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REPORT OF
THE COMMITTEE OF THE NATIONAL
COUNCIL OF EDUCATION

ON

ECONOMY OF TIME IN EDUCATION

JAMES H. BAKER
CHAIRMAN

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ECONOMY OF TIME IN EDUCATION.

INTRODUCTORY.

Your committee, appointed (as at present organized) at the Cleveland meeting in 1908 to investigate "Economy of Time in Education," submits its report.

A preliminary inquiry on "The contemporary judgment as to the culture element in education and the time that should be devoted to the combined school and college course," was authorized by the Council of Education of the National Education Association at the Boston meeting, 1903, and a committee was appointed. The brief recommendation of this committee was never acted upon by the council.

At the Los Angeles meeting in 1907 the original subject was revived and a resolution was passed authorizing the appointment of a committee to make a preliminary inquiry and report. The entire committee of five proposed by the resolution were not appointed, but the chairman of the council requested James H. Baker, the original mover of the investigation in 1903 and a member of the first committee, to make a preliminary report at the next meeting, 1908, on the need of such an investigation. A questionnaire was sent to a large number of presidents of universities, superintendents of schools, and principals of high schools, professors of education, sociologists, and business men. The report contained a review of the whole field of inquiry; an appendix with questions, summaries, and extracts; and a bibliography prepared by the National Bureau of Education. The full report was published in pamphlet form by the National Education Association for the use of the committee of investigation; the review and a condensed summary were printed in the 1908 *Proceedings* of the National Education Association.

The recommendation of the above report to the council, that a committee be appointed to make a full investigation, was adopted, 1908. The committee is as follows:

James H. Baker, president of the University of Colorado, chairman.
James H. Van Sickle, superintendent of schools, Springfield, Mass.
William H. Smiley, superintendent of schools, Denver, Colo.
Henry Suzzallo, professor of the philosophy of education, Teachers College, Columbia University.
Albion W. Small, professor of sociology, Chicago University.

In the division of the work it was agreed that the chairman should investigate especially the college and its relation to the other departments of the university and to the secondary schools; Supt. Van Sickle, elementary education; Supt. Smiley, secondary education; Prof. Suzzallo, the educational principles involved in the inquiry; Prof. Small, the sociological view. The committee made a brief report of progress in 1909, which was published in the Proceedings of that year. The chairman presented a view of the whole subject under the title of "Reorganization of American Education," at the San Francisco meeting, 1911, published in the Proceedings. The pamphlet containing the material presented with the preliminary report, which represents the opinions, experiences, and experiments of many leaders in educational thought, has been especially useful to the committee. It has enabled each member of the committee to secure the active cooperation of many educators in his line of investigation, and has awakened an extended interest in the whole subject. Within two or three years the committee has been encouraged by the appointment, at the invitation of the council, of two cooperating committees—one of the National Association of State Universities, the other of the national Department of Superintendence. These committees are as follows:

Committee of the National Association of State Universities:
Albert R. Hill, president of the University of Missouri, chairman;
William L. Bryan, president of Indiana University;
Jacob G. Schurman, president of Cornell University;
Frank Strong, chancellor of the University of Kansas;
Frank L. McVey, president of the University of North Dakota.

Committee of the national Department of Superintendence:
Harry B. Wilson, superintendent of schools, Topeka, Kans., chairman;
John H. Francis, superintendent of schools, Los Angeles, Cal.;
Frank E. Spaulding, superintendent of schools, Newton, Mass.;
Frank E. Thompson, professor of education, University of Colorado;
O. I. Woodley, president of Normal School, Fairmont, W. Va.

This report has been long delayed, and now is only a formal statement of what has become, largely through publicity already given, a national question. This can not be regarded as a finality or even as in itself a satisfactory presentation. But we believe much has been accomplished by the committee, even if the present report were omitted. It must be remembered that the full report is constituted by the following, under the original title of "The Culture Element and Economy of Time in Education," now "Economy of Time in Education:"

Need of Investigation—Pamphlet published for use of the committee by the National Education Association, 1908.
Review and Abstract—Proceedings, 1908.
Report of Progress—Proceedings, 1909.

Report of Progress by the chairman under the title "Reorganization of American Education."—Proceedings, 1911.

The present formal report.

The report of the committee of the national Department of Superintendence—to be made.

The report of the committee of the National Association of State Universities—to be made.

The thanks of the committee are due to the many educators who have responded ably to the original formal inquiry, and to those who have cooperated with each member of the committee in his special phase of the subject.

JAMES H. BAKER, *Chairman.*

REPORT.

NATURE OF THE INQUIRY.

This investigation was prompted by the seeming need of a comprehensive view of the whole field of American education. Special problems were discussed in a fragmentary way, without consideration of related questions and without hope of even temporary conclusions. The length of the college course, and the relation of the college to the university proper, was a leading topic. But this involved the question of the length of the whole period of general education, the waste in elementary education, the place of the secondary school, the relation of educational aims to civic needs and the ideals of our civilization, the definition of culture.

The problem assumed this form: The period of general education is too long; economy in the selection of subjects and topics and in methods will save approximately two years in the whole period of general education; with greater efficiency in the earlier periods the college course may well end nominally at 20 instead of 22; a redefinition of culture may modify the preparatory period; the ideals of our civilization to-day may affect the view of culture and the desirable limit of formal training.

LENGTH OF THE PERIOD OF GENERAL EDUCATION.

By reference to the original questions and summaries (p. 63) it will be seen that two-thirds of the correspondents would shorten the period of general education, and that the majority of these place the end of the college at 20 or earlier; the doctorate or the professional degree (for those including the college in their preparation) would be obtained at about 24 instead of 26 or 27.

The length of the preparatory period in America is exceptional. The German student advances at once from the gymnasium to the university. The French student enters the university from the lycée, except that for certain faculties a year or two of supplementary preparation is required which may be taken either in the better lycées or in the general courses of the university. The English student enters the university from the public school; and Oxford and Cambridge are universities in a sense not represented by the American college. The English university, besides the traditional course which has always had a special significance in England, offers at the start a choice among many groups leading to law, medicine, theology, or a

knowledge of various sciences. It is understood that the nominal age for completing the secondary course in European schools is the same as for our high-school graduation.

Since the early New England college we have added four years to preparation and three or four years to specializing for the professions. Instead of converting the college into a university, we have piled the German university on top of our imitation of the English type (the college) without adjustment of the educational system, and the condition is full of difficulties and absurdities.

The early New England college met the simple conditions of its day and served both as a school of culture and in a way as a professional school. Until comparatively recent times it still performed a widely useful function as a broad preparation for business and the professions. But the recent rapid differentiations in professional, commercial, and industrial life, and the increased demand for knowledge and skill in each line, change the whole aspect of the college problem in so far as in the past it represented professional training. Special education must occupy, in part at least, the place of the college. To-day the college, interposed between the high school and the university, occupies an anomalous position, and one that is no longer tenable unless important adjustments are made. The high school and the university include its former functions.

A large majority of the opinions received express strong criticism of the waste in education and of unsatisfactory results, and contain able suggestions of adequate remedies. But this belongs to a later discussion.

The committee agree (and for reasons which will appear) that "graduate" and professional studies should begin at about 20. They will attempt to show that the saving of two years in time need be no loss in education.

The committee here present a provisional time scheme to be discussed later:

Elementary education	6 to 12
Secondary education (2 divisions—4 years and 2 years)	12 to 18
College	18 to 20 or 16 to 20
University (graduate school and professional schools)	20 to 24

EDUCATIONAL PRINCIPLES INVOLVED—VOCATIONAL EDUCATION.[1]

Perhaps the most difficult part of this investigation is the one involving principles of education and the relation of vocational education to the main question. Here is a brief summary of the committee's views:

1. The period of general education must be shortened in order that the vocation training—that of the graduate and professional schools—

[1] See Prof. Sumallo's special report, p. 20.

may fall within the period of greatest energy and adaptability. In other words, there must be an economic division of time in the "plastic" period between general and special preparation for life. Too long a period of preparation, general and special, may unfit for action. The age of 22 is too old to begin specialization, and 27 is too old to begin apprenticeship in a profession.

2. There is loss of interest and energy in a long preparatory period of unmotivated study.

3. The fundamentals of elementary education—facts, habits, dexterities, sentiments, etc.—can be taught in six school years, allowing the elementary period to end at 12.

4. At the end of the first six years of school the child requires new and varied interests, beyond those found in the elementary curriculum. Many believe that for physiological, as well as psychological, reasons a beginning in subjects and methods of secondary education should be made earlier.

5. By a division of the six-year high school into two periods, junior and senior, a large number would complete the first period; the plan would be adapted to an advanced grade of vocational school between 15 or 16 and 18 for pupils unable to continue a general course. The whole scheme then would provide for vocational lines of work beginning at 12, 15 or 16, 18, and 20.

6. For economy, subject matter should be made a means and not an end. The aim should be to gain a few fundamental facts, power and inspiration, and the ability to go alone. There is great waste in material and method.

7. The idea of culture must be modernized, reinterpreted in terms of present-day need, in terms of the value of the individual in the industrial and the social scheme. Every man has his own definition of culture, and for a particular discussion it means nothing if not defined. The majority of our correspondents give culture a wide meaning and include whatever prepares for the large demands of life—personal efficiency, civic fitness, rational enjoyment. Each member of the committee would define culture differently, but agree that it should include power for the higher appreciations of life. They further believe that culture may grow out of an education which is more conscious of its motives and spends less time in purposeless study. Culture in the sense of power of appreciation is not a "study," but is due to timely suggestion, inspiring influence, and guidance. There is much waste in the 16 years of general education, and "culture" has been made the chief excuse for it.

This report has to do primarily with the whole period of general and special education for those who take both in their entire extent. But since the problem of vocational studies also affects the question,

it can not be omitted. The status of this problem in the United States to-day is about as follows:

1. It is understood that boys who, through the home, have gained some kind of manual skill, such as may be had by working in shops or on the farm, have a great advantage in substantial character, and in a wise attitude toward life.

2. Motor training in various forms is a recognized part of general education. Manual training has a well-recognized general educational value.

3. Vocational education (commercial, technical, industrial, trade) is now making large claims on the public schools.

4. Conservative educators would connect all work looking toward a vocation with the present schools, allowing for it about one-fourth of the time, making it elective, making it preparatory to various industries, limiting the kind and number of industries selected by the conditions of each locality.

5. A larger number would separate vocational work from the regular schools.

6. For a large class of pupils it is proposed to begin industrial education (general foundation for each of several industries, together with selected general studies) at about 12 and end at about 16.

7. A majority claim that trade schools as such, leading to apprenticeships, can not be profitable before 16; that, whenever possible, trades are better learned in connection with the shops, but that compulsory laws should secure part time in school for young apprentices.

8. There are special problems in highly congested centers that would greatly modify the general principle and call for earlier and more technical preparation for industrial work.

The committee are in sympathy with the wise claims of industrial education, but believe that the heritage of the race in the form of systematized knowledge will always be the foundation of education. They believe that humanism in the form of interest in the thoughts and lives of men needs not less, but more, emphasis; that scientific knowledge, rational power, and æsthetic and ethical appreciation are the highest ideals of our civilization, but that learning will be more and more vitalized by relating it to the life of the present day.

Representative opinion holds that our schools are not giving results proportionate to the time, in efficiency, culture, or character. There is a growing belief that in the name of culture much time is wasted, without securing real culture or substantial character, which is the prime element of culture. As an economic ideal, the vocational movement looks toward preparation for skilled employment for those pupils who otherwise would leave school and become unskilled laborers. The fact that under present conditions many pupils leave

at the end of the sixth grade is an additional argument for the time scheme proposed by the committee. The demand upon the scientific and professional schools for thorough and extended courses calls for economy in all the preparatory courses (including the college). The vocational movement in the end will not detract from the culture ideal, but will give it a clearer interpretation. We believe that nothing will be lost to the best ideals of our civilization—power of reflection or the need of transmuting wealth into scientific knowledge, literature, art, and ethical standards. Allowing for all historical differences, the results in older countries, in developing high intellectual power, confirm this view of the educational scheme.

SOCIOLOGICAL VIEW.[1]

The relation of our educational aims to civic needs has been too much neglected. Every kind of a scientific, philosophical, and experimental method of studying education is in vogue, but the criticism of results, now so common, awakens us to the need of a simple examination of the ends proposed, and adapting the means to the end. Throughout the history of civilization, education has been determined or modified by the ideals and philosophy of the people, and by material conditions of life, and we in America can not ignore the just claims of representative criticism outside of the calling.

If we understand the conditions to-day, there is a demand for more efficiency, and for a culture which is related to real life and whose core is moral character. Education must be in harmony with its environment, but it must develop also original power to change the environment and to cope with whatever problems of efficiency and ethical conditions a given period may present.

If it is important to study education in terms of sociology, the greatest need of the sociologist is to study his problems in terms of education. Teachers are beginning to take this view. Students of society acknowledge the need, but confess neglect of the related field of education. However, some truisms might be made a beginning of investigation.

We may suppose that the sociological view to-day would be democratic in spirit and practical in aim, while regarding higher values. It would emphasize service, efficiency, and, connected with these and in part growing out of them, the culture ideals of art, ethics, and truth. It would give a new importance to the relation of man to men and indicate motives and methods. Stress has been placed on man's relation to nature; sociology will become a science when greater meaning is given the new humanism.

New views of the needs of society change the old aristocratic ideal of culture and make it democratic in opportunity and purpose. This

[1] Also Prof. Scandlic's special report, p. 21; also Prof. Small's special report, p. 25.

change requires that less time be given the old humanities and more weight be placed upon preparation for efficiency and service. The scientific method, broad concepts, and the higher appreciations must ever be the foundation of citizenship and of practical activities; but a larger proportion of time must be given to the vocational aims. This ratio will be approximately determined as a question of proper balance between receptive study and practical motor activity, also as a question of the economic division between preparation for life and active life. There has always been a selfishly unsocial factor in culture, and the whole movement of to-day is to correct this by connecting higher education and all education with democracy.

If, as in Germany, professional studies began earlier, with the motive of service to the State, the false element in culture would be largely eliminated and a better citizenship would result. It would seem evident that earlier specialization, beginning at about 20, would promote all industrial and scientific interests, and would result in an expert knowledge of many problems of government and society. Moreover, there would be a distinct economic advantage, in terms of social fitness and intellectual power of the nation, in graduating earlier from preparatory courses, and carrying through real university training those especially fitted to profit by it. To consider the earlier years, many leave school at the end of the sixth grade who would be retained if practical studies were offered them. This would result in the efficiency of a larger number and the training would have also a cultural value. Of course this is another argument for the time scheme proposed.

If we consider those who go through college and the professional school, by shortening the time the two additional years of active life and the greater power, hope, and enthusiasm of the earlier age would be a great economic advantage. It may be argued that here would be a loss in intelligent citizenship of the highest quality, because of the shorter culture period. But we believe the better methods of education in the proposed scheme of economy and the larger spirit of service would prevent any such loss.

Our great problem is to bring together the science and power of the schools and the popular will. The cooperation of higher education and democracy is the salvation of both. An educated aristocracy is not the ideal of the people, but a learning that shall be serviceable and represent their highest needs, aspirations, and ideals. They accept real culture, scientific power, trained skill, and are willing to pay for them. But they believe there is waste, a nonsocial element, inefficiency in some of the ways and means. The scheme proposed would tend to enlist the sympathy and support of the people.

ECONOMY IN ELEMENTARY EDUCATION.[1]

We approach now the question of saving time in the elementary period or of accomplishing more within the time. There must be important reasons why in Germany, France, and England the secondary graduate is believed to be two years ahead of our high-school graduates. Here are some reasons, assigned by a recent writer, for the superior progress in German schools: Beginning many subjects earlier than is the custom in America, such as foreign languages, elementary science, history; absence of marks and examinations; care of pupils as individuals; greater length of school year. But this subject is treated in the special reports of Supt. Van Sickle, Supt. Smiley, and Prof. Suzzallo.

The committee agree that there is much waste in elementary education, and that the elementary period should be from 6 to 12. Nearly all of our correspondents are emphatic regarding waste and the importance of shortening the entire period of general education. Saving of time can be made in the following ways:

1. The principle of selection is first: Choose the most important subjects and the most important topics; make a distinction between first-rate facts and principles and tenth-rate; prune thoroughly, stick to the elements of a subject; do not try to teach everything that is good; confine the period of elementary education to mastering the tools of education. This does not prevent inspirational work, which is a demand on the skill of the teacher rather than on time. A great secret of education is to accomplish a maximum of training with a minimum of material. This is especially true of formal subjects; it is true also of inspirational subjects in that after a general survey of the field, emphasis should be placed upon a few selected points. Under the conditions above enumerated the formal elementary period can end in six years.

2. Content subjects should not be taught with the methods suitable to the formal subjects; for instance, in the elementary period literature, history, science should be inspirational; this does not mean presentation to pupils of amusing stuff. No doctrine has been more harmful than that one subject of study is as good as another, and that all subjects should be taught alike; arithmetic is a tool and a discipline in absolute accuracy; literature, history, and elementary science in this period are for culture.

3. Include the last two years of the elementary school in the period of secondary education and begin the study of foreign language, elementary algebra, constructive geometry, elementary science, and history two years earlier.

[1] See Supt. Van Sickle's special report, p. 33.

THE HIGH-SCHOOL PROBLEM.[1]

It will be seen by reference to the original "questions" (p. 63) that the majority of correspondents favor a change in the high-school period and that the preferences are for 12 to 18. The committee favor the change noted in a previous statement, for the reason that it will adjust itself to present tendencies more conveniently than any other, and because it represents, we believe, essential principles in the organization of education. The proposition to make the high-school period 12–18 or 12–16 and the college period 18–20 or 16–20 will adjust itself in the following ways: (1) It begins high-school work at the proper time and continues it to the recognized age of college admission or of beginning life (12–18); (2) it provides for a large number who will enter vocations at 16 and adjusts itself to the idea of an intermediate industrial school (12–16); (3) it provides for the contingency that the college course in the reorganized scheme will end with the sophomore year and that the two years of college may be done in the university or in the larger high schools, and that the independent colleges may make a four-year course (16–20), admitting from the smaller high schools at 16. It should be noted that this whole discussion is a vastly different thing from the question of shortening the college course.

As to economy of instruction, the following principles may be stated:

(1) In general the principles recommended for elementary education apply equally to secondary education.

(2) Simplify the courses of instruction; cease multiplying subjects; concentrate on a few valuable studies—it is not necessary to take all the sciences in a high school; make college entrance requirements reasonable. The great mistake of our education is to suppose that quantity and strain constitute education. Education is a question of doing a few essential things well and without overstrain. The college has committed a grievous mistake in demanding ever more in quantity rather than in quality produced under conditions of healthy normal development.

(3) It is of prime importance that, so far as possible, subjects be vitalized and related to modern life, and be adapted to the pupil's interests, capacity, and mental development.

(4) The principle of selection obtains here—choice of subjects and of facts and principles under each subject; also differentiation of method—training from formal subjects, and knowledge and inspiration from certain content subjects.

(5) By far the greatest emphasis is given by our correspondents to moral training and preparation for citizenship.

[1] See Supt. Smiley's special report, p. 45.

(6) Under the conditions recommended for elementary and secondary education, the committee believe that as much can be accomplished at the age of 18 as at 20 under present conditions, and that the period now represented by the school and college can be shortened at least two years. It is to be understood there should be less, rather than more, cramming, strain, and mechanical measure of values. The following quotations are apt:

> An interpretation of any (elementary) course of study that will keep the amount of detail and abstract work down to a minimum; that will plan to make the activities of the school akin to practical life; that will place the development of power on the part of the child to do something above the mere accumulation of facts, will, I am confident, reduce the length of the elementary interval.
>
> The experience of the American colleges goes far to prove the Germans correct in drawing the dividing line between liberal and professional studies at the age of 18 or 19. Our boys generally stay at school until that age, and I want to ask, what is there to hinder the schools from completing a youth's liberal education at that age? In other words, from taking over the work of the first two college years? I think that there is a possibility of enriching our courses without putting too heavy a burden on the shoulders, or rather the heads, of our boys.

THE COLLEGE PROBLEM.[1]

In a way the whole previous study has been made with reference to the college problem. The committee believe that shortening the whole period of general education is inevitable and necessary; that college work must end at about 20, and university work must begin at that age. Since this result appears to be in the near future, is it not time for the universities to take hold of the problem and aid in the reorganization of the scheme of education? A somewhat remarkable judgment appears in the summary of the opinions of our correspondents upon the subject of the college and university.[2] Approximately one-half favor ending the college work with the sophomore year and beginning university work with the junior year—this work to count toward the higher and professional degrees—and building the schools of medicine, law, and engineering on the present first two years of college. In other words, the university age is to be 20, instead of 22. Until the reorganization and adjustment are effected the majority would retain the A. B. degree at its present standard, allowing, however, almost any consistent group, cultural or professional, to be elected the last two years.

The present tendency in the reorganization of the college is really preparing the way for the adjustment recommended. We quote from a report made to the National Association of State Universities and unanimously adopted. This part of the report was really intended to look forward to the time when the university would be founded on two years of college.

[1] See President Baker's special report, p. 50. [2] See page 63 for questions and summaries.

Present tendencies point, in our opinion, then, to a definite differentiation in the work of the college at the close of the sophomore year toward university work in the real sense. If these views are just, we suggest the following formulation of principles underlying the organization of such an institution, and we may define the standard American university to be an institution—

Which offers in the college of liberal arts and sciences two years of general or liberal work completing or supplementing the work of the high school;

Which offers a further course of two years so arranged that the student may begin work of university character leading to the bachelor's degree at the end, and reaching forward to the continuation of this work in the graduate school or the professional school.

In recommending that university work begin with the junior year of the college and that the professional schools be based on the first two years of college, the report is in line with present tendencies. It is in accord with the growing belief that the work of the last two years of college should be organized into groups that aim at more definite results and lead to greater efficiency. But this is only the first of many problems. We are facing questions of the time beyond the junior year for attainin the Ph. D. degree, of adjusting the scheme of counting the last two years toward both arts and professional degrees, of the place of the A. B. degree, of the age when the period of general education should end, and of a possible reorganization of elementary and secondary education. But these questions are not ready for solution and hardly belong to the work of the committee at the present time.

When by economy—this does not mean more cramming, but less—as much can be accomplished in the elementary and secondary schools and in the first two years of college as is now done in the full 16 years, the last two years of college can count toward graduate and professional degrees, and two years in the whole period can be saved. In other words, the graduate school and the professional schools constituting the university would be built on the first two years of college. The present device is a makeshift. Finally, this whole discussion is to be understood as looking toward a very different thing than the shortening of the college course.

