superintendent. Under this act, local school boards and school authorities are authorized to expend money for conducting schools and classes in school buildings, industrial establishments, places of employment, and other places for giving instruction to foreign-born and native adults and minors over the age of 16. Such course of instruction or study must include English, history, civics, and other subjects tending to promote good citizenship and increase vocational efficiency. The State superintendent of public instruction is required to designate courses of study, approve the selection of teachers, and supervise the instruction.

The Rhode Island Legislature appropriated \$3,000 for the fiscal year ending July 1, 1928, for the promotion of home and community classes in any town or district for instruction in the use of the English language, in the common rights and obligations of citizenship, and in the fundamental principles of the American plan of government. This resolution authorized the State board or local committees of any town to establish and maintain classes for persons over 16 years of age who can not read, write, or speak the English language; and provided that such classes may be held in homes or other suitable places. It furthermore provided that if a class of 20 or more such persons has been organized, the school committee shall hire a teacher and pay for such instruction, in which case, the school committee shall be entitled to State reimbursement.

TEACHERS' CERTIFICATES

The tendency to raise the qualifications required of teachers which has been marked for many years, continues. The minimum standard toward which the States are working is high-school graduation plus two years of normal training for every teacher in the elementary schools. Only the notable changes with respect to teachers' requirements are reported here.

An act of Idaho provided that all teachers in elementary schools must have one or more years of normal training; and that after September, 1929, two years of normal training shall be required. A Minnesota act authorized that first-grade professional certificates be granted to graduates of accredited colleges of education or liberal arts colleges or universities with evidence of such professional training as may be prescribed by the said board of education. An Oregon enactment provided that from January 1, 1929, to January 1, 1931,

all beginning teachers must have completed an elementary teachers' training course of 48 weeks' duration; from January 1, 1931, to January 1, 1933, 60 weeks; and after January 1, 1933, the completion of 72 weeks of teacher training shall be required. The Legislature of North Dakota authorized the State superintendent of public instruction to issue vocational certificates in art and physical education; and required candidates for primary certificates by examination to pass an examination in civics, American literature, and current events. Texas authorized the renewal of teachers' certificates for one year where the holder completes four subjects in a summer school at an approved teachers college. In 1928, Mississippi increased the qualifications for music teachers, requiring them to be graduates of four-year music departments of a standard four-year college, or to have received equivalent instruction. New Jersey in 1928 required all permanent teachers in the public schools to be citizens of the United States, except foreign-language teachers who have not been residents 10 years.

TEACHERS' PENSIONS

State-wide pension systems are now in operation in approximately one-half of the States, and pension laws applicable to certain cities are found in nearly a dozen other States. Legislative acts within the past two years affecting teachers' pensions were primarily efforts to perfect, by appropriate amendments, pension laws already enacted. A dozen or more States amended their teacher pension laws in some way; mostly to the benefit of the teacher. An original teachers' pension law was enacted in Kentucky which created a state-wide teachers' retirement system, providing for voluntary membership.

TEACHERS' SALARIES

Legislative enactments within the past two years tend to provide more adequate and uniform teachers' salaries. A California act provided for uniform allowance in salary schedule "for years of teaching and years of service." A Delaware enactment provided that teachers' salaries shall be uniform in application, without discrimination on account of race, color, or religious belief. The Legislature of Georgia made provision for carrying into effect the constitutional amendment of November, 1926, which authorized the issuance of bonds to the amount of \$3,500,000 for teachers' salaries. Nevada authorized boards of education to pay teachers in 12 monthly payments for 10 months' service; and in their discretion to pay salary to any teacher unavoidably absent due to personal illness or death in immediate family. A 1928 act of Kentucky provided that teachers with 10 years' experience in a county shall re-

ceive the same basal salary as a high-school graduate in such county without teaching experience. The full meaning and purpose of this law do not appear.

TEACHER TENURE

Teacher tenure laws now prevail in many States. Some difficulty has been experienced in enacting satisfactory tenure laws. Recently enacted tenure laws provide a probationary period for teachers and to place on the school board, after such probationary period is passed, the burden of showing cause why any teacher should be dismissed or reduced. Within the 2-year period of this review, four States enacted legislation relating to teacher tenure. California amended its tenure law by making it applicable to all public-school teachers. An act of Illinois provided that teachers, principals, and superintendents may be appointed for three years after a probationary period of two years, and the Indiana act provided that appointment after five years of service shall be permanent except for incompetency, insubordination, or immorality. An act of Montana provided that after election of any teacher or principal for the third consecutive year, such teacher shall be elected from year to year unless otherwise notified. New York extended tenure protection for full-time district clerks in many municipalities of more than 25,000 population after three years' service.

PHYSICAL WELFARE OF SCHOOL CHILDREN

Conservation and promotion of health and safety have long been recognized as functions of the public-school system, and laws to make them so continue to be enacted. Within the 2-year period here reviewed, approximately one-half of the States enacted laws which in some way tend to promote the health and physical safety of school children.

The laws relating especially to the conservation and promotion of health may be indicated as follows: Arizona appointed a State physical director and required that all public elementary and secondary schools provide physical training. The Legislature of Florida provided for the creation of the position of State supervisor of physical and health education. An Idaho act authorized county superintendents to close school buildings reported by health officers to be in insanitary condition. Illinois requires that school boards shall provide physical education for one hour per week, that normal schools shall give physical education courses, and that no student shall be graduated without having completed one year's work in physical education of one hundred and forty-four 45-minute periods. The Illinois Legislature authorized cities of more than 100,000

population to levy three-twentieths of 1 mill on each dollar of assessed value of taxable property to maintain playgrounds. An act of Kansas authorized boards of education in cities of first class to provide free inspection and treatment of physical defects and ailments of public-school children who are unable to pay the necessary expense for private treatment. New Jersey made provision for the employment of school nurses who shall examine every pupil to ascertain whether any physical defects exist and keep a record from year to year of the growth and development of pupils. Texas authorized the commissioner's courts of the various counties to employ one or more registered nurses at not more than \$1,800 per annum to visit the public schools and to investigate the health conditions and sanitary surroundings of such schools and the physical conditions of school pupils. An act of Wyoming requires teachers, with the assistance of county health nurses or county physicians, or both, to examine children to ascertain if any are suffering from defective sight, hearing, or diseases of the nose or throat. In 1928 the New Jersey Legislature authorized the use of public parks or playgrounds as playgrounds for public-school pupils; and Virginia required that physical and health education be emphasized throughout the elementary course of proper lessons, drills, and physical exercises set up by the State board of education.

SAFETY OF SCHOOL CHILDREN

Laws to guard the physical safety of school children and to prevent accidents were enacted in a number of States. Arizona, Kansas, Michigan, and South Carolina required school busses to stop before crossing a railroad track; South Carolina required fire drills in all public schools and that schools of two or more stories be equipped with adequate fire escapes. Two States required actual schoolroom instruction to prevent accidents. Arkansas required the teaching of methods of fire prevention. North Carolina provided for giving publicity to highway traffic laws through public schools; the State highway commission is required to prepare a digest of State traffic laws suitable for use in public schools and to deliver the same to the State superintendent of public instruction. Said digest shall be brought to the attention of school children at least once each week until it has been read and explained.

HANDICAPPED CHILDREN

Recent years have witnessed a growing desire of helpfulness to weak children which has manifested itself in legislative enactments to provide for their educational welfare.

✓ Alabama authorized the State board of education to maintain a register of blind persons and to assist in their rehabilitation, and made an appropriation therefor; and also made an appropriation for the repair of the buildings of the State school for the blind and deaf. The Legislature of California provided for the establishment of "kindergarten service" and for vocational education in the State school for the blind; required doctors and nurses and others to report deaf and partially deaf children to superintendents of schools; and authorized school districts to provide education for children with defective vision, hearing, and such other physically handicapped "individuals" as the State superintendent of public instruction may designate. The Colorado Legislature enlarged the State aid for the welfare of the blind and deaf. An Iowa act allowed State aid for instruction of deaf children up to 16 years of age, instead of 12 years as formerly. Massachusetts required the education of all deaf children between 7 and 18 years when practicable. Nebraska provided State reimbursement for districts maintaining schools for the instruction of deaf children. An act of Tennessee provides for compulsory education of blind children between 7 and 16 years. A Louisiana act created a State board for the blind which is required to keep a register of the blind and of their ability for vocational education and industrial occupation.

Within the past two years, several States enacted laws to promote the education of crippled children. California amended its law so as to empower the State superintendent to make education compulsory for crippled children whom he may designate. The Legislature of Indiana provided for the establishment of special classes of instruction for children who, because of physical disability, can not be taught profitably in regular school classes, and granted State aid in an amount equal to three-fourths of the cost of such instruction in excess of the cost of instructing same number of children in regular classes. Michigan required district boards of education to provide a budget annually for expenditures in maintaining instruction for the crippled. An act of Wisconsin made provision for the transportation to school of physically disabled children, and authorized boards of education to establish special classes for such children. In 1928, Kentucky authorized cities of first class to provide for transportation of crippled children to and from public school; and New Jersey required boards of education to provide special facilities for crippled children and to establish special classes with as few as eight crippled children, and provided State reimbursement for one-half of the cost of such classes.

Alabama, Colorado, and Kansas enacted provisions to provide special instruction for mentally retarded children.

PRIVATE DEGREE-CONFERRING INSTITUTIONS

Recent years have shown an increased State control over private degree-conferring institutions. Legislatures have shown a tendency to require such institutions to be incorporated and to reserve to the State the power of regulation, in order that certain standards may be maintained. California, Iowa, and Missouri in 1927 and New York in 1928 enacted laws of this character.

California provided that no person, firm, or association other than corporations incorporated under law shall have the power to confer academic or professional degrees, and provided a penalty for violation. Iowa required that no academic degree for which compensation shall be paid shall be conferred by any individual or corporation unless the person obtaining the degree shall have completed one academic year of resident work at the institution which grants the degree; provided a penalty for violation. Missouri prohibited medical schools and colleges for issuing certificates of graduation or diplomas without requiring the recipient to meet certain requirements. New York provided that no person or association not holding university-or-college-degree-conferring power by special charter from the legislature or from the State board of regents shall confer any degree or transact business or in any way assume the name "university" or "college" until written permission is given to it, and such name shall have been granted by the regents under their seal.

With respect to correspondence schools, Illinois prohibited any person or persons from maintaining professional correspondence schools, including preparatory schools, colleges, academies, universities, and manual and mechanical trade schools without having a certification of registration issued by the State department of registration and education. Persons seeking authority to maintain such schools must apply in writing to the department upon blanks prepared and furnished by the said department. The applicant must state the name and location of the school; the nature, extent, and purpose of each course to be given; fees to be charged and conditions under which they are to be paid; plan of giving instruction; credential or certificate to be issued to students upon completion of course of instruction, copy of which is to be attached to the application; and such other information as the department deems pertinent to determine the character of the school. The department shall require such proof as shall be deemed desirable as to the bona fides of the applicant. The department shall make an examination to ascertain whether the courses to be given are adequate, suitable, and proper, whether the fees and the terms under which they are to be paid are reasonable; whether the facilities are sufficient and proper for successfully giving the instruction offered; whether the correspondence school

promises or agrees to give rights or privileges in respect to admission to professional examination or to the practice of any profession in violation of the laws of the State; and whether the trade schools offer inducements that are designed to deceive students or make any promise which it does not have the present means or ability to perform. If, after taking into consideration these factors, the department deems that they have been satisfactorily met, a certificate of registration shall be issued. The certificate may be revoked for violation of the conditions governing its issuance or rules adopted by the department, or for fraudulent conduct.

CHAPTER XIX

STATISTICAL SUMMARY OF EDUCATION

By FRANK M. PHILLIPS

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The purpose of this report is to bring together and to summarize statistical information published in other chapters of the Biennial Survey of Education, and to present some new material that does not belong exclusively to any other statistical report. Data on public elementary and secondary schools are furnished by State departments of education. Data on private elementary schools are furnished by State departments of education, by the National Catholic Welfare Conference, and by a few individual reports from schools. Statistics of private and parochial secondary schools are furnished by State departments of education, by city school superintendents, by the National Catholic Welfare Conference, and by reports from practically all the schools included under this description. City school superintendents and their business managers report considerable data concerning schools in urban localities. The college, university, professional school, and teacher-training school authorities report upon their own institutions. Information for special schools, such as schools for delinquents and defectives, is reported by the schools having classes for these groups. Data for Indian schools are furnished by the Indian Office.

To insure accuracy and completeness, four field agents are employed to visit institutions and offices and assist them in making reports, and to advise reporting agencies how best to keep records. During the biennium approximately 30,000 schedules were received, verified, and compiled in order to make the 1927-28 report possible.

Table 1 shows a distribution of pupils in various types of schools according to public and to private control. The grand total shows 29,410,615 persons enrolled in the types included in the table. No information is available for the number enrolled in trade schools which are not public institutions, in correspondence schools, nor in any other type excepting as indicated. The number given for the outlying parts includes all types of schools in those parts from kindergarten to and including the universities.

TABLE 1.—*School and college enrollments, according to public and private control, 1927-28*

Schools	Public	Private	Total
Kindergartens.....	695,490	154,456	749,946
Elementary schools (includes elementary grades in junior high schools).....	20,572,927	2,234,999	22,807,926
City schools (included with elementary and high).....	12,273,412		12,273,412
Total elementary and kindergarten.....	21,268,417	2,289,455	23,557,872
Secondary (high schools and academies).....	3,911,279	341,158	4,252,437
Preparatory departments of colleges.....	12,528	38,060	50,588
Secondary students in teacher-training institutions.....	17,048	1,288	18,336
Total secondary students.....	3,940,855	380,506	4,321,361
Teachers colleges.....	196,644	10,155	206,799
Normal schools (excluding secondary students).....	58,313	9,236	67,549
Total in normal schools and teachers colleges.....	254,957	19,391	274,348
Universities, colleges, and professional schools (excluding preparatory).....	335,009	533,784	868,793
Industrial schools for delinquents (1927).....	84,317		84,317
Schools for the deaf (1927).....	16,563	933	17,496
Schools for the blind (1927).....	6,084		6,084
Schools for the feeble-minded and subnormals (1927).....	101,605	2,416	104,021
Schools for Indians.....	28,459	16,259	34,718
Government schools in Alaska.....	3,742		3,742
Other public schools in Alaska.....	4,829		4,829
Private commercial and business schools (1925).....		188,363	188,363
Grand total, excluding duplicates.....	25,989,508	3,421,107	29,410,615
All schools in the outlying parts of the United States (not included above).....	1,421,939	99,066	1,521,005

1 1924 data.

2 Includes pupils in 129 day schools and in 75 boarding schools.

In Table 2 only those schools are included which furnish a financial statement of the cost of maintaining and operating the schools. The per capita costs are based upon enrollments because in many schools it is not possible to secure a statement of the number in average daily attendance. Since per capita cost data are discussed in other parts of the biennial survey, no further comment is made at this point.

The total enrollment in schools furnishing a statement of expenditures is 29,276,068, and the total cost of education in 1928 amounts to \$3,033,706,590, an increase of more than \$290,000,000 over the cost of approximately the same schools for 1926.

TABLE 2.—School enrollments, expenditures, and per capita costs in schools reporting finances, 1927-28

Classification	Enrollment	Estimated cost per student enrolled	Total expenditure, including outlays
Public elementary schools (including kindergartens).....	21,268,417	\$86.77	\$2,184,847,200
Public high schools (excluding elementary pupils in junior schools).....	3,911,279		
Private elementary schools (including kindergartens).....	2,289,455	186.77	228,258,290
Private high schools and academies.....	341,158		
Universities and colleges (including preparatory students):			
Public.....	347,537	592.03	1 205,753,979
Private.....	571,844	508.49	1 290,775,330
Teachers colleges (including all resident students).....	219,119	207.84	45,542,706
Normal schools, including all resident students:			
State.....	48,065	234.62	11,277,101
City.....	14,154	240.11	3,398,576
County.....	1,425	242.96	346,215
Private.....	14,667	258.06	3,785,000
Industrial schools for delinquents (1927).....	84,317	264.45	22,303,966
Schools for the deaf (1927):			
State.....	13,048	595.85	7,787,739
City (included with public schools).....	3,515		
Private.....	933	294.34	265,289
Schools for the blind (1927).....	6,084	630.90	3,838,404
Schools for the feeble-minded and subnormal (1927):			
State.....	49,791	342.01	17,028,943
City (included with public schools).....	51,814		
Private.....	2,416	552.65	1,335,212
Government schools for natives in Alaska.....	3,742	123.81	463,290
Other public schools for natives in Alaska.....	4,829	139.89	657,515
Government Indian schools.....	28,459	212.30	1 6,041,635
Grand total, excluding duplicates.....	29,276,068		3,033,706,590

1 Estimated same as public schools.

1 Receipts, excluding addition to endowments.

1 The Indian Office computes per capita costs of Indian schools upon basis of average attendance.

In Table 3 is given a summary statement of the number of teachers by sex in all schools reporting for 1927-28. This grand total of 1,010,232 teachers is composed of about 20 per cent men and 80 per cent women. The men outnumber the women only in institutions of higher learning.

TABLE 3.—Distribution of teachers for six periods

Teachers in—	1890		1900		1910		1920		1926		1928		
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Total
Public elementary schools	121,877	232,925	116,416	286,274	91,591	389,952	63,024	513,222	75,436	569,195	69,455	573,257	642,712
Public high schools	3,648	5,472	10,172	10,200	18,890	22,777	32,386	69,572	63,374	106,164	68,738	120,484	189,222
Private elementary schools (estimated)	6,807	15,199	6,648	19,768	5,171	29,572	6,322	38,977	1,702	54,570	1,466	60,101	61,567
Private high schools	3,272	3,937	4,275	5,842	4,512	6,634	5,688	9,248	7,397	12,748	8,157	13,631	21,788
Universities and colleges:													
Preparatory departments	5,675	2,783	2,599	1,601	2,807	1,741	2,714	1,568	2,189	1,728	1,834	1,433	3,267
Collegiate departments			8,987	2,110	14,051	3,230	21,644	6,469	32,605	10,721	36,783	13,339	50,122
Other departments	4,758		8,277		13,285		10,603	1,239	14,550		14,343		14,915
Professional schools			1,068	1,847	1,692	3,122	2,963	5,161	4,822	7,327	4,967	7,481	12,447
Teachers colleges and normal schools, public			1,792	665	1,503	597	2,976	866	1,130	865	1,150	1,150	2,015
Teachers colleges and normal schools, private	1,133	460	1,413	699	1,736	1,200	2,976	3,189	1,910	2,195	1,910	2,195	4,105
Commercial and business schools	564	962	1,134	1,650	1,134	2,352	1,165	2,744	1,578	6,571	1,578	6,571	8,149
Schools for defectives and delinquents	644	965	1,189	1,793	1,702	2,456	1,141	652	63	96			1,018
Indian and Alaskan schools													
Kindergartens:													
Public	1,050	4,950	1,350	7,150	1,500	8,000	0	10,022	0	10,852			
Private							0	717	0	2,140			
Total, including undistributed items	149,428	287,653	163,999	339,529	158,574	471,633	151,215	663,958	205,689	770,630	209,398	799,816	1,010,232

1 Includes 3,899 men and 11,518 women teachers in junior high schools.

2 Professional departments.

3 Figures for 1918.

4 Not distributed by sex.

5 Data for 1924. Included with elementary.

6 Does not include 1,832 men and 817 women, duplicates, in universities, colleges, and professional schools.

Table 4 gives a summary of the number of pupils enrolled in various types of schools by 5-year periods from 1890 to 1928 with the exception of 1925. No complete data are available for 1925 since statistics are now collected only biennially.

TABLE 4.—*Kindergarten, elementary, commercial, secondary, normal school, and college enrollments, 1890-1922*

Schools	1890	1895	1900	1905
Kindergartens (public and private).....	1 31, 227	1 65, 296	225, 394	2 311, 050
Public elementary schools (including public kindergartens).....	12, 519, 518	13, 893, 666	14, 983, 859	15, 788, 598
Private elementary schools (largely estimated).....	1, 601, 897	1, 211, 220	1, 240, 925	1, 347, 000
Total elementary and kindergarten.....	14, 181, 415	15, 104, 886	16, 224, 784	17, 135, 598
Public high schools.....	202, 963	350, 099	519, 251	679, 702
Private high schools.....	94, 931	118, 347	110, 797	107, 207
Preparatory schools (in colleges and universities).....	51, 749	57, 403	56, 285	63, 421
Secondary students in normal schools.....	8, 170	13, 863	9, 570	15, 824
Total secondary students.....	357, 813	539, 712	695, 903	860, 154
Normal schools and teachers' colleges (excluding secondary students).....	34, 814	58, 504	69, 593	65, 300
Colleges, universities, and professional schools (excluding preparatory students).....	121, 942	144, 706	167, 999	199, 045
Total college and normal students.....	156, 756	203, 210	237, 592	264, 345
Private commercial and business schools.....	78, 920	96, 135	91, 549	146, 086

Schools	1910	1915	1920	1928
Kindergartens (public and private).....	4 346, 189	486, 800	510, 949	749, 946
Public elementary schools (including public kindergartens).....	16, 898, 791	18, 375, 225	19, 378, 927	20, 572, 927
Private elementary schools (largely estimated).....	1, 558, 437	1, 615, 091	1, 485, 561	2, 234, 999
Total elementary and kindergarten.....	18, 457, 228	19, 990, 316	20, 864, 488	22, 807, 926
Public high schools.....	915, 061	1, 328, 984	2 199, 389	3, 911, 279
Private high schools.....	117, 400	155, 044	213, 920	341, 158
Preparatory schools (in colleges and universities).....	66, 042	67, 440	59, 309	50, 588
Secondary students in normal schools.....	12, 890	13, 504	22, 068	18, 336
Total secondary students.....	1, 111, 393	1, 564, 972	2, 494, 676	4, 321, 361
Normal schools and teachers' colleges (excluding secondary students).....	88, 561	100, 325	135, 412	274, 348
Colleges, universities, and professional schools (excluding preparatory students).....	266, 654	303, 233	462, 445	868, 793
Total college and normal students.....	355, 215	403, 558	597, 857	1, 143, 141
Private commercial and business schools.....	155, 244	183, 268	335, 161	4 188, 363

1 1888. 2 1892. 3 Private kindergarten data for 1902. 4 1912. 5 From State reports. 6 1925.

In Table 5 is a summary of enrollments by States for elementary schools, high schools, teacher-training institutions, and institutions of higher education according to public and private control. These figures are submitted for reference.

TABLE 5.—Enrollment in certain types of schools, by States, 1927-28

State	Elementary schools and kindergartens		Secondary schools		Normal schools and teachers colleges		Universities, colleges, and professional schools	
	Public	Private	Public	Private	Public	Private	Public	Private
1	2	3	4	5	6	7	8	9
Continental United States	21,268,417	2,234,999	3,940,855	380,506	254,961	19,343	335,009	533,784
Alabama	580,572	11,572	55,381	6,941	7,699	997	5,251	3,658
Arizona	76,984	3,823	12,100	474	1,708	-----	2,337	72
Arkansas	440,469	4,726	39,774	2,374	2,111	-----	2,104	2,775
California	805,798	43,692	199,940	15,810	8,424	216	27,035	26,762
Colorado	194,624	11,106	44,670	2,018	5,547	138	5,063	3,932
Connecticut	266,210	48,438	46,255	7,573	1,159	388	635	7,006
Delaware	34,518	6,194	6,351	995	-----	-----	707	-----
District of Columbia	32,838	7,846	14,590	2,960	538	200	144	14,010
Florida	40,433	5,292	40,924	1,333	-----	-----	3,511	1,959
Georgia	32,787	4,295	72,488	4,978	2,648	-----	5,559	7,728
Idaho	97,073	2,290	23,773	662	1,519	237	2,340	790
Illinois	1,109,823	233,350	270,699	40,531	14,717	1,567	17,321	49,278
Indiana	523,103	61,902	131,617	6,571	5,601	2,561	8,390	13,339
Iowa	441,924	39,560	110,260	8,512	5,716	29	10,810	11,464
Kansas	338,473	31,507	87,497	8,977	8,058	-----	10,099	7,303
Kentucky	526,923	31,262	55,712	9,018	8,751	-----	4,176	4,592
Louisiana	367,796	38,611	48,333	4,940	2,381	-----	4,196	5,412
Maine	123,540	20,807	28,408	5,544	2,467	-----	1,359	1,884
Maryland	234,640	39,160	36,260	4,612	1,398	-----	4,353	8,664
Massachusetts	596,220	157,712	148,128	45,002	5,021	1,982	800	47,043
Michigan	710,327	12,580	132,492	13,261	14,546	-----	17,645	8,590
Minnesota	463,288	50,659	91,140	10,963	5,385	425	12,892	6,780
Mississippi	555,287	6,057	50,828	3,528	2,028	310	4,168	3,247
Missouri	554,864	61,500	125,948	10,178	11,969	-----	6,808	16,867
Montana	95,740	8,510	22,232	1,257	1,086	-----	2,791	273
Nebraska	260,702	21,782	66,227	3,735	5,377	298	6,908	5,879
Nevada	13,304	0	4,175	0	0	-----	1,002	-----
New Hampshire	59,865	22,492	13,177	4,186	1,202	-----	1,658	2,416
New Jersey	653,708	115,925	106,488	12,094	4,226	332	3,024	6,583
New Mexico	77,233	7,314	9,787	982	1,307	-----	1,291	-----
New York	1,701,088	341,563	361,342	42,101	19,312	1,271	33,940	94,166
North Carolina	746,375	1,717	102,647	8,500	3,537	1,632	6,208	9,494
North Dakota	145,719	7,487	27,251	1,039	5,217	-----	3,258	546
Ohio	1,052,665	150,627	243,023	22,143	6,746	335	29,045	30,928
Oklahoma	588,038	5,128	95,781	1,940	14,024	-----	9,798	3,569
Oregon	144,851	8,952	42,520	2,208	2,788	333	7,180	2,762
Pennsylvania	1,621,650	277,423	262,779	25,338	14,484	302	4,113	61,424
Rhode Island	97,178	28,816	16,278	3,832	890	-----	536	2,697
South Carolina	422,638	1,705	53,793	1,947	108	63	5,854	4,882
South Dakota	136,501	9,637	28,364	1,164	3,425	32	2,323	1,816
Tennessee	610,944	5,083	66,252	3,301	6,436	4,033	3,568	10,355
Texas	1,016,464	38,872	217,594	5,819	19,412	-----	16,157	20,518
Utah	108,532	1,324	28,053	3,952	0	43	4,287	2,117
Vermont	53,511	7,892	11,018	712	125	-----	1,235	1,058
Virginia	497,500	7,275	57,530	2,775	5,898	1,441	6,243	7,944
Washington	260,764	16,347	78,237	5,126	3,744	178	11,493	1,965
West Virginia	357,178	7,241	44,598	1,251	6,308	-----	4,513	2,011
Wisconsin	445,251	97,987	97,314	7,310	9,918	-----	9,672	7,226
Wyoming	42,504	757	10,827	39	0	-----	1,203	-----

PERCENTAGE OF THE COLLEGE AGE GROUP IN COLLEGES

The following table is introduced to show the number of students enrolled regularly in universities, colleges, and professional schools from 1900 to 1928; the number enrolled in summer sessions and in extension and correspondence courses in these institutions as early as such students began to be reported; the number enrolled in teachers colleges and in collegiate courses in State normal schools in regular sessions, summer sessions, and in extension and correspondence courses and a grand total of the number of students doing college work in some of the institutions just mentioned from 1900 to date. The table shows also the percentage of the college age group, ages 19, 20, 21, and 22, enrolled in regular sessions of universities, colleges, and professional schools, and the per cent the grand total is of the number in these four single-age groups for the years under consideration. In 1900, 5,911,425 persons were in the college age group, 7,242,147 in 1910, and 7,321,028 in 1920. The numbers for the other years are estimated from these census counts, the estimated number for 1928 being 7,384,127.

TABLE 6.—Number of students taking some form of college work, and per cent of those of ages 19, 20, 21, and 22, so engaged, 1900-1928

Year	Universities and colleges			Teachers colleges			Collegiate students in normal schools				Estimated grand total, excluding duplicates	Per cent column 2 is of total age group	Per cent column 1 is of total age group
	Regular year	Summer session	Extension, corre-spondence	Regular year	Summer session	Extension, corre-spondence	Regular year	Summer session	Extension, corre-spondence	10			
1928	868,793	239,570	292,074	114,618	120,019	61,090	46,627	23,187	7,744	1,325,675	11.77	17.95	
1926	767,263	209,454	273,235	85,207	92,588	40,076	49,609	38,419	11,508	1,193,521	10.41	16.20	
1924	664,266	189,943	144,858	58,896	74,619	32,362	11,240	13,563	16,827	984,058	9.03	13.11	
1922	550,906	148,063	119,708	56,432	72,248	24,665	()	()	10,790	773,418	7.51	10.54	
1920	462,445	94,838	83,100	54,721	38,011	13,360	()	()	5,202	642,275	6.32	7.41	
1918	330,689	78,079	50,314	.....	.....	.....	.....	.....	.....	371,229	4.53	4.73
1916	354,325	89,438	.....	.....	.....	.....	.....	.....	.....	318,964	4.86	5.09
1915	303,233	83,234	.....	.....	.....	.....	.....	.....	.....	286,654	4.16	4.38
1910	266,654	.....	.....	.....	.....	.....	.....	.....	.....	199,045	3.68	3.68
1905	199,045	.....	.....	.....	.....	.....	.....	.....	.....	199,045	3.03	3.03
1900	167,999	.....	.....	.....	.....	.....	.....	.....	.....	167,999	2.84	2.84

1 No data.

In 1900, 2.8 per cent of the college-age group were enrolled in regular sessions of universities, colleges, and professional schools. In 1910, 3.7 were so enrolled; in 1920, 6.3 per cent; and in 1928, 11.8 per cent. The rate dropped off in 1918 at the time of the World War. Teachers college records were separated from other colleges and universities in 1920, and when all students in these institutions taking work of the college level are considered, the per cent of the college-age group taking college work has increased from 2.2 per cent in 1880 to approximately 18 per cent in 1928. At the present time, after deducting the number of those in graduate work and those in professional departments above the fourth year of college preparation approximately one person out of every six in the college-age group is training for culture or leadership in the arts and sciences, or for a career in law, medicine, dentistry, theology, teaching, engineering, business, or for opportunities in administration or in a managerial capacity, or in some other field in which a college training seems to be of prime importance. Some of these are training for improvement without having any particular occupation in mind, but many of those in the arts and sciences, and most of those in the professions have a more or less definite employment in mind upon graduation.

A survey of current literature reveals the fear which is expressed by careful students in the field of higher education that we may be training too many for employment, too many for the competition which exists for landing jobs, too many for the money value of education, and that we might well stress the civic values, the social values, and the cultural values of college training more extensively than we are now doing. However, these figures indicate that the educational level of our adults is being raised considerably. To-day less than 2.5 per cent of our adults are college graduates, and another 4.6 per cent have had some college training.

PER CENT OF HIGH-SCHOOL GRADUATES CONTINUING EDUCATION

The data contained in Table 4 indicate the rapid and continuous growth of both secondary schools and institutions for higher education. One wonders whether or not the colleges and universities are getting a constant share of high-school graduates year after year. Valuable material has been collected since 1918 which throws light upon this question. The number attending colleges and other institutions in 1918 and 1920, however, has to be matched with the number of high-school graduates for those same years. Beginning with 1922 the number of graduates is reported for the year from which the college entrants come. For example, the 1921 graduates continued their education in 1922 or later. Data from 1922 on do not indicate the number beginning further education later than the first year

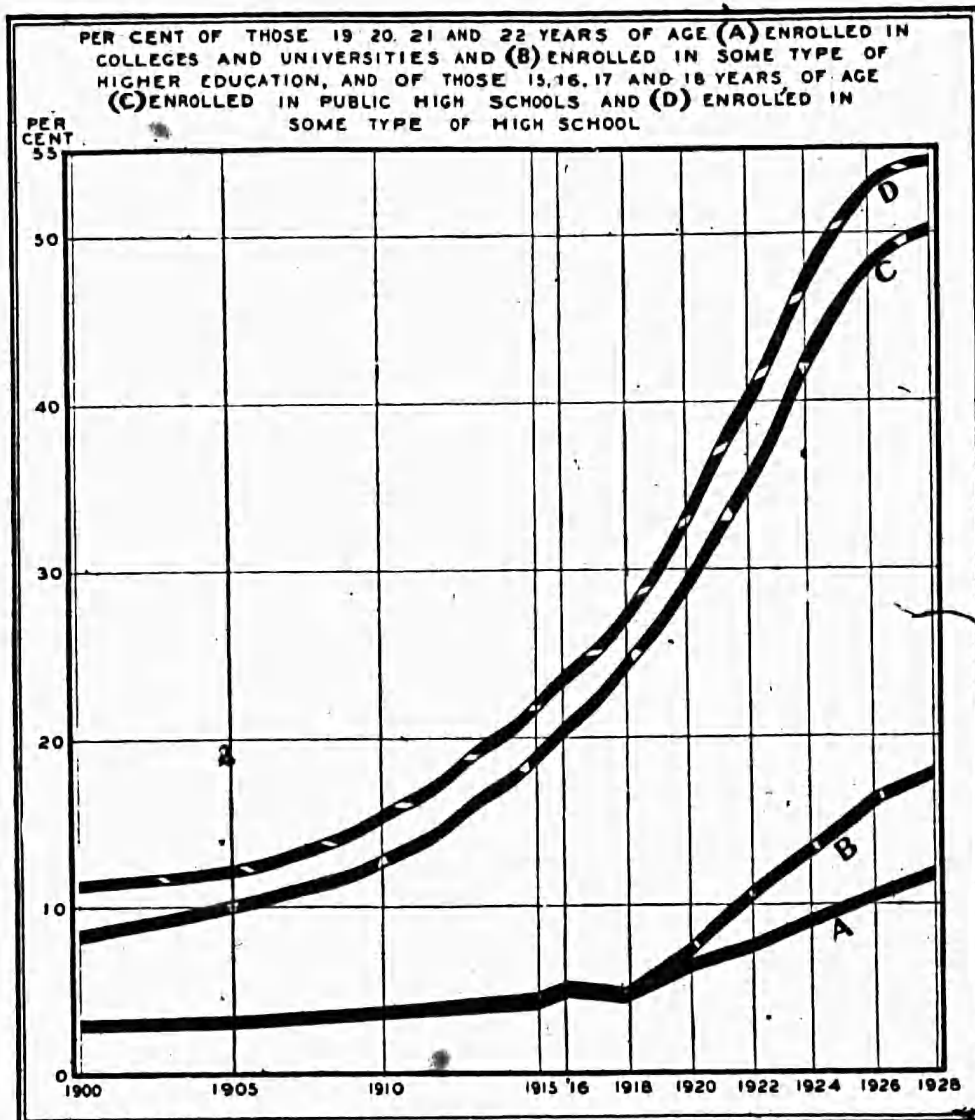
after graduation. The percentages given in the following table are therefore likely to be smaller than the actual figures, but it seems impossible to get a careful check upon the number beginning a college or other education later than the first year after graduation had passed. The data presented, therefore, show the per cent of each sex attending college or other institution during the first year after graduation from a public high school.

Year	Per cent attending college the next year		Per cent attending some other institution	
	Boys	Girls	Boys	Girls
1927.....	35.0	27.0	8.1	15.7
1925.....	37.4	27.8	9.0	17.9
1923.....	37.2	25.7	10.1	17.4
1921.....	39.8	22.5	9.2	15.5

These figures show that about 40 per cent of the boy graduates of public high schools went to college the year after graduation in 1921, and that the percentage decreased to 35 per cent of those graduating in 1927. It is difficult to make a statement of trends concerning girl graduates, because the number of women enrolled in colleges has been increasing of late years faster than the increase in the number of men enrolled. The increase in the rates from 22.5 per cent in 1921 to 27.8 in 1925 bears out this statement. The reduction from 27.8 per cent in 1925 to 27 in 1927 may or may not be significant.

The other institutions included in the above table are private commercial schools, teacher-training schools, and trade schools. The decrease in the percentage of boys attending these other institutions since 1923, and the decrease in the percentage of girls attending since 1925 seems to be supported by the falling off in the enrollments in commercial schools, and in the slower growth noted in teacher-training schools.

Data by sex are not available for private high schools, but in 1921, 44.6 per cent of the graduates went to college the next year. This rate decreased to 42.4 in 1925 and then increased to 44.2 in 1927. The percentage going to other institutions has remained about constant at 16.6 ever since 1921. From 100 public high-school graduates in 1921 and in 1927, 31 went to college the next year. From 100 private high-school graduates for these same years, 44 went to college the next year. The following graph shows the percentage increase of certain age groups in schools from 1900 to 1928.



SURVIVAL RATES IN PUBLIC SCHOOLS

A careful study of survival rates made by the office in 1918 shows that of every 1,000 pupils reaching the fifth grade at that time, 634 reached the eighth grade, 342 entered the high school, and 139 were graduated. Since that time the number enrolled in the early grades has decreased slightly, while the number in the upper grades has increased considerably. In 1918 the public high schools enrolled 1,933,821 pupils, and in 1926 they enrolled 3,911,279, or twice as many. The 1918 rates are, therefore, no longer applicable.

In making survival rates for 1928, it is observed that a larger number of children are enrolled in each of the first five elementary grades, allowing for duplicates, than there are 6-year-olds, or 7-year-olds. Without correcting for repeaters, or for those enrolled in private schools, it is assumed that practically all children attend school until after they enter the fifth grade.

Making allowance for duplication, it is now estimated that of an original 1,000 entering the public schools for the first time, 974 reach the sixth grade, 855 reach the seventh grade, and 768 reach the eighth grade. No data are available concerning the number of pupils who complete the work of the eighth grade.

Of the original 1,000, the number entering the first year of the high school is 610, while 438 reach the second year, 321 reach the third year, 268 reach the fourth year, and 260 are finally graduated from high school.

After making an adjustment for those communities that have but seven years of elementary school work instead of eight, the length of public-school life to-day is just a little beyond the completion of the first year of high school.

It is not possible to show survival rates by years beyond the high school at this time, but, excluding preparatory students, the colleges, universities, professional schools, and teachers colleges enrolled 338,759 students in 1918, and 1,325,675 in 1928. First and professional degrees were granted to 37,915 college students in 1918, and 111,161 in 1928, with 44,165 continuing with graduate work. Of the original 1,000 in 1918, the number entering college was 72, and the number graduated was 23. A conservative estimate for 1928 would indicate that 160 of the original 1,000 entered college and 50 were graduated. These data do not include 138,074 enrolled in normal schools in 1918, and 25,613 in 1926, nor those in private business schools, nor in other types of schools not mentioned above.

SUMMER SCHOOLS

The following tabulation is included to show the enrollments in summer sessions of colleges, universities, and teacher-training institutions from 1917 to and including 1927:

Session	1917	1919	1921	1923	1925	1927
Universities and colleges.....	54,624	94,838	148,063	189,843	209,454	230,570
Teacher-training schools.....	78,059	73,348	116,908	132,859	137,976	144,285
Total.....	132,683	168,186	267,971	322,802	347,430	383,855

These data indicate that enrollments in summer sessions of colleges and universities increased about 74 per cent between 1917 and 1919, 56 per cent in the next 2-year period, 28 in the next, 10 in the next, and 14.4 per cent between 1925 and 1927. In teacher-training institutions the summer session enrollments decreased between 1917 and 1919, then increased about 64 per cent from 1919 to 1921, 11 per cent during the next 2-year period, 4 per cent in the next, and 4.6 per cent between 1925 and 1927.

With one exception, these enrollments have increased with each 2-year period, but the high rate of increase noted up to 1921, has been replaced by a continuously slower rate of increase.

COST OF SCHOOL AND COLLEGE TEXTBOOKS FOR 1928

Sixty publishers of school and college textbooks report total net sales in the United States and in the Philippine Islands amounting to \$49,097,466 for the calendar year 1928. The list of publishers includes the State printer of books in California and all the larger publishing concerns, thus representing the bulk of the textbook business in this country. Practically all those reporting were able to divide the business according to books sold under each classification. For elementary school purposes, 39,406,677 books were sold for \$22,735,745 net; for high-school purposes, 18,683,290 books for \$16,288,422 net; and for college, university, professional school, and teacher-training institution purposes, 6,083,484 books for \$10,073,299 net. The total number of books sold during the year is 64,170,484.

The average net cost of an elementary textbook is, therefore, 57.7 cents; of a high-school textbook, 87.2 cents; and of a college textbook, 165.7 cents; making an average for all books sold of 76.5 cents. These figures represent the net cost, which does not include a dealer's profit. As books are sold generally at 20 to 25 per cent off list prices, it is necessary to add 30 per cent to the net cost to get the cost per book at retail.

It is not possible to state in exact terms the amount of net sales that went to public schools, but since 91 per cent of the total elementary and high-school enrollment is in public schools, 91 per cent of \$39,024,067 may be assumed to be the total net sales for books used in public schools. It is probably true that the private-school pupils buy more books proportionately than do the public-school pupils, because of fewer free textbook systems among the private schools, but this factor is offset partly, if not entirely, by the fact that the public schools have a higher proportion than do the private schools of their pupils in high schools where the cost per book is higher. In 1928 the private schools had 13 per cent of their pupils in high schools, while the public schools had 16 per cent of their pupils in high schools. Ninety-one per cent of \$39,024,067, or \$35,511,992, represents 1.63 per cent of the total expenditure for public-school education in 1927-28. Of this total public-school expenditure, \$2,184,847,200, the amount expended for free textbooks by boards of education in all States is \$23,256,151, or 65.5 per cent of the total net sales of books used in public schools. The greater part of this is for elementary texts. If the amount expended for free textbooks in public schools be subtracted from \$35,511,992, there remains \$12,255,841 as the amount of net sales of books bought,

by individuals, presumably through dealers. A 30 per cent profit would make \$15,932,593 the cost to the general public for new books for the year. No data were collected to show the volume of the secondhand book business, but as those books merely change ownership, the net expenditure by individuals for textbooks used in public schools is between 16 and 17 million dollars for the year.

In 1913, 43 publishing concerns reported net sales amounting to \$17,274,030, of which amount \$14,261,768 was for public-school use. This amounts to 78.3 cents for each child enrolled during that year, and to 2.73 per cent of the total expenditures for public-school education. The 1928 net sales amounted to \$1.351 per child enrolled during 1927-28. In 1913 boards of education in public schools spent for free textbooks an amount equivalent to 80.5 per cent of the total net sales for that year. Since 1913 the public-school enrollment has been multiplied by about one and one-third, the amount expended for free textbooks by two, the net sales of public-school textbooks by two and one-half, and the total expenditures for public schools by four.

VALUE OF SCHOOL PROPERTY

At the close of the school year 1927-28, state departments of education report a total value of property used for public-school purposes of \$5,486,938,599. Private high schools report a total valuation of \$635,848,000, which includes \$75,376,000 in endowment. Teacher-training institutions report a valuation of \$222,554,652, which includes endowments valued at \$22,171,374. The universities, colleges, and professional schools report property valued at \$2,413,748,981, which includes \$1,150,112,251 as value of endowments. If the private elementary school property is valued at \$400,000,000, the total value of property belonging to the types of schools mentioned above is about \$9,159,100,000, which includes endowments and productive funds amounting to \$1,247,660,000.

HIGH-SCHOOL ENROLLMENT BY SUBJECT

The data contained in Table 7 are discussed briefly for private high schools, and more extensively for public high schools in other sections of the biennial survey. This table combines the summaries for both types of schools. In the public high schools 2,896,630 pupils were taking 14,498,964 subject enrollments, counting every subject reported whether a year subject, or a semester subject, or some other activity. This amounts to five subjects per pupil for the year. In private high schools, counting everything reported, 248,015 pupils were registered for 1,364,000 subject enrollments, or 5.5 subjects for each pupil enrolled. These averages indicate that the reports upon subject enrollments are rather complete.

TABLE 7.—Students in certain studies in public and in private high schools combined, 1890-1928

Studies	1890		1895		1900		1905		1910 ¹		1915		1922		1928		
	Students	Per cent of total	Students	Per cent of total	Students	Per cent of total	Students	Per cent of total	Students	Per cent of total	Students	Per cent of total	Students	Per cent of total	Students	Per cent of total	
Total number students in schools reporting studies in—	297,894		468,446		630,048		789,909		817,653		1,291,187		2,335,623		3,144,645		
Latin.....	100,144	33.62	205,006	43.76	314,856	49.97	391,067	49.69	405,502	49.59	503,985	39.03	688,547	29.48	777,081	24.71	
French.....	28,032	9.41	45,746	9.77	65,684	10.43	89,777	11.40	95,671	11.70	136,131	10.54	391,481	16.76	480,120	15.27	
German.....	34,208	11.48	58,921	12.58	94,873	15.06	160,066	20.34	192,933	23.60	312,358	24.19	19,643	84	62,184	1.98	
Spanish.....									5,283	65	35,148	2.72	293,834	11.30	296,009	9.41	
Greek.....	12,869	4.32	22,159	4.73	24,969	3.95	17,138	2.18	10,739	1.31	19,671	1.52	7,978	34	8,165	26	
Algebra.....	127,397	42.77	245,465	52.40	347,013	55.08	444,092	56.43	466,375	56.92	636,016	49.26	949,161	40.64	1,133,860	36.06	
Geometry.....	69,781	20.07	114,813	24.51	168,518	26.75	219,083	27.84	252,404	30.87	346,064	26.80	537,687	23.00	641,603	20.40	
Trigonometry.....			15,243	3.25	15,268	2.42	17,256	2.19	17,864	2.18	22,478	1.74	38,809	1.66	45,631	1.45	
General mathematics.....			24,690	5.27	21,595	3.43	13,507	1.71	7,216	.88	5,707	.45	2,319	.10	2,045	5.07	
Astronomy.....			103,768	22.15	118,936	18.88	123,262	15.66	120,910	14.79	184,426	14.28	213,237	9.13	224,233	7.13	
Physics.....	63,644	21.36	103,768	22.15	118,936	18.88	123,262	15.66	120,910	14.79	184,426	14.28	213,237	9.13	224,233	7.13	
Chemistry.....	28,665	9.62	43,607	9.31	50,431	8.00	55,414	7.04	58,200	7.13	98,516	7.63	176,761	7.57	230,020	7.31	
Physical geography.....			106,124	22.44	144,135	22.88	165,631	21.05	156,500	19.14	189,229	14.66	104,707	4.49	81,807	2.60	
Zoology.....								64,428	7.88	41,893	3.24	35,458	1.52	24,184	.77	50,611	1.61
Botany.....								133,697	16.34	118,193	9.15	89,938	3.83	50,611	1.61	418,121	13.30
Biology.....			25,866	5.52	25,300	4.02	20,596	2.62	11,251	1.38	7,590	.59	4,142	.18	2,816	.09	
Geology.....			131,304	28.03	169,844	26.96	171,850	21.84	128,826	15.76	128,343	9.94	122,277	5.24	85,276	2.71	
Physiology.....													412,859	6.12	237,760	7.56	
Hygiene and sanitation.....													413,466	17.70	532,314	16.93	
General science.....			15,677	3.35	20,126	3.19	14,540	1.84	11,004	1.35	18,521	1.43	21,689	.93	32,455	1.03	
Psychology.....													22,953	.88	12,023	.38	
Principles of teaching.....													1,857,316	79.52	2,930,153	93.18	
Rhetoric.....			146,672	31.31	237,502	37.70	372,295	47.30	462,711	56.59	718,075	55.61	1,857,316	79.52	2,930,153	93.18	
English literature.....													21,689	.88	12,023	.38	
American history.....													338,057	13.57	539,517	17.79	
English history.....													74,756	3.20	34,811	1.11	
World history.....													413,014	17.68	182,611	5.81	
Ancient history.....													361,641	15.48	389,139	11.74	
Medieval and modern history.....													444,306	19.02	412,418	13.11	
Civil government.....													52,853	2.26	80,375	2.56	
Civics, community.....													107,642	4.61	153,838	4.90	
Sociology.....															31,964	1.02	
Economics.....																	
Problems of democracy.....																	

¹ Beginning with 1910, percentages are computed upon basis of number of pupils in the schools reporting by subject; previous to that time upon total number of pupils in all high schools reporting.

TABLE 7.—Students in certain studies in public and in private high schools combined, 1890-1928—Continued

Studies	1890		1895		1900		1905		1910		1915		1922		1928	
	Students	Per cent of total	Students	Per cent of total	Students	Per cent of total	Students	Per cent of total	Students	Per cent of total	Students	Per cent of total	Students	Per cent of total	Students	Per cent of total
Students in—Continued.																
Agriculture.....									37,203	4.55					108,713	3.46
Home economics.....									33,866	4.14					449,835	14.30
Manual training and vocations.....															263,669	8.38
Drawing and art.....															359,444	11.43
Mechanical drawing.....															206,561	6.37
Music (vocal).....															671,567	21.36
Arithmetic.....															75,835	2.41
Bookkeeping.....															328,205	10.44
Shorthand.....															273,566	8.70
Typewriting.....															470,949	14.98
Commercial arithmetic.....															211,194	6.72
Commercial law.....															83,572	2.66
Commercial geography.....															144,325	4.60
Commercial history.....															5,322	.17
Penmanship.....															22,172	.71

CHAPTER XX

STATISTICS OF STATE SCHOOL SYSTEMS, 1927-28

Data collected from State departments of education in the various States concerning public elementary and high schools for the year 1927-28 show increases in many of the principal items over those collected from the same source for 1925-26. A few show decreases. The information collected shows a tendency for elementary-school enrollments, high-school enrollments, number of teachers employed, total expenditures, and per-pupil cost, to increase less rapidly than they have in the past, and to approach a point whereby any increases will become insignificant in comparison with those we have experienced since 1916.

Many of the derived figures in this report must of necessity be based upon population data. Census counts are made by the Federal Government on years ending in 0, and are supplemented by certain State census counts taken on years ending in 5. Data for single-age groups are taken by the Federal census only. Figures for postcensal years can be computed from 1910 and 1920 reports. The school census, number of children of ages 5 to 17, inclusive, therefore, is accurate only at the time the count is made, and is reasonably accurate in other years for the country as a whole, and for States having little migration. A falling birth rate tends to make the trended figures a little too high. In States having a heavy migration the data are probably too low. The data for California and for Florida in Table 3, column 3, are examples where the general practice fails to give accurate results. No adjustment of the figures can well be made until after the 1930 census figures have been reported.

SCHOOL ENROLLMENTS

Enrollments in elementary schools, including elementary grades in junior high schools, increased in number 284,415 from 1926 to 1928. This is larger than the increase between 1924 and 1926. This difference is more than accounted for by the increase in the first-grade enrollment between 1926 and 1928. The enrollment in the elementary grade increased 85,072 between 1924 and 1926. The first-grade enrollment increased 194,287 between 1926 and 1928. Compared with biennial increases previous to 1924, the 1926 to 1928 increase for elementary grades is rather small. Between 1922 and 1924 the elementary-grade enrollment increased 532,712, and between 1920

and 1922, 988,291. The factors involved in bringing about this reduction in the biennial increase in enrollment will be discussed later.

High-school enrollments, including secondary grades in junior high schools, increased 153,813 from 1926 to 1928. This increase is smaller

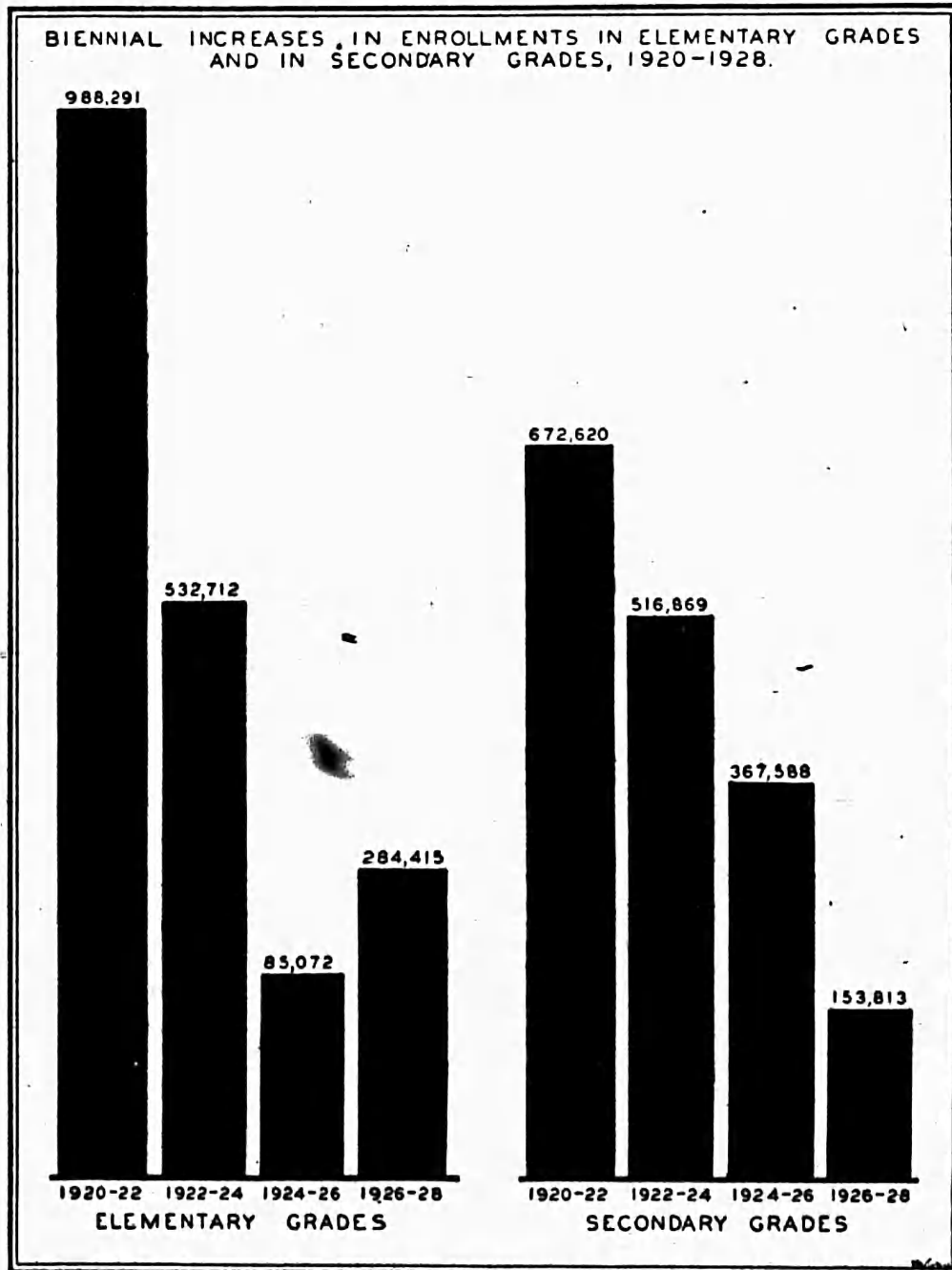


FIG 1

than biennial increases for previous periods. The increase between 1924 and 1926 was 367,588; between 1922 and 1924, 516,869; and between 1920 and 1922, 672,620.

The number of pupils in average daily attendance in public schools increased from 19,855,881 in 1926 to 20,608,353, an increase of 752,472

for the 2-year period. This item has increased at the rate of a little over 700,000 for each biennium since 1922. Better attendance rates have more than balanced the reduction in enrollment increases.

ATTENDANCE

In 1928 schools were in session an average of 171.5 days. The corresponding figure for 1926 is 169.3 days; for 1922, 164 days; and for 1920, 161.9 days. Every pupil enrolled attended an average of 140.4 days in 1928 as compared with 136.5 days in 1920. The per cent of attendance increased from 80.5 in 1920 to 81.8 in 1928.

TEACHERS

The number of teachers employed increased from 814,169 to 831,934 from 1926 to 1928, an increase of 17,765 during the two years. Increases for this item for the three previous biennial periods are: 42,761; 38,332; and 43,443.

The average annual salary of teachers, including supervisors and principals, increased from \$1,277 in 1926 to \$1,364 in 1928, which is the greatest biennial increase in this item since 1920-1922. Since 1922 the average annual increase in this salary has been about \$33.

EXPENDITURES

The total amount expended for public-school education for 1927-28 was \$2,184,336,638, an increase of \$158,000,000 over the expenditure for 1925-26. The increase in cost between 1924 and 1926 was \$205,500,000; between 1922 and 1924, \$240,000,000; and between 1920 and 1922, \$544,500,000. The 1928 expenditure, which includes both current expenditures as well as cost of capital outlays, is more than twice the cost which was for 1919-20, \$1,036,151,209. The total expenditure for 1928 amounts to \$105.99 for each child in average daily attendance, an increase of \$3.94 over the cost for 1926. The increase in per capita cost from 1924 to 1926 was \$6.78; from 1922 to 1924, \$9.41; and from 1920 to 1922, \$21.60.

Expenditures for capital outlays, which increased from \$153,542,852 in 1920 to \$433,584,559 in 1925, have been decreasing since that time. The 1926 expenditure for grounds, buildings, and contents is \$411,037,774, and for 1928 it is \$382,996,156. These reductions in recent years indicate that building programs are being completed, and that a large part of the congestion reported a few years ago is being taken care of. This reduction in the amount expended for construction work aids materially in slowing up the increase in total costs.

SCHOOL BUILDINGS

School buildings have decreased in numbers for the past 15 years. The States reported 271,319 public-school buildings in use in 1920, 270,574 in 1922, 263,280 in 1924, 258,859 in 1925, 256,104 in 1926, and 254,726 in 1928. This reduction of 16,593 school buildings can be explained by the fact that the number of new buildings, most of which contain more than one room, has not increased as rapidly as the number of 1-room buildings has decreased. One-room school buildings decreased in number from 189,227 in 1920 to 153,306 in

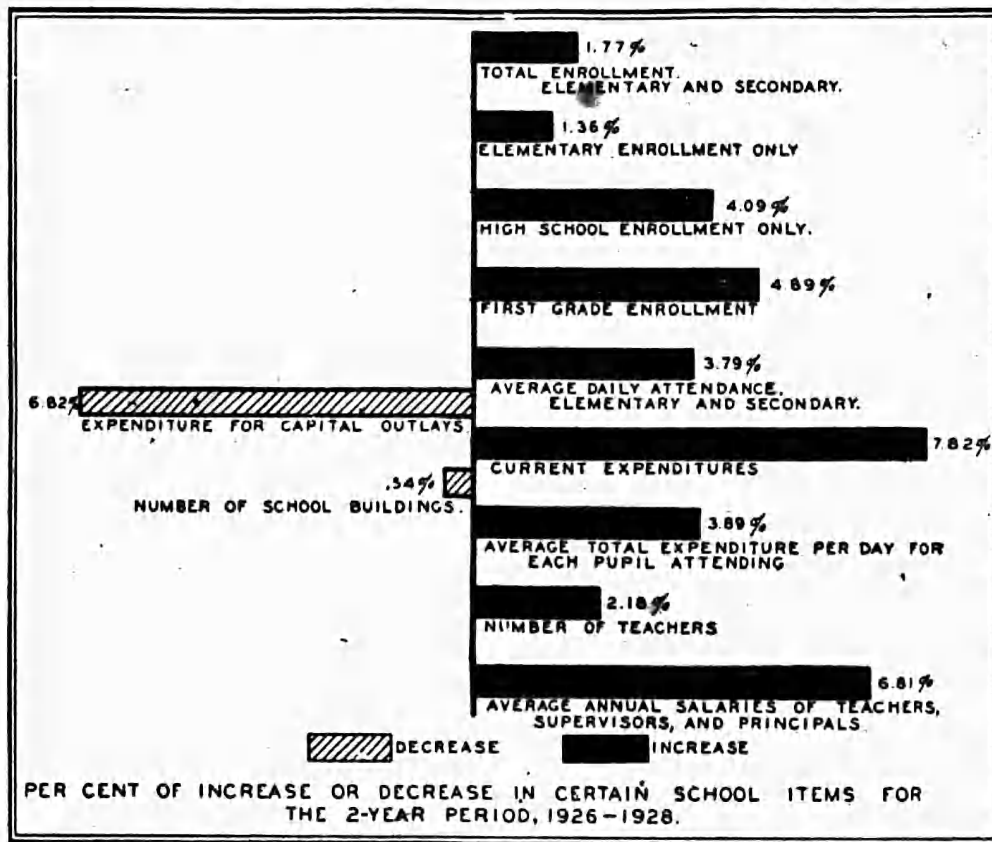


FIG. 2.

1928. These small schools have been replaced by larger consolidated or union schools. The consolidated schools numbered 9,752 in 1920, and 16,050 in 1928. Approximately 6,300 consolidated schools did away with thirty-six thousand 1-room schools, which indicates that a single consolidated school replaced more than five 1-room schools.

Table 2 is designed to show enrollments in public schools by grades for a full 12-year period, 1917 to 1928, inclusive, and the percentage distribution by grades for this same period. Data for even-numbered years and for 1925 were furnished by State departments of education, and those for other years are interpolations of data from the year preceding and from the year following the year indicated.

It will be observed that the kindergarten enrollment shows an increase for each year over the previous year for the entire period. Although material is not given in this table for years previous to 1917, the first-grade enrollment reached its maximum in 1918, then decreased almost continuously until 1926, and then increased in 1928. Second-grade enrollments reached their maximum in 1922, third and fourth grades in 1924, and fifth grade in 1925. The upper-grade enrollments have increased almost continuously from year to year during the entire period, the greater rate of increase being in the high-school years.

Certain difficulties confront us when we attempt to point out the significance of these changes. The first, and perhaps the most difficult, is the relation of grade enrollments to the number of children in single-age groups that are considered to be normal for each grade. For example, in 1920, a census count shows 2,338,315 children of age 6. Every grade below the fifth for that year exceeds this number. Moreover, about 91 per cent of the elementary and high-school enrollment of this country are in the public schools. If 91 per cent of the number of 6-year-old children be taken as the number that might possibly enter the public schools for the first time in 1920, it can be shown that this number is about one-half of the number reported as enrolled in the first grade in public schools for that year. During this year 4,320,823 children were reported as enrolled in the first grade of the public schools, while 91 per cent of 2,338,315 is 2,127,867. It is possible that more than 9 per cent of the children who enter school for the first time go to a private or a parochial school. For the high-school years the percentage is considerably smaller than the average for the whole group.

Some reasons for this large first-grade enrollment as compared with the number of 6-year-old children need to be pointed out. Those children who enroll for the first time at the beginning of a second semester in any school year, are reported in the first grade for two consecutive years, even if they make normal progress. The large number of repeaters contributes its share to first-grade enrollments. Children move from school to school and from place to place and duplications exist however carefully records may be kept. Legal and other reasons exist in some localities for high enrollments. If, however, these factors may be considered to be more or less constant year after year, trends in enrollments need not be ignored. Those who are held responsible for providing space and funds for educational purposes must have some basis for making provisions for future needs.

Other difficulties arise from lack of uniformity in the methods of keeping records in the various communities, and of making reports.

Uniformity of definition and of collecting data is essential in any statistical presentation of facts.

Total enrollments may be held constant by computing a percentage distribution by grades for each year. These data, given in Table 2, show significant changes in the grade distribution of pupils over a 12-year period. In 1917, 57.1 per cent of the pupils in public schools were in the first four grades. In 1928, 48.8 per cent were in these first four grades. Twelve years ago, 8.7 per cent of the pupils were enrolled in the last four grades, or in the regular high-school years. In 1928, 15.5 per cent were in the last four grades. This shift of pupils from the lower grades toward the upper grades indicates a tendency to lengthen the period of public-school life, and gives some reasons for the increasing cost of educating a pupil in recent years. High-school education is always more expensive than elementary education.

Kindergarten enrollments increased from 2.1 per cent of the total in 1917 to 2.8 per cent in 1928. The first-grade enrollment decreased from 20.7 per cent of the total in 1918 to 16.1 per cent in 1926, and then increased to 16.6 per cent in 1928. The second-grade enrollment decreased from 12.6 per cent of the total in 1917 to 11.2 per cent in 1928; the third-grade from 12.2 to 10.6; the fourth from 11.8 to 10.5; and the fifth from 10.2 to 9.7 per cent of the total during the same period.

The last year of the high school enrolled 1.2 per cent of the total enrollment in public schools in 1917, and 2.5 per cent in 1928; the eleventh grade increased from 1.6 per cent to 3.1; the tenth from 2.3 to 4.2; the ninth from 3.6 to 5.9; the eighth from 5.9 to 6.3; the seventh from 7.2 to 8.0; and the sixth shows little change, but increased from 8.8 per cent to 8.9 per cent of the total during the 12-year period.

The reduction in the number enrolled, as well as in the percentage enrolled in the early grades may be accounted for partly by the reduction in the birth rate, partly by better systems of promotion, and partly by better records. The birth rate has been declining for a number of years. Data for the registration area begin with 1915, but data for Massachusetts may be used previous to that time. In 1915 the birth rate for the registration area was 25.1 per thousand of the population within that area. The rate for Massachusetts for that year was 25.2, and for 1913 and for 1914, as well, it was 25.6. By using Massachusetts data for 1913, and 1914, we have data showing birth rates by years from 1913 to the present time. The rate for 1928 is 19.7, and while returns are incomplete for 1929 it is perhaps under 19 per thousand.

Since children born in 1920 would not ordinarily enter school until 1926, or during the school year 1926-27, it is necessary to use a 7-year

lag in comparing birth rates with either the number entering school, or the percentage of pupils in the first grade. The lag is really 6.5 years since the birth rate is for a calendar year, while the school year ends about the middle of a calendar year. Birth rates for 1913 may then be compared with first-grade enrollments for 1920, and 1921 birth rates with school data for 1928. When comparisons are made in this way, the first-grade enrollment appears to be rather sensitive to changes in the birth rate.

The birth rate declined from 25.6 in 1913 to 24.6 in 1918, and then suddenly dropped to 22.3 in 1919, due perhaps partly to the effect of the activities of the war period, and to the influenza which reached its peak of epidemicity in November 1918. The first-grade enrollment in 1926 dropped below 4,000,000, the first time this had happened since 1913. The birth rate then increased to 23.7 in 1920, and to 24.3 in 1921. Likewise the first-grade enrollment increased to 4,171,037 in 1928. There is little evidence that the first-grade enrollment for 1927 showed any increase, since the second-grade enrollment in 1928 is still below the second-grade enrollment in 1926. Data for 1927 in Table 2 are interpolations made from 1926 and 1928 data.

In 1922 the birth rate dropped to 22.5 and has gradually become smaller each year since almost without exception, reaching 19.7 in 1928. It is safe to predict a continuing decrease in the first-grade enrollment as far ahead as 1935. Figure 3 shows the birth rate with a 7-year lag, and the percentage of enrollments in grades 1, 2, 5, 9, and 12 from 1920 to 1928.