CONCLUSIONS.

The committee draw the following general conclusions:

1. The contemporary judgment is that the period of general education should be shortened at least two years.

2. This judgment is supported by the demands of society to-day, both practical and ideal.

3. It is claimed that more will be accomplished for a people if the preparatory stage of education ends at a reasonable period and special aims be emphasized while the mind is at a high degree of adaptability, energy, and interest.

4. In the elementary and secondary periods, economy through selection, elimination, vital methods, relation to modern life, would yield much better results, and little or nothing would be lost by the proposed change in time.

5. The American college in its present form presents problems for immediate solution; there is no longer an excuse for it as a mere four-

year addition to the two earlier periods of education. The history of European education supports this view. This is not the same question as that of abolishing the college or of shortening the college course.

6. It is recommended that all university colleges organize the last two years in view of the coming elimination of two years in the whole period of preparatory education, and make them of the university type in form and method. When the college degree can be reached at about 20, those two years can become a part of the real university, consisting of a reorganization of the present graduate and professional schools.

7. It is recommended that the "National Association of State Universities" and the national "Department of Superintendence" be urged to continue their work on this problem—both the economy of time in the period of general education and the form of reorganization throughout; that the "Association of American Universities" be invited to cooperate. Upon these bodies will rest the responsibility of a final solution.

8. To define the form of discussion, the following divisions of the entire period of general and special education are proposed:

Elementary education	6 to 12
Secondary education (2 divisions—4 years and 2 years)	12 to 18
College	18 to 20 or 16 to 20
University (graduate school and professional schools)	20 to 24

(Signed) JAMES H. BAKER, *Chairman.*
JAMES H. VAN SICKLE,
WILLIAM H. SMILEY,
HENRY SUZZALLO,
ALBION W. SMALL,
Committee.

SPECIAL REPORTS.

EDUCATIONAL PRINCIPLES INVOLVED.

HENRY SUZZALLO.

THE VIEW OF THE PHILOSOPHY OF EDUCATION.

Any final plan for the reorganization of American education must be made with consideration of all the factors involved in the social and educational situation as we find it. The special points of view of cultural and vocational education, the particular institutional practices of elementary, secondary, and collegiate training, and the demands of the physiologist, psychologist, and sociologist must each be taken into account; but, finally, they must be related in a wholesome scheme of education that will respect every element in the situation while it evaluates each and relates all. An integrating theory of educational reconstruction can hope to be sound and useful upon no other basis. The proposals here offered are therefore made from this broad and inclusive point of view.

(1) THE SCHOOL SYSTEM MUST PROVIDE THREE TYPES OF TRAINING.

Our schools have no other object in mind than to train men for an efficient social life, on the assumption that in the long run the vast majority of men will lead a richer and happier personal existence if their activities are harmonious with social welfare. Ordinary observation of the failures of men and women in life indicate three types of inefficiency: (1) They are not sufficiently responsive to the common institutional demands which rest upon men in general. The indifference of men to ordinary moral and social obligations indicates a defect in the liberal education which is designed to bring them into appreciative cooperation with their fellows in matters which concern the common good. Or (2) they are not adequately equipped with the knowledges and powers which make them resourceful contributors to the world's work. It is already apparent that men must have a more adequate vocational education than existing institutions now provide. Or (3) they do not indicate a sufficient capacity for adapting their school training to the practical situations which everywhere condition concrete success in life, whether the domain be that of general political and social cooperation or of specialized vocational workmanship.

The school system is not solely responsible for these maladjustments, but its share is considerable. The history of the school's relation to society seems to indicate that, under the conditions of our present social evolution, the school's part is constantly growing larger. It is therefore probable, as it undoubtedly appears to be expedient, that the school system must assume to provide its members with a more extensive and efficient training than it has hitherto undertaken. This total care of the individual will include an efficient and economical system of education the mechanism of which will prepare for three related but distinct types of adjustment. These will be: (1) A series of general, cultural, liberal, or common schools—elementary, secondary, and collegiate—the function of which will be to train men for the maintenance of a progressive civilization through efficient membership in the common human institutions in which each man must inevitably be a unit of influence. (2) A series of more or less specialized vocational schools, extending from trade to professional education—the purpose of which will be to acquaint men with the informations, appreciations, and activities that are essential to personal working power in a chosen occupation. And (3) a varied series of cooperations between school and other institutions which will guarantee an apprenticeship under actual living and working conditions, the supervision of which is to be dominated by educational ideals and controls that guarantee that the growth of the apprentice shall be a more important consideration than his commercial productiveness. The first of these needs has been somewhat completely, but not altogether efficiently, met. The second is provided for very inadequately, the higher levels of professional education having a traditional establishment to the neglect of the lower academic levels of idustrial, commercial, and agricultural education. The third is unprovided for, cooperation between the school and the economic institutions of men being a new relationship which has hardly received more attention than occasional experimentation has provided.

(2) THE PERIOD FOR GENERAL EDUCATION MUST BE SHORTENED.

If the school system of the immediate future is to be organized with reference to three types of training, instead of one, the period of life allotted to liberal education must be shortened, so as not to usurp the plastic and leisure period of life so completely as to deprive youth of its right to vocational education and the training which apprenticeship under actual conditions provides. The period of general education will still vary with mental ability and economic status. Under any scheme of reorganization, some individuals will have only an elementary school education, others a high-school training, and still others a collegiate course. But, on the whole, there ought to be a relative shortening of the time given to the cultural training of various social groups.

(a) COLLEGIATE EDUCATION SHOULD END WITH THE TWENTIETH SCHOOL YEAR.

That class in the community specially favored with mental ability and financial resource, and for whom the colleges are intended, should in general complete its liberal education by the end of the twentieth year. There are many substantial arguments for such a reconstruction, only a few of which may be mentioned here:

In the first place, the period of plasticity during which a human being can be profitably educated is not coterminous with life; people may be somewhat flexible and educable to the end of life, but the period of greatest educability closes for most by the end of the twenties. There is considerable variation in individuals, but, in general, a man who has not found his work and place in life by the time he has reached his thirtieth year is indeed unfortunate. His chances of success are greatly diminished.

If the period of plasticity is thus confined, it is essential that every important and requisite mode of training fall well within the period of plasticity. Now, the modern contention is that a man's adjustment to the world in which he lives is dependent upon three types of training: (1) A general or liberal education which will give him a command over those human institutions in which he holds a membership in common with other men; (2) a specialized vocational education which will fit him for his particular economic function; and (3) an apprenticeship to his specific work and station in life which will snugly fit his theoretic education to the concrete and practical situations which he must meet.

If our scheme of general education takes till the age of 22, vocational education and apprenticeship, at least for those who go into professions, must be crowded into the six or eight remaining years of plasticity. This would seem to be a disproportionate allotment. More often than is desirable, if observation counts for anything, the college graduate is left without the eagerness and adjustability to pursue his vocational education and to undergo the specific and somewhat trying apprenticeship through which the world insists upon passing its young. The ordeal of doing practical work in a subordinate position ought to be presented two or three years earlier to most college boys, say, at the age of 23, when his professional school course is over.

In the second place, the feasibility of such a reorganization of our schools is proved by experience both abroad and at home. The theoretic grounds advanced find corroboration in the accepted institutional practice of European schools and in the results of American experimentation.

For the most part, England, France, Germany, and other less important European countries have a system of school organization

which provides for a completion of the period of general education by about the eighteenth year. There are variations in the cases of both individual persons and particular institutions, but the general practice proves the accuracy of the contention that the period of general education may be closed earlier than is the case with our general American practice without any appreciable loss of efficiency and, indeed, with an appreciable gain.

The American school organization is, in its lengthened period of general education, an anomaly among national systems of education—an anomaly created by an accident of history. Once the American youth completed his collegiate training four or five year earlier than now. This period has been extended by an increased standardization of the academic attainments of the lower schools, enforced by higher institutions. The German university and the English college, once parallel developments and roughly covering about the same age period, are, in America, treated as institutions of different grades, the German university being superimposed upon the Americanized English college.

Such attempts as have been made in the United States to shorten the period of general training by two years substantiate the European experience. Wherever the professional training has been provided at the beginning of the junior year of college, we are led to believe that the articulation has been successful. So successful has it been in the eyes of the university administrators that the association of State universities has declared for a distinct articulation at the close of the second collegiate year.

It would seem certain then that the period allotted to the general education of the group that goes to college should be shortened two full years, because: (1) Present American practice is an anomaly, the product of historic accident rather than of direct adjustment to human needs; (2) vocational education and practical apprenticeship absolutely require a fairer share of the period of plasticity than they are now receiving, and (3) educational experience carefully studied and interpreted indicates the irrationality of American organization and the efficacy of the suggested reorganization.

(*b*) ELEMENTARY EDUCATION SHOULD END WITH THE TWELFTH YEAR.

When we pass to a consideration of that social class which stands at the opposite extreme of those who go to college, we find many grounds that suggest the wisdom of completing the elementary school at the close of six years of instruction.

In the first place, such expert testimony as we have indicates the presence of considerable waste time and energy in the elementary school. There is a very widespread belief among school men that the fundamental facts, habits, attitudes, and ideals demanded by

the general needs of our civilization can be fixed in the nervous system of the child in six school years, particularly if the less useful parts of the course of study are eliminated and more efficient methods are introduced.

In the second place, the compulsory-education law under our present organization gives society control of the child only long enough to guarantee the ablest child eight years of general training. It cannot guarantee him the additional years of vocational education required to make him an efficient, self-supporting, and self-reliant citizen. To shorten the elementary school to six years without impairing its efficiency is to guarantee every child who does not go to the high school some vocational education. The need to guarantee some vocational education to the retarded pupils is so important that many careful students of social conditions are ready to say that the compulsory school age must be extended to 16 years, so as to carry the least able elementary school children, who now get no further than the fourth, fifth, or sixth school year, through one, two, or three years of vocational education.

In the third place, the six-year articulation is regarded not only as a better ending point for the general elementary studies, but as a better beginning point for the secondary studies. There are certain inner physiological changes that usher in adolescence that now occur at about the time when the average child makes the transition from elementary to secondary school. The strain of outer and inner conditions are more or less coincident. Therefore, the resulting school mortality is likely to be larger than it ought to be; or school life is continued at a larger physical and nervous cost than ought to be the case. It would be a distinct gain for a child to get fairly well started and adjusted to his new school life, vocational or secondary, before the full weight of physiological and nervous changes are thrust upon him. The two adjustments can be better cared for in series than together.

Again, it is the opinion of schoolmasters in general that, for those who have the peculiar mentality to go on to the ordinary academic high school, it is decidedly more profitable to begin the foreign languages at 12 than at 14 years of age. The same advantage may be had in other subjects where a large acquisition of facts is necessary to successful work.

In the case of those children who are more given to action than to abstraction, it is equally profitable to begin to center their intellectual work about an active vocation early. To begin vocational education, with its practical life-career appeal, at 12 rather than at 14 is to save many children from truancy and disinterest. It will extend their school life so that they will not be too early driven into unprofitable and futureless employments. They will still take up much general

training parallel with and motivated by their broad study of vocational work.

Here again the practicality of a reorganized elementary school period finds adequate sanction in experience. We have only to turn to the concrete efforts in this direction that have already been made by American schoolmen. Such experiments as have been tried in American school systems under practical operating conditions prove with certainty that the elementary school may be reduced to seven years; and that there is an almost equally strong probability that an elementary school of six years would be fully as efficient. Where the seven-year school has been tried, the school officials very generally anticipate a six-year plan. The organization of junior high schools out of the two upper grammar grades and the first-year high-school class is a distinctly successful move in the same direction. Here the high school begins to reach down into the grammar school. The establishment of separate departmental schools in the elementary system, consisting of the two upper elementary years and given over to manual activities, is the vocational movement beginning to claim its own from the elementary school system. All sorts of successful experimentation tending to restrict the general elementary curriculum to six years give at least tentative, fragmentary approval to the practicality of the plan suggested.

(c) SECONDARY EDUCATION SHOULD BEGIN WITH THE TWELFTH AND END WITH THE EIGHTEENTH YEAR.

If the previous contentions with regard to elementary and collegiate education are established, the period of secondary education will begin with the twelfth year. The question then arises, When shall it end? As at present, at the end of the eighteenth year? Or later, so as to include the freshman and sophomore years of college, thus abolishing the tertiary or collegiate division of liberal training? These are questions difficult to answer, because they raise the problem of articulating our three types of schools for general education with each other and with schools for vocational education. They involve, too, the need to know the valid distinctions which can separate a continuous system for cultural education into three distinct institutional units.

The secondary school has tended to extend its limits upward to include the first two years of college, as well as downward to include the last two years of the elementary school. But the former tendency is comparatively slight. The mass of experience seems to favor the latter, as has already been suggested; and the theoretic considerations corroborate actual practice in this direction. The inclusion of the two collegiate years in the high-school unit is opposed by arguments of a sort difficult to overcome. The largest gap in our school system

exists between high school and college. The most advanced teaching of a cultural type is very closely dependent upon the research of the university in replenishing its stock from advancing knowledge. The equipments required by college and university are more nearly coincident that those of college and high school. Endowed institutions constitute a larger proportion of the schools for higher education than they do for secondary education. An upward extension of the high school is so difficult as to seem inexpedient, while a downward extension seems logically to be a line of least resistance. On these grounds it is probable that, in the generality of cases, high-school education will plan to include the period from the twelfth to the eighteenth year.

The objections which have been urged against the inclusion of the collegiate years by the high school hold largely against any proposal that the college should attach to itself the upper two years of high school. Such a proposal is not seriously made. If it were, all our current tendency would be against it. Even the smaller colleges are tending to drop the preparatory academies or high schools which have so frequently been associated with them. The larger institutions did so long ago. The discussion of any such proposal to extend the college downward would therefore be largely academic.

(*d*) THE SECONDARY SCHOOL OUGHT TO BE SUBDIVIDED INTO TWO ADMINISTRATIVE UNITS—A JUNIOR HIGH SCHOOL AND A SENIOR HIGH SCHOOL.

A six-year unit in the elementary school is not objectionable. The extreme immaturity of the pupils requires a long period for substantial achievement. The amount of basic knowledge and power to be acquired by them forbids selection of pupils and specialization of their activities at any time within the first six years. But these arguments do not hold in the case of the high school. The students are more mature; they are free from the restrictions of compulsory education; they are already discovering the personal interests and limitations which point toward specific types of training and life work. They feel the pressure that comes from the financial limitations of their families. No matter how varied the offering of studies is, or how adjustable the privileges of election, the six-year course is not an attractive or practical scheme for all those who might be able to pursue their general course beyond the primary school. It ought to be subdivided into two administrative sections: (1) A junior high school of three years, extending from the twelfth to the fifteenth year; and (2) a senior high school, also of three years, covering the period from the fifteenth to the eighteenth year.

Such a subdivision and point of articulation is necessary upon social as well as individual grounds. A three-year junior high school

will assure a larger number of citizens possessing some cultural training of a secondary grade than a six-year high school. A point of articulation in the middle of such a high-school system would afford an appropriate position for the establishment of vocational schools of a type now largely missing in the proposals for vocational schools.

When we examine the schools' traditional provision for vocational education, we find it almost confined to professional education. The more recent proposals and innovations deal almost entirely with the training for those commercial, agricultural, and industrial occupations which may be entered soon after the completion of the elementary course of study. A casual analysis shows that the middle groups of occupations that are distributed between the industrial trades at one extreme and the professions at the other are not adequately cared for. The scheme of vocational education must finally include these, if our provision is to be efficient.

The period of general education beyond the elementary school must provide frequent points of articulation, so that the inevitable selective function of the liberal schools may be supplemented by a series of vocational schools into which those who can not go on may be distributed. Under the scheme thus far discussed, points of articulation between the general scheme of education and a special series of vocational schools would be provided at the twelfth, eighteenth, and twentieth years. The gap between the twelfth and the eighteenth year is too large to suit human nature, economic ability, or social needs, and should be broken in the middle, say, at the fifteenth year. This is in line with tendencies already established, as no other suggested point of articulation within the six-year high school is.

(e) THE STANDARDS OF CULTURE MUST BE MODERNIZED TO MAKE OUR GENERAL EDUCATION EFFECTIVE.

It is apparent that shortening the period of general education by two years necessitates more economical methods than are now employed. But no policy of economy may be applied that does not take account of efficiency. All economies are relative to the purpose of our schools. What, then, is the object of our system of general, liberal, or cultural schools? The descriptive terms themselves suggest the various points of view by which the standards of our common training are determined.

In terms of the individual's relative responsibility for service, a general education prepares a man for the common duties of life, those which are to a considerable extent unspecialized. In so far as men enjoy membership in common institutions, they require com-

mon knowledge, habits, ideals, appreciations, manners, and powers. This common possession of mental is what guarantees social solidarity. Without it we lose the ability to live and work together profitably and happily. Where vocational training lays stress upon specialized responsibility for contributing through deeds, general training puts emphasis upon the common appreciations and understandings which men should possess to comprehend and check every tradition and innovation which affect social welfare.

In terms of psychological freedom and restraint a liberal education implies that school training shall so train men for the situations of life that they shall feel free in their choice of personal action and at the same time find their decisions consistent with the public good. The processes of a liberal education will therefore tend to make personal and social will coincident. Respecting every fundamental instinct, impulse, and interest of human life, it will remold them in terms of accurate knowledge and abiding ideals, so that personal life will enrich both itself and the civilization in which it participates.

In terms of the wisdom which has been accumulated during the long course of our institutional development a cultural training gives the individual an efficient command over the intellectual, moral, æsthetic, social, religious, and vocational experiences of our historic civilization. These experiences are to be the evidences upon which the conduct of his life is to be based, the materials for interpreting the situation, thoughts, ideals, and actions of his own life and time.

Each of the three views would aim to produce men who would possess (1) that scientific knowledge and mental power which would give them a firm rational command of life; (2) that sense of human kinship with their fellows which would insure a sympathetic attitude toward other men, an impulse to social service and a respect for the established moralities of civilized life; (3) that sensitized æsthetic appreciation which reconstructs the material world and organizes social relations in nobler and more congenial forms, and which guarantees a noble disposition of the leisure of life; and (4) that command over personal action and expression which gives to human activity that enchanting forcefulness which substitutes leadership for coercion.

Such a view of the functions of our general or cultural education is a statement of our ideal need. In an imperfect world of men and external conditions, no full realization is possible. It would be desirable to have men equally cultured, but it is inevitable that they can not be. Our educational work is to approximate the fulfillment of these liberal ends to the fullest degree possible, considering the limited abilities, the restricted resources, and the short plastic period of human life.

In a rough way the school system makes such an approximation when it separates the period of general training into three units—elementary, secondary, and collegiate. Careful investigation of all the distinctions made between elementary, secondary, and collegiate education fails to reveal any large functional differences. Collegiate education is an intensification and expansion of the culture of the secondary schools, as that of the secondary schools is an enlargement of the liberal training given in the elementary unit. It is partly because lawyers, doctors, ministers, and teachers in high schools, more than any nonprofessional class, have a far-reaching influence on the fundamental institutions of life that we demand of them a preliminary education extending through the college. It is because the skilled craftsman and the larger man of business have a more general influence on common affairs than the unskilled workman and the commercial shop-clerk that one group usually goes through high school and the other does not. The articulations express the degree of general training which society in its rough wisdom decrees as necessary to protect the wider social interests which tend inevitably to be affected by the spirit and method of a particular vocational group. It is partly, too, because one series of vocations requires a broader intellectual background and a firmer command over mental processes for its technique than another. Thus the differing units of general education represent rough groupings of training for wider or narrower ranges of social responsibility and technical skill.

In general, it is true that in our social world a man's cultural responsibility and influence are established largely by his occupational placing. This intimate connection between vocation and culture has not been sufficiently considered in our theory of educational organization. It is important in determining the subdivisions and articulations which should exist in the scheme of general education. It is particularly significant in the attempt to determine what degree of cultural training is practicable for various groups of men who are to go through the general and the vocational schools. In the first place the nature of the general education given within a single school unit is determined by the life led by those vocational groups to which that particular school unit mainly contributes. In the second place it establishes the nature of the additional social, civic, or cultural training which should accompany and be dynamically associated with his vocational training. It is this that makes vocational education broader than vocational training (in the narrow sense that training means mere impartation of technical skills, to the omission of the social vision which is requisite in the solution of class problems).

There is no way by which our schools can give an efficient social education save through surveying the social situation and bringing the schools into harmony with external conditions and needs. The

schools can not blindly fit their students into the life and culture of another century. The needs of our own time and place are too imperious. Our cultural materials must be sifted so that obsolete values, facts, and disciplines are omitted and those most pertinent to present conditions retained. Our culture must constantly be modernized, that is, reinterpreted in terms of present-day need. The final worth of any knowledge, discipline, or culture that we have is to be measured by the answer it gives to the question, How does it increase the power of a man (with restrictions on his resources) to perform his part as a member of a family, a neighbor in the community, a coworker in a vocation, a citizen of the State, and a unit in humanity? The school can not answer this question merely by looking inward upon its own professional and traditional values; it must look outward upon the estates of all manners of men, and note what the pressures of life demand of them. In modernizing our conception of culture, we must recast our whole professional consciousness in social terms. It is the prime necessity in making our general education efficient.

(f) MORE EFFICIENT AND ECONOMICAL METHODS MUST BE USED, IF THE GENERAL SCHOOLS ARE TO BE RELIEVED OF OVERPRESSURE.