A better indication of the relation of the birth rate to first-grade enrollments can be obtained by reducing both to index numbers. This is done by taking the average of the annual enrollments from 1920 to 1928 as a base, and an average of the birth rates from 1913 to 1921 as a base, and then computing the index numbers for the 9-year period upon these bases. This method maintains the 7-year lag. Enrollments decreased from an index of 104 in 1920 to 95.7 in 1926 and then increased to 100.4 in 1928. The corresponding indices for birth rate are 105.3, 91.7, and 99.9. Figure 4 shows these index numbers for the period indicated.

Other factors, however constant they may be, prevent these curves from being identical in behavior. Some of them, enrollment for two consecutive years, repeating, and duplication, have already been mentioned. It is not possible with the information at hand to evaluate any of the other factors. With respect to the birth rate, it has declined so rapidly during the past 15 years that it is doubtful if the number of 5-year-old children, or the number of 6-year-old children is increasing materially from year to year.

This falling off in the enrollment in the early grades has been noticed, even in growing cities, for several years. Chicago, for

example, which is growing at the rate of 56,000 per year, had a healthy increase in the total enrollment in the first six grades to and including

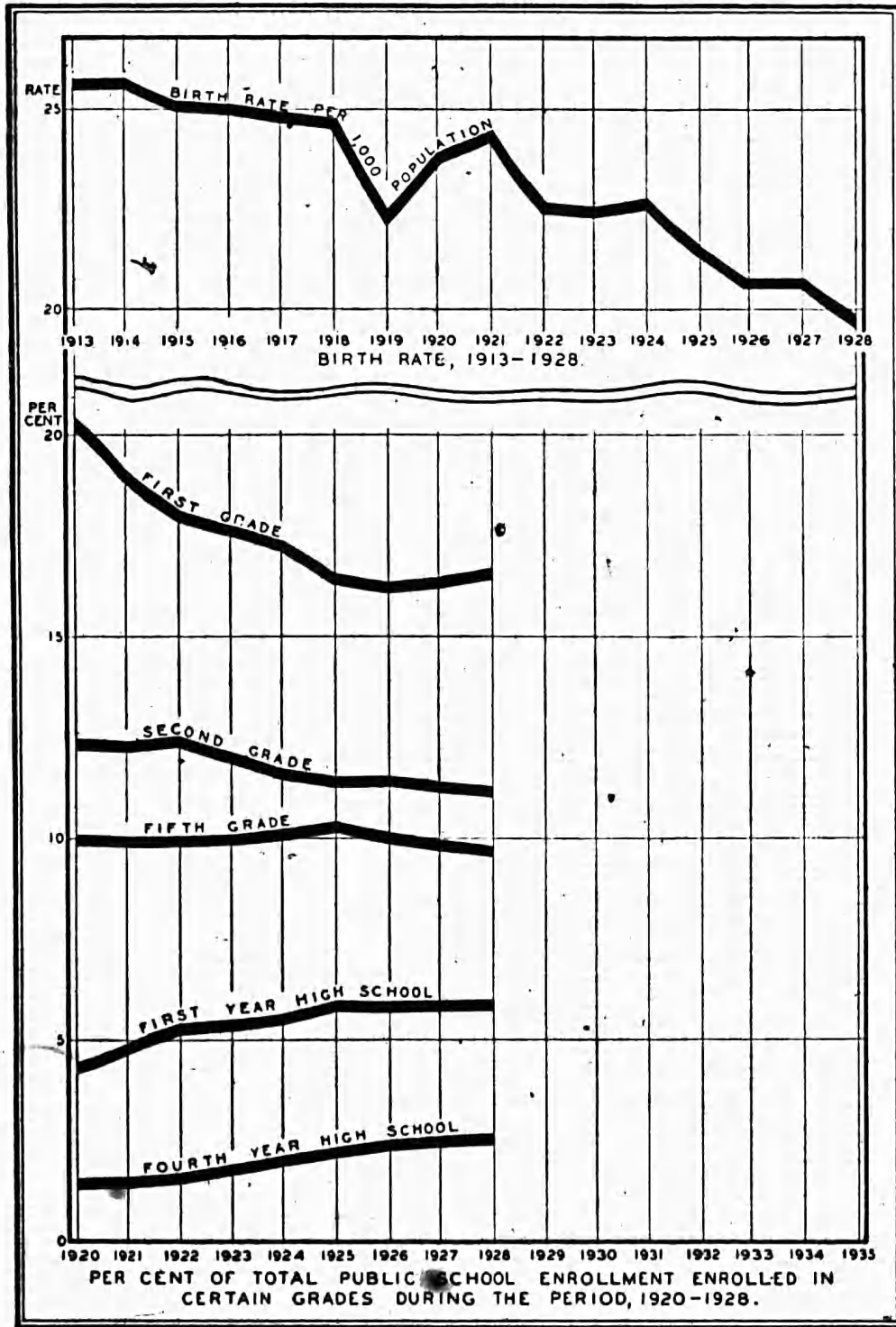


FIG 3

1924. Since that time these enrollments have been falling off. In 1924 Chicago reported 260,872 children as members of the first six grades in regular day schools at the end of September. The cor-

responding figure for 1929 is 254,666. During a greater part of this same period the parochial schools report a reduction in enrollment.

It is difficult to evaluate the effect of immigration upon school enrollments, but it is almost negligible. In 1928 the excess of immigration over emigration amounted to 261,809, of which number

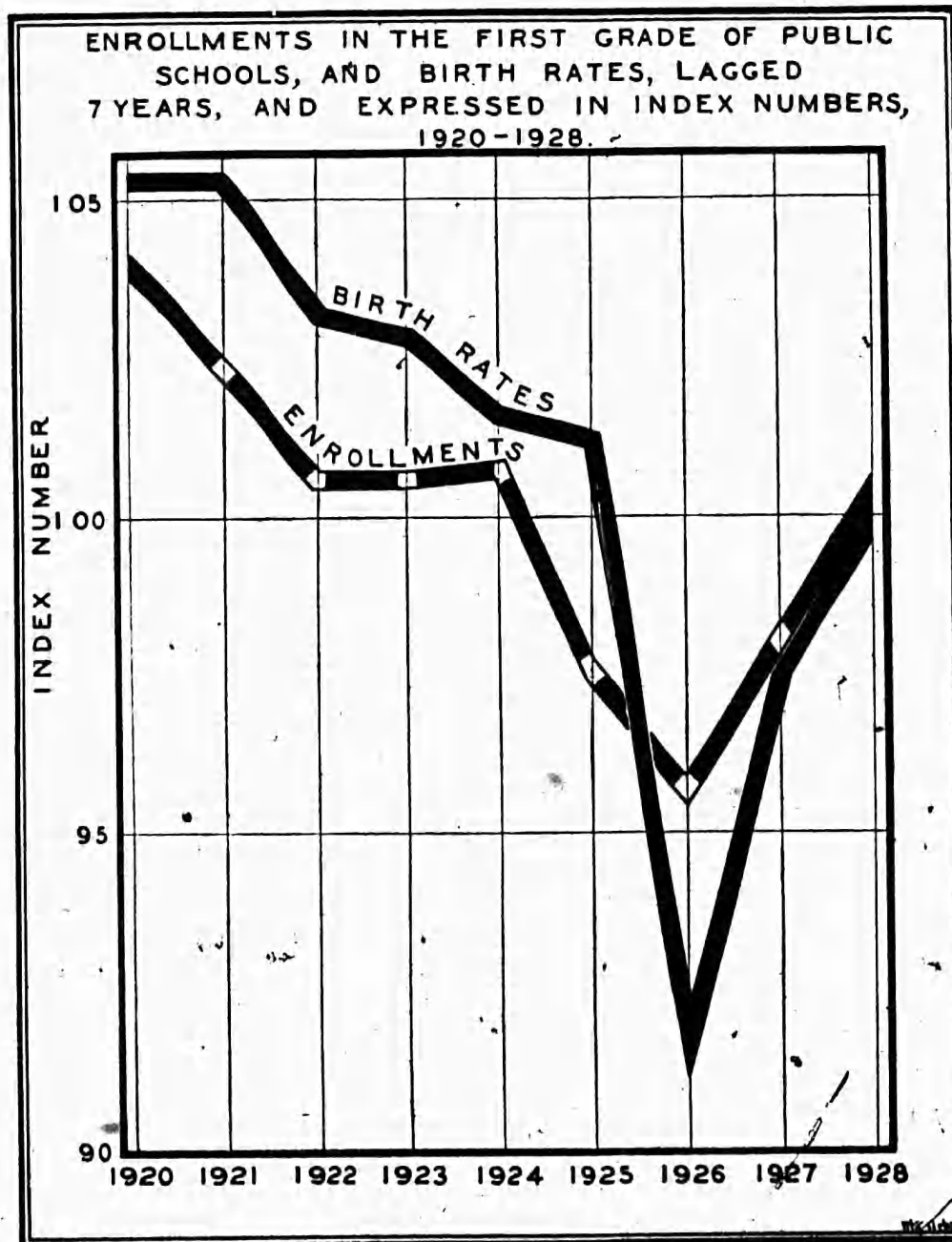


FIG 4.

48,703, or 18.6 per cent, were under 16. In 1924, a high year for immigration, the excess was 630,107, of which number 128,547, or 20.4 per cent, were under 16. The percentage of the excess under 16 years of age was 25.5 for the 5-year period from 1920 to 1924, and 28.2 for the previous 5-year period. It is not possible to tell how

many of these attend school after arrival, nor how many of them are in the 6-year-old group. In 1920, the census enumeration showed 26,466 foreign-born whites of age 6. This number is 0.2 per cent of the total number of foreign born in the United States in 1920, and 1.1 per cent of the total number of 6-year-olds enumerated for that year. In the general population, the percentage belonging to the 6-year-old group was 2.2 per cent in 1920. It is probable that the reduction in immigration accounts for less than one-half of 1 per cent of the loss recorded in the early grades in recent years.

DATA FOR REORGANIZED SCHOOLS

A few States find it difficult to make reports excepting upon the basis of reorganization into junior and senior systems. Many States find it difficult to report upon this basis. Data are tabulated, therefore, upon both bases at this time, and the hope is expressed that all States may set up machinery for collecting data which will show the extent of reorganization within their own systems. Individual schools find no difficulty in making adequate reports, and many city systems already furnish the Office of Education with reports based upon reorganization. As long as the districts are equipped to furnish enrollments, attendance, number of teachers, and costs for junior systems, junior-senior systems, and senior systems, the State already has a start in making such reports.

No analysis of the data presented is possible, because of paucity of data, and no trends can be shown until the data cover a period of time.

LENGTH OF CURRICULUM

As late as 1922 eight States reported all their pupils in the 7-4 plan, that is, no elementary pupils in the eighth grade. Since that time Alabama has organized upon the 6-3-3 plan, and Baltimore and three counties in Maryland have adopted the 12-year basis. Several cities in Georgia, Louisiana, North Carolina, and Virginia now have 12 years of elementary and secondary school work. Only South Carolina and Texas report no elementary school pupils in 1928 beyond the seventh year of work.

NIGHT SCHOOLS

More or less complete reports were received from 31 States concerning their night-school activities. Reports from 27 States show enrollments amounting to 833,054, and 27 which are not identical with those reporting enrollments, report expenditures amounting to \$5,821,497 for the year.

Thirteen States reported both enrollments and cost for 1926 and for 1928 as well. These States show an enrollment in night schools

in 1926 of 238,217 with a total cost of \$2,406,319. These same States in 1928 had 252,528 enrolled in night schools at a cost of \$2,733,207. The cost per pupil was, therefore, \$101.01 in 1926 and \$108.23 in 1928. Information regarding individual States is given in Table 12.

VALUE OF SCHOOL PROPERTY

The value of all property used for public-school purposes increased from \$4,676,603,539 in 1926 to \$5,486,938,599 in 1928, or from an average value per pupil enrolled of \$189 to \$218. The range among the States in value per child is from \$46 in Tennessee to \$386 in California. Sites and buildings comprise about 90.8 per cent of the total value, while libraries, equipment, and other contents of buildings comprise 9.2 per cent of the total value. Further detail is given in Table 15.

PERMANENT SCHOOL FUNDS AND SCHOOL LANDS

In 1928 all of the States report some permanent school funds with the exception of Maryland and Georgia. Maryland reported \$403,874 in 1926, but has since sold its investments and distributed the funds for school buildings. The total amount reported for all States for 1928 is \$483,496,583. Minnesota leads with \$56,351,932; Texas follows with \$47,934,185; then Illinois with \$47,609,152 and Missouri with \$34,374,599.

New Mexico reports 8,689,796 acres of unsold school lands; Arizona reports 7,577,230; and Montana, 4,250,482. Minnesota reports school lands valued at \$81,900,000; Montana, \$42,504,824; Colorado, \$41,030,310; Illinois, \$39,556,622; Wyoming, \$34,685,160; New Mexico, \$33,259,531; and South Dakota, \$30,000,000. The total number of acres of unsold school lands in all the various States reporting is 43,617,572, and the value, \$433,646,936. Details for each State reporting are given in Table 16.

SCHOOL INDEBTEDNESS

Thirty-six States report a total indebtedness of \$2,158,148,666, and 39 States report interest paid on school indebtedness during the year of \$92,024,739. If the school debt can be assumed to be the average amount owed during the year, and the interest paid as representing the interest upon this average amount, data from States reporting both items indicate that an average of a little over 5.5 per cent interest was paid upon the school debt. Table 17 gives data concerning debts, sinking funds, bonds, and interest, as reported by the States.

FINANCIAL SUPPORT

A study of Table 19 and the other tables from which these percentages were derived shows a variety of methods of distributing the responsibility of taxation and appropriations for meeting school costs in the different States. In Delaware 86.6 per cent of the total taxes and appropriations are collected and distributed by the State. In New Mexico 69.6 per cent comes from the county; in Nevada, 68.7 per cent; in North Carolina, 61.8; in Virginia, 58; in Tennessee, 56.8; and in Louisiana, 53 per cent. South Dakota leads in local support with 99.7 per cent of the total; Kansas comes next with 99.3 per cent; then Nebraska with 97.7; Connecticut with 97.5; Iowa, 95.8; North Dakota, 93.8; Illinois, 93.4; Indiana, 92.8; Washington, 92.3; Missouri, 91.4; and Massachusetts with 90.1 per cent of the total taxation and appropriation furnished by local sources.

In 1895 the State furnished 19.6 per cent of the public-school revenue. The portion furnished by the State decreased to 13.8 per cent in 1920, and since that time has increased to 15.2 per cent in 1928.

DISTRIBUTION OF EXPENDITURES

Reference to Table 27 shows considerable range in the proportion of total costs going to the different fundamental accounts. Lack of uniform definitions, however, renders a careful analysis impracticable. There is nothing to show, for example, whether Arizona, where general control is 7.5 per cent of the total costs, includes the same items of expenditure as are included in Michigan, where general control is 1.1 per cent of the total cost.

Expenditures for general control seem to be above the average for the United States in Arizona, South Dakota, Texas, Minnesota, Montana, New Hampshire, Arkansas, Florida, Wyoming, Nebraska, Iowa, New Mexico, and in a number of other States, and considerably below the average in Michigan, the District of Columbia, Kansas, Missouri, and in a few other States. For the United States, general control includes 4.3 per cent of the current expenditures, and 3.5 per cent of the total expenditures.

Instruction costs represent 67.9 per cent of the current costs, and 55.9 per cent of all expenditures. Teachers' salaries represent 53.4 per cent of the total cost, with a range of 34.1 per cent in Florida to 69 per cent in Georgia. Large expenditures for outlays in Florida are partly responsible for a small percentage going for salaries. There is considerable lack of uniformity in the various States concerning the definition of a teacher. Some States include librarians with teachers, and some include stenographers and clerical employees. Legal restrictions concerning certification render uniformity difficult to attain.

PER CAPITA COSTS

Per capita cost data for each State, as given in Table 28, show considerable range. The average cost for current expenditures per pupil in average daily attendance for the United States is \$87.22, ranging from \$34.35 in Arkansas to \$144.56 in Wyoming. Compaction of population is certainly a factor in unit costs. Sparsely settled communities may expect to pay more per pupil for a given educational program than do those communities where density of population is more pronounced. Of those States having a per capita cost of more than \$100 for current expenses for each pupil in average daily attendance, Arizona, California, Colorado, Kansas, Montana, Nevada, North Dakota, Oregon, South Dakota, Washington, and Wyoming each had fewer than 30 persons per square mile in the last census. These States must pay for transportation of pupils, or assign a smaller number of pupils to a teacher than is assigned elsewhere.

The amount of expenditure per pupil for capital outlays depends upon whether or not a community is growing, or changing its administrative units, as for example, organizing junior and senior schools; or conducting a building campaign. California, New Jersey, New York, Rhode Island, and Michigan expended more than \$30 per pupil in average daily attendance during the school year ending in June, 1928. The smallest expenditure per pupil for grounds, buildings, and contents, \$2.77 for the year, was in Georgia.

III.—*Derivative statistics* *

Per cent school population is of total population.....	31.3	30.1	29.6	26.3	26.4	26.2	25.7	25.7
Per cent of total population enrolled.....	17.82	19.67	20.32	19.03	19.56	20.4	21.4	21.0
Per cent of children 5-17 years of age (inclusive) enrolled.....	57	65.50	68.61	74.37	73.49	77.8	83	81.5
Per cent of pupils in high school.....	1.2	1.1	1.6	4.1	5.1	10.2	14.4	15.5
Per cent of children enrolled attending each day.....	59.3	62.3	64.1	69.7	72.1	74.8	80.5	81.8
Average number of days the schools were in session.....	132.2	130.3	134.7	150.9	157.5	161.9	169.6	171.5
Average number of days attended by each pupil enrolled.....	78.4	81.1	86.3	105.2	113	121.2	136.5	140.4
Average number of days attended by each child 6-17 years of age (inclusive).....	44.7	53.1	59.2	74	83	94.3	113.2	114.5
Per cent of men teachers.....	38.7	42.8	34.5	24	21.1	14.1	16.9	16.6
Average annual salaries of all teachers.....	\$180	\$195	\$252	\$386	\$485	\$871	\$1,232	\$1,364
Per cent of revenue derived from—								
Permanent funds and lands.....			5.4	4.4	3.2	2.7	1.4	1.3
State taxes.....			18.4	14.7	14.9	13.8	14.1	15.2
County and local taxes.....			67.9	68	72.1	78.2	78.8	79.0
All other sources.....			8.3	11.3	9.8	5.3	5.7	4.5
Per cent of expenditures devoted to—								
Sites, buildings, etc.....			18.6	19.3	16.4	14.8	22.3	17.5
Salaries.....	59.7	71.6	65.4	60.9	59.6	59.2	51.7	55.3
All other purposes.....			16	19.8	24	26	26	27.2
Total expenditure per capita of population.....	\$1.64	\$1.56	\$2.24	\$3.53	\$4.64	\$9.80	\$16.87	\$18.20
Total expenditure per pupil in average attendance.....	\$15.55	\$12.71	\$17.23	\$25.40	\$33.23	\$64.16	\$98.10	\$105.90
Average total expenditure per day for each pupil attending (cents).....	11.8	9.7	12.8	16.8	21.1	39.6	57.9	61.8

* United States census reports or estimates thereon.

* For 1871.

* From reports of public high schools.

* Includes 231 part-time teachers in Massachusetts.

* Several States not included in this average.

* Computed from number of teaching positions

* Computed from number of teaching positions plus 6,883 supervisors and 13,638 principals.

* Computed from number of teaching positions plus 7,809 supervisors and 24,734 principals.

* Computed from number of teaching positions plus 6,629 supervisors and 25,848 principals.

TABLE 2.—Distribution of pupils by grades, in public schools only, partly estimated

Pupils	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928
Total enrollment.....	20,602,602	20,833,516	21,515,916	21,578,316	22,408,773	23,239,227	23,764,017	24,288,808	24,650,201	24,741,468	24,960,582	25,179,696
In elementary schools.....	18,807,770	18,919,695	19,148,811	19,377,927	19,872,124	20,366,218	20,632,024	20,808,930	20,968,988	20,984,062	21,126,210	21,268,417
In high schools.....	1,794,832	1,933,821	2,007,105	2,200,389	2,536,649	2,873,009	3,131,993	3,489,878	3,681,213	3,757,406	3,834,372	3,911,279
Per cent in each grade:												
Kindergarten.....	2.11	2.08	2.16	2.23	2.26	2.28	2.40	2.51	2.43	2.72	2.74	2.76
First.....	20.51	20.74	20.37	20.03	18.97	17.98	17.60	17.23	16.42	16.07	16.32	16.57
Second.....	12.62	12.51	12.36	12.22	12.24	12.26	11.92	11.58	11.40	11.43	11.29	11.19
Third.....	12.15	12.10	11.84	11.57	11.63	11.69	11.60	11.51	11.08	11.03	10.80	10.57
Fourth.....	11.77	11.70	11.78	11.85	11.42	11.01	11.08	11.15	10.94	10.76	10.61	10.45
Fifth.....	10.22	10.20	10.09	9.98	9.91	9.85	9.95	10.05	10.20	10.00	9.83	9.67
Sixth.....	8.80	8.82	8.79	8.76	8.81	8.86	8.79	8.73	8.87	9.03	8.97	8.91
Seventh.....	7.19	7.11	7.24	7.38	7.44	7.50	7.55	7.60	7.85	7.79	7.91	8.03
Eighth.....	5.92	5.47	5.63	5.78	6.01	6.21	6.46	6.68	6.06	6.01	6.17	6.32
First year high school.....	3.61	3.91	4.08	4.25	4.75	5.22	5.35	5.47	5.78	5.70	5.81	5.86
Second year high school.....	2.31	2.43	2.55	2.67	3.03	3.36	3.58	3.79	3.94	4.06	4.11	4.15
Third year high school.....	1.57	1.64	1.74	1.84	2.03	2.22	2.45	2.68	2.90	2.98	3.01	3.05
Fourth year high school.....	1.22	1.20	1.37	1.44	1.50	1.56	1.79	2.02	2.19	2.39	2.43	2.47
Number in each grade:												
Kindergarten.....	433,700	433,377	457,322	481,266	505,252	529,235	569,447	606,659	640,684	673,231	684,360	695,490
First.....	4,234,907	4,323,170	4,321,936	4,320,823	4,248,745	4,176,667	4,180,450	4,184,232	4,048,868	3,976,750	4,073,894	4,171,037
Second.....	2,600,418	2,607,727	2,622,775	2,637,822	2,743,417	2,840,013	2,831,210	2,813,409	2,799,520	2,819,896	2,818,218	2,816,540
Third.....	2,503,813	2,524,215	2,510,915	2,497,615	2,696,922	2,716,229	2,755,947	2,795,065	2,730,383	2,729,232	2,695,015	2,631,977
Fourth.....	2,425,708	2,440,871	2,498,633	2,556,395	2,538,036	2,539,677	2,634,084	2,708,491	2,696,479	2,662,265	2,647,339	2,632,474
Fifth.....	2,104,986	2,128,086	2,140,888	2,153,091	2,221,331	2,289,571	2,365,065	2,440,558	2,514,493	2,473,053	2,454,260	2,435,466
Sixth.....	1,814,236	1,838,770	1,864,631	1,890,492	1,974,256	2,058,019	2,089,418	2,120,817	2,186,346	2,234,246	2,238,844	2,243,443
Seventh.....	1,481,027	1,482,675	1,537,385	1,592,095	1,668,158	1,744,222	1,795,314	1,846,407	1,930,732	1,927,265	1,974,451	2,021,636
Eighth.....	1,218,945	1,140,804	1,194,566	1,248,328	1,346,067	1,443,685	1,411,689	1,416,407	1,492,843	1,488,104	1,539,229	1,590,354
First year high school.....	743,064	816,396	866,519	916,642	1,065,177	1,213,713	1,271,062	1,328,412	1,424,304	1,425,204	1,450,564	1,475,924
Second year high school.....	476,406	506,974	541,462	575,950	678,752	781,553	830,766	919,979	970,415	1,004,503	1,025,030	1,045,558
Third year high school.....	324,163	341,534	368,888	396,242	455,842	515,542	583,346	651,329	715,978	736,254	751,980	767,706
Fourth year high school.....	251,259	268,917	290,236	311,555	336,878	362,201	426,179	490,158	540,516	591,505	606,798	622,091

† The class beginning in 1917.

‡ Estimated from other years.

TABLE 3.—Per cent of the total population enrolled in school and ratio of enrollment to school population at different dates

State	Per cent of total population enrolled in public schools							Ratio of number of children enrolled in public schools to population 5-17 years of age, inclusive						
	1870-71	1879-80	1889-90	1899-1900	1909-10	1919-20	1927-28	1870-71	1879-80	1889-90	1899-1900	1909-10	1919-20	1927-28
	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Continental U. S.	19.1	19.7	20.3	20.5	19.4	20.4	21.0	0.615	0.655	0.686	0.724	0.731	0.778	0.815
Alabama	13.9	14.2	19.9	20.6	19.9	24.3	24.7	.404	.426	.558	.617	.627	.741	.749
Arizona	.....	10.4	13.4	13.4	15.4	22.9	18.8	.....	.532	.527	.519	.620	.880	.747
Arkansas	13.7	10.2	19.8	24.0	25.3	27.6	24.6	.403	.308	.554	.710	.800	.857	.767
California	15.6	18.4	18.4	18.2	15.5	20.3	22.1	.636	.734	.774	.796	.786	1.025	1.156
Colorado	9.3	11.4	15.9	21.8	21.1	23.4	21.9	.423	.608	.722	.882	.896	.950	.881
Connecticut	20.8	19.2	17.0	17.0	17.3	18.9	18.7	.808	.770	.720	.745	.738	.803	.808
Delaware	15.8	19.0	18.7	20.0	14.3	17.3	16.7	.600	.652	.662	.753	.715	.733	.748
District of Columbia	11.2	14.9	16.0	16.7	16.9	14.9	14.0	.416	.554	.631	.768	.833	.843	.882
Florida	7.2	15.6	23.6	20.6	19.7	23.2	25.6	.212	.442	.711	.666	.681	.826	1.121
Georgia	4.1	15.3	20.8	21.8	21.3	23.9	22.0	.119	.462	.585	.653	.668	1.740	.691
Idaho	5.6	17.9	17.0	22.7	23.4	26.7	22.1	.461	.779	.627	.792	.879	.948	.791
Illinois	26.0	22.9	20.3	19.9	17.8	17.4	18.6	.810	.746	.720	.727	.717	.721	.802
Indiana	26.3	25.9	23.4	22.4	19.7	19.3	20.6	.786	.824	.792	.811	.784	.794	.877
Iowa	28.2	26.2	25.8	25.4	23.1	21.4	22.7	.844	.835	.855	.891	.869	.861	.904
Kansas	22.3	23.2	28.0	26.5	23.7	23.0	23.2	.742	.732	.886	.892	.887	.879	.892
Kentucky	13.2	16.7	21.5	23.3	21.7	22.2	22.8	.....	.....	.656	.753	.736	.762	.796
Louisiana	7.7	8.3	10.8	14.2	16.0	19.7	21.3	.248	.259	.316	.436	.508	.635	.705
Maine	24.3	23.1	21.1	18.9	19.5	17.9	19.1	.874	.898	.859	.814	.845	.763	.801
Maryland	14.6	17.4	17.7	18.7	18.4	16.7	16.8	.467	.581	.604	.670	.699	.669	.712
Massachusetts	18.3	17.2	16.6	16.9	15.9	16.2	17.3	.723	.718	.726	.762	.706	.713	.767
Michigan	24.0	22.2	20.4	20.9	19.3	18.9	18.3	.797	.781	.735	.771	.780	.793	.817
Minnesota	24.5	23.1	21.6	22.8	21.2	21.1	20.3	.759	.759	.748	.776	.779	.818	.834
Mississippi	13.7	20.9	25.9	24.9	26.1	23.1	33.8	.406	.613	.706	.733	.804	.698	.864
Missouri	18.7	22.3	23.2	23.2	21.5	19.8	19.3	.560	.689	.744	.786	.818	.783	.791
Montana	7.5	10.9	12.9	16.2	17.6	23.1	21.5	.702	.638	.711	.728	.807	.922	.631
Nebraska	16.6	20.5	22.7	27.0	23.7	24.1	23.1	.588	.685	.754	.895	.865	.905	.891
Nevada	7.0	14.5	16.1	15.8	11.1	18.2	22.7	.540	.797	.738	.741	.739	.915	1.011
New Hampshire	22.4	18.5	15.9	16.0	14.9	14.5	16.0	.913	.813	.713	.740	.666	.643	.705
New Jersey	18.3	18.1	16.2	17.1	17.0	18.8	20.0	.632	.648	.622	.685	.700	.774	.831
New Mexico	1.4	4.0	11.9	18.8	17.2	22.6	21.8	1.044	.133	.423	.614	.592	.754	.72
New York	23.2	20.3	17.4	16.6	15.6	16.6	17.8	.830	.771	.707	.696	.678	.728	.78
North Carolina	10.5	18.1	19.9	21.1	23.6	27.0	28.9	.312	.559	.564	.636	.735	.824	.89
North Dakota	9.3	10.2	19.5	24.3	24.2	26.0	26.9	.393	.417	.713	.813	.854	.846	.74
Ohio	26.5	22.8	21.7	19.9	17.6	17.7	19.0	.840	.767	.765	.754	.738	.766	.85
Oklahoma	.....	.....	.....	25.0	25.5	29.1	28.1	.....	.....	.....	.798	.829	.926	.91
Oregon	21.6	21.5	20.2	21.6	17.6	19.3	20.8	.677	.750	.748	.821	.792	.841	.90
Pennsylvania	23.2	21.9	19.4	18.3	16.7	18.5	19.1	.764	.744	.695	.689	.667	.715	.73
Rhode Island	15.1	14.7	15.3	15.7	14.8	15.5	15.8	.592	.596	.627	.668	.631	.654	.71
South Carolina	9.1	13.5	17.5	21.0	22.4	28.4	25.6	.273	.406	.471	.607	.673	.839	.76
South Dakota	(*)	(*)	23.7	24.6	21.6	23.1	23.4	(*)	(*)	.810	.795	.777	.829	.86
Tennessee	10.9	19.5	25.3	24.0	24.0	26.5	27.0	1.320	.882	.741	.751	.795	.876	.90
Texas	7.3	13.8	20.9	21.6	21.1	22.2	22.5	.210	.424	.595	.647	.672	.734	.78
Utah	18.6	16.9	17.9	26.4	24.6	26.1	25.7	.534	.606	.553	.810	.843	.872	.86
Vermont	19.8	22.6	19.7	19.2	18.7	17.5	18.3	.....	.....	.....	.822	.803	.734	.76
Virginia	10.5	14.6	20.7	20.0	19.6	21.9	21.5	.323	.450	.605	.632	.643	.733	.74
Washington	18.6	19.7	16.0	22.2	19.0	21.5	21.4	.690	.724	.706	.879	.853	.941	.93
West Virginia	16.9	23.1	25.3	24.2	22.8	23.7	23.3	.495	.692	.753	.786	.779	.798	.76
Wisconsin	24.6	22.8	20.9	21.5	19.9	17.7	18.3	.739	.738	.698	.725	.724	.682	.71
Wyoming	4.6	14.0	11.6	15.7	16.9	22.2	21.5	.453	.774	.545	.657	.797	.916	.82
<i>Outlying parts of the U. S.</i>														
Alaska	.....	.....	.....	.....	.....	6.1	8.8	.....	.....	.....	.....	.....	.....	.268
American Samoa	.....	.....	.....	.....	.....	.....	22.5	.....	.....	.....	.....	.....	.....	.....
Canal Zone	.....	.....	.....	.....	.....	15.3	.....	.....	.....	.....	.....	.....	.....	.864
Guam	.....	.....	.....	.....	.....	.....	27.1	.....	.....	.....	.....	.....	.....	.....
Hawaii	.....	.....	.....	.....	.....	16.2	18.2	.....	.....	.....	.....	.....	.....	.....
Philippine Islands	.....	.....	.....	.....	.....	9.0	8.1	.....	.....	.....	.....	.....	.....	.....
Porto Rico	.....	.....	.....	.....	.....	13.9	14.0	.....	.....	.....	.....	.....	.....	.....
Virgin Islands	.....	.....	.....	.....	.....	.....	11.2	.....	.....	.....	.....	.....	.....	.....

* Approximate.

† Enrollment figures for 1910.

‡ Enrollment figures from report of the Bureau of the Census.

* Included in report for North Dakota.

† Population for Dec. 31, 1918.

‡ Pupils of legal school age.

TABLE 4.—Population, school census, and pupils enrolled (excluding duplicates within States), 1927-28

State	Total estimated population (thousands) July 1, 1928	Population 5-17 years, inclusive (estimated)			Elementary and kindergarten pupils			Secondary pupils			Total pupils		
		2	3	4	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Continental United States.....	120,013	30,887,167	10,821,638	10,446,779	21,268,417	1,881,887	2,029,392	3,911,279	12,703,525	12,476,171	25,179,696		
Alabama.....	2,573	848,346	292,152	288,420	580,572	24,461	30,237	54,718	316,613	318,677	635,290		
Arizona.....	2,474	119,220	39,819	37,165	76,984	5,881	6,175	12,056	45,700	43,340	89,040		
Arkansas.....	1,944	624,421	215,444	225,925	440,469	17,777	20,862	38,639	233,221	245,887	479,108		
California.....	4,556	1,869,090	1,415,293	1,390,505	1,805,798	198,896	190,378	199,274	514,189	490,883	1,005,072		
Colorado.....	1,090	271,116	100,268	94,356	194,624	20,893	23,405	44,298	121,161	117,761	238,922		
Connecticut.....	1,667	396,655	135,814	130,396	296,210	24,620	21,589	46,209	160,434	151,985	312,419		
Delaware.....	1,244	54,659	17,650	16,828	34,518	2,826	3,525	6,351	20,476	20,393	40,869		
District of Columbia.....	352	87,688	31,243	31,395	62,838	6,787	7,743	14,530	38,030	39,338	77,368		
Florida.....	1,411	322,213	162,346	158,967	320,927	42,189	20,736	62,925	182,534	178,823	361,357		
Georgia.....	3,263	1,020,854	305,067	327,720	632,787	34,782	37,367	72,149	339,849	365,087	704,936		
Idaho.....	546	152,776	50,389	46,684	97,073	11,172	12,601	23,773	61,561	59,285	120,846		
Illinois.....	7,396	1,719,901	571,710	539,113	1,064,823	136,382	132,546	268,928	708,092	670,659	1,378,751		
Indiana.....	3,176	746,173	265,841	257,262	523,103	66,893	64,694	131,587	332,644	321,956	654,600		
Iowa.....	2,428	600,716	227,271	214,653	441,924	50,559	58,917	109,476	277,830	273,570	551,400		
Kansas.....	1,835	476,973	174,508	163,965	338,473	40,762	46,189	86,951	215,270	210,154	425,424		
Kentucky.....	2,553	728,210	267,940	258,983	526,923	24,344	30,914	55,258	282,284	289,897	582,181		
Louisiana.....	1,950	591,540	182,927	184,877	367,796	20,844	26,841	47,685	203,773	211,708	415,481		
Maine.....	795	189,627	63,096	60,234	123,540	13,391	14,983	28,374	76,697	75,217	151,914		
Maryland.....	1,616	380,986	118,131	116,509	234,610	18,253	18,007	36,260	136,384	134,516	270,900		
Massachusetts.....	4,290	983,386	306,332	289,888	596,230	72,009	75,751	147,760	378,311	365,639	743,950		
Michigan.....	4,591	1,029,994	355,190	355,147	710,327	65,345	65,350	130,695	420,525	420,497	841,022		
Minnesota.....	2,722	662,666	232,617	240,671	463,288	44,930	44,576	89,506	277,547	275,247	552,794		
Mississippi.....	1,790	700,330	271,751	283,536	555,287	24,981	25,265	50,246	291,732	308,841	600,573		
Missouri.....	3,523	838,983	283,792	271,162	554,894	59,396	65,337	124,733	343,088	336,499	679,587		
Montana.....	548	186,737	49,378	46,362	95,740	10,078	12,154	22,232	59,456	58,516	117,972		
Nebraska.....	1,408	302,749	134,788	125,914	260,702	29,630	35,151	64,781	164,718	161,065	325,783		
Nevada.....	77	17,157	6,841	6,463	13,304	2,340	1,845	4,185	9,181	8,288	17,479		
New Hampshire.....	456	103,485	30,733	29,132	59,865	6,250	6,777	13,027	36,983	35,909	72,892		
New Jersey.....	3,821	907,358	334,521	319,157	653,708	54,376	51,960	106,336	388,897	371,147	760,044		
New Mexico.....	396	119,469	39,421	37,812	77,233	4,217	4,789	9,006	43,638	42,601	86,239		

New York	11,550	2,615,196	872,087	820,001	1,701,088	178,818	178,810	357,028	1,050,905	1,007,811	2,058,716
North Carolina	2,938	952,520	380,652	365,723	746,375	48,344	54,059	102,403	428,906	419,782	848,778
North Dakota	2,641	230,095	75,458	70,251	145,719	11,343	15,477	26,820	86,801	85,738	172,539
Ohio	6,826	1,511,639	541,965	511,000	1,052,645	117,689	124,363	211,992	659,354	655,303	1,294,657
Oklahoma	2,426	1,748,289	301,010	287,028	588,038	43,340	50,881	194,221	344,350	337,909	682,259
Oregon	902	207,545	74,660	70,161	144,851	20,037	22,301	42,338	94,727	92,462	187,189
Pennsylvania	9,854	2,550,179	829,919	791,731	1,621,650	128,840	134,913	261,773	945,779	926,644	1,883,423
Rhode Island	9,716	158,281	49,608	47,570	97,178	7,748	8,405	16,213	57,356	56,035	113,391
South Carolina	1,804	626,050	206,115	216,523	422,638	22,927	30,710	53,637	229,042	247,253	476,275
South Dakota	704	190,750	70,741	65,760	136,501	11,908	16,018	27,326	82,049	81,778	164,427
Tennessee	2,592	753,280	311,117	290,827	610,944	28,723	36,754	65,477	339,840	336,581	676,421
Texas	5,487	1,577,692	528,049	488,415	1,016,464	100,800	115,492	216,232	628,849	603,847	1,232,696
Utah	531	157,926	56,136	52,306	108,532	13,801	14,252	28,053	69,937	66,648	136,585
Vermont	352	85,336	27,095	26,416	53,511	5,580	5,438	11,018	32,675	31,854	64,529
Virginia	2,575	744,818	248,461	249,039	497,500	23,835	32,382	56,217	272,286	281,421	553,717
Washington	4,587	361,034	134,981	125,783	230,764	37,465	40,772	78,237	172,446	166,555	339,001
West Virginia	1,724	504,263	182,362	174,816	357,178	20,247	23,689	43,036	202,609	198,505	401,114
Wisconsin	2,953	719,176	227,397	217,854	445,251	44,050	52,317	96,367	271,447	270,171	541,618
Wyoming	2,247	61,901	21,710	20,794	42,504	4,899	5,745	10,644	26,609	26,539	53,148
<i>Outlying parts of the United States</i>											
Alaska	55	.....	2,076	2,039	4,115	349	365	714	2,425	2,404	4,829
American Samoa	8	.....	1,234	566	1,800	.....	.....	.....	1,234	566	1,800
Canal Zone	28	.....	2,036	2,465	5,071	256	288	544	2,862	2,753	5,615
Guam	13	.....	1,822	1,620	3,442	42	33	75	1,884	1,653	3,517
Hawaii	355	.....	31,203	28,822	60,025	2,475	2,287	4,762	33,678	31,109	64,787
Philippine Islands	13,686	.....	606,103	441,065	1,047,168	39,909	24,326	64,235	646,012	465,391	1,111,403
Porto Rico	1,581	.....	116,728	97,422	214,150	3,310	3,480	6,790	120,038	100,902	220,940
Virgin Islands	26	.....	1,507	1,401	2,908	7	4	11	1,515	1,405	2,919

1 State census, Oct. 1, 1927, shows 1,200,137 under 18.
 2 Not including 3,956 boys and 8,571 girls in special day and evening classes in elementary schools.
 3 Not including 12,026 boys and 10,278 girls in part-time continuation schools 16 to 18 years old; 5,985 boys and 22,805 girls in special day and evening classes (mostly evening) in high schools; 110,603 boys and 106,114 girls in evening schools and 1,397 boys and 1,374 girls in junior colleges for which financial data are included in receipts and payments.
 4 Distribution estimated.
 5 Estimated from State census of 1927.
 6 Statistics of 1926-27.

TABLE 5.—Average daily attendance, 1927-28

State	Elementary schools ¹	Reorganized high schools			Regular and vocational high schools	Total
		Junior	Junior-senior	Senior		
1	2	3	4	5	6	7
Continental United States ..	¹ 13,023,714	² 321,988	² 171,700	² 63,571	² 2,448,210	20,608,353
Alabama.....	369,788		95,569			465,355
Arizona.....	58,400				10,172	68,572
Arkansas.....	283,245	2,612	39,773	1,819	21,532	348,981
California.....	610,322	98,863			148,651	847,836
Colorado.....						187,109
Connecticut.....	226,096				36,296	262,392
Delaware.....	29,642				5,361	35,003
District of Columbia.....	45,897	6,684			11,327	63,908
Florida.....						275,442
Georgia.....						535,196
Idaho.....						95,740
Illinois.....	941,910				234,068	1,175,978
Indiana.....						604,392
Iowa.....						461,861
Kansas.....	260,208	20,743			70,078	357,029
Kentucky.....	381,020				46,766	427,786
Louisiana.....	283,087				41,313	324,400
Maine.....	109,622				25,306	134,928
Maryland.....	178,124	17,055	2,406	9,233	18,851	225,669
Massachusetts.....	524,626				131,201	655,827
Michigan.....						770,362
Minnesota.....	352,762	31,868	18,893		49,780	453,303
Mississippi.....						427,789
Missouri.....						583,308
Montana.....	81,835				19,433	101,268
Nebraska.....	209,063				58,248	267,311
Nevada.....	11,177				3,098	14,875
New Hampshire.....	46,853	5,164			11,764	63,781
New Jersey.....	523,193	23,819		12,142	72,867	632,021
New Mexico.....	53,378				6,584	59,962
New York.....	1,473,578				294,766	1,768,364
North Carolina.....	555,151				85,500	640,651
North Dakota.....	113,267				24,138	137,405
Ohio.....	822,415	80,240		32,714	149,893	1,085,262
Oklahoma.....	376,616				81,367	457,983
Oregon.....	126,788				37,300	164,088
Pennsylvania.....	1,369,044				230,307	1,599,351
Rhode Island.....						97,729
South Carolina.....						348,394
South Dakota.....						135,754
Tennessee.....	422,722				53,970	476,692
Texas.....	837,046				189,028	1,026,074
Utah.....	94,358				24,659	119,017
Vermont.....						56,094
Virginia.....	378,069	8,910			50,882	437,861
Washington.....	209,956				63,586	273,542
West Virginia.....	274,708	22,773			34,688	332,169
Wisconsin.....	358,768	7,257	15,059	7,663	96,878	485,625
Wyoming.....	30,982				7,932	38,914
<i>Outlying parts of the United States</i>						
Alaska.....	3,350				63	3,973
American Samoa.....	1,600					1,600
Canal Zone.....	4,380				475	4,855
Guam.....	3,209				69	3,338
Hawaii.....						60,064
Philippine Islands.....	934,630				59,757	994,387
Porto Rico.....	186,746				5,304	192,050
Virgin Islands.....	2,582	225				2,807

¹ Includes kindergartens.² Total of States reporting.³ Statistics of 1926-27.

TABLE 6.—Aggregate number of days attended, 1927-28

State	Elementary schools ¹	Reorganized high schools			Regular and vocational high schools	Total
		Junior	Junior-senior	Senior		
1	2	3	4	5	6	7
Continental U. S.	1,761,341,413	151,078,532	29,410,833	11,549,646	343,544,159	3,535,249,377
Alabama	52,852,527		15,976,031			68,828,558
Arizona	9,765,232				1,790,272	11,555,504
Arkansas	39,342,224	457,100	6,876,205	318,325	3,789,632	50,783,486
California	110,551,755	16,428,868			26,608,520	153,589,152
Colorado ²						33,305,402
Connecticut ⁴	41,126,862				6,656,686	47,783,548
Delaware	5,476,259				988,045	6,474,304
District of Columbia	8,274,416	1,209,881			2,050,103	11,532,400
Florida						42,445,177
Georgia ³						79,209,008
Idaho						17,037,530
Illinois	175,597,389				44,081,396	219,678,785
Indiana						105,164,208
Iowa						79,901,982
Kansas ³						59,390,968
Kentucky ³	62,106,260				8,230,816	70,337,076
Louisiana	42,812,976				6,927,374	49,740,350
Maine	19,325,108				4,620,483	23,945,591
Maryland	33,235,098	3,252,832	475,100	1,718,196	3,536,976	42,218,202
Massachusetts	96,154,790				24,074,845	120,229,635
Michigan						143,806,760
Minnesota	62,504,171	5,739,400	3,400,740		8,970,535	80,614,846
Mississippi						59,417,618
Missouri						102,480,696
Montana	14,442,233				3,499,011	17,941,244
Nebraska	37,100,294				10,281,316	47,381,610
Nevada	1,836,192				651,902	2,488,094
New Hampshire	8,308,885	914,028			2,086,985	11,309,898
New Jersey	98,390,241	4,477,976		2,282,707	13,704,088	118,825,012
New Mexico ¹	9,608,040				1,185,120	10,793,160
New York						325,335,995
North Carolina ¹						95,713,259
North Dakota						23,084,040
Ohio	146,677,130	14,202,480		5,865,309	26,536,622	190,281,541
Oklahoma	55,400,214				12,855,986	68,256,200
Oregon	22,104,489				6,501,086	28,605,575
Pennsylvania	246,716,268				43,629,475	290,345,743
Rhode Island						17,786,678
South Carolina ¹						50,865,524
South Dakota						23,621,196
Tennessee	68,627,078				9,555,351	78,182,429
Texas	126,725,149				30,167,512	156,892,661
Utah	15,207,530				4,236,308	19,443,838
Vermont						9,567,467
Virginia ³						69,591,286
Washington	37,712,554				11,516,665	49,229,219
West Virginia	45,147,253	3,703,181			6,160,373	55,010,807
Wisconsin	62,946,874	1,292,786	2,082,757	1,365,109	17,260,499	85,548,025
Wyoming	5,297,922				1,380,168	6,678,090
<i>Outlying parts of the United States</i>						
Alaska	594,670				104,366	699,036
American Samoa ³	297,000					297,000
Canal Zone	865,526				81,158	946,684
Guam	673,600				14,214	687,814
Hawaii						9,913,860
Philippine Islands	185,991,370				11,891,643	197,883,013
Porto Rico	34,361,264				997,152	35,358,416
Virgin Islands	521,564	45,450				567,014

¹ Includes kindergartens.² Total of States reporting.³ Estimated.⁴ No data included for 4,652 pupils in vocational schools.⁵ Statistics of 1926-27.

TABLE 7.—Average daily attendance in elementary and secondary schools at different dates

State	1870-71 ¹	1879-80	1889-90	1899-1900	1909-10	1919-20	1927-28
1	2	3	4	5	6	7	8
Continental U. S.	4,545,317	6,144,143	8,153,635	10,632,772	12,827,307	16,150,035	20,608,353
Alabama	107,666	117,978	182,467	297,805	266,589	367,554	465,355
Arizona		2,847	4,702	10,177	20,094	46,420	68,572
Arkansas	46,600	¹ 54,700	¹ 148,714	195,401	255,135	326,053	348,981
California	64,286	100,066	146,589	197,395	286,744	480,864	847,836
Colorado	2,611	12,618	38,715	73,291	107,520	150,090	187,109
Connecticut	62,683	73,546	83,656	111,564	¹ 147,100	205,213	262,392
Delaware	12,700	17,439	19,649	¹ 25,300	22,559	27,368	35,003
District of Columbia	10,261	20,637	28,184	35,463	44,627	52,739	63,908
Florida	10,900	27,040	64,819	75,003	103,892	165,720	275,442
Georgia	31,377	145,190	240,791	298,237	346,295	467,081	535,106
Idaho	600	3,863	¹ 9,500	21,062	51,137	84,642	95,740
Illinois	341,686	431,638	538,310	737,576	779,040	956,090	¹ 1,175,978
Indiana	295,071	321,659	342,275	420,566	420,780	457,113	604,392
Iowa	211,562	250,836	306,309	373,471	360,178	405,567	461,861
Kansas	52,891	137,669	243,300	261,783	291,320	309,505	357,029
Kentucky	120,896	178,000	225,739	310,339	315,196	³ 342,609	427,786
Louisiana	40,500	¹ 54,800	87,536	146,323	182,659	256,133	324,400
Maine	100,392	103,115	98,364	97,697	106,955	115,885	134,928
Maryland	56,435	85,778	102,351	131,400	145,762	175,312	225,069
Massachusetts	201,750	233,127	273,110	366,136	444,000	519,905	655,827
Michigan	193,000	¹ 240,000	¹ 282,000	355,226	443,458	521,251	770,362
Minnesota	50,694	¹ 78,400	127,025	243,224	348,500	394,859	453,303
Mississippi	90,000	156,761	207,704	224,526	261,384	³ 259,952	427,789
Missouri	187,024	¹ 281,000	384,627	460,012	496,390	531,221	583,308
Montana	1,100	¹ 3,000	10,596	¹ 26,300	41,314	91,744	101,268
Nebraska	14,300	60,156	146,139	181,874	191,076	232,515	267,311
Nevada	1,800	5,401	5,064	4,698	¹ 7,400	10,625	14,875
New Hampshire	48,150	48,066	41,526	47,276	50,101	53,245	63,781
New Jersey	86,812	115,194	133,286	207,947	324,239	476,261	632,021
New Mexico	880	8,150	¹ 13,000	22,433	37,389	59,442	59,962
New York	493,648	573,089	642,984	857,488	1,122,649	1,361,000	1,768,364
North Carolina	73,000	170,100	203,100	206,918	331,335	473,552	640,651
North Dakota	1,040	¹ 8,530	20,694	43,500	90,149	128,436	137,405
Ohio	432,452	476,279	549,269	616,365	648,544	808,712	1,085,262
Oklahoma				63,718	278,650	356,908	457,983
Oregon	15,000	27,435	43,333	61,411	103,553	130,575	164,088
Pennsylvania	567,188	601,627	682,941	851,640	1,001,464	1,266,350	1,599,351
Rhode Island	22,485	27,217	33,905	47,124	61,487	73,387	97,729
South Carolina	44,700	¹ 90,600	147,799	201,295	243,901	331,451	348,394
South Dakota	(⁴)	(⁴)	48,327	¹ 68,000	80,032	98,907	135,754
Tennessee	80,000	208,528	323,548	338,566	363,953	457,503	476,692
Texas	41,000	¹ 132,000	291,941	438,779	544,691	746,067	1,026,074
Utah	12,819	17,178	20,967	50,595	69,246	97,745	119,017
Vermont	44,100	48,606	45,887	47,020	52,104	50,186	50,094
Virginia	77,402	128,404	198,200	216,464	259,394	351,171	437,861
Washington	3,300	10,546	36,946	74,717	156,064	211,230	273,542
West Virginia	51,336	91,604	121,700	151,254	180,000	256,479	332,160
Wisconsin	132,000	156,000	200,457	¹ 309,800	320,439	368,712	485,625
Wyoming	250	1,920	¹ 4,700	¹ 9,650	16,730	33,297	38,914
<i>Outlying parts of the U. S.</i>							
Alaska						2,506	3,973
American Samoa							1,000
Canal Zone						2,575	4,855
Guam							3,338
Hawaii						38,451	60,084
Philippine Islands						756,533	999,387
Porto Rico						145,250	192,050
Virgin Islands							2,807

¹ Approximate.² High-school attendance not reported.³ Figures for 1919.⁴ Included with North Dakota.

TABLE 8.—Average length of school term and school attendance

State	Average number of days schools were in session, 1871-1928										Average number of days attended by each pupil enrolled, 1928	Number attending daily for each 100 enrolled, 1928
	1870-71	1879-80	1888-90	1890-1900	1909-10	1919-20	1927-28					
							Elementary schools ¹	Reorganized high schools	Regular and vocational high schools	All schools		
1	2	3	4	5	6	7	8	9	10	11	12	13
Continental U. S.	132	130	135	144	158	161.9	171.9	177.6	178.7	171.5	140.4	81.8
Alabama	67	81	74	78	117	123.1	142.9	167.2		147.9	108.3	73.3
Arizona	109	120	125	136	162.6	167.2			176.0	168.5	129.8	77.0
Arkansas			75	78	107	126.3	138.9	173.1	176.0	145.5	106.0	72.8
California	123	147	158	166	175	174.0	181.1	183.0	179.0	181.1	152.8	84.4
Colorado	92	132	144	150	156	167.9				178.0	139.4	78.3
Connecticut	172	179	183	189	185	183.5	181.9		183.4	181.2	152.9	84.0
Delaware	132	158	166	170	173	181.7	184.7		186.2	185.0	158.4	85.6
District of Columbia	200	193	178	179	181	178.0	180.2	181.0	181.0	180.5	149.1	82.6
Florida			120	93	106	133.1				154.1	117.5	76.2
Georgia	59	165	83	112	144	145.0				148.0	112.4	75.9
Idaho	45	94	70	106	137	172.7				177.9	141.0	79.2
Illinois	147	150	155	152	171	170.9	186.4		188.3	186.8	159.3	85.3
Indiana	99	136	130	152	147	155.8				174.0	160.7	92.3
Iowa	130	148	156	160	172	174.0				173.0	144.9	83.8
Kansas	116	120	135	126	164	164.0				166.4	139.6	83.9
Kentucky	110	102	94	118	125	123.0	163.0		176.0	164.4	120.8	73.5
Louisiana	65	79	101	120	136	148.9	151.2		167.7	163.3	119.7	78.1
Maine	98	109	112	141	159	169.2	176.3		182.6	177.5	157.6	88.8
Maryland	183	187	184	183	185	179.6	186.6	189.8	187.6	187.1	155.8	83.3
Massachusetts	169	177	177	189	186	179.4	183.3		183.5	183.3	161.6	88.2
Michigan	140	150	156	164	171	172.0				186.7	171.0	91.6
Minnesota	83	94	128	169	149	160.0	177.2	180.1	180.2	177.8	145.8	82.0
Mississippi	110	75	86	101	123	122.0				138.9	98.1	70.6
Missouri	90	104	129	144	155	162.8				175.7	150.8	85.8
Montana	89	98	143	107	185	166.4	176.5		186.0	177.2	152.1	85.8
Nebraska	72	82	140	135	174	164.0	177.5		176.5	177.3	145.4	82.1
Nevada	142	143	140	164	145	167.0	164.3		176.3	167.3	142.3	85.1
New Hampshire	70	105	118	148	164	174.0	177.3	177.0	177.4	177.3	155.2	87.5
New Jersey	178	192	192	186	184	189.0	188.0	188.0	188.0	188.0	156.3	83.2
New Mexico	111	111	167	97	100	165.0	180.0		180.0	180.0	125.2	69.5
New York	176	179	187	175	188	188.0				184.0	158.0	85.9
North Carolina	50	50	59	71	102	134.0				149.4	111.6	75.5
North Dakota	75	96	113	156	147	166.9				168.0	133.8	79.6
Ohio	105	152	162	165	170	165.0	178.3	177.7	177.0	178.1	149.3	83.8
Oklahoma				95	140	166.4	147.1		158.0	149.0	100.0	67.1
Oregon	90	90	118	117	138	152.0	174.3		174.3	174.3	152.8	87.7
Pennsylvania	127	133	148	167	170	178.8	180.2		189.4	181.5	154.2	84.9
Rhode Island	170	184	188	191	193	182.1				182.0	156.9	80.2
South Carolina	100	70	70	88	105	109.6				146.0	106.8	73.1
South Dakota	(^b)	(^c)	145	129	166	167.0				174.0	143.7	82.6
Tennessee	77	68	86	90	130	133.5	162.3		177.0	166.0	115.6	70.5
Texas	140	72	100	108	131	155.6	161.4		159.6	152.9	127.3	83.2
Utah	152	128	133	151	165	166.4	161.5		171.8	164.1	142.4	87.1
Vermont	116	126	136	156	160	162.0				170.6	148.3	86.9
Virginia	93	113	118	120	140	147.0				165.0	125.7	79.1
Washington	80	91	97	128	172	176.4	179.6		181.1	180.0	145.2	80.7
West Virginia	77	90	97	106	134	138.9	164.3	162.6	177.5	165.6	137.1	82.8
Wisconsin	155	165	159	160	180	175.3	175.5	178.1	178.2	176.1	157.9	89.7
Wyoming		119	120	110	141	152.0	171.0		174.0	171.6	125.7	73.2
<i>Outlying parts of the U. S.</i>												
Alaska						177.4	177.5		167.5	175.9	144.8	82.3
American Samoa							185.6			185.6	165.0	88.9
Canal Zone						154.6	197.6		170.9	195.0	168.6	86.5
Guam							206.1		206.0	206.1	195.6	94.9
Hawaii						181.0				165.0	153.0	92.7
Philippine Islands						193.0	199.0		199.0	199.0	178.0	89.5
Porto Rico						181.9	184.0		188.0	184.1	160.0	86.9
Virgin Islands							202.0	202.0		202.0	194.2	96.2

¹ Estimated.² Includes kindergartens.³ Total of States reporting.⁴ Statistics of 1918-19.⁵ Included in report for North Dakota.

TABLE 9.—Enrollment of pupils by grades, 1927-28

State	In kindergartens and elementary grades											In secondary grades				Grand total
	Kinder-gartens	First grade	Second grade	Third grade	Fourth grade	Fifth grade	Sixth grade	Seventh grade	Eighth grade	Total of kinder-gartens and ele-mentary	First year	Second year	Third year	Fourth year	Total second-ary	
I	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
Continental U. S.	695,490	4,171,037	2,816,540	2,661,977	2,632,474	2,315,466	2,243,443	2,021,636	1,590,354	21,248,417	1,475,924	1,045,558	767,706	622,091	3,911,279	25,179,696
Alabama.....	1,744	184,714	80,033	74,764	68,094	58,136	51,717	36,285	26,102	580,572	20,290	14,753	10,878	8,797	54,718	635,290
Arizona.....	2,685	20,083	10,543	9,213	8,455	7,378	6,442	5,847	6,336	76,964	4,797	3,631	2,321	1,907	12,056	89,040
Arkansas.....	105,882	60,915	57,984	58,413	50,716	41,455	34,833	30,271	30,271	440,469	15,725	10,607	7,103	5,204	38,639	478,108
California.....	76,899	142,718	95,194	87,541	82,584	78,940	79,523	75,077	805,798	71,201	55,069	41,050	31,924	199,274	1,005,072	
Colorado ¹	8,054	28,825	23,881	23,172	22,444	21,883	22,033	21,287	194,624	14,665	11,907	9,356	8,470	44,298	1,238,922	
Connecticut ¹	20,789	37,451	32,641	30,678	30,727	29,942	28,272	24,659	295,210	16,123	12,643	9,076	7,767	46,209	312,419	
Delaware.....	68	5,708	4,666	4,472	4,340	4,026	3,707	3,042	34,518	2,684	1,585	1,154	928	6,351	40,869	
Dist. of Columbia.....	6,098	10,412	7,467	6,701	7,166	6,276	6,207	5,725	62,838	5,834	3,871	2,733	2,088	14,530	77,363	
Florida.....	11,995	88,868	43,151	40,020	37,584	34,410	29,362	24,581	300,433	16,285	11,138	7,546	5,955	40,924	361,357	
Georgia.....	6,411	182,426	100,844	88,205	79,755	67,173	54,389	44,305	632,787	27,322	20,333	14,087	9,807	72,149	704,936	
Idaho.....	14,658	12,590	12,076	12,241	12,416	11,493	11,396	11,396	97,073	8,855	6,340	4,643	3,935	23,773	120,846	
Illinois.....	60,905	172,208	132,925	126,372	123,533	133,474	108,868	120,243	1,109,823	128,010	60,724	43,559	36,655	268,928	1,378,751	
Indiana.....	14,385	80,225	67,405	63,339	64,709	60,114	60,334	57,485	523,103	45,462	35,019	27,152	23,864	131,497	654,600	
Iowa ¹	17,811	66,882	56,195	52,972	53,947	51,784	50,300	47,925	441,924	37,846	28,153	22,607	19,870	109,476	551,400	
Kansas.....	9,688	49,815	42,589	41,227	39,435	38,578	38,737	37,208	338,473	27,852	23,480	18,082	16,937	86,951	425,424	
Kentucky.....	4,345	134,815	72,241	66,392	63,909	48,003	56,433	36,147	526,923	21,772	14,571	10,394	8,521	55,258	582,161	
Louisiana.....	4,408	104,924	56,315	52,777	49,771	41,358	32,356	23,387	367,796	17,120	12,583	10,026	7,956	47,855	415,481	
Maine.....	7,887	18,424	15,486	14,561	14,525	13,404	12,849	11,577	123,540	9,432	7,738	6,055	5,149	28,374	151,914	
Maryland.....	7,031	41,152	33,663	31,069	31,251	29,498	26,972	23,717	234,640	14,877	9,243	6,893	5,247	36,260	270,900	
Massachusetts ¹	26,197	85,866	75,680	70,729	71,242	70,160	66,007	57,301	596,220	52,189	40,442	30,734	24,395	147,760	743,980	
Michigan.....	84,381	102,718	83,000	77,367	79,683	75,489	71,546	71,483	710,327	48,723	36,242	25,263	20,467	130,695	841,022	
Minnesota.....	24,238	71,038	55,716	52,862	54,091	51,149	50,710	50,227	463,288	30,695	24,206	18,975	15,630	89,506	552,794	
Mississippi.....	666	177,761	77,949	71,375	64,846	52,783	43,290	35,659	30,982	555,267	19,172	13,880	9,248	7,946	605,533	
Missouri ¹	16,296	91,758	94,622	91,189	87,813	83,395	86,707	86,707	554,864	37,707	33,391	29,524	24,111	124,733	679,597	
Montana.....	657	14,757	12,066	11,733	11,610	11,286	11,286	11,286	95,740	7,959	5,861	4,558	3,848	22,432	117,972	

Nebraska.....	11, 374	39, 759	32, 600	31, 727	30, 555	30, 455	28, 360	28, 285	27, 687	260, 702	21, 045	17, 097	13, 953	12, 086	65, 081	325, 783
Nevada.....	2, 537	2, 202	1, 701	1, 557	1, 538	1, 504	1, 404	1, 413	1, 358	13, 304	1, 386	1, 837	1, 745	4, 175	47, 479	
New Hampshire.....	2, 239	9, 069	7, 555	7, 214	7, 220	7, 184	6, 992	6, 621	5, 771	59, 865	4, 406	2, 806	2, 244	13, 027	72, 892	
New Jersey.....	45, 594	110, 838	81, 565	78, 377	78, 451	78, 401	70, 320	60, 927	49, 235	633, 708	41, 918	28, 569	19, 795	16, 004	760, 044	
New Mexico.....	1, 277	16, 581	14, 371	12, 199	9, 772	7, 861	5, 985	4, 907	4, 330	77, 233	3, 092	2, 357	1, 286	9, 006	86, 239	
New York.....	97, 944	253, 778	206, 325	189, 752	204, 240	202, 958	194, 942	180, 033	161, 116	1, 701, 088	154, 209	98, 848	59, 366	45, 205	2, 058, 716	
North Carolina.....	221, 071	110, 349	102, 967	96, 928	83, 806	83, 806	69, 639	58, 977	41, 864	746, 375	40, 326	27, 465	19, 733	14, 879	848, 778	
North Dakota.....	23, 607	18, 142	17, 792	17, 894	17, 924	17, 253	15, 883	15, 368	14, 579	145, 719	9, 878	6, 941	5, 090	26, 820	172, 539	
Ohio.....	36, 580	158, 106	131, 789	125, 590	128, 842	127, 420	121, 623	117, 563	105, 167	1, 052, 065	85, 786	65, 217	49, 342	41, 647	1, 284, 657	
Oklahoma.....	3, 794	127, 574	72, 858	75, 857	73, 799	68, 271	62, 508	53, 570	49, 807	588, 038	35, 500	24, 959	18, 487	15, 275	1, 682, 259	
Oregon.....	506	23, 075	19, 002	17, 210	17, 596	17, 493	16, 934	17, 230	16, 805	144, 851	14, 662	11, 277	8, 630	7, 769	187, 189	
Pennsylvania.....	27, 689	233, 072	216, 977	205, 950	208, 220	204, 328	193, 300	178, 808	163, 246	1, 621, 650	99, 421	69, 475	51, 124	41, 753	1, 883, 423	
Rhode Island.....	6, 385	13, 853	12, 074	11, 348	11, 475	11, 366	11, 076	10, 458	9, 133	97, 178	5, 657	4, 436	3, 395	2, 725	113, 391	
South Carolina.....	100	131, 932	72, 947	60, 733	53, 802	43, 701	33, 473	25, 950	14, 531	422, 638	20, 905	14, 531	10, 788	7, 413	7, 476, 275	
South Dakota.....	1, 071	20, 571	16, 817	16, 459	16, 683	16, 700	16, 191	16, 901	15, 108	136, 501	9, 107	7, 358	6, 049	5, 412	164, 427	
Tennessee.....	843	165, 253	82, 331	79, 232	75, 846	66, 960	56, 493	45, 051	38, 935	610, 944	25, 261	17, 476	12, 722	10, 018	676, 421	
Texas.....	18, 437	250, 353	139, 894	135, 704	134, 722	123, 852	106, 965	106, 537	11, 226	1, 016, 464	86, 840	59, 853	41, 548	27, 971	1, 232, 686	
Utah.....	2, 756	16, 300	13, 997	13, 317	13, 306	12, 675	12, 334	12, 621	11, 226	108, 532	10, 416	7, 700	5, 596	4, 341	136, 585	
Vermont.....	454	8, 038	7, 117	6, 807	6, 726	6, 705	6, 298	6, 015	5, 351	63, 511	3, 682	3, 010	2, 358	1, 968	64, 529	
Virginia.....	1, 917	120, 936	72, 004	67, 763	66, 245	61, 252	56, 306	44, 213	45, 964	497, 500	21, 563	15, 459	11, 852	7, 343	553, 717	
Washington.....	2, 774	40, 350	32, 687	31, 475	31, 784	31, 088	30, 727	30, 494	29, 385	260, 764	27, 158	20, 457	15, 479	15, 143	339, 001	
West Virginia.....	823	77, 149	46, 754	45, 397	46, 433	42, 790	37, 254	31, 682	28, 896	357, 178	16, 533	11, 739	8, 719	6, 945	401, 114	
Wisconsin.....	26, 563	60, 532	53, 549	53, 117	51, 243	50, 157	49, 092	50, 715	49, 344	445, 251	29, 360	25, 769	21, 419	19, 819	541, 618	
Wyoming.....	845	6, 953	5, 549	5, 241	5, 328	5, 099	4, 824	4, 466	4, 199	42, 504	3, 746	2, 941	2, 150	1, 807	53, 148	
Outlying parts of the U. S.																
Alaska.....	74	835	525	547	522	448	454	387	323	4, 115	274	189	136	115	4, 829	
American Samoa.....	1, 049	209	196	169	92	46	20	15	4	1, 800					1, 800	
Canal Zone.....		1, 017	782	736	704	588	531	387	326	5, 071	199	147	114	84	5, 615	
Guam.....		1, 276	605	528	505	280	147	55	46	3, 442	30	26	12	75	3, 817	
Hawaii.....	3, 888	10, 794	9, 271	8, 001	7, 904	6, 660	5, 779	4, 231	3, 537	60, 025	1, 827	1, 276	907	4, 762	64, 787	
Philippine Islands.....		314, 788	219, 410	172, 535	139, 388	90, 518	62, 913	47, 559	59	1, 047, 168	24, 986	16, 947	12, 796	9, 506	1, 111, 403	
Porto Rico.....		66, 582	45, 365	37, 636	28, 949	13, 398	9, 006	7, 556	5, 748	214, 150	2, 657	1, 700	1, 309	1, 124	220, 940	
Virgin Islands.....	430	277	474	523	439	298	295	129	43	2, 908	11			11	2, 919	

1 Statistics of 1924.
 2 Distribution estimated.
 3 Statistics of cities only.
 4 State as a whole on 7-4 plan.
 5 Includes many in continuation and other classes in Chicago.
 6 Statistics of 1926.
 7 25,934 continuation school pupils not included.
 8 Statistics of 1927.