The waste in our schools for general training has been apparent. It will become more irritating, once we attempt to shorten the period of education by two full years. It will be doubly vexatious when we dare to add the new aspects of human training that modern society requires. Perhaps just this additional pressure is necessary to make us urgent in the improvement of our educational methods. Then, perhaps, we shall recognize that a cultural education must be measured by standards of practicality, less obvious but just as certain, as those which obtain in preparation for breadwinning. Who that is not superficial can doubt the practicality of a good character as a business asset? Who will not recognize the worth of a common stock of moral ideals, when two classes in the community wage unfair war upon each other? It must be our business to try to analyze more accurately than we have ever done the spiritual practicality of our general schools. Only then can we weed out our false practices and our ineffective instruction. It will be difficult to do, but it can be done, if we will only study men in the setting of a real social world. From the standpoint of the philosophy of education, there are three clear ways by which we can decrease the overpressure in our schools:

(1) We must rid ourselves once and for all of that fallacy which insinuates that education is to be completed for any person within a given set of schools. A broad view of life tells us it is experience which educates. We are made by the whole length and breadth of life. Other institutions than the school do mold the pupil's character;

life beyond the school will continue to amend it. The school simply occupies a strategic position in human life because it works upon a plastic infancy with tools that are of very superior power, if rightly applied. But the fact need not suggest that the school must complete any man's education. More than anything else teachers require the courage to leave things undone. To make that possible, the teacher must not be content to teach students all the facts they need to know finally. The school can not do it anyway. It should take the focus of its attention off facts and forms perfectly learned and habits and attitudes completely fixed, and divide its attention between (*a*) requiring a thorough acquisition of some fundamental things and (*b*) developing interests in the unmastered domains, along with the power to attack these fields when the grown man faces them in his adult life. The first economy in our education will come through a completely changed point of view as to the school's function. It will take the emphasis off subject matter as an end, making it a means, and lay the stress upon the development of the child's power to proceed alone. What does it matter that a child does not know everything, if the school will make him wish to do so and give him the power of independent thought and study? Six years of school life are merely six years of opportunity to grow in knowledge and power. Let the school do what it can in the allotted time, always remembering that the child must be equipped to go on without the teacher.

An incalculable waste occurs in our schools because this principle is violated. Fearful that the course will not be covered, that some fact will be left out, we hurry, crowd, and coerce children till they have no further interest in books when school is done. We have taught them many facts superficially, but we have shorn them of the power to educate themselves. Children who have been in the presence of good literature for years never seek it again, because the teacher has maltreated both the subject and the children with his pedantic insistence on details. They acquire no more facts when school is done, because they have not been taught to work in freedom, without the admonitions and compulsions of the teacher. We must aim to do more for human power, by striving to do less in the way of giving students information.

(2) We must reconstruct the course of study so as to eliminate that which does not need to be known, or that which is of lesser importance and can be gained by the student after awhile. No mere professional theory of discipline should be allowed to take precedence over real social need. The curricula of our schools must be made in the light of our social surveys of what men need in knowledge, habits, powers, skills, and values. And these surveys need to be made accurately. If the vocabulary taught in spelling contains 3,000 words,

these should be the 3,000 words most frequently used in the social world, not some more compilation made on the guess of textbook makers. If his mathematical computations are taught him, they should correspond in fact and method with current adult practice. The selection of a course of study is always primarily a sociological matter; and every activity, traditional or innovative, should be eliminated when no relatively important social sanction can be found for it. All truth is useful, but in a few school years all truth can not be mastered; what is less important must be dropped if a more important element calls for its time.

(3) We must increase the efficiency of our methods of instruction. We are still divided into cults, as to teaching processes. If we like the old, we stick to a traditional procedure; if we are temperamentally fond of the new, we welcome innovation. We do not know the relative efficiency of an old as opposed to a new method; of a method used in one locality as compared with another employed in other school systems. We must as a profession eliminate the less efficient modes of instruction (*a*) by subjecting all our classroom procedure to the test of a comparative experimental pedagogy and (*b*) by establishing some central bureau of pedagogical knowledge which will keep the professional world informed as to methods and their values.

The waste in education will not be difficult once we have (1) attained a more natural view of the school's functions, (2) provided social surveys as a basis for constructing courses of study, and (3) established an experimental pedagogy for determining relative efficiency.

(*g*) OUR PROGRAM FOR VOCATIONAL EDUCATION MUST BE BROADENED.

The inadequacy of our scheme for vocational education has already been suggested in the previous discussions. It suffices to say that with four points of articulation provided in a reorganized system of schools for liberal education, there ought to be provision for groups of vocational schools at each of these points. (1) At the end of the second year of college, we already have our professional schools, but they require some reconstruction. (2) At the end of the six-year elementary schools we shall have our lower vocational institutions. We must provide vocational schools for those who go to the secondary school, but not to college. (3) At the end of the third year of high school we must plan an extensive group of mid-vocational schools. And (4) at the end of the high school we must enlarge the slight provisions already in existence.

Every type of vocational education must be established at its given point of articulation on the basis of a careful investigation of vocational needs, in terms of the basic cultural education and the

additional vocational foundation required. The length of the course of each, and its content, must alike be suggested by economic fact. In assuming a new obligation for which our scholastic traditions have not prepared us, nothing is more dangerous than a careless assumption as to need and a predisposition as to school organization. The vocational courses are more than likely to be extremely variable in length and the school scheme should be kept sufficiently flexible to take account of this fact.

Vocational education ought not to be mere trade training in skills. It is no mere repetition of apprenticeship under expensive conditions free from exploitation. It is a substitute institution superior to apprenticeship, but still lacking in some of the latter's good qualities. It is, in fact, a transition between cultural education and a shortened apprenticeship, where broad, human considerations are still joined with the demand for industrial appreciation and productive skill. The emphasis is not yet on the man's product, but on his developing ability to produce. The intimate connection between liberal education and vocational choice, already stated, implies that some general educational activities will still parallel the study of a special business. What is more important than that boys in a vocational school shall have their power to adjust to new trade conditions preserved by a wider training than that involved in their prospective job? What is more important than that men destined to become members of labor unions or directors of corporations shall view their specific life work in relation to the economic and social conditions and ideals which determine the common welfare?

(*h*) A NEW SHORTENED AND SCHOOL-SUPERVISED APPRENTICESHIP MUST BE PROVIDED.

But when general and special education are completed, the knowledge and skill acquired must be applied to very concrete circumstances. The concrete situation is a frequent factor in determining success or failure. Some sort of apprenticeship is necessary, however much it will need to be shortened. The last adjustment of men's powers to their station and work in life must be made with their growth in mind. Apprenticeship that is to be effective to this purpose can not be left to corporation, institution, or labor union. The factory may make it too narrow for the operative's good; the hospital may turn its apprentice-nurse into a menial to save servants' hire; the labor union may obstruct and delay the development of the apprentice to lessen the labor supply. Sound public policy requires that the vocational institutions in which men labor and the schools which educate them shall cooperate. It will be difficult to achieve, but it must be accomplished. The few experimental efforts in this

direction have been too efficient as examples for us to longer delay the systematic attempt to provide an efficient apprenticeship under school control. The establishment of such an institution will require some readjustment of both school and work place, but the gain will warrant the effort that must be expended upon this stubborn problem.

(i) THE SCHOOL MUST PROVIDE VOCATIONAL GUIDANCE.

Almost all our discussion thus far has aimed at the more efficient conservation and education of men's powers. But a total view of the school's relation to society indicates that it has selective or distributive functions. Sooner or later, in fact soon rather than late, the school is confronted by the mental limitations of the pupil or the economic inability of the parent. The two factors are selective. They decide which children shall have further schooling of the general type which lays the foundation for the more advanced special occupations. But this distribution of students among higher schools, vocation schools, and actual occupations is done very crudely. There is an appalling waste of human ability. Able men do not find their proper work; less able individuals are thrown into responsibilities where their substantial powers are not used and where their weaknesses count heavily against them. The child out of school frequently drifts into an occupation that bears no promise for him by virtue of mere accidental opportunity or the suggestion of a fellow. Employers and even some shortsighted parents take advantage of the labor of children without being considerate of their ultimate welfare. The school must take over into its own hands more completely and more efficiently the work of vocational guidance. As the one impersonal agency, which has both individual and social welfare as its ideals, it is the safest trustee to distribute men and women to those tasks in life where their abilities will count most and their defects least.

The school of the future can not escape interesting itself scientifically in the problem of vocational guidance. Somewhere in each school system there must be established a bureau carefully organized for this purpose, and some person in every school will, under competent direction, be active in determining the life careers of youth. In this work three distinct factors must be taken into account: (1) The physical and mental capacities of the child in so far as they are revealed positively or negatively; (2) the economic capacity of the family to provide the necessary vocational education and apprenticeship; and (3) the vocational opportunities open to men and women. Whatever vocational surveys of community life are needed must be provided, and each school must establish the cooperation it requires from home and economic institutions.

The suggestions and principles here offered do not pretend to be inclusive. They represent merely the large structural changes that are needed in the development of an efficient, economical, and wholesome scheme of education. A thousand minor modifications must be made, but these will readily follow once we have committed ourselves to the few major propositions here suggested.

THE SOCIOLOGICAL VIEW.

ALBION W. SMALL.

[CIRCULAR INQUIRY.]

DEAR SIR: A committee appointed by the National Council of Education to investigate the problem of Economy of Time in Education is working on the following hypothesis: That two years may be saved in the whole period of general education, including the college, all of which may be considered as preparatory education, and that this saving of two years in the period of general education will involve no loss, if waste is stopped. Of course this merely mechanical statement of the problem does not indicate the fact that it involves the profoundest phases of the entire reorganization of American education.

PROVISIONAL TIME PLAN.

Elementary education	6 to 12
Secondary education (2 divisions—4 years and 2 years)	12 to 18
College	18 to 20 or 16 to 20
University (graduate school and professional schools)	20 to 24

The committee assumes that the proposition to make the high-school period 12 to 18 or 12 to 16 and the college period 18 to 20 or 16 to 20 will adjust itself in the following ways: (1) It begins high-school work at the proper time and continues it to the recognized age of college admission or of beginning life (12–18); (2) it provides for a large number who will enter vocations at 16 and adjusts itself to the idea of an intermediate industrial school (12–16); (3) it provides for the contingency that the college course in the reorganized scheme will end with the sophomore year and that the two years of college may be done in the universities or in the larger high schools, and that the colleges may make a four-year course (16 to 20), admitting from the smaller high schools at 16.

For preliminary reports and discussions of the problem of the committee, see Proceedings of the National Education Association, Cleveland meeting (1908), page 466, and San Francisco meeting (1911), page 94.

I hope you will contribute to the work of the committee by returning answers to the following questionnaire. The questions are submitted with the distinct understanding that they call merely for the individual reaction of a selected group of sociologists. The committee

wishes to know the present opinions of such a group, and will not interpret the opinions as attempts to make it appear that sociologists claim to have established a scientific basis for dogmas on the problem.

Sincerely,

ALBION W. SMALL.

QUESTIONNAIRE.

1. What is your view of the time scheme of the committee?
2. What ideals of our present civilization should fix the aims of the schools?
3. How will these aims help to make the "good citizen," who shall regard the problem of state and society, the efficient citizen?
4. Does "culture" require the present length of period of "general education"?
5. What is your idea of the proper balance between cultural and vocational studies for the welfare of society?
6. Is there a false element in "culture"—a selfishly unsocial factor?
7. What would be the effect of a shorter period of general education in correcting the ratio between an individualistic training and preparation for efficiency and service?
8. What would be the advantage to civilization of the specialized knowledge of a larger number of university men—the result of ending the preparatory period earlier? (The need of earlier specialized knowledge for a differentiating civilization).
9. What would be the advantage or disadvantage of retaining in school a large class of pupils by offering them prevocational education beginning at 12?
10. What of the economic advantage (considering those who go through the university) of entering active life while power is at its best? Of beginning to earn two years earlier?
11. What social losses would you set over against the possible economic gains referred to in 10?
12. Would an earlier beginning of university (graduate and professional education) appeal more strongly to democracy—to secure sympathy and support?

DIGEST OF SOCIOLOGISTS' ANSWERS TO QUESTIONNAIRE.

(Number of persons addressed, 100; number of replies received, 37.)

Question I.

1. General approval—16.
   - a. Sixteen years minimum rather than average college entrance—1.
   - b. Must have four years in college—1.
   - c. Save the two years in the grades—1.
   - d. Save the two years in high school and college, not in the grades—1.
   - e. Provide for two years in kindergarten—1.
   - f. Three years high school and three years college favored—1.
   - g. Scheme favored if without loss of efficiency—2.
   - h. Save by cutting out or condensing useless subjects—4.
   - i. Make schedule to fit case—1.
2. General disapproval—1.
3. Unanswered—1.

Question II.

1. Utilitarian ideals.
   - a. Vocational, not including cultural—2.
   - b. Vocational, including cultural—4.
   - c. Democracy—5.
   - d. To make independent members of society—4.

Question II—Continued.

1. Utilitarian ideals—Continued.
   - *e.* Conservation—1.
   - *f.* Utility—2.
   - *g.* Efficiency—5.
   - *h.* Scientific—1.
   - *i.* Technological—1.
   - *j.* Adaptability—2.
   - *k.* Efficient citizenship—5.
   - *l.* Knowledge of the world—1.
2. Cultural ideals.
   - *a.* To fit each individual to *live* in highest sense—3.
   - *b.* Self-knowledge—3.
   - *c.* Self-culture—1.
   - *d.* Self-control—1.
   - *e.* Strong personality—3.
   - *f.* Appreciation of the best things—2.
   - *g.* Culture in its broadest sense—1.
3. Spiritual ideals.
   - *a.* Self-sacrifice—1.
   - *b.* Service—6.
   - *c.* Christianity—2.
   - *d.* Ethical—4.
   - *e.* Character—1.
4. Cultural and utilitarian combined—1.
5. To improve the social environment—1.
6. Unanswered—10.

Question III.

1. By teaching the proper relation between society and the individual—12.
2. By instilling ideal of service—4.
3. By preparing the individual to meet society—9.
4. By creating a better educated class—1.
5. Answer indefinite—1.
6. Unanswered—2.
   - *a.* Apparently misunderstood—2.

Question IV.

1. No—20.
2. Yes, conditionally—3.
3. Equivocal—2.
   - *a.* "Cultural" and "vocational" interwoven—2.
   - *b.* Not a question of time, but of subject and treatment—1.
4. Indefinite—1.

Question V.

1. Emphasis on vocational.
   - *a.* Vocational contain all culture necessary—6.
   - *b.* Vocational longer than cultural—2.
   - *c.* More vocational than at present, desirable—2.
   - *d.* Equal division in grades, vocational emphasis in college—1.
   - *e.* Cultural is based on vocational—1.
   - *f.* Cultural 1 to 3, vocational 2 to 3—1.
   - *g.* Cultural 1 to 4, vocational 3 to 4—1.
2. Emphasis on cultural.
   - *a.* Too early specialization dangerous—1.
   - *b.* Cultural as long as pupil will respond—3.

Question V—Continued.
3. Equal division.
a. Cultural up to 14, vocational thereafter—1.
b. Equal division—5.
c. Cultural up to 16, vocational thereafter—1.
4. Cultural to precede vocational (ratio unfixed)—1.
5. Proportion to suit condition and situation—3.
6. Both should be subordinated to social service studies—1.
7. Unanswered—1.

Question VI.
1. Yes—19.
2. Yes, conditionally—4.
3. Not necessarily—5.
4. Unanswered—1.

Question VII.
1. Good effect.
a. Individualistic would give way to efficiency and service training—4.
b. Would lessen individuation—1.
c. Would retain children longer in school—1.
d. Would make a corrected ratio possible—1.
e. Would benefit the masses, whose education is limited—1.
f. Unspecified—3.
2. Bad effect—2.
3. No effect—3.
4. Doubtful—2.
5. Equivocal—2.
a. Change, not the period, but the basis—1.
6. Unanswered—4.
a. Question apparently misunderstood—4.

Question VIII.
1. Advantage.
a. To society at large—6.
b. To society through the individual—5.
c. Unspecified—10.
d. Conditionally—2.
2. Disadvantage—1.
3. No advantage—4.
4. Unanswered—1.

Question IX.
1. Advantage.
a. Economic—14.
b. Cultural—7.
c. Unspecified—5.
2. Disadvantage—3.
3. Unanswered—2.

Question X.
1. Advantage.
a. Economic—11.
b. Cultural—3.
c. Earlier marriage—6.
d. Moral—2.
e. Conditionally—3.
f. Unspecified—7.
2. Indefinite—2.
3. Unanswered—1.

Question XI.

1. None—18.
2. Social loss.
   a. Economic—3.
   b. Cultural—2.
   c. Moral—1.
   d. Spiritual or idealistic—1.
3. Unanswered—3.
   a. Question apparently misunderstood—1.

Question XII.

1. Yes—22.
   a. Possibly—1.
2. Not necessarily—2.
3. Unanswered—4.

ECONOMY IN ELEMENTARY EDUCATION.

JAMES H. VAN SICKLE.

It is generally admitted that there is waste in education. It is not denied by a single person among more than one hundred who have been consulted in the course of this inquiry that some of this waste is chargeable to elementary education. All agree that some saving of time is possible; but at this point agreement ceases, though the differences in opinion as to how the saving is to be realized do not appear too radical for ultimate reconciliation. There are those who would revolutionize the course of study from beginning to end for all pupils. There are others who would change the course materially for two groups of pupils, the highly gifted and the slow. But a majority of those consulted seem in the main to accept the course of study as it has developed, and to hope for improved conditions through elimination of nonessentials, substitutions, better teaching, and improved administrative adjustments.

It is clearly impossible to move children through the course in definite chronological age groups. The differences in mental power are too great for this, and we do not yet know enough about psychical age to use this term in speaking of groups of pupils in the various stages of education. In fixing 12 years as the age at which elementary education should end and the secondary period begin, the committee must be understood as ignoring extremes of ability and speaking only of the capable middle group of pupils. They must also be understood as accepting some clear definition of the work of grades one to six, such a definition, for instance, as that given in the Cleveland report of the committee on the six years' course of study. The six-year elementary period would concern itself with a natural period of school life, the age of childhood, whereas under the existing eight or nine grade organizations attention is divided between two problems, that of the child and that of the first years of adolescence.

One of the conspicuous causes of waste in elementary education is the attempt to give the same preparation to all, regardless of wide differences in aptitude and the character of the life to be led. Classifying the grades above the sixth as secondary will facilitate a differentiation in the upper grades which will permit some pupils to make more direct preparation for business or the industries than is now possible, while others continue to follow the more strictly academic program as far as may be necessary in preparation for managerial positions or professional life. Without accurate and detailed accounts of the results of actual trial under such an organization, positive assertions as to economy of time could not be made, yet the probability that time would thus be saved would seem strong. But enough communities have made progress in this important field to place the matter beyond the stage of mere probability. Worcester, Indianapolis (2), Baltimore (3), Lincoln, Harrisburg, and Rochester, by maintaining special classes for exceptionally capable children, have shown that it is possible for able pupils to save one year between the sixth grade and the twelfth, with other advantages to themselves besides the saving of time. As a rule we now wait until pupils have completed the work laid out for eight or nine years before permitting any definite life motive to become operative. By that time half our pupils have left us. Those who survive and enter the high school have there their first opportunity to move directly toward some definite goal. It is here proposed to create conditions favorable to the development of definite purpose two years earlier by ceasing at the seventh grade to require all pupils to follow the same course of study. It is believed that earlier differentiation of courses would lessen mortality among the slow and would result in more rapid progress among the capable. One correspondent cautions, "We can not make or produce maturity by hastening a process," and another adds, "It is a biological fact that children must have time to mature," and this is quite true, but maturity advances at different rates with different children, and any scheme of education that fails to discriminate between those who develop slowly and those who develop rapidly is not only irrational, but essentially undemocratic. The problem that must be solved before society can utilize to the full its human resources is how to make adequate provision for the rate of progress suited to varying grades and types of intellect without departing from the democratic ideal of equality of opportunity for all. Equality of opportunity and identity of opportunity are far from being equivalent terms, yet the necessity we have been under, particularly in our large cities, of educating children in "shoals" has unquestionably resulted in pushing uniform requirements too far, thereby retarding the abler pupils and discouraging the weaker ones. Our educational machinery is so adjusted that as a rule even those

pupils who are quite capable of meeting the standard of progress here advocated have little chance to do so. They can advance only as the soldier does on the march—at the pace of the army as a whole.

We are assuming in this committee that it is possible and desirable to end the college and begin the university at 20 instead of 22, thus saving two years during the whole period of education, and we readily admit the responsibility of the elementary school for a share of this saving, but in accepting 20 as the age at which the college course should be completed we have in mind the abler students, not all students. The age of 20 may be taken as properly marking the age boundary between general education and specialization for the abler students, but to hold to this criterion for all students would be equivalent to saying that only the highly gifted should attempt to climb the educational ladder as high as the college level—that only the gifted can be benefited by the higher education. This no one would think of asserting, nor would one expect the wide difference in the ages of children in any given grade in the elementary school to disappear as the same children advance into the high school and approach the college. These differences are very great. Among the children in sixth grade of any city the range of ages is all the way from 11 years for the youngest to 14 or 15 for the oldest. Some children are as mature mentally at 12 as others are at 15, and they keep the lead they have gained and even increase it if they have a fair chance to do so. They ought to have this chance, but the provision made for their unhampered progress should not deter the slower minds from entertaining college and university ambitions. Our organization should be flexible enough to accommodate itself to all whose circumstances permit them to aspire to a college education, whether their mental make-up allows them to complete a college course at the age here suggested or not. The flexibility needed for the attainment of this end should work equally to the advantage of the rapid and the slow.

After organizing elementary work on the basis of six grades, providing for suitable differentiation in the remaining grades of the present elementary period, and arranging for promotion by subject above the sixth grade, as much will have been done in the direction of time saving below the high school as can be done through improvements in organization. This, however, is not enough. Standards are lacking by which to judge results. These must be developed; and there is no better point at which to develop and apply them than at the close of the six-year elementary period. The Cleveland report on a six-year course of study makes valuable suggestions in this direction. Individual investigators, too, are striving to establish standards. Cornman's study "Spelling in the Elementary School," Stone's and Courtis's studies of the ability of pupils in arithmetic, Thorndike's

and Ayres's studies of handwriting, and the study of Standards in Composition, by Hillegas, are examples of the kind of work needed. We can not go far until we can agree upon common standards, for economy of time in education must be relative to the results which we wish to secure. It is safe to report progress in this direction, for guesswork and merely personal opinion are slowly giving place to judgments based on systematic investigation.

In determining the essentials of a course of study and adopting measures of accomplishment, there is danger that too narrow a definition of "essentials" will be adopted. Fixed knowledge of fundamental processes is no more and no less essential than mental attitude, habits of thought and emotion, and working ideals. Something more than drill is needed to get these ingrained. The selection of suitable subject matter for work and study in the grades, the organization of this material with reference to the periods when important instincts, interests, powers, and capacities become prominent, the development of desirable ideals, motives, and habits in the pupils—these things must be considered when we undertake to say what are the "essentials." What a person wants to learn, he learns quickly and easily. We waste time trying to make children learn things for which they are not ready. We should save time if by more delicate methods we sought to create in children a desire to know the things adapted to their stage of development.