TABLE 10.—Number and sex of teachers employed, not including

State	Elementary ¹			Reorganized high schools					
	Men	Women	Total	Junior			Junior-senior		
				Men	Women	Total	Men	Women	Total
1	2	3	4	5	6	7	8	9	10
Continental U.S.	69,435	573,257	642,712	3,869	11,518	15,387	2,614	24,235	26,849
Alabama	1,133	11,176	12,309				1,688	2,798	4,486
Arizona	307	2,024	2,331						
Arkansas	2,991	8,100	11,091	17	66	83	463	618	1,076
California	828	20,776	21,604	1,048	3,039	4,087			
Colorado ²	861	6,432	7,293	220	795	1,015			
Connecticut	180	7,399	7,579						
Delaware	68	1,056	1,124						
District of Columbia	66	1,656	1,722	68	253	321			
Florida ³	1,117	9,054	10,171						
Georgia	1,172	13,963	15,135						
Idaho	481	2,995	3,476						
Illinois ³	3,765	31,275	35,040						
Indiana	2,854	11,334	14,188	356	754	1,110			
Iowa ³	340	17,165	17,505						
Kansas	1,426	12,156	13,582	24	812	1,026			
Kentucky	2,903	10,544	13,447						
Louisiana	548	8,615	9,163						
Maine	319	5,097	5,396						
Maryland	430	5,954	6,384	144	555	699	40	67	107
Massachusetts	1,036	17,950	18,986						
Michigan ³	5,007	24,527	29,534						
Minnesota ³	280	12,016	12,296	258	1,028	1,286	318	539	857
Mississippi	3,202	12,417	15,619						
Missouri	2,705	16,188	18,893						
Montana	366	4,820	5,186						
Nebraska	506	10,601	11,107						
Nevada	34	572	606						
New Hampshire	57	2,012	2,069	37	193	230			
New Jersey	860	17,658	18,518	286	908	1,194			
New Mexico	532	2,294	2,826						
New York	4,487	52,215	56,702						
North Carolina	1,995	17,436	19,431						
North Dakota	600	6,141	6,741						
Ohio	3,482	25,678	29,160	977	2,607	3,584			
Oklahoma	2,665	12,295	14,960						
Oregon	502	5,331	5,833						
Pennsylvania	5,038	37,127	42,165						
Rhode Island ³	140	2,913	3,053						
South Carolina	948	9,388	10,336						
South Dakota	568	6,369	6,937						
Tennessee	2,767	12,391	15,068						
Texas ³	3,392	25,067	28,399						
Utah	416	2,630	3,046						
Vermont	85	2,302	2,387						
Virginia	897	12,644	13,541	64	296	359			
Washington	530	7,159	7,689						
West Virginia	3,267	8,698	11,965						
Wisconsin	1,068	13,775	14,843	180	213	393	105	218	323
Wyoming	334	2,172	2,506						
<i>Outlying parts of the United States</i>									
Alaska	14	163	177						
American Samoa ⁴	39	6	45						
Canal Zone	54	65	119						
Guam	47	67	114						
Hawaii	228	1,616	1,844	42	89	131	20	35	55
Philippine Islands	13,736	10,732	24,468						
Porto Rico	4,114	2,995	7,109						
Virgin Islands	19	64	83	5	4	9			

¹Includes kindergartens.²Total of States reporting.³Distribution estimated except for total.

superintendents, supervisors, and principals, when separately reported, 1927-28.

Reorganized high schools—Con.			Regular and vocational high schools			Total			Total number of teaching positions	State
Senior										
Men	Women	Total	Men	Women	Total	Men	Women	Total		
11	12	13	14	15	16	17	18	19	20	21
1,341	1,901	3,242	60,914	102,830	163,744	138,123	233,741	371,864	821,753	Continental U. S.
						2,821	13,974	16,795	16,306	Alabama.
			197	370	567	504	2,394	2,898	2,828	Arizona.
15	44	59	191	267	458	3,677	9,090	12,767	12,434	Arkansas.
			3,571	5,924	9,495	5,447	29,739	35,186	35,186	California.
			767	737	1,504	1,848	7,464	9,312	9,312	Colorado. ¹
			631	1,210	1,841	811	8,609	9,420	9,420	Connecticut.
			93	181	274	161	1,237	1,398	1,385	Delaware.
			173	383	556	367	2,292	2,599	2,599	Dist. of Columbia.
			230	820	1,050	1,347	9,874	11,221	11,150	Florida. ¹
			1,733	1,937	3,670	2,905	15,900	18,805	18,805	Georgia.
			494	599	1,093	975	3,594	4,569	4,569	Idaho.
			3,445	6,100	9,545	7,210	37,375	44,585	44,585	Illinois. ¹
			2,883	3,422	6,305	6,093	15,510	21,603	21,603	Indiana.
			1,546	4,679	6,225	1,886	21,844	23,730	23,730	Iowa. ¹
			1,821	2,712	4,533	3,461	15,680	19,141	19,141	Kansas.
			1,128	1,432	2,560	4,031	11,976	16,007	15,917	Kentucky.
			900	1,410	2,310	1,448	10,025	11,473	11,473	Louisiana.
			438	779	1,217	757	5,826	6,583	6,157	Maine. ¹
227	218	445	379	658	1,037	1,200	7,452	8,652	8,230	Maryland.
			2,215	4,050	6,265	3,251	22,000	25,251	25,251	Massachusetts.
			551	3,034	3,585	5,558	27,561	33,119	30,900	Michigan. ¹
			1,168	1,977	3,145	2,024	19,460	21,484	21,484	Minnesota. ¹
			221	713	934	3,423	13,130	16,553	14,997	Mississippi.
			2,484	3,494	5,978	5,189	19,682	24,871	24,871	Missouri.
			451	740	1,191	817	5,560	6,377	5,926	Montana.
			998	2,111	3,109	1,504	12,712	14,216	14,216	Nebraska.
			92	123	215	126	695	821	821	Nevada.
			296	436	702	360	2,641	3,001	2,908	New Hampshire.
210	375	585	1,347	2,233	3,580	2,703	21,174	23,877	23,712	New Jersey.
			130	231	361	662	2,525	3,187	3,187	New Mexico.
			4,467	9,680	14,147	8,954	61,895	70,849	70,849	New York.
			1,669	2,573	4,242	3,694	20,009	23,673	23,673	North Carolina.
			760	1,049	1,809	1,300	7,190	8,550	8,550	North Dakota.
649	960	1,609	3,111	4,207	7,318	8,219	33,452	41,671	41,091	Ohio.
			1,853	2,417	4,270	4,418	14,712	19,130	19,130	Oklahoma.
			798	1,309	2,107	1,300	6,640	7,940	7,940	Oregon.
			5,381	8,013	13,394	10,419	45,140	55,559	55,559	Pennsylvania.
			275	487	762	415	3,400	3,815	3,724	Rhode Island. ¹
			1,006	1,723	2,729	1,954	11,111	13,065	13,065	South Carolina.
			202	928	1,130	770	7,297	8,067	6,075	South Dakota.
			1,314	1,660	2,974	4,051	13,961	18,042	17,448	Tennessee.
			4,767	6,740	11,507	8,159	31,747	39,906	39,906	Texas. ¹
			513	473	986	929	3,103	4,032	4,032	Utah.
			174	385	559	259	2,687	2,946	2,594	Vermont.
			619	1,822	2,441	1,580	14,761	16,341	16,341	Virginia.
			931	1,806	2,737	1,461	8,965	10,426	10,282	Washington.
			1,033	1,847	2,880	4,300	10,545	14,845	14,845	West Virginia.
240	304	544	1,277	2,572	3,849	870	17,082	19,952	19,952	Wisconsin.
			241	377	618	575	2,549	3,124	3,006	Wyoming.
										<i>Outlying parts of the United States</i>
			11	29	40	25	192	217	217	Alaska.
						39	6	45	45	American Samoa. ¹
			5	14	19	59	79	138	138	Canal Zone.
			8	2	10	55	69	124	123	Guam.
69	121	190	5	1	6	364	1,862	2,226	2,067	Hawaii.
			987	525	1,512	14,733	11,257	25,990	24,106	Philippine Islands.
			82	287	369	1,106	3,282	4,478	4,478	Porto Rico.
						24	68	92	92	Virgin Islands.

¹Sex distribution estimated.

²Sex distribution estimated except for total.

³Statistics of 1926-27.

TABLE 11.—Salaries of teachers and percentage of men teachers

State	Average annual salaries of teachers, supervisors, and principals	Percentage of men teachers						
		1870-71	1879-80	1889-90	1899-1900	1909-10	1919-20	1927-28
1	2	3	4	5	6	7	8	9
Continental United States	\$1,364	41.0	42.8	34.5	29.9	21.1	14.1	16.6
Alabama	747	66.8	63.8	62.9	30.1	35.0	20.3	16.8
Arizona	1,587	47.5	47.5	38.8	27.3	17.0	10.8	17.4
Arkansas	680	75.6	78.4	68.5	59.7	47.0	31.2	28.8
California	2,186	40.0	33.6	21.4	17.8	13.8	12.2	15.5
Colorado	1,450	48.8	36.4	26.2	20.9	15.6	9.2	18.8
Connecticut	1,715	22.1	22.8	113.4	19.0	6.2	7.3	8.6
Delaware	1,451	29.9	46.6	131.0	25.3	13.7	10.8	11.5
District of Columbia	2,196	8.2	7.8	13.0	13.1	11.5	11.9	11.8
Florida	906	65.7	61.6	48.0	36.9	25.7	15.8	12.0
Georgia	647	71.4	165.2	53.3	44.0	24.4	13.1	15.4
Idaho	1,160	64.3	57.4	133.4	31.2	25.5	14.8	21.3
Illinois	1,634	43.5	39.7	32.5	26.4	18.5	15.0	16.2
Indiana	1,430	60.5	57.5	51.1	46.2	35.7	16.9	28.2
Iowa	1,076	39.0	33.6	20.6	17.2	9.8	8.2	7.9
Kansas	1,166	47.2	45.1	40.8	32.7	18.0	12.1	18.1
Kentucky	851	66.0	64.6	49.8	45.5	41.7	21.0	25.2
Louisiana	980	50.9	46.1	44.7	47.9	21.4	13.7	12.6
Maine	927	24.4	27.2	16.0	16.4	11.2	8.5	13.0
Maryland	1,418	45.0	42.6	27.8	21.7	17.1	11.5	13.9
Massachusetts	1,823	12.7	13.2	9.8	8.8	9.1	8.6	12.9
Michigan	1,543	26.3	29.2	22.3	20.3	14.0	11.5	16.8
Minnesota	1,259	33.7	35.9	23.9	19.4	12.0	8.8	9.4
Mississippi	1,545	60.8	61.2	49.6	44.2	31.0	22.0	20.7
Missouri	1,164	65.3	58.1	44.4	37.6	26.4	16.2	20.9
Montana	1,137	60.3	38.5	22.9	16.6	12.0	10.7	12.8
Nebraska	1,092	51.9	40.7	27.1	21.8	11.9	7.3	10.6
Nevada	1,504	32.4	46.7	16.3	11.1	10.8	9.0	15.3
New Hampshire	1,185	15.0	16.8	9.8	8.9	7.1	8.3	12.0
New Jersey	2,002	32.5	28.5	18.4	12.9	12.3	10.5	11.3
New Mexico	1,037	91.7	78.0	62.2	55.2	34.4	20.6	20.8
New York	2,337	22.9	26.0	16.9	14.9	11.7	10.3	12.6
North Carolina	837	73.2	71.3	59.1	49.4	28.5	18.8	15.5
North Dakota	837	24.7	140.8	28.3	28.8	17.4	12.3	15.9
Ohio	1,529	43.2	47.8	43.1	40.4	31.1	18.0	19.7
Oklahoma	963				42.8	26.2	18.9	23.1
Oregon	1,348	51.7	48.3	43.3	28.4	19.4	12.8	16.4
Pennsylvania	1,538	42.8	45.5	34.2	32.0	22.6	16.3	18.8
Rhode Island	1,382	20.4	20.2	12.6	9.5	8.9	7.8	10.9
South Carolina	769	62.4	59.5	49.6	43.5	23.1	14.7	15.0
South Dakota	1,105	(¹)	(¹)	29.0	24.4	16.6	10.5	9.5
Tennessee	835	75.0	74.4	61.8	54.0	37.0	22.4	22.6
Texas	842	77.3	175.0	61.1	48.9	30.8	18.0	20.4
Utah	1,299	55.0	54.5	46.6	36.5	26.6	24.9	23.0
Vermont	988	16.5	16.8	12.0	13.6	8.9	3.7	8.8
Virginia	822	64.5	61.8	41.5	31.5	19.9	10.9	9.7
Washington	1,538	46.5	37.4	40.6	69.9	20.0	13.9	14.0
West Virginia	1,122	79.0	75.2	63.4	57.9	48.0	28.7	29.0
Wisconsin	1,290	28.8	28.9	19.8	18.4	11.8	8.9	14.4
Wyoming	1,151	28.6	44.3	22.4	15.6	12.8	11.0	18.4
<i>Outlying parts of the United States</i>								
Alaska	1,561						11.0	11.5
American Samoa	293							86.7
Canal Zone	1,588						31.4	42.8
Guam	303							44.4
Hawaii	1,552						11.1	16.4
Philippine Islands	386						60.6	56.7
Porto Rico	857						27.8	26.7
Virgin Islands	760							28.1

¹ Estimated.² Partly estimated.³ Included in North Dakota.

TABLE 12.—Personnel and cost of instruction in public-night schools, 1927-28

State	Teachers			Students			Total cost of instruction
	Men	Women	Total	Men	Women	Total	
1	2	3	4	5	6	7	8
Total for States reporting.....	4,587	5,089	18,675	256,823	243,550	833,054	\$5,821,497
Alabama.....	49	64	113	2,190	1,843	4,033	73,992
California.....	1,515	1,535	3,050	116,588	128,449	245,037	(¹)
Colorado.....				5,867	6,342	12,209	
Connecticut.....	156	503	659			20,643	267,626
Delaware.....	54	122	176	755	928	1,683	49,369
District of Columbia.....	48	205	253	4,093	5,756	10,749	91,697
Georgia.....			242			9,458	22,142
Idaho.....	41	5	46	790	421	1,211	3,542
Illinois.....			1,000	34,000	22,000	56,000	573,634
Indiana.....			242			10,632	\$52,430
Kansas.....			235			7,291	\$36,117
Louisiana.....						10,281	62,676
Maine.....			163			3,729	39,696
Maryland.....			311			12,717	126,693
Massachusetts.....			3,313			85,759	\$533,781
Minnesota.....	52	285	337	4,166	3,561	7,747	41,220
Nevada.....							\$1,578
New Hampshire.....	39	82	121	1,133	1,374	2,507	20,644
New Jersey.....	677	564	1,241	26,698	17,047	43,745	684,459
New York.....			3,018			155,064	\$1,897,625
North Carolina.....							39,627
North Dakota.....	6	10	16	255	371	626	2,012
Ohio.....	692	598	1,290	27,644	23,194	50,838	439,072
Oklahoma.....							68,324
Rhode Island.....	149	354	503	5,813	6,325	12,138	106,720
South Carolina.....			475			9,775	30,316
Utah.....							36,803
Virginia.....	194	68	262			7,332	66,798
Washington.....	189	111	300	7,847	5,154	13,001	
Wisconsin.....	726	583	1,309	16,100	20,114	36,214	452,844
Wyoming.....				1,984	651	2,635	
<i>Outlying parts of the United States</i>							
Alaska.....	5	11	16	180	25	205	2,868
Guam.....	8	2	10	41	34	75	
Hawaii.....	3	40	43	60	839	899	10,817
Philippine Islands.....				5,794	625	6,419	

¹ \$2,498,372 of this amount is included in day-school costs.² Included in day-school costs.³ \$510,562 of this amount is included in day-school costs.

TABLE 13.—Personnel and cost of instruction in summer schools, 1927-28

State	Teachers			Students			Total cost of instruction
	Men	Women	Total	Men	Women	Total	
1	2	3	4	5	6	7	8
Total for States reporting.....	875	2,243	5,147	67,250	66,158	155,215	\$628,310
Delaware.....	11	7	18	15	223	238	\$12,592
District of Columbia.....	49	205	254	5,094	5,756	10,850	26,994
Illinois.....			800	15,000	12,007	27,007	
Maryland.....	42	98	140	3,816	3,673	7,489	31,326
Massachusetts.....			880			20,698	\$160,865
New Hampshire.....	3	24	27	317	292	609	2,773
New Jersey.....	236	1,101	1,337	21,661	19,799	41,460	240,699
Ohio.....	467	754	1,221	16,492	18,239	34,731	
Rhode Island.....			26	497	408	905	5,026
South Carolina.....			57			1,109	7,657
Virginia.....			266	3,350	4,356	7,706	79,834
Wisconsin.....	67	54	121	1,008	1,412	2,420	60,542
<i>Outlying parts of the United States</i>							
Hawaii.....	15	22	37	142	869	1,001	7,500
Philippine Islands.....	61	62	113			3,644	

¹ \$173,457 of this amount is included in day-school costs.² Included in day-school costs.

TABLE 14.—Schools and school buildings, 1927-28

State	Consolidated schools		1-room school-houses used	School buildings used		Total
	Established this year	Total number		For elementary schools	For secondary schools exclusively	
1	2	3	4	5	6	7
Continental United States.....	709	16,050	153,306	244,128	10,598	254,726
Alabama.....	46	543	3,015	5,888	142	6,030
Arizona.....	2	54	204	499	36	535
Arkansas.....			3,758	6,122	73	6,195
California.....	9	172	1,519	6,525	422	6,947
Colorado.....	1	167	1,910	3,027	156	3,183
Connecticut.....			536	1,388	66	1,454
Delaware.....	1	54	232	417	27	444
District of Columbia.....	0	0	0	146	20	166
Florida.....			4,946	2,419	71	2,493
Georgia.....	193	984	1,396	6,478	30	6,508
Idaho.....	15	100	926	1,583	48	1,631
Illinois.....	3	114	10,105	13,656	580	14,236
Indiana.....	19	1,483	2,518	4,815	179	4,994
Iowa.....	0	386	9,585	11,294	839	12,133
Kansas.....	3	179	7,200	8,645	641	9,286
Kentucky.....		312	6,256	7,146	707	7,853
Louisiana.....		500	1,513	3,149	50	3,199
Maine.....	2	15	1,868	2,590	92	2,682
Maryland.....			1,206	2,147	50	2,197
Massachusetts.....			570	2,713	210	2,923
Michigan.....	10*	237	6,372	7,067	1,873	8,940
Minnesota.....	3	396	6,997	9,085	90	9,175
Mississippi.....	57	988	2,930	3,599	0	3,599
Missouri.....		380	7,393	9,810	289	10,099
Montana.....	9	74	2,425	3,457	127	3,584
Nebraska.....		81	6,081	7,459	157	7,616
Nevada.....		12	212	290	32	322
New Hampshire.....	0	23	608	991	34	1,025
New Jersey.....		274	430	2,185	115	2,300
New Mexico.....		112	827	1,427	52	1,479
New York.....	20	455	7,350	11,931	170	12,101
North Carolina.....	11	951	1,907	6,146	133	6,279
North Dakota.....		503	4,361	5,119	21	5,140
Ohio.....		1,031	4,910	8,019	417	8,436
Oklahoma.....	8	447	3,426	6,868	121	5,989
Oregon.....	23	130	1,536	2,541	140	2,681
Pennsylvania.....	63	524	7,821	13,310	531	13,841
Rhode Island.....	2	15	97	466	23	489
South Carolina.....		406	1,905	4,184	51	4,235
South Dakota.....	0	108	4,796	4,796	608	5,404
Tennessee.....	55	822	3,471	6,974	73	7,047
Texas.....		1,195	3,899	11,751	179	11,930
Utah.....			115	669	43	712
Vermont.....	0	50	1,087	1,363	17	1,380
Virginia.....	38	812	3,015	5,873	60	5,933
Washington.....	50	306	1,313	2,784	157	2,941
West Virginia.....	37	389	4,979	6,700	459	7,159
Wisconsin.....	1	73	6,665	8,143	160	8,303
Wyoming.....	10	103	1,115	1,474	24	1,498
<i>Outlying parts of the United States</i>						
Alaska.....			61		1	92
American Samoa.....			15		0	21
Canal Zone.....			1		0	22
Guam.....						25
Hawaii.....			22		34	
Philippine Islands.....						7,457
Porto Rico.....		300			21	2,161
Virgin Islands.....	0	1	3		3	26

* Statistics of 1929.

† Estimated from reports from high schools.

‡ Estimated statistics of 1927.

§ Statistics of 1928.

¶ Statistics of 1927.

|| Statistics of 1925.

TABLE 15.—Value of public property used for school purposes, 1927-28

State	Value of sites and buildings	Value of equipment (furniture, apparatus, libraries, etc.)	Value of all property used for school purposes	Average value of school property per pupil enrolled
1	2	3	4	5
Continental United States.....	\$4,205,080,224	\$409,062,623	\$5,486,938,509	\$218
Alabama.....	41,581,559	4,894,216	46,475,775	73
Arizona.....	.....	.....	17,000,000	191
Arkansas.....	27,819,869	3,908,893	31,728,762	66
California.....	347,765,529	40,610,597	388,376,126	386
Colorado.....	53,630,764	6,107,689	59,738,453	250
Connecticut.....	85,878,107	507,652	86,385,759	277
Delaware.....	.....	.....	9,341,173	229
District of Columbia.....	.....	.....	29,000,000	375
Florida.....	.....	.....	75,078,362	208
Georgia.....	43,756,968	4,897,355	48,654,323	69
Idaho.....	19,120,579	3,226,980	22,347,568	185
Illinois.....	376,729,864	28,302,143	385,032,007	279
Indiana.....	84,993,195	11,327,780	96,320,975	147
Iowa.....	.....	.....	117,956,782	214
Kansas.....	.....	.....	86,355,515	203
Kentucky.....	47,405,547	4,552,100	51,957,647	89
Louisiana.....	53,368,475	5,694,156	59,032,631	142
Maine.....	27,577,977	3,226,471	30,804,448	203
Maryland.....	.....	.....	51,765,517	191
Massachusetts.....	229,065,961	14,926,533	244,892,494	329
Michigan.....	.....	.....	295,524,716	351
Minnesota.....	151,988,440	.....	151,988,440	275
Mississippi.....	.....	.....	40,000,000	66
Missouri.....	139,138,495	14,659,140	153,797,635	226
Montana.....	24,772,613	3,851,071	28,623,684	243
Nebraska.....	71,915,428	8,476,007	80,392,335	247
Nevada.....	4,248,614	824,061	5,072,675	290
New Hampshire.....	16,635,940	1,917,505	18,553,445	255
New Jersey.....	238,060,787	17,656,708	255,717,495	336
New Mexico.....	8,383,700	1,132,526	9,516,226	110
New York.....	671,255,016	55,612,050	726,867,066	353
North Carolina.....	.....	.....	100,929,364	119
North Dakota.....	.....	.....	38,305,639	222
Ohio.....	257,175,812	30,358,889	287,534,701	222
Oklahoma.....	67,464,127	13,393,279	80,857,406	119
Oregon.....	34,833,285	5,059,672	39,892,957	213
Pennsylvania.....	462,429,680	44,987,435	507,417,115	269
Rhode Island.....	26,682,223	2,323,000	29,005,223	256
South Carolina.....	35,669,812	3,639,074	39,308,886	83
South Dakota.....	33,521,973	4,523,190	38,045,163	231
Tennessee.....	28,214,098	8,211,483	31,425,581	46
Texas.....	156,588,049	22,612,549	179,200,598	145
Utah.....	24,781,470	2,688,072	27,469,542	201
Vermont.....	.....	.....	10,538,684	163
Virginia.....	56,639,874	5,301,323	61,941,197	112
Washington.....	68,555,028	8,937,799	77,492,827	229
West Virginia.....	59,131,500	6,811,577	65,943,077	164
Wisconsin.....	135,081,486	16,650,516	151,732,002	280
Wyoming.....	13,318,320	2,282,223	15,600,543	294
<i>Outlying parts of the United States</i>				
Alaska.....	1,000,000	110,000	1,110,000	230
American Samoa.....	33,000	2,000	35,000	19
Canal Zone.....	.....	.....	323,480	147
Guam.....	83,775	6,945	90,720	26
Hawaii.....	10,110,017	920,506	11,030,523	170
Philippine Islands.....	.....	.....	20,197,574	18
Porto Rico.....	4,600,000	877,320	5,477,320	25
Virgin Islands.....	.....	.....	82,500	28

† Total of States reporting.
‡ Estimated.

§ Distribution estimated.
¶ Statistics of 1920.

* Statistics of 1927.

TABLE 16.—Permanent school funds, State debts to permanent school funds, and school lands, 1927-28

State	Permanent school funds				Unsold school lands	
	State	County	Local	Total	Number of acres	Value
1	2	3	4	5	6	7
Continental U. S.	\$398,763,848	\$22,208,645	\$54,167,089	\$483,496,583	43,617,572	\$433,646,936
Alabama	3,159,839	14,587		3,174,426	130,000	2,000,000
Arizona	1,442,564			1,442,564	7,577,230	22,731,169
Arkansas	1,732,614			1,732,614		
California	11,315,774			11,315,774	800,000	1,600,000
Colorado	7,235,269			7,235,269	2,735,354	41,030,310
Connecticut	2,096,615		975,886	3,072,501	0	0
Delaware	944,407		60,000	1,004,407	0	0
Florida	4,393,078			4,393,078	183,699	
Idaho	10,376,972			10,376,972	2,454,563	24,545,625
Illinois	948,955		46,660,197	47,609,152	6,566	30,556,622
Indiana	15,356,629		2,492,350	17,848,979	4915	34,954
Iowa	4,813,481			4,813,481		30,527
Kansas	10,615,266			10,615,266	0	0
Kentucky	2,447,436			2,447,436		
Louisiana	2,900,550			2,900,550	134,941	2,540,000
Maine	561,974		714,864	1,276,838		
Massachusetts	5,000,000			5,000,000	0	0
Michigan	5,500,000			5,500,000		
Minnesota	56,351,932			56,351,932	1,363,398	81,900,000
Mississippi	1,036,519			1,036,519	575,000	
Missouri	20,811,948	11,068,207	2,404,444	34,374,599	0	0
Montana	18,010,742			18,010,742	4,250,482	42,704,824
Nebraska	10,901,753			10,901,753	1,582,334	19,779,172
Nevada	2,943,742			2,943,742	12,323	15,403
New Hampshire	59,723		789,448	849,171	0	0
New Jersey	11,126,416	168,000		11,294,416	0	0
New Mexico	1,294,641			1,294,641	8,689,796	33,259,531
New York	9,546,803			9,546,803	0	0
North Carolina	1,305,332			1,305,332	0	0
North Dakota	20,960,857			20,960,857	1,949,555	22,418,334
Ohio	4,565,824			4,565,824	9,444	371,654
Oklahoma	28,572,258			28,572,258	333,786	6,406,330
Oregon	7,703,010			7,703,010	700,000	1,750,000
Pennsylvania	1,168,686			1,168,686	0	0
Rhode Island	325,380			325,380	0	0
South Carolina	66,758			66,758	0	0
South Dakota	20,432,332			20,432,332	2,207,662	30,000,000
Tennessee	2,512,500			2,512,500		
Texas	36,976,334	10,957,851		47,934,185	219,239	1,675,762
Utah	5,023,929			5,023,929	2,500,000	6,250,000
Vermont	1,377,027			1,377,027	47,220	1,770,000
Virginia	5,810,946			5,810,946	0	0
Washington	21,514,717			21,514,717	1,673,155	16,731,550
West Virginia	1,000,000			1,000,000		
Wisconsin				8,357,001	12,394	60,000
Wyoming	16,522,316			16,522,316	3,468,516	34,685,160

1 Total of States reporting.
 2 State debt.
 3 Statistics of 1922.
 4 Statistics of 1926.
 5 Not including 141 city lots.

6 Of this amount \$2,315,636 is a State debt.
 7 Statistics of 1925.
 8 Not including 3,211 town lots.
 9 Statistics of 1920.

TABLE 17.—*Indebtedness, sinking funds, and payments on indebtedness, 1927-28*

State	School bonds outstanding and other forms of debt	Total amount in school sinking funds	Bonds and other indebtedness paid in 1927-28	Transfers to sinking funds	Interest paid on indebtedness	Refunds
1	2	3	4	5	6	7
Continental U. S.	\$2,158,148,666	\$100,698,289	\$142,675,839	\$19,184,914	\$92,024,739	\$2,475,333
Alabama	19,753,512		1,017,694		226,446	
Arizona	11,837,149	1,730,301	1,185,550	1,867,476	722,964	
Arkansas	16,659,546		834,176		880,996	
California	211,847,453					
Colorado	32,754,383		719,916		1,902,144	
Connecticut			2,417,053	372,240	1,477,542	
Delaware	1,274,167		63,500		50,980	4,331
Florida	65,665,964		8,471,905		3,035,798	
Georgia			3,379,443		(¹)	
Idaho	11,442,035	959,165	956,579		1,244,148	
Illinois	68,180,753		3,967,452		4,580,324	
Indiana	65,424,421		4,727,718		2,185,104	
Iowa	57,351,275		2,167,987		2,377,416	
Kansas	13,612,449		245,000		556,389	
Kentucky			3,949,032		389,743	
Louisiana	23,543,414	0	1,664,720		1,393,873	754,119
Maine			(⁴)		1,509,561	
Maryland	35,056,160		1,068,775		1,062,923	
Michigan	147,953,098		15,761,496		(⁷)	
Minnesota	74,587,590		4,017,644		(⁷)	
Mississippi	6,920,100		1,279,954		(⁷)	
Missouri	46,147,312			1,246,875	591,639	3,945
Montana	11,095,705	1,292,309	1,112,265		997,573	44,400
Nebraska	34,184,564	2,141,552	2,617,320			
Nevada	1,801,639		300,878			
New Hampshire	6,678,605		612,207		303,162	
New Jersey	183,903,020	14,241,857	6,441,292	690,683	8,159,624	
New Mexico	6,133,718		340,672		104,029	309,486
New York	164,128,111	726,458	15,814,709	126,557	19,909,113	229,987
North Carolina	24,764,476	139,510	2,096,316		3,267,181	
North Dakota	16,720,455	4,200,579	1,165,429	576,386	745,219	
Ohio	226,574,381	14,768,671	18,475,575		11,137,427	533,391
Oklahoma	54,029,055	14,119,324	2,956,000		932,006	347,564
Oregon	22,272,730		5,021,363		861,449	
Pennsylvania	251,238,109	30,025,851	12,961,761	7,986,074	7,826,129	393,912
Rhode Island	11,852,729	2,367,430	505,412		753,132	
South Carolina	1,038,728				1,021,426	
South Dakota	19,354,765		2,540,384		1,107,824	
Tennessee	15,583,930	842,898				
Texas	99,416,024	8,502,991	2,356,398	4,115,341	4,244,766	
Utah	12,106,694	1,545,592	497,934	257,053	589,337	
Vermont	2,385,320		86,044		150,400	
Virginia	10,882,846		665,003		881,433	
Washington	30,226,241	2,772,798	2,726,574		1,557,327	
West Virginia	15,561,000	858,195	1,369,410	1,413,311	68,095	
Wisconsin	18,403,911		4,217,299		997,363	163,084
Wyoming	7,801,119	445,216		428,889	51,271	
<i>Outlying parts of the United States</i>						
Alaska	360,500	0	13,500		14,910	
Porto Rico			131,590		86,229	

¹ Includes interest and bonds.² Included in column 4.³ Estimated.⁴ Included in column 6.⁵ Net after subtracting sinking fund.⁶ Statistics of 1926.⁷ Included in operation of plant.⁸ Statistics of 1925.⁹ Statistics from reports of city school systems.¹⁰ Distribution estimated.

TABLE 18.—Administrative officers, supervisors, principals, and teaching positions, 1927-28

State	Administrative officers and assistants						Supervisors of instruction			Principals			Total number of teachers, supervisors, and principals
	State superintendents and deputies	Other officers in State department	County superintendents' offices	City superintendents' offices	District and township superintendents' offices	Total	Elementary schools ¹	Secondary schools ²	Total	Elementary schools ¹	Secondary schools ²	Total	
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Continental U. S.	115	1,331	5,592	9,836	11,336	29,210	3,704	1,482	7,659	14,031	16,816	28,829	854,230
Alabama	2	30	140	101	—	273	104	14	118	97	46	143	16,567
Arizona	2	17	51	83	—	153	49	65	114	81	32	113	3,053
Arkansas	2	26	92	84	—	205	21	2	26	122	181	303	12,763
California	2	37	194	89	96	418	437	64	501	2,268	448	2,716	38,403
Colorado	2	2	63	17	—	84	(5)	(6)	(6)	(7)	(5)	(5)	9,812
Connecticut	1	55	—	29	57	142	405	22	427	550	114	664	10,511
Delaware	3	32	—	30	22	93	6	—	6	25	15	40	1,431
District of Columbia	—	—	—	9	—	9	67	16	83	55	30	85	2,767
Florida	1	23	67	—	—	91	—	—	—	—	312	312	11,462
Georgia	1	9	461	177	—	348	—	—	120	—	—	—	18,925
Idaho	3	17	61	909	3,704	4,694	—	—	—	—	—	—	4,569
Illinois	1	29	206	320	—	556	—	—	—	—	—	1,139	45,724
Indiana	2	39	92	791	1,341	2,265	475	255	730	671	849	1,520	23,853
Iowa	2	10	198	—	918	1,128	—	—	—	—	—	1,345	25,075
Kansas	2	18	180	86	—	286	125	33	158	257	128	385	10,684
Kentucky	2	20	120	84	6	232	60	59	119	—	—	—	16,036
Louisiana	1	27	192	4	—	224	25	—	25	109	145	254	11,752
Maine	2	7	—	8	135	152	—	—	—	—	—	—	6,157
Maryland	2	11	71	71	—	155	140	26	166	97	49	146	8,396
Massachusetts	1	31	—	225	—	257	—	—	619	695	186	881	26,751
Michigan	5	39	143	339	(7)	526	69	—	69	892	186	1,078	32,047
Minnesota	2	49	116	—	309	476	—	—	—	—	—	—	21,771
Mississippi	2	40	810	235	589	1,676	53	39	92	3,460	585	4,045	19,134
Missouri	2	32	114	75	—	223	—	—	—	—	—	—	24,871
Montana	2	6	76	—	195	279	20	—	20	87	20	107	6,053
Nebraska	2	23	93	378	—	497	91	80	171	119	135	257	14,644
Nevada	2	6	—	10	—	18	—	—	—	29	25	54	875
New Hampshire	3	13	—	911	65	992	63	39	102	—	—	—	3,050
New Jersey	6	46	69	388	465	974	498	120	618	481	138	619	24,949
New Mexico	2	2	124	55	282	465	14	13	27	—	—	—	3,214
New York	7	93	—	143	208	451	—	—	1,030	—	—	2,835	70,840
North Carolina	1	59	105	91	—	256	69	—	69	—	—	288	24,039
North Dakota	2	13	114	1,084	—	1,213	—	—	146	—	—	569	9,265
Ohio	2	39	217	969	285	1,512	—	—	425	—	—	1,205	42,721
Oklahoma	2	13	77	—	351	443	—	—	—	—	—	—	19,130
Oregon	2	12	81	49	35	179	10	75	85	—	—	160	8,185
Pennsylvania	6	144	169	981	—	1,300	435	267	702	1,756	1,163	2,919	59,180
Rhode Island	2	5	—	68	288	361	—	—	99	—	—	441	4,264
South Carolina	2	21	71	32	27	153	—	—	—	—	—	14	13,079
South Dakota	3	9	122	349	—	483	—	—	—	613	349	962	7,037
Tennessee	1	18	201	136	—	356	—	—	—	—	—	—	17,448
Texas	4	53	277	—	981	1,315	—	—	—	—	—	—	39,906
Utah	2	23	300	68	—	393	23	21	44	288	138	426	4,602
Vermont	3	15	—	8	48	74	—	—	34	54	97	151	2,779
Virginia	1	44	188	46	—	279	103	4	107	—	403	403	16,851
Washington	3	30	77	—	445	555	140	33	173	749	212	961	11,416
West Virginia	2	19	55	124	390	590	45	51	96	164	133	297	15,238
Wisconsin	3	16	72	174	—	265	121	184	305	279	346	625	20,882
Wyoming	3	9	33	—	96	141	33	—	33	—	21	40	3,160
<i>Outlying parts of the United States</i>													
Alaska	3	—	—	21	—	24	2	—	2	2	3	5	224
American Samoa ⁴	2	—	—	—	—	2	—	—	—	—	—	—	45
Canal Zone	3	—	—	—	—	3	—	—	—	—	—	—	144
Guam	2	9	—	—	—	11	2	—	2	25	1	28	151
Hawaii	2	23	—	—	—	25	29	—	29	79	16	95	2,211
Philippine Islands	3	191	—	140	—	334	631	—	631	1,140	101	1,241	25,978
Porto Rico	3	—	—	—	45	130	—	—	—	51	72	123	4,550
Virgin Islands	1	—	—	—	6	6	1	—	1	—	—	—	95

¹ Includes kindergartens.

² Includes reorganized, regular, and vocational high schools.

³ Total of States reporting.

⁴ Includes 1,030 supervisors also included in teaching positions.

⁵ Includes 2,981 principals also included in teaching positions.

⁶ Included with teachers.

⁷ Included in column 5.

⁸ Statistics of 1926-27.

TABLE 19.—Percentage analysis of revenue receipts, 1927-28

State	Total revenue receipts						Receipts from taxation and appropriation		
	Receiving and distributing body			From permanent funds and land leases	From taxation and appropriation	From other sources, including Federal aid and subsidies	State	County	Local
	State and Federal aid and subsidies	County	Local						
1	2	3	4	5	6	7	8	9	10
Continental U. S.	16.8	10.4	72.4	1.3	94.2	4.5	16.2	10.9	72.9
Alabama	41.8	33.8	24.4	..	90.9	9.1	41.6	30.4	25.0
Arizona	29.3	36.0	43.7	3.1	96.2	7	18.0	37.0	45.0
Arkansas	33.7	4.8	61.5	.6	91.0	5.4	33.6	2.9	63.5
California	19.8	27.6	52.6	.4	94.8	4.8	20.1	29.1	50.8
Colorado	3.3	19.8	76.9	3.1	79.9	17.0	.1	24.7	75.2
Connecticut	3.1	..	96.9	.7	97.7	1.6	2.5	..	97.5
Delaware	86.3	..	13.7	97.2	1.4	1.4	86.6	..	13.4
District of Columbia	27.2	..	72.8	..	99.9	.1	27.3	..	72.7
Florida	9.4	47.1	43.5	1.2	79.3	19.5	9.0	35.6	54.8
Georgia	30.5	29.6	39.9	..	93.3	6.7	31.5	31.7	36.8
Idaho	8.2	24.2	67.6	6.9	81.9	11.2	.9	29.5	69.6
Illinois	6.1	.2	93.7	.9	89.9	9.2	6.4	.2	93.4
Indiana	8.2	91.4	.4	1.7	95.8	2.5	6.8	.4	92.8
Iowa	4.6	.7	94.7	1.0	95.4	3.6	3.5	.7	95.8
Kansas	2.0	..	98.0	1.2	81.5	17.3	.7	..	99.3
Kentucky	27.7	26.7	45.6	.1	91.0	5.9	28.7	28.4	42.9
Louisiana	27.9	54.2	17.9	1.1	93.8	5.1	27.9	53.0	19.1
Maine	30.4	..	69.6	.6	95.8	3.6	31.2	..	68.8
Maryland	18.7	32.3	49.0	1.4	97.6	1.0	17.2	32.7	50.1
Massachusetts	10.5	..	89.5	.4	99.2	.3	9.0	..	90.1
Michigan	16.4	.7	82.9	.4	92.2	7.4	17.1	.8	82.1
Minnesota	20.5	5.8	73.7	4.4	88.0	7.0	17.8	5.1	77.1
Mississippi	33.1	25.7	41.2	.4	94.1	1.5	32.3	25.8	41.9
Missouri	10.6	1.9	87.5	4.2	95.3	.5	8.0	.6	91.4
Montana	12.8	36.9	50.3	8.9	88.8	2.3	4.1	41.6	54.3
Nebraska	5.8	.6	93.6	3.1	93.8	3.1	1.7	.6	97.7
Nevada	23.2	02.4	14.4	7.6	90.8	1.6	15.4	68.7	15.9
New Hampshire	10.4	..	89.6	.6	98.2	1.2	10.2	..	89.8
New Jersey	20.2	.8	79.0	.6	97.4	2.0	20.0	.8	79.2
New Mexico	30.2	56.0	13.8	17.6	80.2	2.0	14.0	68.6	16.4
New York	27.1	..	72.9	..	98.7	1.3	27.2	..	72.8
North Carolina	11.9	61.4	26.7	.1	95.6	4.3	11.6	69.8	26.6
North Dakota	10.3	3.4	86.3	7.7	92.0	.3	2.5	3.7	93.8
Ohio	5.3	30.3	64.4	.4	96.0	3.0	5.0	31.4	63.6
Oklahoma	7.6	8.3	84.1	5.8	92.6	1.6	1.4	8.9	89.7
Oregon	13.6	19.0	67.4	2.0	97.8	.2	11.7	19.4	68.9
Pennsylvania	17.2	..	82.8	.1	95.5	4.4	17.6	..	82.4
Rhode Island	15.8	..	84.2	.1	99.5	.4	15.3	..	84.7
South Carolina	25.2	26.1	48.7	.1	89.5	10.4	26.4	29.1	55.4
South Dakota	9.5	..	90.5	9.0	85.3	5.7	.3	..	99.7
Tennessee	25.7	55.8	18.5	.7	98.2	1.1	24.6	56.8	18.6
Texas	36.2	3.9	59.9	4.4	89.1	6.5	36.7	2.5	60.8
Utah	35.4	..	64.6	3.0	94.7	2.3	33.9	..	66.1
Vermont	14.7	..	85.3	1.6	95.9	2.5	12.9	..	87.1
Virginia	28.5	57.0	14.5	.8	94.6	4.6	26.7	58.0	15.3
Washington	20.7	16.7	53.6	3.9	90.4	5.7	28.2	17.4	54.4
West Virginia	8.1	.7	91.2	.2	95.2	4.6	6.9	.8	92.3
Wisconsin	10.6	9.5	79.9	1.0	97.5	1.5	9.8	8.7	81.5
Wyoming	33.1	16.6	50.3	15.5	88.2	16.3	2.4	24.3	73.3
<i>Outlying parts of the United States</i>									
Alaska	74.2	..	25.8	..	100.0	..	74.2	..	25.8
American Samoa	..	..	..	..	100.0	..	100.0	..	..
Canal Zone	100.0	..	..	..	97.2	2.8	100.0	..	..
Guam	99.4	..	.6	..	78.9	21.1	100.0	..	..
Hawaii	73.2	26.8	..	..	99.7	.3	73.1	26.9	..
Philippine Islands	64.1	14.0	21.9	..	100.0	..	64.1	14.0	21.9
Porto Rico	74.2	25.8	..	..	100.0	..	74.2	25.8	..
Virgin Islands	100.0	..	..	..	100.0	..	100.0	..	..

TABLE 20.—Receipts from permanent school funds and leases of school lands, 1927-28

State	Receipts from—		Total receipts from permanent funds and leases of school lands			
	Permanent funds	Leases of school lands	State	County	Local	Total, including undistributed items
1	2	3	4	5	6	7
Continental U. S. A.....	\$21,652,481	\$4,738,316	\$22,606,358	\$1,619,342	\$2,075,097	\$26,300,797
Arizona.....	126,875	175,321	273,719	128,677	.....	302,396
Arkansas.....	65,725	.....	65,725	.....	.....	65,725
California.....	506,843	34,368	541,206	.....	.....	541,206
Colorado.....	790,759	(1)	790,759	.....	.....	790,759
Connecticut.....	226,980	0	125,672	.....	101,308	226,980
Delaware.....	57,202	0	53,602	.....	3,600	57,202
Florida.....	272,578	.....	272,578	.....	.....	272,578
Idaho.....	608,093	136,303	744,396	.....	.....	744,396
Illinois.....	461,702	816,541	57,000	.....	1,221,243	1,278,243
Indiana.....	1,071,675	(2)	879,741	.....	191,934	1,071,675
Iowa.....	478,774	.....	478,774	.....	.....	478,774
Kansas.....	516,590	0	516,590	.....	.....	516,590
Kentucky.....	8,131	.....	8,131	.....	.....	8,131
Louisiana.....	152,022	72,083	152,022	72,083	.....	224,105
Maine.....	72,421	.....	33,718	.....	38,703	72,421
Maryland ¹	292,869	0	292,869	.....	.....	292,869
Massachusetts.....	339,270	0	339,270	.....	.....	339,270
Michigan.....	364,614	.....	364,614	.....	.....	364,614
Minnesota.....	2,204,356	(1)	2,204,356	.....	.....	2,204,356
Mississippi.....	62,191	0	62,191	.....	.....	62,191
Missouri.....	1,718,729	0	1,040,597	553,410	124,722	1,718,729
Montana.....	778,701	389,351	1,168,052	.....	.....	1,168,052
Nebraska.....	486,719	394,072	880,791	.....	.....	880,791
Nevada.....	130,179	27,940	158,119	.....	.....	158,119
New Hampshire.....	40,062	0	2,389	.....	37,673	40,062
New Jersey.....	527,704	0	500,000	27,704	.....	527,704
New Mexico.....	161,595	822,154	983,749	.....	.....	983,749
North Carolina.....	43,528	0	43,528	.....	.....	43,528
North Dakota.....	975,772	105,139	1,080,911	.....	.....	1,080,911
Ohio.....	279,110	268,644	279,110	.....	268,644	547,754
Oklahoma.....	1,658,988	714,246	1,773,234	.....	.....	1,773,234
Oregon.....	404,120	.....	404,120	.....	.....	404,120
Pennsylvania.....	100,590	0	100,590	.....	.....	100,590
Rhode Island.....	14,264	0	14,264	.....	.....	14,264
South Carolina.....	15,603	0	15,603	.....	.....	15,603
South Dakota.....	979,140	520,608	1,499,748	.....	.....	1,499,748
Tennessee.....	150,750	.....	150,750	.....	.....	150,750
Texas.....	2,335,627	(1)	1,458,056	877,571	.....	2,335,627
Utah.....	299,815	22,321	322,136	.....	.....	322,136
Vermont.....	60,953	14,182	60,953	.....	14,182	75,135
Virginia.....	178,530	0	178,530	.....	.....	178,530
Washington.....	828,325	224,848	1,053,173	.....	.....	1,053,173
West Virginia.....	40,610	.....	40,610	.....	.....	40,610
Wisconsin.....	422,630	.....	289,645	59,897	73,088	422,630
Wyoming.....	940,767	(1)	940,767	.....	.....	940,767

¹ From United States forest reserve fund.

² Included in column 2.

³ Principal of permanent school fund distributed and fund abolished.

⁴ Statistics of 1927.

TABLE 21.—Income from appropriation and taxation, 1927-28

State	State	County	Local	Total
1	2	3	4	5
Continental United States.....	\$308,392,472	\$208,217,612	\$1,392,298,839	\$1,908,908,923
Alabama.....	7,518,232	5,115,209	4,212,237	16,845,678
Arizona.....	1,689,507	3,484,054	4,240,032	9,413,593
Arkansas.....	3,673,593	315,000	6,935,412	10,924,005
California.....	24,223,750	35,013,601	61,230,483	120,467,834
Colorado.....	20,000	5,053,351	15,396,081	20,469,432
Connecticut.....	754,071		29,372,148	30,126,219
Delaware.....	3,465,198		536,376	4,001,574
District of Columbia.....	3,333,934		8,898,965	12,232,899
Florida.....	1,787,362	6,501,061	10,148,250	18,526,703
Georgia.....	5,011,564	5,050,558	5,863,770	15,925,892
Idaho.....	74,732	2,615,612	6,165,139	8,855,483
Illinois.....	8,200,943	203,369	119,583,290	127,987,602
Indiana.....	4,171,762	226,050	56,561,256	60,959,068
Iowa.....	1,649,898	337,923	44,811,665	46,799,486
Kansas.....	245,198		33,801,607	34,046,805
Kentucky.....	5,795,885	5,740,106	8,664,788	20,200,779
Louisiana.....	5,172,274	9,843,387	3,539,405	18,555,066
Maine.....	3,135,646		6,930,325	10,065,971
Maryland.....	3,410,515	6,485,819	9,946,963	19,843,297
Massachusetts.....	8,227,604		74,720,273	82,947,877
Michigan.....	15,453,752	712,087	74,138,811	90,304,650
Minnesota.....	7,979,564	2,265,727	34,435,431	44,680,722
Mississippi.....	5,577,527	4,467,026	7,256,858	17,301,411
Missouri.....	3,115,866	225,000	35,686,744	39,027,610
Montana.....	481,061	4,836,790	6,315,463	11,633,314
Nebraska.....	448,747	165,926	26,217,977	26,832,650
Nevada.....	290,116	1,292,484	298,500	1,881,100
New Hampshire.....	710,901		6,274,321	6,985,222
New Jersey.....	17,843,793	681,986	70,592,959	89,118,738
New Mexico.....	629,205	3,131,574	736,706	4,497,485
New York.....	72,547,886		194,113,754	266,661,640
North Carolina.....	3,685,436	19,643,301	8,472,986	31,801,723
North Dakota.....	327,300	489,000	12,152,072	12,959,372
Ohio.....	6,360,408	40,373,368	81,788,756	128,522,532
Oklahoma.....	400,806	2,517,561	25,408,636	28,387,003
Oregon.....	2,292,226	3,817,340	13,565,624	19,675,190
Pennsylvania.....	28,704,210		133,028,448	161,522,658
Rhode Island.....	2,146,783		11,849,695	13,996,478
South Carolina.....	3,440,916	3,792,862	5,788,096	13,021,874
South Dakota.....	49,000		14,151,576	14,200,576
Tennessee.....	5,144,365	11,872,882	3,876,270	20,893,517
Texas.....	17,251,718	1,185,049	28,527,451	46,964,218
Utah.....	3,467,960		6,758,462	10,226,422
Vermont.....	586,232		3,968,660	4,554,892
Virginia.....	5,382,038	11,678,900	3,082,530	20,143,468
Washington.....	6,960,777	4,297,467	13,421,359	24,679,603
West Virginia.....	1,731,347	191,300	23,098,133	25,020,780
Wisconsin.....	3,933,330	3,504,241	32,629,520	40,067,091
Wyoming.....	97,534	1,009,641	3,044,546	4,151,721
<i>Outlying parts of the United States</i>				
Alaska.....	*500,124		173,759	673,883
American Samoa ¹	23,389			23,389
Canal Zone.....	319,665			319,665
Guam.....	46,289			46,289
Hawaii.....	4,118,237	1,515,060		5,633,297
Philippine Islands ²	8,852,442	1,935,435	3,026,795	13,814,672
Porto Rico.....	4,328,891	1,505,577		5,834,468
Virgin Islands.....	113,867			113,867

1 From Federal appropriation.

2 Statistics of 1927.

3 Distribution estimated.

TABLE 22.—Income from Federal Government, from all other sources, and total revenue receipts, 1927-28

State	Receipts from revenue sources other than those designated in Tables 16 and 17 and columns 6 and 7 in this table					Total revenue receipts					
	1	2	3	4	5	6	7	8	9	10	11
	State	County	Local	Total	Federal aid for vocational education	Subsidies from educational foundations	State	County	Local	Grand total	
Continental United States	\$2,190,055	\$9,242,513	\$71,876,470	\$83,309,038	\$6,174,307	\$807,273	\$333,278,885	\$219,079,407	\$1,466,250,406	\$2,025,740,338	
Alabama	22,445	1,152,894	304,242	1,479,581	129,195	69,196	7,540,677	6,298,103	4,516,479	18,523,650	
Arizona	117,333	5,014	36,822	42,303	22,043	56,912	1,963,803	3,517,715	4,276,854	9,781,135	
Arkansas	2,620	249,683	208,197	475,013	90,122	12,710	3,737,051	564,683	7,143,609	11,621,377	
California	4,535	87,835	5,567,975	5,658,430	339,570	42,000	24,767,575	35,101,436	66,798,458	127,076,130	
Colorado	12,744	4,407,760	4,320,536	4,320,536	42,000	28,823	810,759	3,053,351	19,716,617	25,622,727	
Connecticut	4,535	408,611	403,611	408,146	85,502	27,063	884,278	29,877,067	29,877,067	30,846,847	
Delaware	12,744	24,180	24,180	26,924	19,300	28,823	3,331,544	544,156	4,115,000	4,115,000	
District of Columbia	55,548	4,407,760	5,427	4,463,308	54,531	27,063	3,343,304	10,998,821	8,904,392	12,238,326	
Florida	30,997	96,224	952,537	952,537	157,000	28,823	2,011,488	5,050,558	6,516,327	23,344,723	
Georgia	4,535	1,142,759	1,142,759	1,142,759	63,741	28,823	5,011,504	2,615,612	7,307,898	10,806,379	
Idaho	12,744	12,567,473	12,567,473	12,663,697	366,722	28,823	819,128	2,615,612	133,372,006	142,294,264	
Illinois	30,997	1,440,340	1,440,340	1,440,340	165,512	28,823	8,277,943	290,583	58,162,533	63,636,595	
Indiana	4,535	1,654,589	1,654,589	1,654,589	128,239	28,823	5,050,558	226,060	46,406,254	49,061,108	
Iowa	4,535	7,180,158	7,180,158	7,180,158	67,530	28,823	2,128,672	337,923	40,981,765	41,811,083	
Kansas	1,257	1,128,206	1,128,206	1,128,206	127,605	18,018	5,804,016	5,740,106	9,792,994	21,482,739	
Kentucky	2,154	809,948	355,017	811,265	92,920	110,531	5,325,533	10,735,418	3,539,405	19,793,827	
Louisiana	4,535	89,154	18,688	355,017	27,228	18,581	3,169,364	6,574,973	7,324,045	10,530,637	
Maine	4,535	89,154	18,688	355,017	473,246	18,581	3,705,538	6,574,973	7,324,045	20,337,989	
Maryland	4,535	89,154	18,688	355,017	215,078	18,581	8,566,574	6,574,973	7,324,045	83,502,225	
Massachusetts	4,535	89,154	18,688	355,017	215,078	18,581	8,566,574	6,574,973	7,324,045	83,502,225	
Michigan	4,535	89,154	18,688	355,017	215,078	18,581	8,566,574	6,574,973	7,324,045	83,502,225	
Minnesota	4,535	89,154	18,688	355,017	215,078	18,581	8,566,574	6,574,973	7,324,045	83,502,225	
Mississippi	4,535	89,154	18,688	355,017	215,078	18,581	8,566,574	6,574,973	7,324,045	83,502,225	
Missouri	4,535	89,154	18,688	355,017	215,078	18,581	8,566,574	6,574,973	7,324,045	83,502,225	
Montana	4,535	89,154	18,688	355,017	215,078	18,581	8,566,574	6,574,973	7,324,045	83,502,225	
Nebraska	271,133	546,843	546,843	817,978	73,454	32,074	1,600,673	165,926	26,764,820	28,604,873	
Nevada	4,535	89,154	18,688	355,017	215,078	18,581	8,566,574	6,574,973	7,324,045	83,502,225	

STATE SCHOOL SYSTEMS

New Hampshire.....	1, 059	27, 872	60, 858	61, 917	21, 467	714, 349	737, 562	6, 372, 852	7, 108, 688
New Jersey.....	62, 121	7, 500	1, 658, 134	1, 686, 006	162, 388	18, 843, 793	72, 251, 063	72, 251, 063	91, 494, 856
New Mexico.....			36, 495	106, 116	18, 533	1, 675, 075	3, 139, 074	773, 201	5, 605, 883
New York.....			2, 957, 193	2, 957, 193	564, 687	72, 547, 886	197, 070, 047	197, 070, 047	270, 183, 520
North Carolina.....		774, 869	407, 476	1, 182, 345	159, 539	3, 728, 964	20, 418, 170	8, 880, 462	33, 263, 377
North Dakota.....					42, 696	1, 408, 211	480, 000	12, 152, 072	14, 062, 979
Ohio.....			3, 654, 832	3, 654, 832	380, 919	6, 639, 518	40, 373, 368	85, 712, 232	133, 106, 037
Oklahoma.....		26, 328	338, 639	364, 967	110, 725	2, 174, 040	2, 543, 889	25, 807, 275	30, 666, 964
Oregon.....			7, 049, 392	7, 049, 392	42, 116	2, 696, 346	3, 817, 340	13, 565, 624	20, 121, 426
Pennsylvania.....					425, 671	28, 594, 800	140, 077, 840	140, 077, 840	169, 068, 311
Rhode Island.....					38, 044	2, 161, 047	11, 849, 695	11, 849, 695	14, 072, 362
South Carolina.....			1, 301, 131	1, 301, 131	129, 467	3, 456, 519	7, 089, 227	7, 089, 227	14, 557, 148
South Dakota.....			1, 912, 675	1, 912, 675	33, 449	1, 548, 748	3, 792, 862	15, 064, 251	16, 646, 448
Tennessee.....		2, 678	53, 020	55, 698	131, 633	5, 205, 115	11, 875, 560	3, 929, 290	21, 266, 783
Texas.....	38, 250		3, 081, 871	3, 120, 121	254, 057	18, 748, 024	2, 062, 620	31, 609, 322	52, 744, 023
Utah.....	26, 207		210, 716	210, 716	33, 095	3, 790, 096		6, 969, 178	10, 792, 369
Vermont.....	144, 052	455, 671	68, 529	94, 736	24, 551	673, 392		4, 051, 371	4, 749, 314
Virginia.....			599, 723	599, 723	154, 903	5, 704, 620	12, 134, 571	3, 082, 530	21, 291, 022
Washington.....	286, 525		1, 195, 237	1, 481, 762	76, 028	8, 300, 475	4, 297, 467	14, 616, 596	27, 290, 566
West Virginia.....	256, 553		860, 069	1, 116, 642	75, 907	2, 628, 510	191, 300	23, 988, 222	26, 294, 939
Wisconsin.....		332, 001	122, 962	454, 963	150, 267	4, 222, 975	3, 896, 139	32, 825, 570	41, 094, 971
Wyoming.....	953, 453		19, 203	972, 656	20, 000	1, 991, 754	1, 009, 641	3, 063, 749	6, 065, 144
Outlying parts of the United States									
Alaska.....						500, 124		173, 759	673, 883
American Samoa.....				9, 211		328, 876			23, 398
Canal Zone.....				342		46, 289		842	328, 876
Guam.....	9, 211		342		12, 000				58, 631
Hawaii.....					17, 465	118, 237	1, 515, 060		5, 050, 762
Philippine Islands.....									13, 814, 672
Porto Rico.....								3, 026, 795	5, 834, 468
Virgin Islands.....									113, 867

1 From United States forest reserve fund.

2 Includes \$144,400 from United States forest reserve fund for general purposes and \$60,141 for education of Indian children.

3 Federal appropriation for all purposes.

4 Includes \$12,704 for education of children of Navy men stationed at Indianhead.

5 Includes \$19,669 for education of Indian children

6 Statistics of 1927.

TABLE 23.—Nonrevenue receipts, total of all receipts; and balances on hand, 1927-28

State	Nonrevenue receipts				Total revenue and nonrevenue receipts, excluding balance on hand						Balance on hand from school year 1927-28
	From loans and bond sales	From sales of property and insurance adjustments	Other non-revenue receipts	Total	Subsidies from educational foundation	Federal	State	County	Local	Total, including undistributed items	
1	2	3	4	5	6	7	8	9	10	11	12
Continental United States	\$286,963,018	\$6,880,983	\$5,113,731	\$298,957,732	\$967,273	\$6,174,307	\$336,791,691	\$254,761,179	\$1,726,013,544	\$2,324,707,994	\$501,079,178
Alabama	4,149,161	82,826	.....	4,231,987	66,196	128,195	7,540,677	3,021,916	6,994,653	22,755,637	2,329,419
Arizona	1,327,582	26,431	26,732	1,383,745	.....	22,643	1,963,803	3,517,745	5,660,599	11,164,890	3,163,704
Arkansas	3,235,125	85,732	.....	3,320,857	56,912	90,122	3,757,051	564,683	10,474,465	14,942,234	1,783,291
California	13,821,982	.....	.....	13,821,982	12,710	1,395,050	24,767,576	35,101,436	80,620,440	140,898,112	35,123,967
Colorado	.....	.....	.....	.....	42,000	42,000	810,739	5,053,351	19,716,617	25,622,727	2,949,714
Connecticut	5,642,587	.....	353,720	5,996,317	.....	85,502	894,278	.....	35,873,394	36,843,164	807,681
Delaware	311,224	39,938	486	351,648	.....	19,300	3,534,643	.....	912,385	4,466,048	112,513
District of Columbia	.....	.....	.....	.....	.....	.....	.....	.....	8,904,392	12,238,326	1,699,343
Florida	14,299,361	.....	27,603	14,299,361	27,603	54,531	2,115,488	25,298,182	10,148,280	37,644,064	9,091,663
Georgia	3,704,707	244,999	28,823	3,949,706	28,823	157,000	5,011,564	5,050,558	10,766,033	21,013,978	879,924
Idaho	524,796	.....	.....	524,796	.....	63,741	819,128	2,615,612	7,832,694	11,331,175	1,108,810
Illinois	18,644,478	1,276,146	.....	19,920,624	.....	366,722	8,257,943	298,593	153,292,630	162,216,888	36,579,724
Indiana	4,809,479	639,820	.....	5,349,299	.....	165,512	5,082,500	226,050	63,511,832	68,985,894	42,865,245
Iowa	4,967,227	395,757	.....	5,362,984	.....	128,259	2,128,672	337,923	47,829,238	50,424,092	20,882,888
Kansas	2,045,660	51,893	.....	2,097,553	.....	67,530	761,788	.....	43,079,318	43,906,636	5,910,978
Kentucky	4,145,448	.....	.....	4,145,448	18,018	127,605	5,804,016	7,050,909	12,027,639	25,628,187	2,270,698
Louisiana	3,853,000	305,149	179,923	4,338,072	110,531	92,920	5,325,553	15,093,490	3,529,405	24,131,599	4,185,546
Maine	2,529,579	200,241	.....	2,729,820	.....	27,228	3,169,364	.....	7,524,246	10,720,878	387,760
Maryland	.....	74,284	26,983	2,630,846	18,581	173,246	3,705,538	7,603,932	11,567,538	22,968,835	634,787
Massachusetts	.....	.....	.....	.....	.....	215,078	8,566,874	.....	74,720,273	83,502,225	.....
Michigan	25,566,346	.....	.....	25,566,346	206,468	206,468	15,818,366	712,087	106,718,157	123,455,078	25,621,387
Minnesota	3,067,805	.....	.....	3,067,805	132,880	132,880	10,183,920	2,019,185	40,271,801	53,507,786	13,469,066
Mississippi	1,631,782	.....	695,000	2,326,782	74,390	125,172	6,334,718	5,563,753	7,923,074	19,991,107	7,903,900
Missouri	10,030,459	.....	.....	10,030,459	.....	183,778	4,186,463	778,410	45,841,925	50,970,676	17,171,314
Montana	1,030,910	66,515	13,387	1,110,712	.....	27,235	1,649,113	4,836,790	7,698,468	14,211,666	4,362,353
Nebraska	1,377,411	164,599	350,167	1,892,177	.....	73,454	1,600,673	165,926	28,658,997	30,499,050	5,038,602
Nevada	37,242	161,378	.....	198,620	.....	132,074	448,285	1,292,484	497,120	2,269,913	7,48,067
New Hampshire	279,507	10,799	92,408	382,714	.....	21,467	714,349	.....	6,755,460	7,491,306	476,567

New Jersey.....	20,851,047	90,030	56,000	21,027,077	162,388	18,343,793	737,562	98,278,170	112,521,913	13,698,541
New Mexico.....	390,566	25,000	85,000	506,566	18,533	1,675,075	3,139,074	1,279,787	6,112,409	.....
New York.....	39,322,775	339,487	.....	30,322,775	564,687	72,547,896	24,136,581	236,393,722	300,506,295	99,714,340
North Carolina.....	9,038,711	.....	.....	9,378,198	159,539	6,510,600	24,680,000	11,759,553	42,641,575	3,090,100
North Dakota.....	996,138	.....	.....	996,138	42,696	1,408,211	40,373,968	13,149,210	15,079,117	8,657,641
Ohio.....	23,630,010	431,834	2,350,605	26,692,649	380,919	6,639,578	40,373,968	112,494,951	139,798,696	33,910,587
Oklahoma.....	1,764,165	21,416	.....	1,785,581	110,725	2,174,040	2,543,889	27,592,856	32,452,795	4,715,281
Oregon.....	4,879,259	39,508	.....	4,918,767	42,116	2,696,346	3,817,340	18,484,391	25,040,193	3,158,602
Pennsylvania.....	29,789,635	.....	.....	29,789,635	425,671	28,594,800	.....	169,867,475	198,887,846	32,890,319
Rhode Island.....	.....	.....	.....	.....	38,044	2,161,047	.....	11,849,095	14,072,362	.....
South Carolina.....	622,658	.....	.....	622,658	129,467	3,456,519	3,792,862	7,711,885	15,179,806	2,005,194
South Dakota.....	430,668	.....	.....	430,668	33,449	1,548,748	.....	15,494,919	17,077,116	8,716,902
Tennessee.....	1,498,255	846,621	.....	2,342,876	131,633	5,295,115	12,477,420	5,670,308	23,609,659	2,168,993
Texas ¹	13,623,015	458,455	.....	14,081,470	254,057	18,780,715	3,586,273	44,135,448	66,825,493	17,639,418
Utah.....	476,576	46,649	247,527	770,752	33,095	3,790,090	.....	7,739,930	11,563,121	721,467
Vermont.....	.....	.....	.....	.....	24,551	673,392	.....	4,051,371	4,749,314	.....
Virginia.....	1,312,812	166,192	.....	1,479,004	154,903	5,704,620	13,613,575	3,082,530	22,770,026	2,134,665
Washington.....	2,447,558	.....	.....	2,447,558	76,028	8,300,475	4,297,467	17,064,154	29,738,124	6,052,832
West Virginia.....	.....	142,571	.....	142,571	75,907	2,028,510	191,300	24,100,793	26,407,510	3,187,270
Wisconsin.....	8,148,873	523,169	651,482	9,327,625	150,287	4,222,975	8,551,812	37,497,522	50,422,596	17,103,448
Wyoming.....	373,519	18,544	.....	392,063	20,000	1,991,754	1,009,641	3,455,812	6,477,207	931,247
<i>Outlying parts of the United States</i>										
Alaska.....	.....	.....	.....	.....	.....	500,124	.....	173,759	673,893	.....
American Samoa ¹.....	.....	.....	.....	.....	.....	329,990	.....	.....	23,388	.....
Canal Zone.....	.....	1,114	.....	1,114	.....	46,289	.....	.....	329,990	.....
Guam.....	.....	3,651	.....	3,651	12,000	.....	.....	3,993	62,282	.....
Hawaii.....	.....	.....	.....	.....	17,465	4,118,237	1,515,060	.....	5,630,762	.....
Philippine Islands.....	.....	.....	.....	.....	.....	8,852,442	1,935,435	3,026,795	13,814,672	2,014,006
Porto Rico.....	.....	.....	.....	.....	.....	4,328,891	1,505,577	.....	5,834,468	.....
Virgin Islands.....	.....	.....	.....	.....	.....	113,867	.....	.....	113,867	.....