Recent studies in retardation have involved the fallacy that the proper place of a child in school can be determined by age alone. What is needed to put education on a scientific basis is an examination of each child's physical state and mental power at the beginning of school life, on the results of which all the work should be based. Here again is reason for encouragement, for when we recall the rapid spread of medical inspection in our schools and recent efforts to establish a measuring scale for intelligence on a basis quite distinct from ordinary scholastic tests, it is safe to say that we are moving forward.

There has been enormous waste through poor and misdirected teaching. Some improvement has undoubtedly taken place. The work of our normal schools has not been useless. At best, however, these schools furnish but a small proportion of our teachers. They do not as a rule attract students of more than ordinary ability and culture, and they can only begin the training which these students need. In the customary two years devoted to theory and practice, a high-school graduate can not be converted into a full-fledged teacher. Both experience and after-guidance are necessary. There is enormous waste when this after-guidance is lacking. We have been accustomed to say "the teacher is the school," and this is still true, but in our cities with their large buildings and many teachers, individuality is in danger of being submerged and progressiveness

lacking stimulation. Superintendent and supervisors suggest and encourage, but their contacts with teachers are relatively infrequent. Instead of being what they would like to have it, the school will be just about what the principal makes it. It is upon the principal, therefore, that large responsibility for improvement must be placed; so in a certain sense we are justified in modifying the well-known expression, "the teacher is the school," and in saying instead, "the principal is the school." The right kind of a principal will help weed out poor teachers, will make teachers of uncertain value into good teachers, and good teachers into better teachers. One prominent cause of waste in elementary education is the existence of inertia among school principals. Soon after the position is secured there comes a tendency to settle down into an easy routine. This tendency the superintendent, county or city, must counteract, if the waste under the heading "poor teaching" is to be materially lessened. What a laboratory a school principal has, and what an opportunity for the study of educational problems! No university possesses equal facilities in this field. The principal needs to feel more keenly his responsibility as a supervisor, but responsibility is not real unless coupled with a large degree of freedom. How to secure the amount of individual initiative that is desirable in principals and teachers without impairing the unity of the school system is an important problem in school administration. Teachers associated with routine principals are apt to become routine teachers, while, on the other hand, an alert and professional-minded principal always inspires his teachers with zeal. In considering waste in education, therefore, no problem looms up larger than the preliminary and after-training of suitable principals. Given a salary that will enable the superintendent to select persons of tested strength and character for these positions, no effort is expended to better advantage in checking waste than that which the superintendent devotes to conferences with his principals. The principal can either make or mar the most carefully planned scheme, and in his hands rests the success or failure of any plans that may be formulated for economizing time in elementary education.

FROM THE CLEVELAND REPORT ON SIX-YEAR COURSE OF STUDY.

(PROCEEDINGS NATIONAL EDUCATION ASSOCIATION, 1908, PAGES 627-628.).

I. What should be expected of pupils at the end of the sixth school year, age 12–13?

(*a*) Reading. Pupils should be able to get the thought and express the thought in simple narrative prose and poetry, such as Robinson Crusoe and Paul Revere's Ride.

(*b*) Spelling. They should be able to spell correctly 90 per cent of the words commonly used in their home and school vocabulary.

(*c*) Writing. They should be able to write legibly and with fair rapidity.

(*d*) Composition. (1) They should be able to compose and write a business or social letter, in conventional form, on a simple assigned topic that properly comes

within the experience of children of their age. (2) They should be able to compose and write short descriptions and narrative on simple themes appealing to the natural interest of children and falling within their experience.

(*e*) Arithmetic. (1) They should be thoroughly familiar with number combinations (1–100) in addition, subtraction, multiplication, and division. (2) They should be able to solve easy two-step problems in arithmetic involving fundamental operations. (3) They should be able to read and write readily integers and decimals to six places. (4) They should be able to solve easy one-step problems involving common and decimal fractions. (5) They should have some knowledge of percentage and its simplest applications to profit and loss and to simple interest.

(*f*) Geography. They should have a general knowledge of (1) the oceans and continents, their relative size and locations; (2) the principal countries, their peoples and products, with a somewhat detailed study of the United States and its possessions; (3) the great river and mountain systems, especially those of North America, South America, Europe, and Asia; (4) 50 to 100 of the principal cities of the world, their location, peculiar characteristics, commercial, industrial, and artistic features of special interest; (5) the great trade routes.

(*g*) Other subjects. With the aim of starting as many lines of interest as possible, pupils during the first six years should have instruction in drawing, music, morals, elementary science or nature-study, history, literature, calisthenics, constructive and illustrative handwork; but instruction in these subjects should be directed with the aim of developing habits of observation, power to think and power to do, rather than with the aim of imparting information of definite amount.

II. Suggested list of studies for pupils of the seventh and eighth grades, periods 30 minutes.

Required subjects:	Periods weekly.
English, including spelling, literature, composition, grammar	6–8
Arithmetic, with concrete geometry and algebra	5
Geography and history	5–7
Music	2
Drawing	2
Physical training (required of those whose physical condition needs it as corrective; optional for others)	*2
Electives:	
Manual training	3
Science	3
Foreign languages (for each one given)	5

It will be seen that the above list presents simply suggestions from which varying courses of study may be worked out and correlated with courses now given in our high schools.

Additional References.

Kendall. What Modifications in Organization Are Necessary to Secure Suitable Recognition for Pupils of Varying Ability, Particularly the Ablest. Proceedings, N. E. A., 1908, p. 147.

Strayer. Age and Grade Census of Schools and Colleges. Bulletin, 1911, No. 5, U. S. Bureau of Education.

Van Sickle. Provision for Gifted Children in Public Schools. Proceedings, N. E. A., 1910, p. 155.

Same, with statistical tables, showing results within a definite period of time. Elementary School Teacher, April, 1910.

Van Sickle, Witmer, and Ayres. Provision for Exceptional Children in Public Schools. Bulletin, 1911, No. 14, U. S. Bureau of Education.

THE HIGH-SCHOOL PROBLEM.

WILLIAM H. SMILEY.

The reasons for the proposed provisional time scheme for the reorganization of American education, through which this committee believes that education in the United States can be made so efficient that two years may be saved to the individual student out of the present period devoted to general culture, for devotion to professional study, graduate school work, or business, have been so ably and fully, yet concisely, stated by the chairman, in his review of the subject presented to the National Council in 1911, that little need or can be added.

My contribution to the discussion consists in emphasizing certain phases of the subject that loom large before the secondary schoolmaster because of the nearness and vital relationship of his work to the elementary school on the one side and to the college upon the other. I ask pardon if in anything that I may say I seem to trespass upon the field of other members of the committee. I feel sure, however, that no offense can be taken by the teacher of the elementary school at my saying that it is fair to expect of the student of the seventh and eighth grade increasing responsibility for harder work, for more independent work, and for greater power of sustained attention than at present is secured; nor by the college professor at my asking him to keep in mind that what is pedagogically right for the twelfth-grade boy of June can differ but little from that which is right for the freshman of the following September. This is saying no more than this, that the last two years of the elementary school and the first two years of the college really belong to the period of secondary education. It is not wise to treat the student as too much of a child in the last two years of the elementary school; neither is it wise to treat him as wholly a man in the first two years of college. That general cultural training should as a rule end, at the very latest, at 20, instead of at 22 as is commonly the case now, is the belief of those who have given the subject the most careful study. This is two years older than such study commonly ends in the German gymnasium, the French lycée, and the famous secondary schools of England.

Of nothing am I more profoundly convinced than I am of the inestimable value to the individual student himself, and to his country also, of his turning at the age of 20 to professional study or to business with that purposeful zeal which is characteristic of the professional student or the responsible young business man. Imagine, for a moment, the academic hosts of juniors and seniors utilizing their intellectual energies with the enthusiasm characteristic of coming doctors, lawyers, and engineers. The contrast in attitude between the two groups is generally acknowledged to be startling, and I con-

sequently have no hesitation in asserting that there had better be no academic juniors or seniors as long as this be true. The turning at the age of 20 to the preparation for one's own life task means far more than simply the saving of two of the best years of life to more efficient intellectual living, for it means added efficiency in living in all the years that are to come. There are no statistics on the college books of those that become habitual idling dilettantes between 20 and 22, but I venture to assert that there is hardly a college man who does not recall some with a more or less pitiful story of their varied attempts to find place in a society that looks with more or less impatience, if not contempt, upon the one whose acquisitions seem to have weakened his power of initiative, his apparent interest in the practical problem that duty requires him to tackle and cordial adaptability to circumstance. There should be no room in the American scheme of education for such desultory intellectual dawdling as often characterizes the junior and senior years of academic study. It may be pardoned in a genius, but he is an infinitesimal deliberately neglected in this discussion. Except for purposes of humiliating comparison in order to stir our pride, the question of accomplishing as much as any given foreign school with students of the same age ought not to enter the discussion. I desire to urge, of course, so far as I have interest or voice in this report, that we secure the greatest efficiency possible under American conditions, saving time through all grades in all the ways so fully set forth by our chairman. But, even then, no matter how far short we may fall of what the German or French or English schools may accomplish, I believe it best, both for the individual student and for the society that his ideals of work help to temper, that after the age of 20 some kind of definite life purpose shall shape his choice of work, and that it be carried on with the energy and enthusiasm that have always characterized professional study.

He who is to pursue a business career, unless he remains in college for professional specialized training in such direction, had better begin such at 20. The business man would prefer him to be younger, but at least he wants the youth while he is teachable, obedient, anxious to win success, and eager to please by hard work.

The special reasons for including within the secondary period the years of instruction from 12 to 18, as contrasted with the customary 14 to 18, or, in actual practice, the more common 15 to 19 period, are, in the opinion of the great body of teachers of secondary subjects, very weighty ones. First of all, the age of 12 seems to mark very fairly the physiological dividing line between childhood and youth. At any rate, the world over, the pedagogical wisdom of the past, as well as the more scientific pedagogical judgment of the present, agree that the best educational work can be done by a recognition of the

marked distinction between this elementary and this secondary stage in education; and that by organizing this secondary field upon the principle that it constitutes a definite whole in the life of the individual, the soundest intellectual growth results. Dr. Compayré in a discussion of the latest revised program of secondary education in France says:

> The virtue of secondary teaching lies in large measure in its duration, in its slow influence upon the intellect. The best teachers need the help of time if they wish, not to furnish the memory with hastily acquired and badly digested knowledge, but to act upon the intellectual habits and to accomplish the education of the mind, which is truly the essential aim of secondary instruction.

When one sees in Germany intellectual efficiency resulting from the fact that Dr. Compayré's basis is the common one, whether it be in the old-fashioned classical gymnasium or the reformed gymnasium, or whether it be in France in the lycée or in England in the famous schools that for centuries have furnished the leaders of the nation in all the ideal activities of men, one can not fail to be impressed with the fundamental importance attached to the formation of right intellectual habits and ready use of faculties throughout this early period of education. More startling still is the suggestiveness to an American, in a gymnasium maintaining a progymnasium for boys from 6 to 9, to hear the fine work of the highest class attributed to the fact that their earliest formal instruction had been received under just the same educational conditions as their latest, in other words, that the elementary work had been finely done.

An examination of the curricula of good European secondary schools and the papers set for graduation will convince any one that at the completion of their course boys of 18 have completed work in the fundamental subjects of literature, mathematics, and science equivalent to that offered in the sophomore year of American colleges. This committee in its scheme allows a handicap of two years more than this to the American boy for the completion of equivalent work. An observer of the work of the European schoolboy is bound to ask, "How account for this evident precocity?" Many replies containing elements of truth may be made, but the fundamental reasons are startlingly obvious to the inquiring American and may be very briefly stated. The European student spends his home study in making himself facile and sure of that in which he has been carefully and accurately instructed during his class hour, while the American spends his preparatory hours in learning, too often in slovenly and inaccurate fashion, that in which he might have been instructed in but a fraction of the time, while the time of his class hour is spent in examination of the extent of his failure in learning, leaving little time for real instruction or for drill in testing the accuracy of his understanding of the matter orally presented. The con-

sequence of careful learning from the instructor at the class hour is this, that the catching of the few new points presented becomes habitual, and the class work is marked by an eager gripping attention which to the stranger is startling.

The readiness, clearness, and fullness with which difficult and sometimes involved statements are returned by students is a revelation of the possibilities of scholarly attention. Work of this character can be observed in any subject and will impress the American listener with much the same feeling of astonishment as in the times past he may have listened to rapid logical analysis by students skilled in the art of solving difficult problems in mental arithmetic.

Real and ready intellectual power of this type is the heart of worthy work in any subject, and there should be the expectation by the teacher of securing it from the earliest years, in work suited to the age of the individual. The steady accretion of skill and power from year to year will account for most of the advantage exhibited by the European student. While this, to my mind, is the strongest reason for the efficiency, at any stage, of the foreign elementary and secondary school, for the most striking result of all, the sum total of final accomplishment, there are other important considerations that deserve mention. The high standards of professional training demanded of both elementary and secondary teachers before they are allowed to teach; the homogeneous home conditions in which students live; the greater length of the school day and the school year; and the atmosphere of hard work in which everybody lives, but especially the children; these are some of the factors contributing to fine results. While the work of the schoolroom has zest and fire, there is complete absence of nervous hurry and drive; indeed, there seems to be a leisurely certainty of reaching the desired goal. One gets the impression that the getting of knowledge is the incidental thing and the student's ability to handle what he knows is the teacher's greatest concern.

The enrichment of the grammar and high-school courses of study has resulted with us in crowded programs and bulky textbooks. In much of the work abroad there is no textbook except as made from day to day by the slow extension of the student's notes, which are made with care and deliberation and most sharply supervised. The habit of formal accuracy in minutiæ is acquired so early that the question of its being a hardship seems never to have arisen.

The teacher described in his "Memorials" by a shrewd Scotch judge as being "though a good man, an intense student, and filled, but rather in the memory than in the head, with knowledge, as bad a schoolmaster as it is possible to fancy," exhibits a type of scholar almost impossible to produce under the kind of instruction which Dr. Compayré has in mind, but the kind of scholar which our Euro-

pean critics believe they find to be a common product under our methods of measuring intellectual power by the quantitative ways which seem to be made preeminent in the minds of our teachers by the fact that they are emphasized as mental yardsticks for units of annual accomplishment in school program and college catalogues.

Until our teaching body is freed from its nightmare of completing subjects, or courses of study, there can be no expectation of the kind of teaching in which the emphasis is everlastingly upon thoughtful response by the student rather than upon the matter presented by the teacher. It is not an unfair criticism of much of our instruction, both elementary and secondary, to say that the panorama presented by the teacher makes hardly more impression upon the class than the moving-picture show upon its spectators.

Our problem will never be solved by the elimination of matter here and matter there which we agree to call waste. What is really wasted is the children's time when the method of instruction is such that they can escape thinking, sometimes under the guise of attention, without the teacher's discovering the real situation. The two years desired can be saved, one in the elementary and one in the secondary period; it will be done, however, if it be done, by improving the thinking as exhibited in oral or written expression in every grade. It must be understood by the teacher that knowledge of subject matter is subordinate to sharpening the correspondence between word and idea and fixing the same for ready use in future learning. The readiness of recall of the German student in any grade is amazing. He is held accountable for sharply distinguishing that which he knows from that which he does not know; not only so, but his experience is so vivid that he can recall *when* he learned what he knows. The readiness and minuteness with which he will tell a story, change a criticized word or phrase, or quote a construction similar to the one under discussion proves that we have underrated the capacity of our own students in similar regards. This method of class discipline followed through the secondary period will bring our students to the end of the same with readier use of all their intellectual powers for either study or business — in short, far better educated in the best, the true sense, though the stopping point be two years earlier than the present one.

In all this plea to recognize a secondary period of education lasting from 12 to 18, it is unnecessary to carry the associated idea of a costly high school, maintained as a separate institution. The kind of instruction that I have in mind should be given in every grade room. It may have been already begun in any building where a departmental system has been instituted for the seventh and eighth grades. For departmental teaching, if successful, demands a stronger

teacher, and possibly this is the best way of improving the present elementary instruction and thereby saving waste and securing the efficiency so unmistakably demanded by the general public.

But there must be no less than a revolution in the traditional ideal of instruction drilled by habit into the warp and woof of the teacher's brain throughout his own elementary and secondary school experience, to which he subconsciously reverts, unless he be unusual, as soon as he faces his class. There must be less of merely hearing children recite; there must be less of interesting talking, not to say lecturing, by teacher; there must be less of expressive reading without thinking on the student's part; in short, there must be everlasting matching of the student's mind and knowledge against the teacher's mind and knowledge, an interlocking of wits in old-fashioned Socratic ways, to secure education at its best.

The field of myth, of world history, of natural history, of the literature of the fatherland is covered astonishingly well in the early years of the German gymnasium; but it is perfectly plain that care is taken that information grow no faster than ready use of word correctly matching idea. Language under these conditions becomes a real gymnastic that gives daily proof of growing intellectual power; and this being so, no one has to worry about attainment on reaching the age of 18. No more would we in America, given similar instruction.

THE COLLEGE PROBLEM.[1]

JAMES H. BAKER.

ECONOMY OF TIME.

Upon the subject of economy of time in education I have had the benefit of scores of opinions and experiences of active teachers fully and frankly stated. If conclusions reaffirm a value in some principles that are old enough to have a history, I beg that I may not hear the usual cheap argument of "not up-to-date." A view that does not accord with present ideas may be both retrospective and prophetic.

These criticisms are prominent: There is much waste in general education, including elementary, secondary, and college. Of the material employed little has permanent value, or indeed any value whatever, and less is retained. Of the methods used, only a small part gives power or character. Results are not proportionate to the time and expenditure, and the public are asking for shorter time, greater efficiency, and an adjustment of educational aims to real civic needs, both practical and ideal. But reform is slow. We are bound

[1] Part of a report of progress, under the title "Reorganization of American Education." National Education Association, 1911.

by traditions difficult to break. The question is complicated by all sorts of minor or inconsequent inquiries, when it should be a simple one of looking at the obvious goal and taking the direct road to it.

The first remedy is selection and elimination as applied to subjects and topics of study. The maxim of "faithfulness in small things" does not mean indiscriminate emphasis in use of the material of learning. Judgment of relative values is a chief need of the teacher. Quality, not quantity, has a new significance to-day. Knowledge and power come from the use of a few typical things by methods that beget thought; inspiration often springs from a word with a flash of insight. For instance, more would be gained by thorough understanding of a dozen chief processes in arithmetic than by any number of mechanical solutions of problems; more by using a dozen leading principles and experiments in physics than by "completing the text-book." In elementary science, method and interest are of first value. While much reading in history and literature is desirable, thought and inspiration come from a wise use of a few selections. I was introduced to Homer and to mythology by hearing an old farmer recite a passage from Pope's Iliad, and read Macaulay's England on hearing a quotation from it with appreciative comment. "Books that have helped me," and favorite poems that have inspired, are few. The essence of Stevenson is contained in a letter, an anecdote, and a prayer. Read Stevenson, of course, but study these and get them into the soul. If it is objected that this is a condensed-food theory, I reply that it is not necessary to eat the husk and shell to enjoy the milk in the coconut. Extent of ground covered as a criterion for promotion or for admission to college is the American standard of quantity applied to our education. Let the teachers, or rather the responsible superintendents and principals and leading educators, employ courage equal to their convictions, and proclaim the gospel of quality. "Enriching the curriculum" was a great idea, but it has been subject to endless abuse, and the time has come to apply the philosophy of the "simple life" to education.

The next source of economy is adapting method to the nature of the subject. The doctrine that all subjects have a like value, should be taught in the same way and produce the same results, I believe to be utterly false and everywhere harmful. It applies the methods of science to such studies as history and literature, and sanctions the "unit system" in college entrance requirements—a device convenient enough for the colleges, but destructive of any well-balanced organization of high-school courses. Subjects of prime importance whose principles have the widest application are especially fitted to cultivate accuracy, perseverance, and endurance. Others should be taught by other methods requiring less of the pupil's time and energy. Some

fields should be covered by reading, talks, and lectures with no view to examination. To repeat—time can be saved in elementary and secondary education by varying the method of instruction according to the need of the subject.

I know this involves the question of whether "general" education is theoretically possible. If we were dependent upon certain humorously artificial and inconsequent laboratory experiments on the subject, we should be in a sad case indeed. Fortunately, common-sense generalization from human experience rejects hasty inferences from inadequate experiments. It would be well, before it is too late and "general" education is reckoned among the lost arts, to send a questionnaire to the old boys and learn how many are stout in the belief that their real education came from drill in arithmetic, English grammar, Latin, and formal logic; that from these studies they gained accuracy, power of thought and expression, the detective and determining skill of the scientific method, and readiness to discover fallacies in the field of argument and of business; that their system, accuracy, and scope in practical affairs are largely due to formal training. We know that general power means nothing except as constituted by specific elements—certain ideals of method and of attainment, ways and means in study and investigation—but these do "transfer" or "spread" and cover other fields of mental effort. Moreover, general principles thoroughly grasped have endless points of contact with concrete instances; and deduction, with applications, from formulated knowledge is a chief work of general education, and is the most efficient and economical. Easy ways, infantile inductions, scatter-brained methods have become fetishes—and I am still mindful of the just claims and the beneficent features of the ruling educational doctrines.

Waste occurs in certain culture work of the grades. Too little may be left to soul development through the influence of natural surroundings. Artificial teaching of what should be spontaneous growth, imparting inspiration by rule, formulating sentiments are unpedagogical. Nature is subject to too much paternalism. Place in the time-table is not needed for many culture influences; they come, if at all, through a personality or a suggestion and are incidental to the day's work. Many faults may be committed in the name of kindergarten and of nature study.

Other ways of economy may be merely mentioned: Avoid excessive use of rules of method; save time from the laboratory for a knowledge of the subject; for interest and motive create a vision of the value of the best things; use illustrations from the life of to-day, and in every way vitalize the work of instruction. By some means, constructive or destructive, banish lazy indifference, which was wisely regarded by the early church as a deadly sin.

The elementary and secondary periods of instruction should give the tools of education, the methods of study, the power of work, some important knowledge of selected subjects, and the desire to learn, and the ability to think. It should plant a growing sense of appreciation and a healthy philosophy of life. By the methods suggested it is believed that as much can be accomplished at 18 as now at 20, as much at 20 as now at 22, that the whole period of education, general and special, can without loss be shortened at least two years.

THE COLLEGE.

Here we reach the college and its problems. I have little patience with some criticisms aimed at culture education and the follies of college life; they are frequently the carpings of ignorance or prejudice that lead nowhere. There is reason, however, for an intelligent examination of the whole question as related to economy of time. The serious faults of the college are due to the length of the whole period of general education, and the elements of inefficiency and waste.