¹ Statistics of 1927.

Nebraska.....	251,675	1,085,137	178,467	1,515,279	15,994,390	590,161	739,405	17,322,956	1,085,871	1,452,600	2,538,471	943,433
Nevada.....	18,776	69,000	8,614	87,776	3,315,628	46,264	91,683	1,453,575	98,825	93,284	192,111	77,872
New Hampshire.....	39,027	244,188	144,563	391,829	3,613,965	120,569	182,276	3,916,210	307,896	336,434	644,140	157,205
New Jersey.....	1,467,610	1,801,279	1,444,563	3,473,452	49,941,518	1,308,622	2,276,781	53,527,921	4,739,613	3,164,062	7,903,677	3,641,704
New Mexico.....	69,500	201,069	123,327	270,569	3,333,764	71,326	12,327	3,417,417	179,443	204,016	383,459	131,164
New York.....	2,398,546	3,532,565	1,436,491	7,367,602	165,567,458	2,186,189	3,897,246	171,650,863	10,083,769	7,876,204	17,939,975	8,517,247
North Carolina.....	111,350	283,227	112,884	514,071	20,119,607	412,879	412,879	20,532,488	719,273	639,187	1,638,460	697,264
North Dakota.....	1,486,824	3,795,680	1,446,604	5,282,504	8,104,805	287,651	299,429	8,391,285	516,482	1,264,284	1,780,766	350,615
Ohio.....	95,000	1,197,162	154,472	1,446,604	65,336,317	1,603,685	2,547,252	69,489,254	6,544,519	6,280,300	11,824,819	5,633,251
Oklahoma.....	4,081,079	2,590,447	94,575	392,983	11,036,642	11,882	607,333	11,643,965	671,075	1,400,229	2,071,304	704,916
Oregon.....	109,769	53,566	48,604	7,785,410	91,033,248	3,120,447	4,192,253	98,345,950	7,366,595	5,642,000	13,008,595	5,711,473
Pennsylvania.....	180,476	824,447	82,879	1,087,804	10,054,549	330,327	955,029	10,161,594	653,690	415,496	1,069,186	452,159
Rhode Island.....	113,283	508,339	54,030	621,622	14,566,830	1,257,124	339,410	14,906,240	440,987	687,580	1,128,277	557,977
South Carolina.....	1,367,494	2,655,716	116,540	4,077,240	23,605,551	133,667	320,360	24,802,675	1,629,320	1,088,625	2,717,945	3,688,585
South Dakota.....	160,656	169,419	22,472	446,615	5,847,188	77,183	137,669	6,301,215	442,084	377,170	819,254	383,797
Tennessee.....	23,947	189,602	655,739	236,021	2,745,039	90,011	316,851	2,639,801	208,106	240,408	448,514	291,313
Texas.....	201,087	501,583	16,680	1,320,593	17,553,100	481,200	644,445	18,678,745	2,234,583	2,592,653	2,724,109	1,485,651
Utah.....	481,494	986,709	17,099	719,360	17,089,464	254,259	457,892	17,801,615	2,243,583	2,592,653	2,377,743	525,964
Vermont.....	58,916	288,856	17,099	1,485,202	26,945,908	570,694	1,418,154	28,964,786	2,243,583	2,592,653	4,827,246	1,879,306
Virginia.....	3,853	36,950	40,803	347,772	3,646,448	114,596	163,137	3,924,180	243,648	263,451	507,099	1,180,001
Washington.....	3,853	36,950	40,803	347,772	3,646,448	114,596	163,137	3,924,180	243,648	263,451	507,099	1,180,001
West Virginia.....	101,937	157,789	19,200	466,769	3,898,363	72,174	33,717	10,484,022	121,727	212,729	334,456	129,640
Wisconsin.....	3,300	6,300	9,600	19,200	72,174	2,000	33,717	3,932,080	121,727	212,729	334,456	129,640
Wyoming.....	101,937	157,789	19,200	466,769	3,898,363	72,174	33,717	10,484,022	121,727	212,729	334,456	129,640
American Samoa ¹.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Canal Zone.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Guam.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hawaii.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Philippine Islands.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Porto Rico.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Virgin Islands.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

¹ Total of States-reporting.
² Includes expenses of night schools and classes.
³ Included in column 6.
⁴ Included in column 12.
⁵ Estimated.
⁶ Statistics of 1927.
⁷ Included in instruction.

Outlying parts of the United States

TABLE 25.—Payments for auxiliary agencies, fixed charges, interest on indebtedness, miscellaneous current expenses, and capital outlay, 1927-28

State	Auxiliary agencies						Fired charges (pensions, rent, insurance, tributions, contingencies)	Interest on indebtedness	Total miscellaneous current expenses	Capital outlay		
	Libraries	Promotion of health	Transportation of pupils	Compulsory attendance	Other auxiliary agencies	Total auxiliary agencies				New buildings and grounds alterations (not repairs)	Cost of new equipment (not re-placements)	Total capital outlay
1	2	3	4	5	6	7	8	9	10	11	12	13
Continental U. S.	\$5,648,466	\$9,129,583	\$39,654,280	\$2,811,529	\$23,971,872	\$87,867,484	\$42,217,476	\$92,024,739	\$500,470,320	\$252,492,626	\$38,042,656	\$382,996,156
Alabama		20,341	1,051,921	71,730	20,318	1,164,310	192,816	226,446	2,700,724	3,646,308	405,959	4,052,267
Arizona		58,915	213,943	10,934	34,588	318,390	156,451	722,984	2,077,620	190,625	196,185	2,366,810
Arkansas			169,980			169,980	203,683	886,986	2,252,637			2,158,736
California						4,187,573	2,824,191	1,902,144	21,341,489			33,201,939
Colorado							377,203	1,902,144	8,095,827			1,979,798
Connecticut		269,199	784,230	91,941	143,296	1,288,660	2,784	1,477,542	6,900,590	5,021,315	446,830	5,468,145
Delaware	8,826	12,330	157,219		1,952	180,327	23,825	50,886	604,573	238,150	25,010	263,160
District of Columbia			3,780	27,178	56,416	87,374	125,133	1,635,012	1,635,012	2,904,213	329,395	3,263,608
Florida			989,359		2,278,168	3,207,527	245,712	3,685,768	8,612,719	6,813,897	196,981	7,010,878
Georgia	39,661	8,896	854,729	42,271	382,346	1,527,903	201,846	()	2,843,739	986,645	494,832	1,481,377
Idaho		26,915	323,145	29,584	33,981	413,623	128,893	1,244,148	3,149,048	839,300	276,389	1,115,689
Illinois		276,194	298,431	336,219	5,642,653	7,078,688	1,487,395	4,580,324	34,241,337	28,023,729	1,528,190	29,549,919
Indiana		152,279	4,383,680	87,649	894,888	5,647,016	1,187,746	2,185,104	20,579,224	8,870,114	3,810,578	12,680,692
Iowa		150,000	2,080,726	35,000		2,274,726	1,500,000	2,377,416	15,893,719	2,203,083	843,664	3,046,747
Kansas			292,005		4,862,208	5,154,213	550,389	550,389	14,576,038			4,623,305
Kentucky		636,650				636,650	357,957	389,743	3,555,265	3,580,180	522,013	3,775,327
Louisiana		94,326	1,632,638		20,733	1,747,697	231,953	1,393,873	4,980,162	3,580,180	522,013	4,702,163
Maine		23,144	560,466		294,549	908,159	201,982	509,691	3,248,136	637,950	114,842	752,792
Maryland		164,741	463,380	58,240	106,999	813,369	943,972	1,062,923	4,918,914			3,430,589
Massachusetts		946,196	1,728,141		1,143,348	3,817,685	685,510	1,062,923	15,673,517	11,385,742	1,138,644	12,524,386
Michigan	1,941,709		646,714	()		2,588,423	()	()	35,398,589			21,221,754
Minnesota			1,704,344			1,704,344	1,847,923	2,372,627	12,215,158	2,078,244	390,602	2,468,846
Mississippi						2,464,181	290,629	979,776	4,197,555	273,796	39,250	313,046
Missouri			104,434			104,434	()	591,639	9,791,776			13,065,083
Montana		33,647	497,683	22,561	125,337	679,528	193,281	1,268,639	3,176,808	1,268,639	234,237	1,502,878
Nebraska	122,360	103,592	282,033		230,622	738,607	372,627	997,573	5,590,711	2,078,244	390,602	2,468,846
Nevada		3,911	72,839		66,903	143,653	28,501	28,501	442,137	273,796	39,250	313,046
New Hampshire		95,664	391,219	23,137	169,468	679,386	51,162	303,162	1,835,057	480,286	90,157	570,452

STATE SCHOOL SYSTEMS

New Jersey.....	132,901	1,213,927	1,878,888	448,422	462,737	4,136,875	708,522	8,159,624	24,550,402	20,792,715	1,748,460	22,541,175
New Mexico.....	.....	6,213	324,099	8,003	.....	338,315	71,796	309,486	1,234,220	226,727	1,134,913	22,361,640
New York.....	1,708,313	1,916,780	1,355,349	(¹)	1,718,290	6,698,742	11,781,225	19,969,113	64,926,302	46,617,427	10,649,826	57,267,253
North Carolina.....	.....	51,981	1,676,442	80,215	88,519	1,897,157	3,267,181	3,267,181	7,828,214	7,101,244	1,974,410	9,075,654
North Dakota.....	.....	12,682	963,012	.....	1,182,195	2,187,889	3,088,152	745,219	5,064,489	1,207,352	189,347	1,396,699
Ohio.....	.....	790,261	3,777,886	320,321	1,018,462	5,906,630	3,471,960	11,137,427	37,974,387	23,936,502	3,017,738	26,954,240
Oklahoma.....	.....	151,562	781,274	(¹)	228,738	1,161,514	142,890	2,932,006	7,108,116	1,143,690	671,949	1,753,639
Oregon.....	43,388	.....	494,063	.....	.....	537,471	210,187	861,449	4,385,327	3,248,447	317,787	3,566,234
Pennsylvania.....	473,910	1,243,075	1,974,674	750,906	781,132	5,223,697	4,741,163	7,826,129	36,511,057	32,083,475	2,695,601	34,789,076
Rhode Island.....	.....	94,980	108,778	64,566	-251,389	519,713	121,696	753,132	2,915,886	2,690,337	349,350	3,039,687
South Carolina.....	.....	.....	737,048	.....	.....	737,048	1,021,426	1,021,426	3,637,072	1,311,235	300,000	1,611,255
South Dakota.....	.....	.....	404,645	.....	.....	404,545	1,107,824	1,107,824	3,572,005	934,966	269,656	1,204,622
Tennessee.....	.....	30,419	600,967	103,872	472,373	1,207,631	343,803	4,244,766	3,237,638	3,543,085	450,784	4,002,869
Texas.....	215,813	32,090	543,827	21,063	7,148	759,440	3,145,373	4,244,766	14,559,050	11,699,163	422,436	12,421,599
Utah.....	.....	.....	464,374	.....	.....	524,695	90,032	389,337	2,407,115	1,302,876	183,874	1,486,750
Vermont.....	.....	14,291	284,832	5,158	75,566	378,847	94,884	150,400	1,314,958	460,052	38,915	518,967
Virginia.....	.....	91,823	793,584	11,790	197,706	1,094,903	688,378	881,433	4,501,708	2,340,002	572,065	2,912,067
Washington.....	.....	97,014	1,423,022	.....	.....	1,520,074	788,537	1,557,327	8,075,660	3,404,398	1,066,607	4,471,005
West Virginia.....	.....	74,353	239,174	76,138	337,760	749,423	313,186	68,095	4,034,413	2,657,956	661,284	3,219,240
Wisconsin.....	257,874	179,990	583,605	56,743	511,074	1,588,266	1,254,573	997,363	10,546,774	5,683,765	1,176,392	6,860,157
Wyoming.....	.....	32,352	468,990	5,568	.....	506,900	108,345	51,271	1,353,616	373,067	120,474	495,541
Outlying parts of the United States	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Alaska.....	.....	680	6,605	.....	5,820	13,114	3,820	14,910	137,301	88,500	8,589	97,149
American Samoa.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2,500	500	3,000
Canal Zone.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10,251
Guam.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7,946
Hawaii.....	.....	2,500	40,000	6,395	.....	48,895	.....	.....	408,185	639,898	86,386	726,284
Philippine Islands.....	.....	.....	.....	.....	.....	(¹)	(¹)	.....	(¹)	.....	.....	2,838,963
Porto Rico.....	.....	174,922	.....	.....	19,589	198,178	13,789	56,229	732,292	216,309	74,805	291,114
Virgin Islands.....	.....	1,320	.....	.....	.....	1,320	.....	.....	18,153	.....	.....	2,340

¹ Public libraries under boards of education.
² Included in payments of principal.
³ Estimated.
⁴ Included in general control.
⁵ Included in operation.
⁶ Statistics of 1927.
⁷ Included in instruction.

TABLE 26.—Recapitulation of expenditures in public day schools, 1927-28

State	1	2	3	4	5	6	7	Debt service	
								8	9
Continental United States.....		\$77,266,048	\$1,219,819,936	\$500,476,520	\$1,797,562,504	\$382,966,156	\$2,180,558,660	\$142,675,839	\$20,144,079
Alabama.....	735,334	12,633,376	2,700,724	16,069,434	4,052,267	20,121,701	1,017,994	1,195,550	
Arizona.....	620,493	5,223,811	2,077,620	7,921,924	386,810	8,308,734	1,834,176		1,967,476
Arkansas.....	819,311	8,908,599	2,262,637	11,988,647	2,158,736	14,147,283			
California.....	5,763,965	83,935,844	21,341,489	111,041,298	33,201,939	144,243,237			
Colorado.....	564,189	14,225,260	8,065,827	22,885,276	1,979,796	24,865,072			
Connecticut.....	993,627	19,451,871	6,900,590	27,345,988	5,468,145	32,814,133		2,417,053	372,240
Delaware.....	124,696	2,236,940	604,573	2,904,209	263,160	3,229,369		63,600	
District of Columbia.....	163,341	6,383,391	1,035,012	8,181,744	3,293,608	11,475,352			
Florida.....	1,749,371	13,087,845	8,612,719	23,449,935	7,010,878	30,460,813		8,471,903	
Georgia.....	834,079	12,584,904	2,843,739	16,259,722	1,481,377	17,741,099		3,379,443	
Idaho.....	500,374	5,688,456	3,149,048	9,337,878	1,115,689	10,453,567		959,579	
Illinois.....	4,708,616	78,195,448	34,241,337	117,145,401	29,549,919	146,695,320		3,967,452	
Indiana.....	2,277,255	35,471,811	20,679,224	58,428,290	12,690,692	71,108,982		4,727,718	
Iowa.....	2,740,889	24,131,034	15,893,719	46,763,642	3,046,747	49,812,389		2,167,967	
Kansas.....	748,151	22,957,811	14,579,038	38,285,000	4,623,395	42,908,395		243,000	
Kentucky.....	1,111,596	14,075,267	3,555,295	18,742,168	3,775,327	22,517,495		3,949,032	
Louisiana.....	771,111	11,772,969	4,860,162	17,524,142	4,102,193	21,626,335		1,664,720	
Maine.....	530,976	6,272,013	3,238,136	10,051,125	752,792	10,803,917		(1)	
Maryland.....	528,000	12,636,541	4,918,914	18,083,455	3,430,589	21,514,044		1,068,775	
Massachusetts.....	2,627,958	52,351,796	15,673,517	70,653,211	12,524,386	83,177,597			
Michigan.....	1,246,707	49,458,721	35,388,589	86,092,017	23,221,754	109,313,771		15,761,496	
Minnesota.....	3,040,515	29,621,143	12,215,158	44,876,816	4,677,473	49,554,289		4,017,644	
Mississippi.....	727,554	10,910,307	4,197,555	15,835,416	2,326,782	18,162,198		1,279,954	
Missouri.....	990,997	28,938,314	9,791,776	39,737,667	13,065,083	52,795,170			
Montana.....	773,542	7,551,697	3,176,808	11,504,557	1,502,876	13,004,923		1,112,265	1,246,875
Nebraska.....	1,515,279	17,322,966	5,590,711	24,428,946	2,468,846	26,897,792		2,617,320	
Nevada.....	87,776	1,453,575	442,137	1,983,498	313,046	2,296,534		300,878	
New Hampshire.....	391,829	3,916,210	1,835,057	6,143,096	570,452	6,713,548		612,207	

New Jersey.....	3, 473, 452	53, 527, 921	24, 550, 402	81, 551, 775	22, 541, 175	104, 092, 950	6, 441, 292	690, 883
New Mexico.....	270, 569	3, 417, 417	1, 234, 220	4, 922, 206	361, 640	5, 283, 846	340, 672	104, 029
New York.....	7, 367, 602	171, 650, 893	64, 926, 302	243, 944, 797	57, 267, 253	301, 212, 050	15, 814, 709	126, 557
North Carolina.....	1, 514, 071	20, 532, 486	7, 828, 214	26, 874, 771	9, 075, 654	38, 950, 425	2, 046, 316	126, 557
North Dakota.....	394, 577	8, 691, 285	5, 064, 489	14, 150, 351	1, 396, 690	15, 547, 050	1, 165, 429	570, 386
Ohio.....	5, 282, 504	69, 489, 254	37, 974, 387	112, 746, 145	28, 954, 240	139, 700, 385	18, 473, 575	570, 386
Oklahoma.....	1, 446, 684	18, 919, 904	7, 168, 116	27, 634, 714	1, 753, 639	29, 280, 353	2, 956, 000	570, 386
Oregon.....	392, 983	11, 643, 995	4, 385, 327	16, 422, 315	3, 596, 234	19, 988, 549	5, 021, 363	126, 557
Pennsylvania.....	7, 795, 410	98, 345, 950	36, 511, 057	142, 652, 417	34, 789, 076	177, 441, 493	12, 961, 761	7, 986, 074
Rhode Island.....	271, 936	6, 349, 364	2, 915, 886	9, 537, 176	3, 039, 687	12, 576, 863	505, 412	126, 557
South Carolina.....	364, 751	10, 161, 594	3, 637, 072	14, 163, 417	1, 611, 255	15, 774, 672	505, 412	126, 557
South Dakota.....	1, 067, 904	9, 064, 115	3, 572, 005	13, 723, 924	1, 204, 622	14, 928, 546	2, 540, 384	126, 557
Tennessee.....	621, 622	14, 008, 240	3, 227, 638	18, 765, 500	4, 002, 869	22, 768, 369	2, 540, 384	126, 557
Texas.....	4, 077, 240	34, 862, 675	14, 356, 050	53, 495, 965	12, 421, 590	63, 917, 564	2, 540, 384	126, 557
Utah.....	446, 615	6, 301, 215	2, 407, 115	9, 154, 945	1, 486, 750	10, 641, 695	497, 934	257, 053
Vermont.....	236, 021	2, 959, 891	1, 364, 958	4, 560, 870	518, 967	5, 079, 937	86, 044	257, 053
Virginia.....	655, 739	14, 262, 711	4, 501, 708	19, 420, 158	2, 912, 087	22, 332, 255	565, 003	257, 053
Washington.....	1, 320, 863	18, 678, 745	8, 075, 690	28, 074, 998	4, 471, 005	32, 546, 003	2, 726, 574	1, 413, 311
West Virginia.....	719, 360	17, 801, 615	4, 034, 413	22, 555, 368	3, 219, 240	25, 774, 628	1, 369, 410	1, 413, 311
Wisconsin.....	1, 485, 302	28, 934, 726	10, 546, 774	40, 966, 802	6, 860, 157	47, 826, 959	4, 217, 299	1, 413, 311
Wyoming.....	347, 772	3, 924, 180	1, 353, 616	5, 625, 598	495, 541	6, 121, 109	4, 217, 299	428, 989
<i>Outlying parts of the United States</i>								
Alaska.....	40, 803	382, 262	137, 301	560, 366	97, 149	657, 515	13, 500	428, 989
American Samoa.....	13, 000	19, 138	36, 797	49, 138	3, 000	22, 138	13, 500	428, 989
Canal Zone.....	1, 065	269, 942	1, 229	319, 739	10, 251	329, 990	13, 500	428, 989
Guam.....	41, 118	53, 108	408, 186	55, 402	7, 946	63, 348	13, 500	428, 989
Hawaii.....	466, 769	3, 663, 279	408, 186	4, 112, 692	726, 284	4, 838, 876	13, 500	428, 989
Philippine Islands.....	259, 726	10, 484, 022	732, 292	10, 950, 791	2, 855, 963	13, 807, 754	131, 590	428, 989
Porto Rico.....	19, 200	3, 932, 080	18, 153	4, 924, 088	291, 114	5, 215, 212	131, 590	428, 989
Virgin Islands.....		74, 174		111, 527	2, 340	6, 113, 867		428, 989

† Includes expenditures for evening schools and classes.
 ‡ Includes interest.
 § Estimated.
 ¶ Included in interest.
 * Statistics of 1926.
 † Statistics of 1927.
 ‡ Included in instruction.

TABLE 27.—Percentage analysis of expenditures, 1927-28

State	Total expenditure, excluding payments of bonds						Total expenditures, excluding payments for outlays and of bonds		
	General control	Salaries of teachers	Text-books and other instruction supplies	Total for instruction	Miscellaneous current expenses	Outlays	General control	Instruction	Miscellaneous current expenses
1	2	3	4	5	6	7	8	9	10
Continental U. S.	3.5	53.4	2.5	55.9	23.0	17.6	4.3	67.9	27.8
Alabama	3.7	61.5	1.3	62.8	13.4	20.1	4.6	78.6	16.8
Arizona	7.5	58.3	4.6	62.9	25.0	4.6	7.8	66.0	26.2
Arkansas	5.8	61.3	1.6	62.9	16.0	15.3	6.8	74.3	18.9
California ¹	4.0	57.9	.3	58.2	14.8	23.0	5.2	75.6	19.2
Colorado	2.3			57.2	32.5	8.0	2.5	62.1	35.4
Connecticut	3.0	54.9	4.4	59.3	21.0	16.7	3.6	71.1	25.3
Delaware	3.9	64.3	5.0	69.3	18.7	8.1	4.2	75.4	20.4
District of Columbia	1.4	52.9	2.7	55.6	14.3	28.7	2.0	78.0	20.0
Florida	5.7	34.1	8.9	43.0	28.3	23.0	7.5	55.8	36.7
Georgia	4.7	69.0	1.9	70.9	16.0	8.4	5.1	77.4	17.5
Idaho	4.8	50.7	3.7	54.4	30.1	10.7	5.4	60.9	33.7
Illinois	3.2	50.9	2.4	53.3	23.3	20.2	4.0	66.8	29.2
Indiana	3.2	48.0	1.9	49.9	29.1	17.8	3.9	60.7	35.4
Iowa	5.5	54.2	2.3	56.5	31.9	6.1	5.9	60.1	34.0
Kansas	1.7			53.5	34.0	10.8	1.9	60.0	38.1
Kentucky	4.9	60.6	1.9	62.5	15.8	16.8	5.9	75.1	19.0
Louisiana	3.6	53.3	1.1	54.4	23.0	19.0	4.4	67.2	28.4
Maine	4.9	52.8	5.2	58.0	30.1	7.0	5.3	62.4	32.3
Maryland	2.5	55.3	3.4	58.7	22.9	15.9	2.9	69.9	27.2
Massachusetts ¹	3.2	58.6	4.3	62.9	18.8	15.1	3.7	74.1	22.2
Michigan	1.1			45.2	32.4	21.3	1.5	57.4	41.1
Minnesota	6.1	55.3	4.5	59.8	22.5	9.4	6.8	66.0	27.2
Mississippi	4.0	57.4	2.7	60.1	23.9	12.8	4.6	68.9	26.5
Missouri	1.9			54.8	18.6	24.7	2.6	72.8	24.7
Montana	5.9	52.9	5.2	58.1	24.4	11.6	6.7	65.7	27.6
Nebraska	5.6	59.5	4.9	64.4	20.8	9.2	6.2	70.9	22.9
Nevada	3.8	57.3	6.0	63.3	19.3	13.6	4.4	73.3	22.3
New Hampshire	5.9	53.8	4.5	58.3	27.3	8.5	6.4	63.7	29.9
New Jersey	3.3	48.0	3.4	51.4	23.6	21.7	4.3	65.6	30.1
New Mexico	5.1	63.1	1.6	64.7	23.4	6.8	5.5	69.4	25.1
New York	2.4	55.0	2.0	57.0	21.6	19.0	3.0	70.4	26.6
North Carolina	3.9	51.6	1.1	52.7	20.1	23.3	5.1	68.7	26.2
North Dakota	2.5	52.1	3.8	55.9	32.6	9.0	2.8	61.4	35.8
Ohio	3.8	46.7	3.0	49.7	27.2	19.3	4.7	61.6	33.7
Oklahoma	4.9	62.9	1.7	64.6	24.5	6.0	5.3	68.7	26.0
Oregon	2.0	55.2	3.0	58.2	21.9	17.9	2.4	70.9	26.7
Pennsylvania	4.4	51.3	1.1	55.4	20.6	19.6	5.5	68.9	25.6
Rhode Island	2.1	46.9	3.0	50.5	23.2	24.2	2.8	66.6	30.6
South Carolina	2.3	63.7	.7	64.4	23.1	10.2	2.6	71.7	25.7
South Dakota	7.3	52.1	8.6	60.7	23.9	8.1	7.9	66.1	26.0
Tennessee	2.7	64.0	1.5	65.5	14.2	17.6	3.3	79.4	17.3
Texas	6.2	51.0	1.9	52.9	22.1	18.8	7.6	65.2	27.2
Utah	4.2	54.9	4.3	59.2	22.6	14.0	4.9	68.8	26.3
Vermont	4.6	54.1	4.2	58.3	26.9	10.2	5.2	64.9	29.9
Virginia	2.9	62.1	1.8	63.9	20.2	19.0	3.4	73.4	23.2
Washington	4.1	53.9	3.5	57.4	24.8	13.7	4.7	66.5	28.8
West Virginia	2.8	66.3	2.8	69.1	15.6	12.5	3.1	78.9	17.8
Wisconsin	3.1	56.3	4.2	60.5	22.1	14.3	3.6	70.6	25.8
Wyoming	5.7	59.6	4.5	64.1	22.1	8.1	6.2	69.7	24.1
<i>Outlying parts of the U. S.</i>									
Alaska	6.2	52.8	5.3	58.1	20.9	14.8	7.3	68.2	24.5
American Samoa		59.6	26.8	86.4		13.6		100.0	
Canal Zone	3.9	69.3	12.5	81.8	11.2	3.1	4.1	84.4	11.5
Guam	1.7	72.2	11.6	83.8	1.9	12.6	1.9	95.9	2.2
Hawaii	.9	70.9	4.8	75.7	8.4	15.0	1.0	89.1	9.9
Philippine Islands	3.4			75.9		20.7	4.3	95.1	
Porto Rico	5.0	74.7	.7	75.4	14.0	5.6	5.3	79.8	14.9
Virgin Islands	16.9	63.4	1.7	65.1	15.9	2.1	17.2	66.5	16.3

¹ Includes expenses of evening schools.