This country should adopt either the English or the German type of university, but not both. In foreign countries the student enters the university nominally at 18, directly from the secondary school. We interpose four years of college—largely a waste of time and method. Do not misunderstand at this point; the idea is, not to lower the standard of American education, but rather to readjust and strengthen it. It is proposed to end the college and begin the university at 20 instead of 22, thus saving two years. Of course, it is humiliating to concede that our preparatory education must be prolonged even two years to equal the standard of the English or German secondary school. But, if we may draw safe conclusions from the report of the English commission and from the Oxford experience with American students, we are lacking in thought power and perseverance—and because of methods that in part can be remedied. The university, that is the graduate school, and the last two years of college should be shaken together and reorganized into one division of education, namely, a real university, preparation for which should end at 20. Progressive university colleges have already prepared the way by approximating the last two years to the university type. The plan would eliminate the duplication between high schools and colleges, and reduce the time limit of preparatory education. It would offer university methods earlier—an immense pedagogical gain. It would have another advantage. The Ph. D. candidate now proceeds, always under careful guidance, through four years of high school, four years of college, and three or four years of graduate work. Any one whose originality and efficient power survive the test is indeed a proven man and worthy of responsibility. For the college teacher an earlier university course and subsequent

independent study, original production, and long probation would be more than a substitute for this work of supererogation now offered.

In view of such considerations the committee referred to have agreed provisionally to a time scheme as follows:

Elementary education	6 to 12
Secondary education (2 divisions: 4 years and 2 years)	12 to 18
College	18 to 20 or 16 to 20
University (graduate school and professional schools)	20 to 24

The tools of education can be acquired at the age of 12, and there are reasons why high-school methods should begin at about that age, when so many pupils leave the elementary schools. The division of the secondary period into four years and two years lends itself to the plan for industrial education, as will be seen later. Moreover, smaller high schools can end at 16; larger high schools at 18 or 20. Small colleges can take pupils from 16 to 20, thus maintaining a four-year course. The universities can retain two years, namely, from 18 to 20.

Let us see what are the essential consequences of this time scheme in terms of pedagogy. Many processes of mental training are easier in the earlier years. Beginning high-school methods at 12 will meet the need of pupils who at that age are restless and are seeking larger and more varied interests. Twenty is a better age to begin genuine university work than later, when the mind is less elastic, energetic, and adaptable. Elimination of useless material will stimulate the interest of pupils and result in harder and better effort—the time would be filled with important work. It lessens the period of work that to the pupil appears void of purpose. It makes a better division of time between receptive study and the larger motor activities.

Moreover, we must consider results, in view of the just claims of our civilization to-day. Educational aims must be adapted to civic needs. The history of education shows that it has always been closely related to the dominant needs and ideals of the people at any given period. There is no doubt about the public attitude to-day. The schools will be compelled so to reorganize as to meet them in the most efficient way. The proposed time scheme makes a better economic division between preparation for life and active life. It enables men to become established in life earlier and to give more of their best years to social service. It will keep a larger number in school through the elementary and preparatory period. It will eliminate waste and foolishness, and thus make more serious and efficient citizens. By introducing earlier the methods that produce power, and by selection of the fittest, the proposed reorganization of college and university will enhance the intellectual strength of the nation.

It is not intended to make the preparation of teachers a distinct part of this subject, but it can not be wholly omitted. For secondary teaching, scientific knowledge and power are the first requisites. Here

a little learning is a dangerous thing. Sound scholarship, such as only the best college and university courses can furnish, alone will remedy the weakness which foreign critics believe they discover. High schools and colleges agree that study of education must be part of the teacher's preparation. College departments of education have here a great field. They can bring the student's mind in contact with the masters of educational thought; they can use the pedagogy found in great literature—the best source of the wisdom and inspiration of teaching; they can encourage independence and originality in the acquisition and use of principles; they can conduct their work on the plane of liberal culture, and in an atmosphere of scholarship and research.

INDUSTRIALISM AND HUMANISM.

The problem of reorganization includes very distinctly vocational education, and only a beginning of the solution has been made in this country. The excellent report of the council committee last year (1910) makes unnecessary more than a summary of the situation and some suggestions on the questions involved. The material interests of the country must be promoted by the extension of commercial, industrial, technical, and trade instruction. The rights of the individual and the welfare of society require practical training leading toward useful occupations for a large class of youth whose period of education is limited. There are two views of the means of accomplishment. A large number would provide separate schools. The more conservative would relate all such work to the regular schools, select the industries emphasized in each locality, and make the training for them merely preparatory. This special work would be elective, and occupy about one-fourth of the school time. Preparatory industrial courses are placed at the age of 12 to 16; trade courses as such, leading to apprenticeships, at 16 to 18. It will be seen that the time scheme previously discussed, making the high-school period 12 to 18, with two divisions, four years and two years, readily adapts itself to these needs. Of course in large cities there are special problems calling for earlier technical preparation for various industries.

I believe that most progressive men, who represent high schools and colleges, in a general way take the affirmative of this question. They also stand for the professional and technical side of the universities. Many university colleges are "vocationalizing" the last two years, allowing or requiring students to choose studies leading to engineering, medicine, law, teaching, business, or at least to select a particular line of culture.

But men who take a broad view can not go the entire way with the radicals. To begin industrial training before the foundation of education is laid, to teach the principles of science only as growing out of industrial needs or the applications of science without science,

to yield children to the merciless demands and economies of trade, to provide vast and expensive special equipment of every kind, when the great problem is to connect all vocational training with existing plants and actual industries, to ignore all culture and deny the possibility or value of general education—these are at least objectionable propositions. The true aim is to maintain a balance between the material and the spiritual side of our civilization and between skill and foundation principles. If there is a demand for the practical, there is also an insistent claim for the humanistic side and for profound scientific knowledge.

There are two kinds of philosophy that largely dominate the life of America—that of Bacon and that of Rousseau. We recognize the marvelous stimulation to human thought and material civilization of Bacon's influence and the beneficent humanitarian influence of Rousseau. But the misuse of the one fosters the evils of the day—worship of power, success at any cost, materialism; from the other springs the doctrine of the individual temperament with all its evils of pursuit of inclination, unwise election, easy methods, cheap amusements, and anarchy of soul. These two influences rule too much our schools and enter too much into our national life. Any reorganization of education will fail unless it is pervaded by sound pedagogy and a healthy philosophy.

I believe we must adapt to present needs the essential principles of humanism. There is not time, nor is it necessary, to go into the history of humanism, point out its virtues and faults, or make a careful definition of it. We may assume what it should mean to-day. It believes in the value of organized and transmitted knowledge, in discipline from studies, in selection of the best. It accepts and uses the best in tradition, and works on the plan of keeping civilization alive. It believes in pure ideals, in standards of excellence and character. It appreciates the importance of the higher viewpoint that shows things in their right proportion, extent of vision, the self-possession that is not swayed by mob sentiment or led astray by long discarded false doctrines. It advocates a culture that has a moral backbone. It places character above success, and wisdom above knowledge. Since humanism is interest in the lives and thoughts of men as revealed in language, literature, and history, it may include all the implications of his nature. Hence it stands for an idealism that makes of the universe a living thing, sees in it a universal will, holds as supreme some form of reverence, and a mighty faith in the affirmative side of things. Withal it stands for real progress, wise sympathy, and a democracy that gives a just opportunity for nobility of intellect and character.

There never was so great a need of an intelligent view of the place of humanism in education. Leaders of educational thought have

here their greatest work—nothing short of giving teachers and the public a sound philosophy of life, a true estimate of real culture, and the ways and means of making humanistic studies effective in education. For this high service of the teacher are needed, first, a strong personality, a cheerful outlook, an idealistic view, a power of appreciation; second, a knowledge of the means of education for power, of vital moral training, of imparting inspiration by the deeds and thoughts of men. This view is not an argument for classics, only for the principles of humanistic study; it does not neglect science or industry; it endeavors to maintain a proper balance in education. The people demand that the spiritual side shall find a place in our schools and in our national life, and any scheme of reorganization must reckon with the fact.

I know the ethical significance of science and of industry; they give society a kind of material moral backbone. But many mechanical occupations require morals more than skill. As machinery more and more does the work of the world, the demand for responsibility will increase the sense of duty that prevents waste and loss and accidents. The lack of efficiency in most industries and professions, when it is not a lack in foundation education, is largely moral. Humanism regards not the work only, but man's attitude toward it. The business world will make a fearful economic mistake if it insists on making of youth machines instead of men.

SOME OPINIONS ON THE COLLEGE PROBLEM.

A copy of the preceding paper was sent to the presidents of American universities, asking a reply especially upon the main question of ending the period of general education at about 20. The following extracts from replies are valuable contributions to the subject:

President Nicholas Murray Butler.—In my judgment the college course can, and should, be completed when the normal student is 20 years of age. The reason that it is not now completed at that point is, in my judgment, due to poor organization of elementary and secondary education, to wasteful methods of teaching, and to lack of cooperation between home and school.

President Benjamin I. Wheeler.—I think it is in the highest degree desirable that what we call secondary education should reach down and take the two upper grades of the elementary schools. There are two reasons for this: First, these two upper years, having been occupied in the first place by merely formal expansion, are filled now with sawdust; secondly, 14 is too late to begin the acquiring of the first foreign language. There should be added also, I think, the consideration that industrial training should begin not later than 12. Students should enter college at about 16. They must not be allowed, however, to launch out into the muddy sea of free election. The

first two years must have a suitable organized curriculum; the break should come at the age of 18, between sophomore and junior year. I am persuaded that the long-drawn-out series of years which we have put into our career for the Ph. D. is a mistake. After a man passes the age of 18 he ought to hurry fast toward his goal; prior to that he ought to go slow. This is why the barrier ought to be at the end of the sophomore year; the barrier must be there to prevent the flood of free election from washing away all the landmarks of requirement.

President Charles R. Van Hise.—So far as my experience goes it is in accord with the division of years proposed for the different lines of work in your article which you send me. The only qualification which I would make is that this is a scheme for persons who have sufficient ability to take advantage of college or university work, and with the understanding that they remain continuously in school.

President A. Ross Hill.—I believe it to be entirely feasible to save two years in the course of our cultural or general education in this country, and thus to make it possible to establish real universities. You will be interested to know, if you have not already noted it, that with the opening of the university this fall we require the first two years of the arts and science course for admission to any professional or technical school. This is the natural sequence to a step taken here about five years ago in requiring general training for freshmen and sophomores, specialization of juniors and seniors in the college of arts and science. It will not be long, I believe, until we will be viewing the first two years of work as a virtual preparatory department. We have gotten a few large high schools in the State to add a fifth year, and we shall soon have them maintaining two years of what they will regard as a sort of graduate work in the high school. This situation, however, does not in itself bring about the economy of time aimed at by you. That reorganization must come chiefly, I believe, in the elementary school, which the pupil should leave at about 12 years of age.

President Charles O. Mercia.—In the matter of reorganization with reference to the time element, it seems to me that, if you do not speak the last word, you at least speak words that can lead logically only to the last word upon this subject. We Americans have been so afraid of not being thought original that we have sometimes suffered loss by our unwillingness to copy. It is too bad we have not profited more than we have by our knowledge of the organization of the German primary and secondary schools and universities. When you apply this discussion of the time element to industrialism, I also quite agree with you as to the general principle. However, I do not admit that because a subject has a vocational trend its study loses all cultural value and also entirely fails to contribute to mental growth. I am, however, willing to admit that as vocational subjects are usually taught they add only to our stock of tools. If we were

better prepared to teach these subjects properly, we might not need to make this differentiation. However, as I said, it seems to be pretty clear that up to a certain point of growth, the age of 20 or thereabout, those subjects should be pursued which contribute most largely to mental growth and which introduce one best to the world of human interests. On the other hand, I do not believe that it is going to be possible to ignore the tremendous demand for so-called secondary technical instruction. I believe that an immediate problem will be how to answer this demand and still save your general scheme.

President Arthur H. Wilde.—I am in hearty accord with your general statement. I believe that men should finish the ordinary college course by the time they are 20 years of age and be prepared either for business, some other occupation, or for graduate work. One saving of time might be made in the college course, where there is great loss from dissipation of time and energy by the ordinary college student. It would not be at all difficult to shorten the time spent in a good high school and good college by a strong student. It appears to me that we ought to be adjusting our work rather to the ambitious student than to the unambitious or mediocre student.

President David Starr Jordan.—I quite agree with the main features.

President A. Lawrence Lowell.—I agree with you entirely that the pace is too slow in our education and the age is too old. As a friend of mine remarked, I think the trouble begins in the nursery. It is the habit now to begin several years too late, and frequently children are sent to kindergarten at an age when they ought to have finished that and begun the primary. These years are never made up. On the other hand, I do not wholly agree with what you say about the college. I believe that four years in college, for those who can afford the time and use it properly, is perhaps the most valuable part of education, and on the other hand I think that the atmosphere of the high school is not the best to develop full-grown faculties. I should like to see boys leave the high school at 17 and college at 21.

President Arthur T. Hadley.—Why must we make definite choice between the English and the German systems? The English system prepares for public service, and does it well. The German system prepares for professional efficiency, and does this well. Why can not we prepare for both? It seems to me that it is far more important that we should continue to do the things that we do, however imperfectly, in preparation both for public and for private service, than to attempt to have everybody alike. My general judgment of the plan, therefore, would be that if we had to standardize in any form, your plan probably represents the direction in which we could go with the least harm, but I am not convinced of the wisdom of attempting to make everybody alike in this matter just yet.

APPENDIX.

PRELIMINARY REPORT ON NEED OF INVESTIGATION OF THE CULTURE ELEMENT AND ECONOMY OF TIME IN EDUCATION.

JAMES H. BAKER.

(A) INTRODUCTION.

In 1903 at the Boston meeting of the National Education Association a committee was appointed in the Council of Education to report upon the desirability of an investigation of "The Culture Element and Economy of Time in Education." This committee, as a committee, has never reported, beyond suggesting two or three topics for investigation. The subject was revived at the 1907 meeting of the council, and the writer was asked by the president to make a preliminary report upon it. It is to be remembered that this is not even a preliminary report of an investigation, but a preliminary report upon its desirability—an examination of the field to see if treasure is contained within its limits.

I am aware of the limitations to the value of the questionnaire as well as of its proper uses, and it has its uses. When such an investigation as this is proposed the first step is to seek experiences, facts, opinions, and tendencies, as concerns the subject, and I believe unusually rich returns have been secured in this instance.

I sent out several hundred copies of a circular inquiry to men carefully selected among the following: Presidents of universities; professors of education; superintendents of schools and principals of high schools; sociologists and business men. Eighty replies were returned. The number of replies from each group is in the order of the groups named, few being received from sociologists and business men, although a second special inquiry was sent them.

The questions, a summary of the opinions, classified extracts, references to articles, experiments, and investigations, and a valuable additional bibliography, furnished for this report by the National Bureau of Education, are submitted. The questions were made as searching as possible for the general view to be obtained. The replies as a whole show exceptional knowledge, conscientiousness, and interest on the part of the writers, and very little perfunctory work or mere disposition to find fault appearing.

I think I may here present a general impression of the whole, before calling attention to the questions and summaries.

The first impression is that there is real and widespread dissatisfaction with the results of education, especially as related to the time expended; that there is a growing consciousness of the need of adjustment to new ideals; that there is a demand for reinvestigation and reorganization. The people are ready for the leadership of any representative body that will attempt to reduce to some degree of order educational theories, methods, and standards. It is a surprise to me to learn that two-thirds of the correspondents believe the period of formal education should be shortened and that very many would place the age-limit at 24 or earlier. All ask for a shorter limit, or better results for the time, or both. They recognize that since the early

New England college, education has added eight years, the high school has taken the place of the college, four years have been set apart for the higher degrees; that the college to-day occupies an anomalous position, without a well-defined function; that each unit of the system is yearly increasing its demands; that quantity is the ideal rather than quality. There is a disposition to call a halt along all the line and have an inspection. There is also a strong sentiment that culture must be redefined, that it covers much of the field which formerly was regarded as exclusively practical. The waste of time in elementary education, the need of reforms in secondary education, the need of definition of the college and of its relation to the professional school are emphasized with substantial reasons assigned. I was doubtful about the value of the question relating educational aims to social needs, but much wisdom is shown in the replies and a majority claim that real culture will not suffer if we pay reasonable attention to efficiency and economy of time. The last question asking for summary views upon the whole problem of the organization of education in this country brings out many valuable suggestions.

There is nearly unanimity of opinion that much time is wasted in elementary education, and a large majority claim that the time should be shortened. That there are too many odds and ends, topics and subjects, is a common criticism, the teaching and the lack of knowledge of ends aimed at having their share. Time can be saved by making a distinction between first-rate and tenth-rate facts; not trying to teach everything that is good; limiting the work to the tools of education; teaching content studies differently from the method in formal subjects; keeping educational aims in view. Upon the whole, the judgment regarding vocation studies in the elementary schools is conservative and good. A striking suggestion is to provide studies which take the place of the work children formerly did with their parents in the home, on the farm, or in the shop.

A majority favor a change of the high-school period, the preference being for 12 to 18. Some advocate two divisions only for the dominantly cultural education, since a distinction between the aims of the high school and of the liberal college does not exist. Important reforms in the high school are freely proposed by nearly all. Amongst these are simplifying the courses, efficiency in character-making, directing the work toward well-defined ends, improving the teaching. I believe that, as noted under elementary education, some subjects should be presented in a way to invite and inspire, and not for formal discipline, and that they should require little preparation. No greater mistake has been made in recent years than using the same rigid method for all studies. This practice is based on an exploded doctrine that attained great dignity a few years ago. Many people thank their stars that they did not get their literature and history in the modern elementary and secondary school. Vocational needs are generally recognized, and various schemes are offered for providing practical courses. A typical scheme is grouped electives leading in practical directions, and offered in connection with the regular high school.

The length of the college course is put by the most at four years, but this is done by those who believe college entrance should be much earlier, and by those who would begin university work with the junior year, as well as by those who would preserve the college intact. Evidently they would first make a readjustment of the college and the professional school in accord with present tendencies, and leave for a later solution the less important problem of requirements for the A. B. degree. And here is the most significant fact of the whole report: One-half of the correspondents would have university work begin at the junior year—work that gives scientific power—with groups leading to the various professional degrees or the Ph. D. degree, the last two years counting toward those degrees; and would complete the professional work or Ph. D. work in two years more, or six years after college entrance. One great university has already advertised substantially such a plan. In the independent recommendations for reorganizing the college are some interesting plans;

this voices the sentiment of many: "I would thoroughly reconstruct the American college from top to bottom, for it retains its name, having lost its character." They do not shrink from specifying the kinds of reform. One would adapt the college to the years 16, 17, 18, and 19. A few point out what business men really appreciate in the college graduate: The subjects of study, activities, moral and physico-moral qualities, practical traits, and show wherein the college as now organized fails to meet the demand.

The logical order of this inquiry may not appear at a glance; the time element is related to the culture element, and the culture element in turn is related to the needs and ideals of society to-day. At different times many educators have expressed to me the belief that relating the inquiry as above is a hopeless and profitless undertaking. However, I am unable to see how a thorough investigation of American education could fail to connect aims with needs. The history of education can be understood only in connection with the history of civilization, the conditions, needs and dominant thought of different eras. We can not understand our problem unless we study our educational aims as related to our civic needs—the time, means, and methods—in view of results. Germany has had the wisdom to do this, and aims its instruction toward service to state and society. I wonder whether we shall not yet reexamine Persian, Spartan, and Roman, as well as Athenian education, and learn many things to our advantage. I wish to add here that, to the end proposed above, educators must throw light on their problem from public opinion when formulated and expressed by intelligent representatives. What are the needs of society to-day? If one may believe the "crowd of witnesses," they are, in plain terms, *efficiency, real culture, and responsible character*—nothing new, but peculiarly our needs at the present time, and the schools are not giving the people satisfactory results. These three demands of real life suggest the weakness of our education and the ideals to be emphasized. Nothing is changing so radically as the definition of culture, and this is shown in the replies to the fifth topic on the relation of the subject to the demands of business and society and the ideals of our civilization. All agree that smattering, however extended, is not culture, and that one may possibly cover the eight years of high school and college and not get an atom of culture. Culture, in my mind, is the insight and inspiration from knowledge; it is closely related to efficiency and character. People are demanding that young men be made ready for life, and that they be trained in a character that will stand modern tests, and that they shall gain real culture and not the mere show of it. I refer to the extended "Extracts" (p. 63) upon this subject as well worth reading.

The topic asking for summary views on the organization of education in the United States gives much freedom and scope, and the answers are suggestive in many directions. The replies may be summed up under the heads: Modifications of the school system; organization of the system; vocation element in education; preparation of teachers; educational aims; means of educational progress, etc. Some believe we are now nearly ready for the German plan. The need of eliminating comparatively valueless material throughout is emphasized. Great stress is placed upon organization, National and State, and the need of some central power or representative body that shall unify and standardize and shall make use of discovery and the various means of progress. There is a general recognition of the need of practical studies throughout the school system, "branching off at different points from the central line of general culture." I have never seen more strongly emphasized the demand for forceful, wise, inspiring teaching, and this is not the only recent powerful expression of the same idea. The connection between means and the ends to be reached are duly discussed. The faults of election, the superficial quality of our education, the need of solidarity in our system, an interesting paragraph from Prof. James on "Motor education," the importance of recording school experiences and providing means of interpretation in a central bureau are found in the list.

We are slow to adopt new ideas, and the views here represented will not be welcome to all teachers and professors. But I see nothing in all the tendencies noted which will not strengthen education and dignify the position and work of the teacher and the professor. In a scheme of readjustment most college departments in universities (which now in spirit and in method are largely high-school departments) would become of university grade. Moreover, the scheme would include the ways and means to develop productive scholarship in this country. I recommend strongly a careful reading of the "Extracts," including the "Questions and Summaries," for they are a compilation of up-to-date material of rich value upon the greatest present problems of education.

It must be understood that this is not a report; this is not the stage for it, and I have not presented many of my own views. I have given a summary of the returns to an inquiry. I am convinced that the conditions warrant an investigation, and under auspices of this body. The work should relate the time element to culture and culture to social needs. Vocational training should be a part of the investigation, and also the question of organization of the educational system; indeed these are now a necessary part of the original subject. As to the things to be investigated, there is enough wisdom in the views already compiled; as to the methods of investigation, a properly selected committee will find its own ways. If this work is to be pursued by this council, a committee should be appointed ably representing elementary education, the secondary, the collegiate and university, the field of social science and of the science of education. Such a committee should enter upon a thorough investigation along the lines already marked out, cooperate with other national organizations that may be pursuing similar inquiries, formulate results, and unite in a final report with practical recommendations. This report is so much material for the work of such a committee.

(B) QUESTIONS, SUMMARIES, EXTRACTS.[1]

QUESTIONS:

1 (*a*) *At what age should formal general and special education end, as normally marked out for attaining a professional degree or the Ph.D. degree?*

(*b*) *If the entire period of general and special education should be shortened, where should time be saved?*

SUMMARY:

1 (*a*) Two-thirds would shorten the period of formal general and special education, and nearly half of all the replies name the age limit as 24 years or earlier.

1 (*b*) If the time is to be shortened, the order of preference is as follows: "All along;" in the elementary school and the high school; in the elementary school and the college; in the elementary school; in the college; in the high school and the college; in the college and the professional school. More than half of these preferences include the elementary period, and more than half include the college.

EXTRACTS:

1 (*a*).

"It is rather difficult to name an age. I should think that all the work of the elementary, secondary, general collegiate work, and the work for the Ph.D. and professional degrees should end when the normal pupil who has had no interruption is 20 years old. An intelligent scheme of this kind would result, I sincerely believe, in a much higher average of intelligence for the sum total of humanity. It would not interfere with the geniuses going on and no doubt would result in the discovery of many more able and valuable men and women."

[1] See Extracts, Condensed and Rearranged, p. 86.

"My figures require a shortening of the time, inasmuch as the medium age of graduation from American colleges is at present 22 years and 10 months, and the requirement in advance of it is three or four years. In my opinion this much time should be saved by rapid promotions throughout the elementary school system, by flexibility in the high-school course, and by similar flexibility within our present college course. If these measures should not suffice, it would seem better to me to sacrifice the length of the college course rather than that of the professional course."

"The great objection to our present condition is not so much that too much time is spent in studying for a profession or for life in general, but rather that the purely preparation stage is too long extended. With this objection I agree; and I think that the ultimate solution will involve, in the later stages of education, a combination of practical work, producing income, and along the lines of the profession studied, with systematic study leading to the professional degree. The period would in consequence not so much be shortened as modified."

"I think that education given by actual contact with the world should begin somewhat earlier than now, assuming that it does generally begin now about the twenty-fifth anniversary of the birthday."

"Less and less will the prospective lawyer study biology and the prospective physician constitutional history. The engineer will not study Latin, nor will the prospective teacher of modern languages study physics and chemistry. Two things we know to be true: Any of the traditional subjects of general education may be made a highly selective agency in determining ability for the professions; and, in professional preparation, the demand is steadily increasing. By means of alternative courses, high-school work should begin a general preparation for the professions."

"Dawdling and dissipation of thought must be avoided. If concentration and thoroughness are maintained, the time element is relative to circumstances of students, with the general principle that the more complete the foundation the better."

"The complete course of preparation contemplates the students who are preparing for the most complex and responsible positions in life. I think the ripening of a student's powers and his maturing are as important for such a career as the definite facts that he gathers in the course, or even the definite training that is mapped out for him."

"I am quite skeptical of the value of the Ph. D. degree to men under 30."

1 (*b*).

"It would be well to have students enter college at about 16; to complete four years of carefully graded work under good instructors and in small groups, and then at 20, or the end of our present sophomore year, go on to the university, which should treat subjects from a technical, professional, and research basis, requiring the two years now called freshman and sophomore for entrance. It is a pity that A. B. has been advanced two years in quantity since 1880, rather than in quality."

"If the first two years of the American college undergraduate course were recognized as a continuation of the student's secondary education, and these two years were combined with the high-school course as a general culture preparation for life and for later professional study, our young men could dispense with the upper half of the undergraduate course and pass at once to their professional training."

"I believe that time should be saved throughout by less attention to details, lengthening a little perhaps by more attention to generalizations."

"The strong student should be permitted to shorten the time. Time should not be the chief element of consideration. Quantity and quality of work should determine the question of degrees."

"I should say that, if a degree, especially the baccalaureate degree, represents ability and attainment, and not merely time spent, then time could be saved in the college by the strong, able, and ambitious."

"The high school suffers directly by the hyperconscious effort to prepare for some studies above. I believe we would get better college preparation if the high schools were utterly to forget it."

"I question first the advisability of endeavoring to shorten the entire period of general and special education. Our civilization is becoming more and more complex."

QUESTIONS:

2 (a) *Is there important waste of time in elementary education?*

(b) *Should the period of elementary education be shortened? Where and how?*

(c) *What provision should be made in this period for "vocation" schools or studies? How?*

(d) *Please refer to experiments in this country or elsewhere to shorten the period of elementary education; to articles, papers, etc., bearing upon the subject, or organizations that are investigating any phase of it.*

SUMMARY:

2 (a) Five-sixths say time is wasted.

2 (b) Two-thirds think time should be shortened.

2 (c) Less than one-third favor vocation studies in the grades.

EXTRACTS:

2 (a).

"There is a deplorable scattering of pupil-resources, where concentration ought to be the constant aim. It is easily perceivable now why private tutoring (high grade) furnishes the best opportunity which comes to children—all the 'red tape' is shorn off. Shorten it by at least a year without hesitation—at the end next the high school—and by conserving energies now hopelessly expended upon nonessentials."

"I think so, expecially in routine practice in some studies and in diversions from study, odds and ends, 'fads and frills' generally."

"Yes, in covering unimportant and unpractical topics. The enrichment of our courses of study is a good thing, but it must be accompanied by a corresponding elimination of topics (not subjects) which are more or less unimportant, in order to insure efficiency."

"There is an important and lamentable waste of time, in elementary education, as in all other stages of education, in this country at the present time. Among the causes are: Poor teaching, poor textbooks, needless multiplication of the subjects taught, lack of continuity in its grades, such that new personalities and new methods, as the pupils advance, result in undoing what has already been done and producing confusion rather than progress. The only remedy is the improvement of the personality of the teaching body, and a spirit of enlightened harmony regarding the ideals at which education aims."

"Waste in the elementary school, on account of the lack of great, strong, enthusiastic, educated teachers."

"I believe there is; in the form of unmotivated and ineffective reading, writing, arithmetic, and geography."

"One of the greatest sources of waste in the grades is due to lack of medical inspection of school children."

"I am inclined to think the technical schools can be justified when they say they get as good results as traditional schools in conventional subjects, besides their technical work and because of it. I suspect present results could be had in half the time now taken."

"The present-day enrichment of the curriculum has introduced much that is necessary and important, and in order to cover, with the drill and reviews absolutely essential, all the ground now necessary, even more time than is now occupied could be used to advantage."

2 (b).

"It should be six years instead of eight. It seems to me more could be done than is now done the first six years of school life. This could be secured by a more careful pruning of the elementary program of studies, a saner correlation, etc."

"The period of elementary education should be shortened by introducing the secondary school work in the higher grades."

"By some plan similar to that of Cambridge, the so-called double-track scheme; or by separating the brighter pupils and ambitious boys who are destined to a pro-

fession and placing them in separate grammar schools at age of 9 or 10, where concentration and continuous progress are possible; also by a closer articulation of high school and grammar school."

"Yes. In accordance with the individual. By a more scientific adjustment, as the fruits of child study, of the studies to the development of the individual. Emphatically far less time set out for formal reviews. By sticking to the elements of the subject. By application to the doctrine of apperception. By following social and concrete interests."

"Yes. By fitting the course of study to the individual. A large number of children can easily complete the grade work in six or seven years, others need nine or ten."

"Grades 1 to 6 might be shortened: (1) Prune and vitalize subject matter; (2) reduce size of classes; (3) improve teacher both 'methodically' and inspirationally; (4) reduce lay control of the school—make teachers and principals more independent."

"By a course of study implying a more vitalizing content and a more varied and expensive procedure. The present plan of procedure and mere textbook instruction, inside four walls, is the easiest and cheapest possible, but not the best obtainable. Cast out much worthless rubbish; make the clear distinction, all the way through, between first-rate facts and principles and tenth-rate—a distinction which is not always known or made by the teachers now employed generally."

"By more elastic classification, more attention to the individual, and teaching that is more direct and positive."

"By some omissions, but chiefly by better teaching and by getting children to see the relations of what they are doing to ends that they desire to reach."

"Yes. By not trying to teach everything that is good. Select the best and do the work thoroughly; also use industrial or manual training to vitalize academic instruction."

"Time could be saved on geography and arithmetic and reading."

"Yes. By omission of parts of arithmetic, grammar, and physiology, by better correlations and by better teaching. The drill work could be shortened greatly, if it were better conducted. Much more could be accomplished in the content studies if the teachers did not teach them with the method suitable to the formal subjects."

"Geography can be cut in the middle, arithmetic can be largely curtailed, and many other studies can be treated in like manner. One of the things in school that we mistake is to take the natural development of the child for the work of the schools."

"Yes. Very much less work should be done in arithmetic. The shortening process would be aided by the adoption of the metric system. But even without this adoption, we are at present spending a third more time than is necessary. Time could be saved, also, by dropping much of our technical English grammar and putting in a foreign language. There is also great waste in teaching geography, and the military and political details in history. In general, our courses of study need to be remodeled in the interest of better pedagogy."

"The boy and the girl could spend time outside the ordinary school and learn many useful things and then accomplish as much in the common branches of learning taught in the primary schools as by going to school all the time."

"It seems to me that the period of elementary education should be confined to the mastery of the tools of education—that is, during this period the emphasis should be placed upon this phase of the work. For pupils who do not wish to prepare for high-school work, certain kinds of manual work could be advantageously offered during the seventh and eighth years in place of technical grammar and some parts of arithmetic. Those who plan to enter the high school could advantageously begin the study of foreign language, elementary algebra, constructive geometry and elementary science so that they could finish the work of the high-school course one or two years earlier than is customary under existing conditions."

"I think two years might be given to the high school if the high school could be depended upon to cease being preparatory and begin to be liberal at the very beginning of these added years, using departmental methods and meeting the appetite for information while it 'let up' for the present on the elementary school effort at training. Then the high school might well enrich its curriculum, putting less pressure on

thoroughness (by which it means a protracted term of years on a subject). Then a certain type of election of studies, in which parents might be enlisted to help discover tastes and interests, would be more in place here than even in the college."

"I do not think it will be wise to attempt to shorten this period, but the work should be enriched, the school day should be shorter, and the children should be given an opportunity to put into practical application in the home and elsewhere the lessons learned in the school."

"The period of elementary education should not be shortened, but should be differentiated, so that provision could be offered to those manifestly going to high school and college, as well as to those terminating their school careers at 14."

"Since the thoroughness attained ought to increase, as the complexity and variety of subjects 'dabbled in' are diminished, if by 'elementary education' be meant all that precedes the high school, I do not see how the time can be shortened. But at the same time there might be much more of education with much less of cramming."

"I could refer you to places where there is a positive public demand for lengthening it."

"Instead of dividing the period of elementary education into 8 (or 16) annual (or semiannual) classes, with a separate teacher for each step, it would be more rational to have three divisions: (1) Play school, for children from 5 or 6 to 7 or 8 years of age; (2) primary transition, for children from 7 or 8 to about 9; (3) elementary school proper, for children from 9 or 10 to about 13. (The same teacher should have charge of a group of children throughout the whole of one of these divisions.) These three classes should be followed up by a (4) secondary transition class of a year, introductory to the high-school work proper, during which, for one or two periods a day, the less well-prepared pupils could review such fundamentals as constructive English and arithmetic. The length of time in the primary transition class should vary with the physical and mental development of the child, and this variation, especially, will give elasticity to the length of the school course, which probably should not average more than seven years up to the secondary transition year. There should for the individual pupil be elasticity as to the time spent in any class. No pupil should remain in the elementary school after puberty."

2 (c).

"Throughout the elementary school proper there should be systematic manual training, and there should be provision (of from one-sixth to one-fourth of the time the child is capable of devoting each week to education work) for the pursuit of some elective interest additional to those prescribed for all pupils. This might be the study of music (piano, violin, or some other instrument) or might be devoted to the acquisition of some gainful trade, although I should deprecate this under normal conditions. This time might be spent out of the public school or might in some cases be made a part of a rich school's work."

"There should be some form of vocation schools or studies which take the place of the work children formerly did with their parents in the home, on the farm, or in the shop. As much as possible there should be a return to this old-time home cooperation."

"I believe that practically all the subjects of the elementary school should have a greater emphasis upon practical aspects."

"Public education has not covered its legitimate field until it includes provision for special instruction along vocational lines."

"This is one of the most difficult questions for the modern educator to meet. I see no better way than to keep an eight-year elementary course for this purpose, putting in manual training, elements of commercial practice, etc. To prevent class distinctions the first three, perhaps four years, of this course should be identical with the six-year elementary course."

"Provision should be made for those boys and girls who upon reaching the compulsory age limit wish to take up preparatory work for some trade. Vocational schools should be provided for such boys and girls. Of course the best results would follow from a close alliance between the shop and the school. Until such alliance is brought about, the vocational school can never attain a high degree of success. If the shop furnishes an opportunity for practical work, and the school gives the theoretical side in a simple and direct way, in such studies as arithmetic, reading, spelling, penmanship

and especially free-hand and mechanical drawing, the course will be effective, not only on the side of discipline, but on the side of practical preparation for life work."

"There should be vocational training for defective and irregular pupils, who for these and other causes are over age."

"The faults in the present system are due, as I see them, in quite a measure to our reluctance to recognize any distinction in school children on any grounds whatsoever."

"After pupils have reached the age of 14, special industrial continuation or improvement schools should be provided for those who do not care to continue in the old line academic work. These schools should offer the following courses: (1) Four-year trade course; (2) two-year course, preparatory to the trades; (3) part-time course, afternoon or evening, preferably afternoon, for those who must become wage earners at 14."

"There is much to be said for the idea of the vocation school, but it is at present in public education a thing that can not come. We must first convert our legislatures and our boards of education, and next our teachers. Within one year, I have visited the schools in 23 different large cities, and I confess complete disheartenment in respect to further development in many of them. We need to do in fact what we are supposed to be doing. Or rather, we need moderate reform in uniform standard work before we undertake vocational schooling."

"All should be discouraged against learning the trades at this time."

"We can and should improve our curricula by including more vocational work, but this must be done through persons and not merely on paper. Moreover, the vocational director must be not only carpenter or cook or plumber or dressmaker but also a thorough teacher. There are almost no such persons at present alive in America."

"I have directly in mind the oral and confidential testimony of the teachers in—— —— schools, where the seven-grade system is in vogue. Their testimony is almost universal that their seven-grade system saves no time."

2 (*d*).

References are made to Kansas City, Birmingham, Nashville, Springfield, Worcester, Cambridge, Batavia, Decatur, East Orange, N. J., Bethlehem, Pa., Wurttemberg, Germany, and several places in France; also to the Boston Latin School, the Baltimore Preparatory School.

References on the whole subject are made as follows: Annual Reports, Columbia University, 1902, p. 37; 1903, pp. 23, 29, 31; 1904, p. 17; 1905, p. 11; 1907, p. 20. Columbia University Quarterly, Vol. V (1902–3), p. 133; Vol. VII (1904–5), p. 267.

Other references are articles by the United States Commissioner of Education; and in *Educational Review; Education; Journal of Pedagogy; School Review; Yearbooks* of the National Society for the Scientific Study of Education; *Report* of Committee of Associated Harvard Clubs, address R. G. Brown, 1006 Guaranty Building, Minneapolis, Minn.; *Proceedings* of the N. E. A. (1903), pp. 217–322; (1906), pp. 108–112; (1907), pp. 705–710; (1903), pp. 322–327; (1904), pp. 194–202; paper by Principal Coy, Cincinnati, meeting of Department of Superintendents of N. E. A.; address of Dr. A. S. Draper, December 27, 1907, before Academic Principals' Association; address in *Proceedings* of South Dakota Educational Association; "Can School Programs be Shortened and Enriched," "An Average Massachusetts Grammar School," "Shortening and Enriching the Grammar-School Course," "The Grammar School of the Future," by Charles W. Eliot in *Educational Reform; Education*, May, 1907, pp. 550–555; "Attempted Improvement in the Course of Study" in *Educational Aims and Educational Views*, by P. H. Hanus; "As Concerns Secondary Education," in *The Educational Situation*, by John Dewey "Experiment in Brooklyn," address Charles S. Hartwell, 473 Madison Street, Brooklyn, N. Y.

QUESTIONS:

3 (*a*) *Should the high-school period be shortened or should it be extended in either direction?*

(*b*) *Should it be six years—from 12 to 18, or 14 to 20?*

(*c*) *Are important reforms needed in high-school education? What?*

(*d*) *Should provision be made in this period for "vocation" schools or studies? How?*

(*e*) *Please refer to important experiments in this country or elsewhere, and to articles or papers bearing upon the subject, and investigations now being made.*

SUMMARY:

3 (*a*) A majority favor a change of the high-school period.

3 (*b*) A majority of these choose the period 12–18, a less number 14–20, and a few 12–16.

3 (*c*) Nearly all think important reforms are needed.

3 (*d*) The replies are practically unanimous in favor of vocation schools or studies.

EXTRACTS:

3 (*a*).

"The high-school period should reach to 18, and should actually be six years, for there is no need in having separate schools for children from 12 to 14, for simply a differentiation of the work of the last two grades of the elementary school, and a departmental system of teaching already quite common, will accomplish every end and preserve somewhat the democratic character of the school."

3 (*b*).

"At 12 specialization should begin either for vocation or for college."

"My belief is that the threefold division of the cultural part of education, with elementary, secondary, and higher, is due to accidental historical conditions and that only two divisions of education that is dominantly cultural should exist—elementary and higher. At present the distinction between the aims of the high school and liberal college does not exist; the high school is merely a poor college—the 'people's' college. The high school might give a fairly complete liberal preparation for life, leaving the individual at 20 ready to enter a professional course."

3 (*c*).

"More 'training for character.' Less of the purely 'bookish elements.' Stronger men in high-school faculties. Better textbooks."

"Reforms in high-school education should be based on the realization of the fact that it is the period of inspiration and the formation of ideals. The teaching should be such as to enable the pupils to arrive at a few great generalizations and to apply them in the broadest way possible in the things of life."

"We need more thoroughness, initiative, and moral emphasis. There is too much imitation and too little reflection developed. From the grades on, the great effort should be to teach thinking and self-reliance.

"Yes. The work should be made more functional, less textbook, and the work should grow out of the lives of the pupils and back into their lives."

"Treat every child as a personality. Let nature cut her capers under proper guidance. It is a crime to demand that all children shall be alike—which means like the weakest child and weakest teacher."

"More training for life, citizenship, vocation, and service. Some freedom of election should be provided in the last two years and opportunities given in appropriate schools or departments for the student to take a classical, a general scientific, a commercial, a domestic-economy, a manual-training, or a technical course. Continuation or night schools should provide special commercial and technical training, as well as the literary course, for those boys and girls who are compelled to drop out at the end of the grammar school or earlier. Our system neglects this great class of young people. We should make as thorough provision for their needs as for those who are able to go to high school and should do everything to induce them to take these courses for six or even ten years."

"I think that the chief line of improvement in the high school is along the line of better-trained teachers."

"I should find most fault with the quality of the teaching. In classics and mathematics, too formal, not real enough; not sufficiently concrete nor correlated with life. In sciences the same criticism, or the latter part of it would apply, and in both sciences and modern languages the majority of teachers are lame as to pedagogical and subject matter preparation."

"There are several reforms, but these would all follow if we had competent principals and instructors. The courses themselves are too remote in interest and in value from the world of reality. Perhaps the most important reform to come in our high

schools will be to plan for half-timing by boys and girls who must earn part or all of their own living."

"Yes. Too much time consumed in what we might call educational padding. The subjects that specially prepare for citizenship, such as history, civil government, and economics, should be emphasized for the general purpose of giving a political education and for the special purpose of holding young men in high schools until they finish their work."

"Eliminate much of the mathematics, and emphasize a continuous course of literature. Have elementary ethics constantly urged. It is the sheerest nonsense to attempt trigonometry in the high school. The principal should not teach an hour. Vigorous devotion to the intensive study of the humanities, with such other studies on the side as may seem necessary to illumine the major subjects of thought—this should be the constant endeavor of this high-school period."

"Simplified course of instruction. If a fitting school holding to the main subjects, e. g., mathematics, English, history, and Latin; fewer sciences taught as types of the scientific method; not necessary for a child to take all the sciences in the high school."

"A large amount of matter now covered in the course should be thrown out. Less attempt should be made at encyclopedic knowledge and the idea of culture more thoroughly emphasized."

"Concentration on a few valuable studies of central importance."

"Excessive multiplication of subjects, and the lack of thoroughness in a few."

"Yes. There should be far less linguistic study and more culture of tastes and character."

"I think so decidedly, in the direction of greatly increasing the informational outlook of the pupil, instead of monopolizing his time with a few formal subjects used to 'train his mind.'"

"The course should be extended downward, more industrial work should be introduced, better teachers should be employed, and more attention should be given to the training of boys and girls, with the emphasis upon character elements."

"Better provision for college preparatory work side by side with (*d*) vocational work for those not headed for college, a closer and more comprehensive differentiation should begin in the high school."

"We need to recognize the differing cultural, vocational, and social ends of various groups of high-school students, and to prepare for these. Some private investigations are now being carried on in New York City regarding the feasibility of a two-year high-school course, or courses, for children who will probably enter the labor market just after 16."

"The high-school period should be used to realize these aims—I, Vocational—professions, business-commerce, managerial, mechanical industries; II, Social and political; III, Cultural."

"Yes, much of the work done in our high schools to-day is pedagogically faulty. In the first place, there is a haphazard sort of an elective system. In the second place, the facts and topics taught in the various studies are not well selected and therefore are not well organized. In the third place, many of our high-school teachers are indifferent as to the importance of adapting the subject matter to the pupils' interest, capacity, and mental development. There is a tremendous waste going on in this way in our high schools to-day. In the fourth place, the college-entrance requirements impose an unreasonable burden upon the high schools. These requirements are too much under the control of specialists who are out of touch with the larger interests of the community. They don't see things in their proper perspective; they are too one-sided, because they know so little in many cases outside of their own department. One of the greatest needs to-day is intelligence applied to sensible college-entrance requirements throughout the country. This is especially true of English. Many of the books required by the college-entrance requirements to be taught in our high schools, and taught in the way that looks toward the examinations, are beyond the pupils' mental vision. Such work stifles interest in fine literature."