TABLE 28.—Percentage of attendance—School funds and lands—Per capita costs, 1927-28

State	Per cent of total enrollment in high school	Per cent of school term not attended	Annual income from funds and lands per pupil enrolled	Annual cost of education				Daily cost per pupil attending		
				Total per capita of population	Per pupil enrolled		Per pupil attending		For current expenses	For outlays
					For current expenses	For outlays	For current expenses	For outlays		
1	2	3	4	5	6	7	8	9	10	11
Continental U. S.	13.5	18.2	\$1.05	\$18.17	\$71.39	\$15.21	\$87.22	\$18.58	Cents 51	Cents 11
Alabama	8.6	26.7		7.82	25.29	6.38	34.53	8.71	23	6
Arizona	13.5	21.0	3.40	17.53	88.97	4.34	115.53	5.64	69	3
Arkansas	8.1	27.2	.14	7.28	25.02	4.51	34.35	6.19	24	4
California	19.8	15.6	.54	31.60	110.48	33.03	130.97	39.16	72	22
Colorado	18.5	21.7	3.31	22.81	95.79	8.20	122.37	10.58	69	6
Connecticut	14.8	15.6	.73	19.68	87.52	17.50	104.23	20.84	57	11
Delaware	15.5	14.4	1.40	13.24	72.58	6.44	84.74	7.52	46	4
District of Columbia	18.8	17.4		20.79	105.75	42.58	128.02	50.54	71	29
Florida	11.3	23.8	.75	21.59	64.89	19.40	85.14	25.45	55	17
Georgia	10.2	24.1		5.54	23.07	2.10	30.38	2.77	21	2
Idaho	19.7	20.8	6.16	19.15	77.27	9.23	97.57	11.65	55	7
Illinois	19.5	14.7	.93	19.83	64.96	21.43	99.62	25.13	53	13
Indiana	20.1	7.7	1.64	22.39	89.25	19.37	96.67	20.98	56	12
Iowa	19.9	16.2	.87	20.52	84.81	5.52	101.25	6.60	59	4
Kansas	20.4	16.1	1.21	23.38	89.99	10.87	107.23	12.95	64	8
Kentucky	9.5	26.5	.01	8.82	32.19	6.48	43.81	8.88	27	5
Louisiana	11.5	21.9	.54	11.09	42.18	9.87	54.02	12.65	35	8
Maine	18.7	11.2	.48	13.59	66.16	4.95	74.49	5.58	42	3
Maryland	13.4	16.7	1.08	13.31	66.75	12.66	80.13	15.20	43	8
Massachusetts	10.9	11.8	.46	19.39	94.96	16.83	107.73	19.10	59	10
Michigan	15.5	9.4	.43	23.81	102.37	27.61	117.76	30.14	60	16
Minnesota	10.2	18.0	3.99	18.21	81.18	8.46	99.00	10.32	56	6
Mississippi	8.3	29.4	.10	10.15	26.15	3.84	37.02	5.44	27	4
Missouri	18.4	14.2	2.53	14.99	58.46	19.22	68.11	22.40	39	13
Montana	18.8	14.2	9.90	23.73	97.50	12.74	113.58	14.84	64	8
Nebraska	20.0	18.0	2.70	19.10	74.99	7.58	91.39	9.24	52	5
Nevada	23.9	14.9	9.05	29.83	113.48	17.91	133.34	21.05	80	12
New Hampshire	17.9	12.5	.55	14.72	84.28	7.83	96.32	8.94	54	5
New Jersey	14.0	16.8	.69	27.24	107.30	29.66	129.03	35.67	69	19
New Mexico	10.4	30.5	11.41	13.34	57.08	4.19	82.09	6.03	46	3
New York	17.4	14.1		26.08	118.49	27.82	137.95	32.38	75	18
North Carolina	12.1	24.5	.05	13.26	35.20	10.69	46.63	14.17	31	9
North Dakota	15.5	20.4	6.26	24.25	82.01	8.09	102.98	10.16	61	6
Ohio	18.7	16.2	.42	20.47	87.09	20.82	103.89	24.84	58	14
Oklahoma	13.8	32.9	2.60	12.07	40.36	2.57	60.12	3.83	40	3
Oregon	22.6	12.3	2.16	22.16	87.73	19.05	100.08	21.73	57	12
Pennsylvania	13.9	15.1	.05	18.01	75.74	18.47	89.19	21.75	49	12
Rhode Island	14.3	13.8	.13	17.57	84.11	26.81	97.50	31.10	54	17
South Carolina	11.3	26.9	.03	8.46	29.74	3.38	40.65	4.62	28	3
South Dakota	17.0	17.4	9.12	21.21	83.47	7.33	101.09	8.57	58	5
Tennessee	9.7	29.6	.22	9.10	27.74	5.92	39.37	8.40	24	5
Texas	17.5	16.8	1.89	12.01	43.40	10.08	52.14	12.11	34	8
Utah	20.5	13.2	2.36	20.04	67.03	10.89	76.92	12.49	47	8
Vermont	17.1	13.1	1.16	14.43	70.68	8.04	81.31	9.25	48	5
Virginia	10.2	23.8	.32	8.67	35.07	5.26	44.35	6.65	28	4
Washington	23.1	19.3	3.11	20.51	82.82	19.19	102.64	16.34	57	9
West Virginia	11.0	17.2	.10	14.85	56.23	8.03	67.90	9.69	41	6
Wisconsin	17.8	10.3	.78	16.20	75.64	12.67	84.36	14.13	48	8
Wyoming	20.0	26.8	17.70	24.78	105.85	9.32	144.56	12.78	84	7
<i>Outlying parts of the U. S.</i>										
Alaska	14.8	17.7		11.95	116.04	20.12	14.10	24.45	80	14
American Samoa		11.1		2.77	10.63	1.67	11.96	1.68	6	1
Canal Zone	9.7	13.5		11.79	56.94	1.83	65.86	2.11	34	1
Guam	2.7	5.1		4.87	15.75	2.26	16.60	2.38	8	1
Hawaii	7.4	7.3		13.63	63.48	11.21	68.45	12.09	41	7
Philippine Islands	6.6	10.5		1.01	9.83	2.57	11.81	2.88	6	1
Porto Rico	3.1	13.1		3.30	22.29	1.32	25.64	1.14	14	1
Virgin Islands	.4	4.8		4.97	23.21	.80	39.73	.83	20	0

TABLE 29.—Statistics for elementary and secondary schools for 16 States, 1927-28

I.—ELEMENTARY DAY SCHOOLS¹

State	Teachers, principals, and supervisors	Average daily attendance	Salaries of teachers, principals, and supervisors	Payments for current expenses	Payments for outlays	Average annual salaries of teachers, principals and supervisors	Cost per pupil attending	
							For current expenses	For outlays
1	2	3	4	5	6	7	8	9
Total for 16 States.....	125,735	3,120,902	\$149,877,856	\$205,563,355	\$38,429,211	\$1,192	\$65.87	\$14.62
Alabama.....	12,154	369,786	6,529,508	8,244,460	2,369,864	537	22.30	6.41
Arizona.....	2,419	58,400	3,661,266	4,917,115	265,805	1,514	84.20	4.55
Arkansas.....	10,918	283,245	6,452,862	7,594,453	591	591	26.81	26.81
Connecticut.....	8,534	226,096	13,568,786	18,677,454	4,274,710	1,590	82.61	18.91
District of Columbia.....	1,844	45,897	3,780,622	5,079,945	975,926	2,050	110.68	21.26
Maryland.....	6,200	178,124	7,980,044	11,134,371	1,191,994	1,287	62.51	6.60
Montana.....	4,874	81,835	5,209,340	7,593,467	997,700	1,069	92.79	12.19
Nebraska.....	11,317	209,063	10,983,721	14,894,805	1,300,523	971	71.25	6.22
Nevada.....	635	11,177	927,823	1,307,430	156,986	1,461	116.98	14.05
New Hampshire.....	2,284	50,984	2,454,283	3,801,643	211,048	1,075	74.57	4.14
New Jersey.....	19,365	523,193	37,061,210	52,569,218	17,642,110	1,914	100.48	33.72
Oregon.....	5,944	126,788	7,765,152	10,623,282	2,153,064	1,306	83.79	16.98
Utah.....	3,357	96,485	4,148,117	5,618,355	618,230	1,236	58.23	6.41
Washington.....	8,473	209,956	12,129,508	17,293,048	1,440	1,440	81.64	81.64
West Virginia.....	12,174	291,105	11,651,021	14,349,529	2,578,414	957	49.29	8.86
Wisconsin.....	15,243	358,768	15,574,593	21,954,771	3,692,807	1,022	61.19	10.29

II.—SEPARATELY ORGANIZED JUNIOR HIGH SCHOOLS

Total for 4 States.....	2,343	50,170	\$4,587,849	\$6,169,309	\$2,460,437	\$1,958	\$122.97	\$51.74
Arkansas.....	87	2,612	137,696	170,625	1,583	65.32	65.32	65.32
District of Columbia.....	331	6,684	727,589	988,772	1,112,571	2,198	147.93	166.40
Maryland.....	678	17,055	1,165,698	1,591,309	180,535	1,719	93.30	10.59
New Jersey.....	1,247	23,819	2,556,868	3,418,603	1,167,331	2,050	143.52	49.01

III.—JUNIOR-SENIOR HIGH SCHOOLS UNDER ONE ORGANIZATION

Total for 3 States.....	5,707	137,748	\$7,319,293	\$8,665,002	\$1,869,356	\$1,282.51	\$62.99	\$19.08
Alabama.....	4,413	95,569	5,840,302	6,863,194	1,682,403	1,323	71.81	17.60
Arkansas.....	1,188	39,773	1,313,094	1,588,258	1,105	1,105	39.93	39.93
Maryland.....	106	2,406	165,897	213,570	186,953	1,565	88.77	77.70

IV.—SEPARATELY ORGANIZED SENIOR HIGH SCHOOLS

Total for 3 States.....	1,106	23,194	\$2,882,720	\$3,836,219	\$2,190,805	\$2,006	\$5.40	\$102.49
Arkansas.....	60	1,819	99,798	141,089	1,663	1,663	7.56	7.56
Maryland.....	432	9,233	1,100,337	1,529,670	1,463,977	2,547	165.67	158.56
New Jersey.....	614	12,142	1,682,585	2,165,460	726,828	2,740	178.34	59.86

V.—REGULAR AND VOCATIONAL HIGH SCHOOLS

Total for 15 States.....	27,653	528,718	\$51,926,429	\$73,991,997	\$13,312,788	\$1,878	\$139.95	\$50.01
Arizona.....	634	10,172	1,185,130	1,661,353	121,005	1,869	163.33	11.90
Arkansas.....	510	21,532	671,517	787,816	1,317	1,317	36.59	36.59
Connecticut.....	1,977	36,296	4,455,070	6,105,523	1,193,435	2,253	168.21	32.88
District of Columbia.....	592	11,327	1,568,347	2,068,377	1,205,111	2,649	182.61	106.39
Maryland.....	980	18,851	1,490,882	2,023,612	407,130	1,521	107.35	21.60
Montana.....	1,179	19,433	1,672,117	2,543,400	505,176	1,418	130.88	26.00
Nebraska.....	3,327	58,248	5,010,669	7,021,288	1,168,323	1,506	120.54	20.06
Nevada.....	240	3,698	387,805	588,272	156,061	1,616	159.08	42.20
New Hampshire.....	815	12,797	1,159,082	1,669,879	359,404	1,422	130.49	28.09
New Jersey.....	3,723	72,867	8,640,855	12,690,577	3,004,906	2,321	174.10	41.24
Oregon.....	2,241	37,300	3,271,490	4,544,591	1,413,140	1,460	121.84	37.89
Utah.....	1,145	24,659	1,669,071	2,500,637	868,520	1,494	101.41	85.22
Washington.....	2,943	63,586	5,423,592	7,994,029	1,843	1,843	125.72	125.72
West Virginia.....	3,064	41,064	3,438,443	7,418,404	640,820	1,778	180.65	18.61
Wisconsin.....	4,283	96,888	9,852,359	14,374,241	2,269,751	2,300	148.36	23.43

¹ Includes kindergartens.² Distribution estimated between elementary and secondary schools.³ Data for reorganized types of high schools not included in this table.

TABLE 30.—Distribution of pupils enrolled in schools in 27 States, according to length of school term, 1927-28

State	80 days or less	81-100 days	101-120 days	121-140 days	141-160 days	161-180 days	181-200 days	Total enrollment
1	2	3	4	5	6	7	8	9
Total for States.....	141,954	293,541	444,083	349,362	1,212,716	4,799,721	1,834,987	9,119,909
Alabama.....	3,215	82,664	48,302	136,867	29,116	275,586		575,750
Arizona.....	119	55	9	54	1,860	76,038	8,715	90,395
Arkansas.....	18,677	40,637	85,952	63,633	92,271	182,104		483,274
Connecticut.....						40,071	267,489	307,560
Delaware.....						16,352	24,449	40,801
District of Columbia.....							75,368	77,368
Kansas.....	15		175	123	130,491	294,635	175	425,514
Maine.....			59	148	13,197	105,409	33,101	151,914
Maryland.....	71	117		228	2,311	21,284	227,660	251,701
Massachusetts.....						155,098	573,187	728,285
Minnesota.....				11,126	102,958	249,805	188,905	552,794
Mississippi.....	58,049	145,124	58,359	15,650	211,565	116,789		605,536
Montana.....	359	229	524	1,297	3,824	76,909	34,830	117,972
Nebraska.....			79	1,120	10,207	314,423		325,829
Nevada.....	21	7	21	104	1,090	13,673	1,598	16,514
New Hampshire.....						69,208	6,696	75,904
North Carolina.....			267,239	45,404	284,408	251,727		848,778
North Dakota.....	2,072	912	1,368	14,707	30,239	114,491	5,881	169,670
Ohio.....						1,294,657		1,294,657
Rhode Island.....							113,341	113,341
South Dakota.....					23,208	141,219		164,427
Utah.....				1,862	10,024	91,623	33,076	136,585
Vermont.....						64,529		64,529
Virginia.....				17,661	169,930	297,571	68,555	553,717
Washington.....	27	16	141	270	2,071	166,545	169,931	339,001
Wisconsin.....	59,329	23,780	21,855	39,102	92,191	318,606		554,863
Wyoming.....				6	1,755	51,379		53,140
<i>Outlying parts of the United States</i>								
Alaska.....		9	25	45	34	3,249	1,467	4,829
American Samoa.....							1,800	1,800
Canal Zone.....						2,381		2,381
Guam.....								5,503
Hawaii.....								3,517
Porto Rico.....						64,787		64,787
Virgin Islands.....							220,940	220,940
								2,919

¹ Includes 3,545 pupils enrolled in schools in session more than 200 days.

² Includes 2,922 pupils enrolled in schools in session more than 200 days.

³ These pupils enrolled in schools in session more than 200 days.

TABLE 31.—Statistics of white and of colored school population, enrollment, and teachers in 16 States, 1927-28

State	Population 5 to 17 years of age, inclusive ¹		Per cent of school population		Enrollment in elementary and secondary schools		Ratio of enrollment in public schools to school population		Number of teachers employed	
	White	Colored	White	Colored	White	Colored	White	Colored	White	Colored
1	2	3	4	5	6	7	8	9	10	11
Total of States reporting.	7,432,066	3,104,992	70.5	29.5	6,254,635	2,207,467	0.842	0.710	182,762	47,658
Alabama.....	524,319	324,027	61.8	38.2	430,707	204,583	.770	.631	12,902	3,893
Arkansas.....	463,946	160,475	74.3	25.7	368,255	110,853	.794	.691	10,400	2,367
Delaware.....	47,049	7,610	86.1	13.9	34,380	6,489	.731	.853	1,197	201
District of Columbia.....	62,633	25,055	71.4	28.6	51,901	25,467	.829	(?)	1,772	827
Florida.....	215,058	107,155	66.7	33.3	267,818	93,539	(?)	.873	8,985	2,236
Georgia.....	587,484	433,370	57.5	42.5	463,438	241,498	.789	.557	13,662	5,143
Louisiana.....	364,710	226,830	61.7	38.3	269,648	145,833	.739	.643	8,650	2,823
Maryland.....	313,638	66,448	82.5	17.5	220,413	50,487	.703	.759	7,180	1,472
Mississippi.....	306,921	393,409	43.8	56.2	315,285	290,248	(?)	.738	10,468	6,085
North Carolina.....	647,512	305,008	68.0	32.0	586,697	262,081	.906	.859	17,749	5,924
Oklahoma.....	672,205	76,084	89.8	10.2	632,858	49,401	.941	.649	17,766	1,364
South Carolina.....	288,153	337,897	46.0	54.0	248,272	228,003	.862	.675	8,616	4,449
Tennessee.....	617,709	135,580	82.0	18.0	555,025	121,396	.898	.895	15,242	2,800
Texas.....	1,324,463	253,229	83.9	16.1	1,031,381	201,315	.778	.795	35,623	4,283
Virginia.....	516,828	227,990	69.4	30.6	401,424	152,293	.762	.668	12,550	3,791
West Virginia.....	479,438	24,825	95.1	4.9	377,133	23,981	.787	.966	.....	.....

¹ Estimated.² No basis for estimating growth in population since 1920.³ Estimated on school census for 5-21 years of age.

TABLE 32.—School term and school attendance of white and of colored pupils in 15 States, 1927-28

State	Length of school term (days)		Average number of days attended by each pupil enrolled		Per cent of school term not attended		Per cent of pupils attending daily	
	In white schools	In colored schools	In white schools	In colored schools	In white schools	In colored schools	In white schools	In colored schools
1	2	3	4	5	6	7	8	9
Alabama.....	158	127	116	92	26	27	74	73
Arkansas.....	150	132	110	93	26	30	74	70
Delaware.....	185	184	161	145	13	21	87	78
District of Columbia.....	180	180	149	150	18	17	82	83
Florida.....	163	124	124	98	24	23	76	77
Georgia.....	154	137	119	100	23	27	77	73
Louisiana.....	173	114	139	85	20	26	80	74
Maryland.....	189	178	160	136	15	24	85	76
Mississippi.....	162	112	118	76	27	32	73	68
North Carolina.....	154	138	120	95	22	31	78	69
Oklahoma.....	150	142	101	86	32	30	68	61
South Carolina.....	172	116	129	83	25	29	75	71
Tennessee.....	167	149	117	108	30	28	70	72
Texas.....	157	130	131	106	17	18	83	82
Virginia.....	165	142	134	105	19	26	81	74

TABLE 33.—Enrollment of white and of colored pupils in 16 States, according to year of advancement, 1927-28

Year of advancement	White pupils		Colored pupils	
	Number	Per cent of total	Number	Per cent of total
1	2	3	4	5
Kindergarten.....	42,071	0.7	5,120	0.2
First.....	1,233,566	19.7	769,473	34.9
Second.....	734,941	11.7	328,099	14.9
Third.....	704,915	11.3	290,190	13.2
Fourth.....	690,034	11.0	258,645	11.7
Fifth.....	636,135	10.2	200,077	9.1
Sixth.....	568,725	9.1	143,732	6.5
Seventh.....	503,442	8.0	95,202	4.3
Eighth.....	231,208	3.7	32,908	1.5
First year high.....	348,319	5.6	37,938	1.7
Second year high.....	246,737	3.9	22,738	1.0
Third year high.....	179,916	2.9	14,201	.6
Fourth year high.....	134,632	2.2	9,144	.4
Total.....	6,254,641	100.0	2,207,467	100.0

TABLE 34.—Enrollment of colored pupils in 16 States, 1927-28

State	Kindergarten and elementary			Secondary			Total		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
1	2	3	4	5	6	7	8	9	10
Total for 16 States.....	1,010,332	1,113,114	2,123,446	31,028	52,993	84,021	1,041,360	1,166,107	2,207,467
Alabama.....	95,259	104,064	199,323	1,565	3,695	5,260	96,824	107,759	204,583
Arkansas.....	52,281	56,596	108,877	696	1,280	1,976	52,977	57,876	110,853
Delaware.....	2,867	3,081	5,948	209	332	541	3,076	3,413	6,489
District of Columbia.....	10,248	11,371	21,619	1,559	2,289	3,848	11,807	13,660	25,467
Florida.....	42,587	48,879	91,466	1,966	1,107	2,073	43,553	49,986	93,539
Georgia.....	109,007	127,296	236,303	2,396	2,799	5,195	111,403	130,095	241,498
Louisiana.....	66,991	74,272	141,263	1,397	3,173	4,570	68,388	77,445	145,833
Maryland.....	22,632	24,351	46,983	1,688	1,816	3,504	24,320	26,167	50,487
Mississippi.....	136,106	150,126	286,232	1,730	2,286	4,016	137,836	152,412	290,248
North Carolina.....	120,007	130,530	250,537	4,166	7,378	11,544	124,173	137,908	262,081
Oklahoma.....	33,260	23,016	46,276	1,214	1,911	3,125	24,474	24,927	49,401
South Carolina.....	101,686	118,251	219,937	2,420	5,646	8,066	104,106	123,897	228,003
Tennessee.....	56,385	59,454	115,839	1,905	3,652	5,557	58,290	63,106	121,396
Texas.....	91,225	94,094	185,319	5,973	10,023	15,996	97,198	104,117	201,315
Virginia.....	68,938	76,500	145,438	2,383	4,472	6,855	71,321	80,972	152,293
West Virginia.....	10,853	11,233	22,086	761	1,134	1,895	11,614	12,367	23,981

¹ Distribution estimated.² Sex distribution estimated.

TABLE 35.—Statistics of colored schools—Attendance and teachers in 15 States, 1927-28

State	Average daily attendance			Aggregate days attended			Teachers								
	Elementary schools		Secondary schools	Elementary schools		Secondary schools	Elementary schools		Secondary schools		Total				
	Men	Women	Total	Men	Women	Total	Men	Women	Men	Women	Men	Women	Total		
I	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Total for 15 States.....			1,854,954			207,098,894							7,917	39,741	47,658
Alabama.....	126,616	11,826	148,442	16,839,621	1,963,891	18,793,512	426	3,098	3,524	145	224	369	571	3,322	3,893
Arkansas.....	69,714	8,407	78,121	8,901,309	1,387,185	10,288,494	575	1,669	2,244	31	92	123	606	1,761	2,367
Delaware.....	4,635	422	5,057	865,322	78,461	943,783	22	167	189	5	7	12	27	174	201
District of Columbia.....	17,834	3,204	21,128	3,224,856	598,107	3,812,963	63	598	661	73	93	166	136	691	827
Florida.....			71,714			9,213,303							299	1,937	2,236
Georgia.....			177,158			24,160,646	377	4,476	4,853	134	158	290	511	4,632	5,143
Louisiana.....	104,425	3,725	108,150	11,904,450	424,650	12,329,100	374	2,211	2,585	71	167	238	445	2,378	2,823
Maryland.....	35,548	2,985	38,533	6,311,414	562,319	6,863,733	185	1,138	1,323	70	79	149	255	1,217	1,472
Mississippi.....			197,684			22,140,608	1,021	4,984	6,005	13	67	80	1,034	5,051	6,085
North Carolina.....	172,126	9,052	181,177			24,929,955	752	4,760	5,512	198	214	412	850	4,974	5,824
Oklahoma.....	27,659	2,376	30,035	3,953,818	311,162	4,264,970	217	921	1,138	120	106	226	337	1,027	1,364
South Carolina.....	83,707	4,101	87,808	12,385,425	729,978	13,115,403	645	3,476	4,121	118	210	328	763	3,686	4,449
Tennessee.....	150,022	15,136	165,158	19,372,974	2,061,900	21,434,874	431	2,126	2,557	107	136	243	538	2,262	2,800
Texas.....			112,139			15,921,557	336	3,192	3,528	129	134	263	465	3,303	4,263
Virginia.....														3,326	3,791

TABLE 36.—Enrollment of colored pupils, by grades, in 16 States, 1927-28

State	In kindergarten and elementary grades										In secondary grades					Grand total
	Kindergarten	First grade	Second grade	Third grade	Fourth grade	Fifth grade	Sixth grade	Seventh grade	Eighth grade	Total of kindergarten and elementary	First year	Second year	Third year	Fourth year	Total secondary	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Total for 16 States.....	5,120	769,473	328,099	290,190	258,645	200,007	143,732	95,202	32,908	2,123,446	37,938	22,738	14,201	9,144	84,021	2,207,467
Alabama.....	.....	82,192	29,402	26,455	22,248	16,901	12,800	5,577	3,748	199,323	2,508	1,401	745	606	5,260	204,583
Arkansas.....	.....	34,452	17,779	15,579	14,706	11,100	7,694	4,779	2,798	108,877	1,003	545	286	142	1,976	110,853
Delaware.....	.....	1,380	966	816	704	593	503	492	372	5,948	243	137	100	61	541	6,489
District of Columbia.....	.....	3,994	2,922	2,442	2,429	2,334	2,080	1,839	1,574	21,619	1,712	957	684	495	3,848	25,467
Florida.....	.....	40,085	13,117	11,843	10,001	7,133	4,663	2,936	1,718	91,466	1,006	578	318	171	2,073	93,539
Georgia.....	947	87,461	42,890	34,108	28,415	20,603	13,245	7,268	1,366	236,303	2,786	1,360	659	390	5,195	241,498
Louisiana.....	.....	56,845	21,741	20,021	18,100	12,138	7,864	4,554	1,117	141,263	1,840	1,133	899	698	4,570	145,833
Maryland.....	1,199	10,330	7,445	6,836	6,525	5,517	4,533	3,484	1,467	46,983	1,667	897	619	421	3,504	50,487
Mississippi.....	.....	107,919	42,265	37,467	33,399	25,305	18,080	12,514	9,283	286,232	2,181	1,162	409	264	4,016	290,248
North Carolina.....	.....	98,271	35,321	32,571	29,529	23,701	17,579	12,666	899	250,537	4,701	3,271	2,188	1,384	11,544	262,081
Oklahoma.....	441	13,599	5,922	6,325	6,266	5,028	4,070	2,159	2,466	46,276	1,376	785	531	433	3,125	49,401
South Carolina.....	.....	82,279	40,468	32,023	28,414	19,486	11,943	7,324	3,672	219,937	3,672	2,176	1,532	696	8,096	228,003
Tennessee.....	.....	38,270	16,474	14,895	14,123	12,139	8,881	6,301	4,756	115,839	2,376	1,570	966	745	5,557	121,396
Texas.....	631	61,881	24,653	25,047	23,706	20,242	15,912	13,157	7,398	185,319	4,362	4,362	2,726	1,510	15,998	201,315
Virginia.....	.....	44,664	23,779	20,972	19,329	15,329	11,824	8,290	1,251	145,438	2,905	1,905	1,242	800	6,855	162,293
West Virginia.....	.....	5,901	3,055	2,790	2,661	2,376	1,981	1,862	1,460	22,066	764	496	297	338	1,896	23,961

PRIVATE ELEMENTARY AND SECONDARY SCHOOLS

The data in Tables 37 and 38 concerning private and parochial elementary and high schools are not included in any other part of this report. No data concerning receipts and costs of these schools are included. The information has been compiled from State reports, from reports from private secondary schools, and from material submitted by the National Catholic Welfare Conference. The conference material has been most helpful because reports from many of the States are incomplete.

Elementary pupils in private schools increased in number from 2,143,100 in 1926 to 2,234,999 in 1928. High-school pupils increased from 295,625 in 1926 to 341,158 in 1928. This makes an increase of 138,432 in private-school enrollments during the 2-year period.

The number of elementary-school teachers in private schools increased from 56,272 in 1926 to 61,567 in 1928, which is an increase of 5,531 women and a decrease of 236 men teachers. The number of high-school teachers increased from 20,145 in 1926 to 21,788 in 1928, an increase in both men and women teachers. The total number of teachers in these private schools increased 6,940 in the 2-year period.

TABLE 37.—Teachers employed in private and parochial schools, 1927-28

State	Teachers in elementary schools			Teachers in secondary schools			Total teachers in elementary and secondary schools		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
1	2	3	4	5	6	7	8	9	10
Continental U. S.	1,466	60,101	61,567	8,157	13,631	21,788	9,623	73,732	83,355
Alabama	36	362	398	192	185	377	228	547	775
Arizona	2	114	116	30	21	51	32	135	167
Arkansas	17	161	178	58	84	142	75	245	320
California	48	1,548	1,596	429	797	1,226	477	2,345	2,822
Colorado		413	413	43	84	127	43	497	540
Connecticut	45	1,114	1,159	346	637	983	391	1,751	2,142
Delaware	9	133	142	30	49	79	39	182	221
District of Columbia	12	196	208	85	168	253	97	364	461
Florida	39	236	275	43	93	136	82	329	411
Georgia	15	137	152	117	166	283	132	303	435
Idaho	3	143	146	17	56	73	20	199	219
Illinois	237	6,744	6,981	342	880	1,222	679	7,624	8,203
Indiana	20	1,328	1,348	186	181	367	206	1,509	1,715
Iowa	16	1,326	1,342	121	429	550	137	1,755	1,892
Kansas	7	1,169	1,176	201	302	503	208	1,471	1,679
Kentucky	2	889	891	136	290	426	138	1,179	1,317
Louisiana	66	928	994	113	182	295	179	1,110	1,289
Maine	1	526	527	124	220	344	125	746	871
Maryland	52	942	994	171	211	382	223	1,153	1,376
Massachusetts	120	4,087	4,217	435	711	1,146	555	4,808	5,363
Michigan	21	2,396	2,417	154	856	710	175	2,952	3,127
Minnesota	1	1,486	1,487	172	344	516	173	1,830	2,003
Mississippi	17	137	154	74	95	169	91	222	323
Missouri	4	1,510	1,514	253	344	597	257	1,854	2,111
Montana	6	339	345	21	49	70	27	368	415
Nebraska		548	548	46	214	260	46	762	808
Nevada									
New Hampshire	45	535	580	202	138	340	247	673	920
New Jersey	24	2,633	2,657	422	438	860	446	3,071	3,517
New Mexico	18	261	279	21	57	78	39	318	357
New York	260	9,193	9,453	1,024	1,554	2,578	1,284	10,747	12,031
North Carolina		92	92	249	299	548	249	391	640
North Dakota		253	253	25	60	85	25	313	338
Ohio	23	4,769	4,792	281	812	1,093	304	5,581	5,885
Oklahoma	27	397	424	48	124	172	75	521	596
Oregon	54	315	369	83	235	318	137	550	687
Pennsylvania	31	6,091	6,122	568	979	1,547	599	7,070	7,669
Rhode Island	17	591	608	98	93	191	115	684	799
South Carolina		63	63	52	96	147	52	158	210
South Dakota	16	523	539	28	67	95	44	590	634
Tennessee	31	189	220	171	135	306	202	324	526
Texas	37	1,359	1,396	197	330	527	234	1,689	1,923
Utah	2	80	82	77	100	177	79	180	259
Vermont	5	269	274	49	96	145	54	365	419
Virginia	23	205	228	271	186	457	294	391	685
Washington	43	489	532	147	162	309	190	651	841
West Virginia	2	237	239	35	54	89	37	291	328
Wisconsin	7	2,594	2,601	164	285	429	171	2,859	3,030
Wyoming	5	41	46	6	4	10	11	45	56
<i>Outlying parts of the United States</i>									
American Samoa	6	4	10				6	4	10
Guam	2	4	6				2	4	6
Hawaii	3	49	52	75	69	4	78	118	196
Philippine Islands			1,652	250	151	401			2,053
Porto Rico	3	49	52	17	50	67	20	99	119
Virgin Islands		22	22				0	22	22

TABLE 38—Pupils enrolled in private and parochial schools, 1927-28

State	Pupils in elementary schools			Pupils in secondary schools			Total pupils in elementary and secondary schools		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
1	2	3	4	5	6	7	8	9	10
Continental U. S.....	1, 102, 336	1, 132, 663	2, 234, 999	159, 489	181, 689	341, 158	1, 261, 825	1, 314, 332	2, 576, 157
Alabama.....	5, 405	6, 167	11, 572	2, 775	3, 479	6, 254	8, 180	9, 646	17, 826
Arizona.....	1, 856	1, 967	3, 823	152	221	373	2, 008	2, 188	4, 196
Arkansas.....	2, 434	2, 492	4, 926	944	1, 015	1, 929	3, 348	3, 507	6, 855
California.....	20, 297	23, 395	43, 692	5, 954	7, 575	13, 529	26, 251	30, 970	57, 221
Colorado.....	5, 413	5, 693	11, 106	678	935	1, 613	6, 091	6, 628	12, 719
Connecticut.....	23, 927	24, 511	48, 438	3, 933	3, 640	7, 573	27, 860	28, 151	56, 011
Delaware.....	2, 964	3, 230	6, 194	583	412	995	3, 547	3, 642	7, 189
District of Columbia.....	3, 985	3, 861	7, 846	1, 302	1, 530	2, 832	5, 287	5, 391	10, 678
Florida.....	2, 386	2, 906	5, 292	550	764	1, 314	2, 936	3, 670	6, 606
Georgia.....	2, 052	2, 243	4, 295	1, 533	1, 902	3, 435	3, 585	4, 145	7, 730
Idaho.....	1, 057	1, 233	2, 290	244	418	662	1, 301	1, 651	2, 952
Illinois.....	114, 822	118, 528	233, 350	17, 586	19, 883	37, 469	132, 408	138, 411	270, 819
Indiana.....	30, 642	31, 260	61, 902	3, 124	2, 873	5, 997	33, 766	34, 133	67, 899
Iowa.....	19, 738	19, 822	39, 560	3, 476	4, 335	7, 811	23, 214	24, 157	47, 371
Kansas.....	16, 053	15, 454	31, 507	3, 183	4, 660	7, 843	19, 236	20, 114	39, 350
Kentucky.....	15, 235	16, 027	31, 262	2, 339	3, 941	6, 280	17, 574	19, 968	37, 542
Louisiana.....	18, 345	20, 266	38, 611	1, 908	2, 257	4, 165	20, 253	22, 523	42, 776
Maine.....	10, 272	10, 535	20, 807	2, 462	3, 082	5, 544	12, 734	13, 617	26, 351
Maryland.....	19, 195	19, 965	39, 160	2, 032	1, 972	4, 004	21, 227	21, 937	43, 164
Massachusetts.....	78, 178	79, 534	157, 712	19, 862	23, 762	43, 624	98, 040	103, 296	201, 336
Michigan.....	60, 122	61, 458	121, 580	5, 400	7, 344	12, 744	65, 522	68, 802	134, 324
Minnesota.....	25, 279	25, 390	50, 659	4, 374	5, 000	9, 374	29, 653	30, 380	60, 033
Mississippi.....	2, 964	3, 093	6, 057	1, 657	1, 333	2, 990	4, 821	4, 426	9, 047
Missouri.....	30, 301	31, 199	61, 500	3, 903	4, 626	8, 529	34, 204	35, 825	70, 029
Montana.....	4, 111	4, 399	8, 510	501	681	1, 182	4, 612	5, 080	9, 692
Nebraska.....	10, 808	10, 974	21, 782	1, 133	1, 932	3, 065	11, 941	12, 905	24, 847
Nevada.....									
New Hampshire.....	11, 163	11, 329	22, 492	2, 671	1, 405	4, 076	13, 834	12, 734	26, 568
New Jersey.....	57, 652	58, 273	115, 925	6, 363	5, 107	11, 470	64, 015	63, 380	127, 395
New Mexico.....	3, 491	3, 833	7, 314	427	555	982	3, 908	4, 388	8, 296
New York.....	168, 866	172, 697	341, 563	21, 168	18, 594	39, 762	190, 034	191, 291	381, 325
North Carolina.....	822	895	1, 717	2, 957	4, 417	7, 374	3, 779	5, 312	9, 091
North Dakota.....	3, 625	3, 864	7, 489	301	738	1, 039	3, 926	4, 602	8, 528
Ohio.....	74, 728	75, 899	150, 627	8, 892	11, 544	20, 436	83, 620	87, 443	171, 063
Oklahoma.....	2, 435	2, 693	5, 128	673	945	1, 318	3, 108	3, 638	6, 746
Oregon.....	4, 448	4, 504	8, 952	650	997	1, 647	5, 098	5, 501	10, 599
Pennsylvania.....	137, 363	140, 060	277, 423	11, 388	11, 791	23, 179	148, 751	151, 851	300, 602
Rhode Island.....	14, 165	14, 651	28, 816	1, 860	1, 972	3, 832	16, 025	16, 623	32, 648
South Carolina.....	798	907	1, 705	783	961	1, 744	1, 581	1, 868	3, 449
South Dakota.....	4, 767	4, 870	9, 637	310	611	921	5, 077	5, 481	10, 558
Tennessee.....	2, 404	2, 679	5, 083	752	774	1, 526	3, 156	3, 453	6, 609
Texas.....	19, 267	19, 605	38, 872	1, 138	2, 058	3, 196	20, 405	21, 663	42, 068
Utah.....	509	815	1, 324	1, 336	2, 148	3, 484	1, 845	2, 933	4, 808
Vermont.....	3, 838	4, 054	7, 892	195	457	652	4, 033	4, 611	8, 644
Virginia.....	3, 522	3, 753	7, 275	377	887	1, 264	3, 899	4, 640	8, 539
Washington.....	7, 965	8, 362	16, 347	2, 270	2, 066	4, 336	10, 255	10, 448	20, 703
West Virginia.....	3, 498	3, 743	7, 241	483	612	1, 096	3, 981	4, 355	8, 336
Wisconsin.....	48, 789	49, 198	97, 987	2, 927	3, 409	6, 336	51, 716	52, 007	104, 323
Wyoming.....	370	387	757	10	29	39	380	416	796
<i>Outlying parts of the United States</i>									
Alaska.....									
American Samoa.....	300	100	400				300	100	400
Canal Zone.....									
Guam.....	79	48	127				79	48	127
Hawaii.....	3, 452	3, 421	6, 873	1, 708	916	2, 624	5, 100	3, 337	8, 437
Philippine Islands.....			48, 127			20, 419			77, 546
Porto Rico.....	2, 714	3, 822	6, 536	213	616	829	2, 917	4, 438	7, 355
Virgin Islands.....	559	572	1, 131				559	572	1, 131