"A marked distinction should, I think, be made between the fourteenth year of life, and perhaps a year before and a year after, and the latter period of adolescence.

The schools should recognize this difference. There should be a transition or 'preparatory' stage between the elementary school and the high school proper of from one to three years, in which there should be outlines of general history and elementary science and work in simple composition and an introduction to literature for all; the rest of the time should be spent either in receiving elementary studies (in the case of the weak, ill-prepared students) or in such advanced work as a foreign language (in the case of the normally well-prepared pupil), and a certain amount of physical training and manual or vocational work in both cases. My own opinion is that this transition period need not exceed a year, or at most two; in case it is two years long, I would insist upon the pupils taking at least a semester's work in laboratory science and one in the study of some period of history in such a way as to give a notion of how an opinion as to historical facts is to be reached (in addition to the outline 'informational' courses in elementary science and the history of civilization)."

"Where college graduates are not required as teachers, this would be the most needed reform. Where there is not promotion every half year, it is an important form. Where there is not opportunity to classify at least every half year, with notice of individual attainments, it is a needed reform. Where there are not laboratories and laboratory methods of instruction in chemistry and physics, in botany and biology, at least in the elements of physical and biological sciences, this is a needed reform. Where foreign languages are ignored and there are not laboratory methods of instruction and history and literature, this is a needed reform."

"Decidedly yes. An organization of courses on basis of general vocational activities, with so-called culture coming from the wisdom of knowing what the world is like, what it wants, and what one can do about it."

"More attention should be given to the scientific physical development of high-school students, both boys and girls. If the education of the Greek people teaches any valuable lesson whatever, it is that of the tremendous value of continuous and systematic attention to the development of the human body. More than three-fourths of the formal education of the Athenian people in the immortal Fifth Century was of a physical nature. Another high-school reform should be the proper correlation of industrial studies with what is known as purely academic studies."

"Free the high school from the domination of the college, and let it develop its own character in its own way. There is too great survival of elementary school attitudes and relationships also. The individuality of the student should be more largely recognized and encouraged."

3 (*d*).

"This can be done, as in the Indianapolis Manual Training School, without at all interfering with the other regular high-school course. The pupils are willing and able to have longer hours for the industrial work."

"I do not believe that vocation schools should undertake to teach all of the trades, or any very considerable number of them, for in so doing we would simply overload our schools and bankrupt our taxpayers, but I believe that our manual-training course might be extended both downward and upward."

"For those who go in the upper high school, or high school proper, a minimum of physical or manual training should be provided for all; and it should be possible to spend from one-fourth to one-half the time in vocational work while pursuing studies in history, civics, mathematics, science, and languages such as would prepare one for a cultivated, useful life in the business world or for the study of a profession or other university work."

"If the pupil's time must be monopolized by his own vocation-to-be, it is lucky for him if he can have such work in the surroundings of school instead of under the conditions of apprenticeship."

"By introducing 'vocation' departments and having 'vocation' studies as electives."

"I believe it is far better to do this in manual training or commercial high schools than in separate vocation schools. Such a school is a leveler, leveling up rather than down, and it should develop a sound democratic society."

"Yes. Vocational studies should be arranged either separately or in groups in every high school, to be chosen as options, just as French or Spanish or physics or zoology is offered."

"Vocation studies may be introduced, but they should always be those in which a large culture element is to be found. They should also be taught with the culture aim uppermost."

"Yes. By grouped electives, by providing in connection with the regular school work facilities for training in simple business methods, wood and iron working, use of tools and simple principles of construction of buildings, elementary principles of gardening and farming, sewing and cooking, stenography, etc. Each school should endeavor to adjust its capacities to the needs of the community supporting it."

"I do not believe that the present academic and theoretical high school, which is only a traditional preparatory school, somewhat but not yet sufficiently modernized, and which enrolls only such a small percentage of the school attendance, is calculated to fit for life in all lines, and hence I believe should be vocationalized, or vocation schools established in large numbers, both in cities and country, to suit the local demands."

"Mere academic education will not necessarily fashion good citizenship in growing youth. Physical, expressional work, which will ingrain habits of industry and induct those who are to work into useful trades, is in the direction of good citizenship. The boy who is to be a tradesman is as much entitled to the State's consideration, in the way of some preparatory help, as the boy who is to be a lawyer, doctor, or professor. Germany leads the way in her continuation schools."

"Should provide manual training, branching into trade activities, with definite exercises and specific vocational aim; or commercial training, definite, thorough, practical. These schools might also provide preparation for higher technical schools. In addition, above one-half time should be given to science, mathematics, English. In large schools, separate schools should be provided for commercial high-school students and for manual arts. This for greater efficiency in the vocational training and for better correlation with the cultural subjects included. Elsewhere departments for commercial training and for manual arts may be provided. In some cases part time might be spent in actual shopwork in factory under supervision (real apprentice work)."

"Vocational schools should be provided for a large number, and should have a large amount of purely cultural work."

"In the case of nearly every boy and girl, yes. Every high school should be a university of the arts and handicrafts. Our cities need agricultural high schools and the country districts need industrial and commercial high schools. We need no rural or urban castes. To every child should be opened up the encyclopedia of life. Reference to Springfield, Mass., and District of Columbia."

"Probably trade schools should be provided for boys over 12 who wish them and evening trade schools for employed boys and men. In this, great care must be used to see that the privilege of choosing is not ultimately destroyed. Except for a special class of students, a cosmopolitan high school is preferable."

"A system of 'intermediate industrial schools.' In the ordinary high school, also, there may be some recognition of vocational needs."

"Yes. By providing schools for young mechanics and artisans where they may receive a modified high-school education and at the same time acquire skill in technique along some industrial line."

3 (*e*).

References are made to Chicago Trade Schools; High School of Commerce in Boston; High School of Practical Arts in Boston; Menomonie, Wis.; Industrial Arts High School in Milwaukee; McKinley High School, St. Louis; Indianapolis Manual Training High School; Manual Training High School, Louisville; Commercial High School, New York City; School of Education, the University of Chicago; vocational schools of Wurttemberg, Germany; *Report of United States Commissioner of Education* (1898–99), Vol. I, pp. 1132, 1133; *Report of the Massachusetts Industrial Commission;* "Industrial Improvement School" in *Columbia College Record; Continuation Schools of England*, Sadler; *Education and Industry*, Ware; *A Modern School*, Prof. Hanus. Regarding length of high school, references are made to ex-Supt. Balliet's investigations in Springfield, Mass.; St. Joseph High School; Central High School, Kansas City; Joliet (Ill.) High School.

QUESTIONS:

4 (*a*) *What should be the length of the college course?*

(*b*) *Would you advocate the following scheme?*

(1) *To end college work with the sophomore year, but allow four years, as now, for the A. B. degree.*

(2) *To let university work begin at the junior year—work that gives scientific power—with groups leading to the various professional degrees or the Ph. D. degree, the last two years of college counting toward those degrees.*

(3) *To require two years of college for admission to all professional schools.*

(4) *To complete the professional work or Ph. D. work in two years more or six years after college entrance.*

(5) *To let the college do the first two years of the professional work, instead of allowing the professional school, as now in many cases, to do the last two years of college work.*

(6) *To consider the possibility of advantageously building the engineering school upon the first two years of college.*

(*c*) *If not in accord with the above, please describe your own view.*

(*d*) *From the standpoint of business men, so far as you can judge, what is the value of a college training for young men who are going into business?*

(*e*) *Please describe devices now in use to shorten the college course; refer to any articles or papers upon the subject and any investigations now being conducted.*

SUMMARY:

4 (*a*) Nearly all favor four years, though a few advocate three years or dividing the college between the high school and the university.

4 (*b*) It will be seen from the summary which follows that fully half favor this scheme in general—to begin university work with the junior year.

4 (*b*) (1) One-half favor ending college work with the sophomore year, but allowing four years for the A. B. degree.

4 (*b*) (2) One-half would begin university work with the junior year, and count the last two years of college toward higher degrees.

4 (*b*) (3) Most of the replies would require two years of college for entrance to the professional schools.

4 (*b*) (4) One-half would give professional degree or Ph. D. degree in two years after the B. A. degree.

4 (*b*) (5) Two-thirds would have the college do the first years of the professional work.

4 (*b*) (6) A large majority would build engineering on two years of college.

4 (*d*) Two-thirds think college preparation is valued by business men, though the opinion is usually personal.

EXTRACTS:

4 (*a*).

"The German gymnasium and university plan is more rational than our high school, college and university, or professional school. I would advocate annexing the first two years of the college to the secondary school, and allowing the students to enter the graduate or professional school of the university at once, upon the completion of the secondary course. When necessary, the first year or so of university work might be spent in special preparation, rather than in strictly professional study."

"Professional work should undoubtedly begin at 20 in the majority of cases, whether as differentiated college work or as purely professional work, makes little difference. The amount of time for professional work should vary with the profession. I can not think that the Ph. D. degree will continue on the present basis. I think it will become a professional degree for the teacher, and as such, presuppose considerable fieldwork, hence it should not be provided for as something just two or three years beyond the A. B. Evidently medicine and the various engineering lines will require

practice or fieldwork in one form or another, and we must see to it that the doctor's degree also procures this."

"I would not shorten the college course, but rather amalgamate it into the high school (or college if that is to be the higher school). Here we have a six years' course. The rest of the college work I would unite with that of the professional school, which may be regarded as the university. This should have at least a four years' course, but I am inclined to think that some practical bread-winning work should be possible before the course is completed. Probably there should be two professional degrees; one permitting some of the lower kinds of professional work, as certain classes of law cases, of medical practice or teaching. The higher degree may then be regarded as a condition for promotion."

4. (*b*)

"There are many things about this scheme that commend themselves to me. I believe we should keep the good results that come from liberal training in a four years' course in college for those people who do not care to work up to a professional degree. On the other hand, for those who wish to secure a professional degree, I believe that the last two years of the college course should count toward such degree."

"I am inclined toward the view that all liberal arts degrees should be abolished—that colleges should give the opportunity to gain culture, but should not certify that it has been gained. In professional and technical schools I believe that the best of general culture will yet be found in the biographies of leaders in the line studied and in a history of the development of the occupation and the sciences and social life related to it."

"While the public schools have been of late years much improved, especially in the Western and Middle Western States, the colleges and universities (so-called), especially of the East, but also elsewhere, have deteriorated, if we measure their standards by their educative value. This decline is due to the character of their curriculum, the character of their method, above all to the character of their teachers (especially of the younger men). I am only voicing the judgment of the most experienced and thoughtful when I say that fully one-half of all the courses offered, and the work done, is of almost no educative value whatever. I would, therefore, thoroughly reconstruct the American college from top to bottom; for it retains its name, having lost its character. (1) I would reduce the number, and increase the thoroughness, in the subjects required for admission; (2) reduce the time to three years, from 17 to 20; (3) reduce the foolish and expensive and needless exhibition of courses offered, making them much fewer, and much more thorough; (4) make two-thirds or three-quarters of the curriculum required—compelling such studies in language and literature, mathematics, and physical science, and in the psychological sciences, as are preparatory and introductory to professional and Ph. D. studies; (5) clean out the whole hotchpotch of courses which have the name, but can never have the substance of true professional studies. Business demands trained and disciplined men; if the college would do this, of course their graduates would be in demand in business circles."

"I recommend (2) and have made a report to our board of trustees urging its adoption here in 1913; the freshman and sophomore years to be required for entrance. See *Bulletin American Academy of Medicine*, No. 103."

"I can not see how any man of education can afford to do without the studies which usually come into his work during the junior and senior years in college. These are the years of enlargement above all others, the period when the horizon expands, and the larger mental relations are established."

"The chances are in favor of the work being better done if the college course should take on two years of basic science training for medicine rather than that the medical school should pretend to do the scientific work which is almost certain to be better done in a university laboratory."

"Reference is made to the new "Cooperative Engineering Course" of six years in operation in the University of Cincinnati, in which the students work in the shops every alternate week."

(4 (*c*)

"If we are to have the 12-year common-school course, then terminate the college course with the sophomore year. I would save the two years needed for the college course by simplifying the grade work and shortening the time there two years, including the high-school course."

"I believe heartily in organizing the college course on vocational basis in the main."

"(1) To offer a two years' college course, the student to be graduated and given some appropriate recognition—possibly the A. B. degree. (2) To offer an advanced college course of two years, the work to be cultural with some degree of specialization, the student to be graduated with a higher degree—possibly A. M. (3) To have various types of professional schools, some admitting on the basis of high-school work, some requiring the two years' college work and others requiring four years of college work."

"The proposed scheme, in my judgment, means the practical extinction of the culture side of college life, the destruction of the old college course, and the practical substitution of the professional for most of it. I would substitute the following: Elementary school, years of child's life, 6, 7, 8, 9, 10, 11; high school, years of child's life, 12, 13, 14, 15; college, years of child's life, 16, 17, 18, 19; professional, Ph. D., years of child's life, 20, 21, 22."

"It is far preferable that the college course should be completed in three years, courses 'looking toward' a chosen future work, that is, subjects being grouped as minor electives or minor requirements, about a major core of subjects in which advanced work must be done, and which may even make the group 'pre-legal,' 'pre-medical,' etc. When this group (say two-thirds of it being prescribed—though the group itself may be elected) is completed, as it ought to be in three years, the bachelor's degree ought to be given. Then three years would be none too much to spend in strictly graduate work for the Ph. D. degree. It is easily possible to make the college course so easy by elective courses and avoidance of advanced work that it never forces the choices which should be made—say even for or against future study and a 'learned profession.' There is perhaps danger in education stepping over into science's own country to get a degree with which to meet a mere stage in education. If science does not complain, perhaps I ought not to do so, but I am calling attention to the peculiar propriety of science in the specialist's degree of Ph. D., because it ought to be classified with the other vocational degrees; and this discrimination shows the lack of warrant for any specialist's degree absorbing educational courses. When a college degree is earned, its work is done, and the only rightful demand upon it is educational. When the specialist's degree is earned, science, not education, is to say. The graduate school loses educational perspective when it assumes to influence the college course. Colleges might differentiate somewhat among themselves. That which is best for Wellesley is not therefore best for Cornell or Chicago. The varied needs of different classes of college students should be recognized and met. There is still a place for the 'four-year liberal-culture' college, though it is perhaps not so large a place as it was thought to be a century ago.

"My own view is that it is all a matter of substance and of the quality of the teaching. In several parts of our country, wiping out the four years' course would be a calamity of major importance; the college still has a most important place. But in other regions we can spare the full course by splitting it between the high school and the undergraduate university work."

"It is the time (college) when the man is made and not the worker; and certainly man is the chief consideration or should be. When the work of this period has been done well, not a great amount of time, relatively speaking, should be required to fit a man to undertake his life's work, since he must ever grow or be lost in the stressful competition with his fellows."

"The University of North Dakota plan is as follows: Students' reports each semester: A (excellent), to which attaches 1.3 credits; B (good), to which attaches 1.2 credits; C (satisfactory), to which attaches 1 credit; D (passable), to which attaches 1 credit."

"Instead of lessening the number of years of the college course, I suggest a plan similar to that now in operation for engineering students in the University of Cincinnati. By this plan students work in the school two weeks and in the shops and offices of the manufacturing and engineering plants of the city two weeks. The class is divided into two sections; each section relieves the other in the schoolroom and in the shop. In this way the work of a four-year course can be done in six years; students pay their own way through college and gain a practical knowledge which enables them at once to begin work at a good salary."

4 (*d*).

"I do not believe that the average business man cares much for a college-trained man."

"My observation leads me to the conclusion that a college education for the young man who is going to be a business man is of comparatively little value."

"My experience with reference to the value and influence of university training on young men in business is that those who have material success in business enterprise are usually not those who have graduated from a university."

"I regard a college training for young men going into business unnecessary. The curriculum of a college is not generally along practical lines, but while not essential, it has a tendency to enlarge the faculties, etc. The average business man is a worshiper of the 'Golden Calf'—he is after the 'Mighty Dollar'—the spirit of covetousness seems to permeate his system, and when old age overtakes him he is at a loss to know how to occupy his time."

"None. I refer to the typical business man, and not to the great business man. The latter unusual person is in favor of a sane college course in history, languages, sciences, history courses, economics, English, very thorough; German, biology, physics, chemistry, history of philosophy, algebra, and geometry with trigonometry. Not many see much value now in Latin or Greek that is not to be had from four years of German (or Spanish or two modern languages). This course is to be taken by a youth who takes part in the social and athletic life as a doer of things. Business men as I know them—manufacturers, wholesalers, railroad men—desire in the young man certain moral qualities—obeying rules and instructions implicitly, promptness and punctuality, arithmetical perfection, rapid and legible handwriting, facility and accuracy in English. I call these 'moral' qualities, and so they seem to me, and they are glad to get also the young man who knows a great deal of geography, of civil government, and of general information. They desire also certain physio-moral qualities, such as cleanliness, neatness, and orderliness. This is to say, they desire health, strength, and discipline. They like frankness, openness, courage toward themselves, and discretion toward all others. Our school courses can not develop these qualities for two reasons—our teachers do not themselves manifest them and our courses are not designed to produce them."

"We have a much bigger question of the value of the college course than the unimportant query of the business man. I believe the college does often tend to disqualify for certain types of usefulness, but the risk is always taken of overcultivating shallow soil, and that risk is certainly enhanced by both college teachers and college courses who have lost sight of the claims of humanity and human interests. If the college affords no considerable part of the experience that qualifies, the business man is justified in drawing the attention of the college to the limitations of usefulness which the candidate still suffers from, though the college has tried to do its humble part in removing those limitations. For my own part I see a sure road to this end. Let the college course be sincerely and seriously a part of vocation, too definite to attract the 'elective' students; too hard to attract the man who is too lazy to go to work at a serious business; too exacting to be satisfactorily done by the unmotivated trifler who goes to college kindheartedly acquiescing in his parents' fond wishes, with a superior indulgence of their ambition. I seem to have reached a point where I am demanding a business training for college instead of discussing a college training for business. And as an educational question, I think this is a consideration of far greater importance."

"The business of the world becomes more that of directive energy from skilled and trained minds. The college education is becoming more and more essential to the business man. Also his position in society and public life is determined by college education. The college course should favor his selection of those subjects which best fit him for his business career."

"Without question the men with college education who have gone into business have soon forged to the front. Instances of this fact are numerous in my limited acquaintance, numerous, I mean, compared with those who have not had the benefit of a college training. I have been teaching for a number of years in manufacturing centers, and I know that this condition is true in great manufacturing plants."

"They (college men) think; few people (or educated people for that matter) do. They are systematic. They have many bits of knowledge that are useful sometimes when least expected."

"I think I can testify from actual experience that the college training is of very great value to young men who are going into business."

"So far as I can judge, business men value highly the training which young men who are going into business get in college. In the last 10 years there has been a marked difference in the attitude of business men toward college training."

"I do not see how any man of business or other can doubt the value of college training; for men who are going into business or any of the professions, the training of a college course and association with other young men bent on the same pursuit, as a disciplinary process, is entirely too valuable to require any argument. It gives the habit of thinking quickly and deeply at the same time, and the capacity for the enjoyment of life in every direction is so largely increased by it that the college-trained man is better rounded and better fitted for whatever he undertakes."

"A college training is of more practical value to a young man going into business than anything else can be."

"A college training is invaluable to a business man. Very few broad-minded business men maintain that a college education is an economic waste, and it is the regret of many successful noncollege business men that they have not had the experience and benefits of a college education."

"To do the best work an artisan must have tools of good quality that are in perfect condition. A business man's brain takes the place of the tools used by the artisan, and if it has been sharpened and tempered by a college education, all things else being equal, it should be better able quickly to grasp and solve the problems that constantly confront a man who is engaged in mercantile enterprises."

4 (*e*).

References are made as follows: Six-year courses at Pennsylvania and Michigan, combination courses at Harvard, three-year courses at Sheffield Scientific School and College of Clark University, Harvard three-year plan, Columbia plan for senior year, Western Reserve plan (one year of professional school distributed in college), Cornell (two years of medical work in college), Chicago's plan of Junior and Senior College, credits for quality (University of North Dakota, Catalogue, pp. 28–30, and 1906 *Report of Association of State Universities and Educational Review*, December 1906); also "Readjustment of the Collegiate to the Professional Course," *Yale Bar Journal*, VIII, 1; *Report of the Bureau of Education*, 1899–1900, I, 615; *American Bar Association Report*, XXI, 575; "Length of the College Course," *Proceedings N. E. A.*, 1903; Calendar State University of Iowa, pp. 106, 361, 437; "Education of Business Men" in *The Voice of the Schools*; investigations of the Association of Presidents of Colleges and Secondary Schools of the Methodist Church.

QUESTION:

5. *How does the whole problem of culture and time elements in education relate itself to the demands of business and society to-day or to the ideals of our civilization?*

EXTRACTS:

"In the first place, the practical demands of life and the interests of culture are congruent in this, that nothing which is valuable merely for the training it gives is worth pursuing. Culture is fitness for the large demands of life; the instruments of culture, therefore, are practical means to a large, rich life; if, then, a study is without practical value in this large sense, its usefulness as a study is lost. Any amount of training, discipline, and culture can be obtained from studies and pursuits that have value beyond that of mere mental, moral, and spiritual gymnastics. I conclude that a curriculum might seek to put the youth into secondary work just as soon as he reaches the stage of adolescence, as distinguished from childhood proper (i. e., at the age of puberty), and then, after insuring that he has a notion of the fundamental facts as to the development of human civilization, the practical results of present-day scientific achievements, and a reasonable command of English and an introduction to the pleasure and profit to be gained from reading, his secondary course might be either largely preparatory to professional study (i. e., consist largely of mathematics, language, etc.), or largely vocational. In either case it would be practical, and should be as economical of time as possible. Sixteen years of school work preliminary to professional study is unnecessary and hostile to the time interests of culture. Better spend more time in university work, making the professional preparation more leisurely and more largely cultural. If secondary schools had double sessions, boys might (working on the same job) support themselves and go on studying indefinitely. Their studies would progress more slowly, but they would be gaining more time culture."

"This is a question the answer to which requires an elaborate essay. I think the relation or connection between education and business is closer on the moral side than on any other. If our education could transform our ideals, it would exert a very powerful influence on business. For the sake of business, I would lay far more stress than is now put on the studies that deal with man and history—what man has done; on

literature—what man has thought and felt. I might sum up what I would gladly have time to say at length, that I do really and heartily believe that the best way to adjust students to the intelligent demands of business is to adjust them to the interests of society and, so far as may be, to the ideals of our civilization."

"The general feeling respecting preparation for life and the exactions of the present business demands make it almost necessary that young men prepare for their life work in four or five years after completing a high-school course. People that look a little farther into the future feel and see the importance of a certain period of the college life of a young man being devoted to cultural subjects. Putting everything together, I am inclined to think that there should be about six years devoted to the preparation for life after completing a high-school course, and that fully two years of the college career should be given up to cultural subjects."

"Since I have been in college there has been a distinct drift away from studies that had very little value outside of their alleged disciplinary effects, to studies that combine both discipline and useful information. This drift should be encouraged. The drift is always away from intentionally making things 'hard,' or giving things only because they are 'hard.' The easiest ways of acquiring knowledge are beginning to be realized as hard enough for all disciplinary purposes. This realization is to be encouraged."

"Any subject studied from the standpoint of civilization, that is for service, is just as cultural, and more so, than the old classics studied for ideals only. It might be stated this way, that subject is most cultural which is most serviceable to humanity from a dynamic standpoint. All industrial, vocational, and other subjects, when studied and realized in life for a richer life and deeper civilization, are cultural and at the same time meet the business interests of life. The business interests of the country, as I interpret them by conversation, by mingling with business people, by reading, and by a study, as it were, of the new life, think too much is consumed by education without equivalent results. When our modern civilization is measured up and properly interpreted, it seems to me that the criticisms of the business interests are justified. The point of difficulty for us to overcome is, when making a study of the problem, to rise above our well-fixed habits, prejudices, and schooling. It is very natural for us to interpret, with our experiences, which are those of the educational cloister. When teaching, we should teach from the standpoint of the pupil as to ability experiences. Is it not the same with the mass?"

"It does not meet the conditions. It requires too much time to get ready to begin, and causes too many to be deprived of the values of educational institutions."

"The world will come much earlier to the right point of view if archaic college professors will give up some of their ideas regarding a distinction between culture and utility. If college men will only see to it that a college training makes men useful and more broad-minded, the world will appreciate the college more. The university should be a place where everything useful under the sun is taught and everything useful has a place in the university, and anything useless has no place in it."

"If consciousness first arose and developed for a very practical purpose, namely, the better adjustment of the organism to its environment; and if reason itself, from its beginning, appeared and developed in response to the same practical demand and need, it seems to me that there is room in all our education to-day for a larger element of the truly practical in the good sense."

"Culture will come best by an enrichment of vocational life. This is real culture. The ideals of our civilization are essentially rational in that they require each individual to maintain himself economically, participate actively in social control, and attach worth to his own method of life. 'Culture' has been a borrowed thing since the Romans began aping the Greeks. Vocational preparation is entirely in harmony with culture in best sense, and there is doubtless plenty of time for each."

"Business, society, civilization demand of the world's workers a certain minimum of equipment and maximum of achievement. When academic requirements are so heavy that in order to complete them the intending professional man has to work on his preparation past the time of his greatest energy and efficiency and adaptability in his chosen work, society is the loser."

"For men and women who need the education—as education quite as much as productive service in other directions—of getting early into their nonacademic callings, there is evidently need of squeezing a lot of water out of our curriculum. From my point of view the problem is how to do this for the many in a way that will not desiccate the course for the few."

"The ancient ideals of our civilization demand the humanization of industry. Our political as well as our social democracy makes the same demand. The world-wide competition of our nation in the markets of the world and the unusual opportunities in the opening of our continent and possessions for the amassing of a fortune make it desirable that the time element should not seem too extended in order that we may persuade our youth not to yield to the temptation of neglecting education, particularly so-called cultural education."

"It takes too long to secure an education. If educated by his father, the boy's dependence upon his father is unduly prolonged, destroying his independence and adaptation. He is unable to get into the stream of things when isolated from the world so long poring over books. If the young man is educating himself the strain is too long. The modern educational régime is to keep the man and woman isolated and excluded too long. The modern demand is for young men and women to get into things while plastic and full of the sense of adaptation."

"It seems to me that the trouble with our higher education is not that too much attention is paid to what is called culture, but rather that the purely preparatory period is too long delayed. We need, not less culture or less time in education, but a better combination of the various elements."

"That there are defects in our system of education is now generally admitted, and these defects are mainly in institutions above the high school. The elementary schools and the high schools, in the main, give the kind of education demanded by society and business to-day."

"The shortest cuts are desired, and education must be prepared to defend its demands upon the time element by the production of good and sufficient testimony in favor of the necessity of these demands."

"If the question means, as I must believe it does, in what ways (modes) does the entire educational situation (time of youth and body of knowledge, etc., to be acquired) lend itself to the development of our youth for the needs of social life and in conformity to the practices of our best men and women, I answer that an adjustment is now proceeding from which we all have great hopes. Its ways are a more enlightened public opinion, a more determined public decision, better teachers, better buildings, better books, more apparatus, and smaller and often better boards of control."

"I think we shall retain the primary school as fundamental and necessary for all children and then begin a differentiation, based partly on time conditions and ability to move more or less rapidly, and partly on content interests and corresponding vocational interests. This differentiation may be provided by a 'double-track' system from fourth to eighth school year, inclusive, or by grammar schools with differing intensity and speed, or by something like the Elizabeth plan. It is certain that we shall sooner or later undertake to eliminate the waste of time and interest which brighter pupils suffer in the grades. The American college is probably the chief means of promoting ideals of humanity (morality, culture, the sense of human brotherhood, the worth of man as such) and counteracting the vice of materialism so peculiar to our nation, that we have or can devise. To eliminate it from our system or to curtail its facilities or diminish its achievements would greatly weaken our national life. If it should be reduced to two years we could repair the injury only by encouraging the greater number of students destined to professional life to take post-graduate studies before assuming the professional course or contemporaneous therewith."

"Time is an absolutely essential factor in the development of culture. Generally speaking, the less time the less culture. The business world, which is prone to look upon education as a means of attaining greater efficiency in business affairs, shows a tendency to resent the expenditure of so much time upon the more purely cultural elements during the years when the youth might well be studying professional subjects. Hence, the problem is one that affects, and is affected by, social and business conditions. It seems desirable to make it possible for young men to complete their academic and professional training within six years from the time they enter college. It is not unlikely that society and the business and professional world will, in the aggregate, receive more culture through the combined course than through the greater number of years spent in separate courses by the fewer number."

"The demands of the commercial and business world of to-day are abnormal. The ideas engendered by wealth are so exaggerated as to be nonprogressive. If we have invention in educational methods as we have in industrial life, we certainly ought

to do more work and better work in a shorter time. There seems to be only one thing to do—cut out part of the work. For if students are overworked in a four years' course now, what are you going to do when the course is reduced to three years? Our old system has a tendency to introduce, as conducted now, machine-like methods which seem to be against culture rather than in favor of it."

"It is a serious question, I think, whether education should attempt to fix and define standards or to accept standards set for it by the demands of society and civilization of to-day. A certain amount of conformity to standards set by modern social forces is necessary, else the young graduate will find himself in a world for which he is unprepared. Nevertheless the school and college must not blindly follow external leadings; they should be molders of public opinion. There is a very general feeling that much time is wasted in college—that the work of the world is delayed a year or two by the frivolousness and emptiness of what is called 'the life' in college.

"The college course is undoubtedly fundamental to any success. This is the time when ideals are fixed irrevocably, when views of life are broadened, when a philosophy of living is born, when no thought whatever should allure the student away from considerations of obligations to fellows, of duty toward one's self, of fidelity of purpose. The student should not have thoughts centered on self, but upon the other fellow; when altruism shall take deep root. If such a time be well employed, fewer bankers will occupy cells in bankers' row, fewer engineers will be dismissed for incompetency, fewer so-called college men will win the contempt of the man of practical affairs. Culture should relate to fundamentals in society, business, civilization."

"There is the other side to this question that we must recognize, the material development of our age and the demands on us from that side, but if we yield to that, we must be appreciative of what is costs, and the danger is that we may allow it to cost more than the results are worth. My whole thought is that to get the best results out of our education, there must be time for the growth and development of the pupil and the student, a time for thought and observation and meditation, and the fixed standards and ideals as well as the acquiring of facts."

"Business and society are not so eager to get men at work, as to get efficient men. There are sufficient workers in all spheres of life, but capable men are at a premium. If education means anything, it means increase in efficiency. Instead of worrying about getting men to work earlier, educators need to worry about the quality of their product. The entire educational problem to my mind reduces to this, How shall we produce the highest type of manhood? The man is the great thing; his business and his service are secondary."

"The demands of society seem to me to be in greater measure than ever before for thoroughly trained men, liberally and professionally, rather than for a quack and short-cut training. We can spare these young men, can give them the time, and the money can be forthcoming, to give them the best, so that in the end they may make the most of themselves and be most useful to society. Make the training ever richer, better, more effective rather than shorter. The professions do not all stand on a level in this matter. I do not think the demand for shortened courses is as great as it was five years ago."

"A high degree of specialization counts for industrial efficiency. If this is accompanied by great narrowness of view, it counts against political, moral, and æsthetic efficiency. Just now there is little danger of lack of efficiency in production. The real evil is in the moral, the political, and the æsthetic realm. If an engineering student studies his subject in its wider relations, if he studies its economics, its ethics, its history, its social meaning, he may get something of high cultural value."

"It seems to me that the present ideals, both in the business world, and in our universities, are so largely pragmatic that only scant consideration is likely to be given to those phases of education which do not seem to have any very direct bearing upon the life of the individual. As the more ideal values of our civilization develop, the greater will be the place for that more general culture which is not practical in the narrow sense of the word."

"The demand that is the real need of society to-day is for higher and greater culture in all classes. Culture makes the man strong and sound bodily, brings the intellectual powers to the highest pitch of development and cultivates a real sense of moral obligation to self and others. The time elements are harder to deal with. We ought to strive for an organization of society that will give the young people the education that fits them really for the position which they may be called upon to fill. As things are, the time element cuts off the great mass from any real education."

"I think that the true ideals of our civilization demand high culture and an abundance of time in our education schemes. One great need of our country now is men who can think straight. This ability to think is an absolute prerequisite to any kind of high and noble doing."

"Generally speaking, we would say that the more time spent in education and the more culture attained in education, the better the business, the society, and the civilization."

"For the attainment of such pure ideals, time is no consideration. The cathedral at Milan is more beautiful than the capitol at Denver; but it took some hundred of years longer to build it. Short courses and elimination of 'non-essentials' may be necessary to turn out money-makers quickly, but they are fatal to the attainment of true and high ideals. If you institute them, do not displace the longer course, but simply let them stand as a makeshift and work for the more desirable end."

"Since the Civil War the economic aspect of our civilization has been demanding and receiving great attention in this country. The eager desire to get on in the world in a material way, the tremendous expansion of our trade, and other similar influences, have been powerful. Labor-saving machinery and other means for making short cuts to wealth have suggested that there should be short cuts, also, in education. Our American colleges and universities have, it seems to me, responded so far as safety permits, to the demands of the economic spirit."

"The desire to shorten the time element in education is interfering seriously with our ideals of education and civilization. Graduates have to do with men as well as with things. Technical knowledge and skill alone come far short of furnishing the ideal education."

"I believe that the business world and all society, from now forward, demand much more culture than in the past for a man to take a position anything above mediocrity."

"Colleges and universities are not built to meet demands, but grow men and women. If we grow men and women, they will make business ideals coordinate with educational ideals."

"I am very strongly of the opinion that the old cultural courses of education give the best preparation for successful life in either the world of business or the world of scientific investigation. The most pitiful failures that I have seen, from the standpoint of high living, have been the men who knew their own little specialty so thoroughly well that they had dug for themselves in the strata of life a little narrow glacial groove of thought which enabled them only to look forward and perhaps above, but never around. I believe that it is entirely possible for courses of study to be adapted to both the cultural and the specialized end of education, and I have endeavored to persuade the boys who have come to me for advice to first seek the B. A. degree before they seek a technical degree, and have sent them by preference to colleges where the courses were combined."

QUESTION:

6. *Please give your views briefly on the whole subject of the organization of education in the United States.*

EXTRACTS:

"If it were possible to reorganize the whole of education in the United States now, I believe that we are more nearly prepared for the German system than we ever would have been before. Most of our universities are doing too much elementary work, and, if the high schools and smaller colleges would do what is now done in about the first two years of our college work in so-called universities, we could use the equipment and endowment we now have to much better advantage and more profitably. It is certainly possible, and within a few years could be made practicable, to cover the first two years of college work in the local high schools, thus leaving the State universities, where they exist, to do more university and professional and vocational work."

"We have shoved elementary education too far and crowded our universities to the wall. They are swollen by men and work which belong to the gymnasium, the supplementary high school or the college. We have asked too much for quantity at the expense of thoroughness."

"To let the same work count toward two degrees—say A. B. and LL.B. or A. B. and M.D.—is educational juggling that borders on dishonesty. I give instances of time-saving as follows: A boy in college at the age of 15 stands near the head of a very

large freshman class, another graduated with the degree of A. B. at 19, another took his A. B. degree at 18. This is possible in the case of most students who are permitted to take up their Latin at 10 or 11 years of age. The cry now is for vocational training. I notice that those who cry the loudest have never plowed a furrow, nor made a horseshoe, nor worked a day in shop or factory. They seem to think a trade school a very good thing for their neighbor's son. Take the 25 leading industries scheduled in the census of 1900 and see for how many vocations the public school can specially fit its pupils."

"There are four units in our educational system—the elementary school, the secondary school, [the college], the graduate or professional school. Each element magnifies its own functions, and each unit seeks to control the units below itself, and to increase still further the burdens they are carrying. This process can not go on indefinitely. Unless there is soon some abatement of the demands on each of these units from within and without, a process of elimination will be a necessity. It may be that the high school will be extended upward two years and there meet the professional school, thus eliminating the college. Or superficiality may eliminate thoroughness and real discipline. My own view is that of a conservative; that each of these four units should put on the brakes and slow down, until in committee of the whole it can be decided in what direction lie the safest lines of future development and organization."

"Briefly stated, I believe a more thorough education can be given in our schools in a shorter time than is now required, by a combination of various improvements, all looking to greater efficiency. I would have vocational training dovetailed into general training, and have all courses eventuate in definite preparation for some occupation in life. To this end I would have vocational courses of different kinds branch off at different points from the central line of general culture. There should be no such branching before the end of the sixth grade. I would have alternate courses offered in the seventh and eighth grades, some of them leading in a vocational direction. I would have free experimentation in various rearrangements of the high-school course: In some cases the ordinary four-year high school as we have it now; in some cases a six-year high school beginning with the seventh grade; in some of the largest and strongest high schools a course leading to the middle of the college course and beginning with either the seventh or the ninth grade. I think it desirable that a professional direction be given to the upper half of the four years' college course, or that specialized studies, leading toward original research, begin in the junior year. The most likely places for a possible saving of time in such a scheme as this are in the last two years of the elementary school course, and in the six years following the completion of the sophomore year in college."

"The college, standing between the high school and the university, occupies the most ambiguous position in our educational system. Its course of study and the time required for it depend largely upon the work a man is to take up after leaving college."

"University, entered, as in Germany, about 19 or 20, and affording special training in everything possible (whether merely erudite or applied science), astronomy, philology, history, engineering, medicine, etc. Length of time indefinite, normally about five years."

"I believe that the ideas indicated in the preceding pages can be carried out by the following changes: (1) The development of select high schools into strong and well-equipped institutions giving a six-year course leading to a degree; (2) the undertaking by some colleges of all the preparatory work and the giving of a degree in six years from the elementary school; (3) the expansion of some colleges or universities with professional schools embodying a large part of their higher liberal work with the professional courses; (4) the division of the professional course with a preparatory course of two or three years according to the profession, after which practical work can be begun in the lower departments of the profession, and a later course of two or three years that can be pursued, in part at least, while the student is in practice or after several years of practice."

"A considerable diminution of the quantity element in college-entrance requirements. The college should come down to life and to the people. They should come down to meet the high school planned as above, rather than require the high school to come up to its (the college's) arbitrary and unpractical requirements. The college course should be four years, so planned that the student may drop out at the end of two years to enter the professional school, or so that, should he remain, he may complete the professional school in two years after securing his A. B. degree."

"Elimination of unnecessary subject matter in elementary subjects. Different kinds of high schools to meet the needs of different kinds of pupils, commercial, clas-

sical, scientific, industrial, etc. Schools of 'practical arts' for girls. Recognition of different types of colleges: the 'liberal culture' college is but one of these types. More recognition of vocational aims in the junior and senior years."

"I think that it (the school) is too mechanical. Let a bright boy or girl finish the grammar school course in five or six years if possible. As to subject matter, it deals too much in 'smatterings.'"

"If I were to arrange divisions of educational groups, I would have a primary division covering five years, a secondary division covering the same period, and a collegiate period covering three years. These periods should simply indicate norms. The first period would be a formative one, the secondary a vocational one, the collegiate period a technical one, and the university period a professional one. The spirit of the American child is to do something, and do it he will. If the school does not give him a chance, he will quit it. We should really be proud of this initiative; instead, we hear educators deplore it. Dropping out of school is because of the violation of this natural impulse to do; keeping it repressed. Many who remain in it are depressed."

"The tendency is to get away, more and more, from the monastic system and to educate men and women more in real life for real work. The greatest defect of our educational system is this neglect of those who have to go to work at about 14 years. Courses of study and reading should be provided for them which will fit in with their work hours. Their practical work, studies, and reading should be systematized and coordinated for them by competent authority. Every city should have a corps of advisors or teachers to take care of these young people and to see that their education is carried on as long as possible. A public-works high school is one way of doing this."

"The organization of education in the United States appears rather idealistic than realistic, theoretic than practical, except in our polytechnic schools."

"Knowing and doing need to come into closer relations. The president's address to American teachers in Washington is one of good value. It shows what Americans want for American youth."

"I believe that there should be greater elasticity in our courses of study, so that those who go into vocations at a comparatively early age may prepare themselves for these vocations in the grades, high school, and college to a larger extent than is at present possible. For example, I would introduce manual training and domestic economy into all grade and rural schools, at least as elective work; I would introduce as wide a variety of vocational courses (commercial, manual training, etc.) as possible into our high schools and would make a number of technical and semitechnical courses elective even in our colleges of liberal arts. I believe we have failed hitherto in educating the faculty of expression through the hands. I would make it possible for a B. A. graduate to go from the Greek recitation room to the blacksmith or carpenter shop and have the one line of work count equally with the other toward the B. A. degree. I always look for B. A. men for the deanships of my colleges of engineering. I believe that, similarly, the holders of both B. A. and, say, the M. E. degrees would make better deans of our colleges of liberal arts."

"Vocation training, trade schools, if one must say it, which, however, include culture studies, are needed for pupils who complete an elementary education and must turn aside to practical affairs; and vocational schools parallel to the college age, such as we have in the better mechanical and agricultural colleges, will win a larger place. One deplorable defect in our system is the lack of scholarship breadth, and training, on the part of the elementary-school teachers and to a large extent on the part of the high school teacher. The best results for either culture or efficiency can not be obtained where the teachers lack culture and training. Despite the normal schools the conditions in many States are depressing."

"There is need of more industrial and commercial work throughout the course, not to be required of all, but to be optional for those whose circumstances are such that they must soon be thrown upon their own resources. I believe that opportunities of this sort should be provided in the regular public schools. To do this would be more expensive than to provide special schools, but it would pay, for it would preserve the American democratic spirit throughout the educational system at the same time that it would recognize social and economic distinctions made necessary by differences in individual ability and financial circumstances."

"I believe in the unity and solidarity of our educational system. Professional, technical, trade, and continuation schools should be as closely coordinated with the elementary schools, high schools, and colleges as possible."

"I think there is another line of approach to this subject which would depend on expressing our educational aims in the four specific fields of physical, vocational, social (moral and civic), and cultural ends, and then making our adjustments to the needs of varying groups, with which society and education must deal."

"I think some way should be found of getting part of one's education while engaged in productive work."

"I believe the greatest waste is in the dilettante attack on the elementary subjects in late primary and the secondary schools. Bringing to bear upon the country at large the necessity of great training schools for trades or the general mechanical proficiencies upon which trades depend, seems to me the vital problem of present-day education. A differentiation in the middle of the high school which shall give an optional trend similar to the gymnasium and realschulen in Germany, but still more largely directed toward trades, might be a desirable first step. I am in favor of getting the first two years of a medical and again of a law course within the limits of the A. B. degree."

"I would have the Commissioner of Education a member of the President's Cabinet, and dignify his office by giving his department a larger scope and more vital relation to our educational system. I would establish a great national university at Washington, with all departments of learning provided for. I would have a State university in every Commonwealth, except in New England, and the incorporated colleges and universities associated with it in the closest relations that can be secured. I would have the superintendent of public instruction the head of the State system; and have him, assisted by the university, make up a system of accredited schools which he would yearly have inspected. I would leave the rest of the system much as it is, except provide for a system of trade schools, and labor for closer relations between all grades of schools. The county training school should be a trade school as well as an agricultural and normal school."

"As at present the unit in the system of education should be the State, with much more emphasis than has been put upon it. There should be opportunity for State-wide education in high schools, as well as in State universities and State normals. There should be the consolidation of schools in connection with political units, as a township. The educational system in a State should be recognized as a department of State government, and practically made coordinate with the present executive, legislative, and judicial departments. Lower schools, under State standards, should be accredited so that there may be free pathway for the promotion of students from the bottom to the top of the system. These State systems should have some sort of Federal coordination in a bureau of education at Washington, developed into a department with a cabinet officer, and with a national graduate university for graduate work only, along the lines of a bill for a national university proposed by the National Association of State Universities."

"Education to-day from the kindergarten to the university is lacking in effective organization. The rapid scientific progress has in a large degree brought about this condition of affairs. Racial experience accumulates so rapidly that the educational organizations have to be continually remodeled. If the race would stop accumulating experience for five years, we could get well systematized courses of study, but that of course is impossible. We are trying to do too much in our colleges, secondary schools, and in our grammar schools. We are trying to teach too many facts and too many topics; we are not relating such facts and topics properly to the learner's power of comprehension. In our overemphasis at times upon the rights of the individual, we are making serious mistakes in our elective system. It is an easy matter to be too lax in allowing students to elect those things which appeal to them because they are easy. The group system of electives is much better. But if we taught much fewer things in our school and college work, we should give a much more thorough preparation for life."

"The Bureau of Education of the National Government should be advanced in dignity and power. For a large class of our population who can not take the time to attend institutions of a higher character, vocational schools should be provided. Each State system of education should be so organized as to make it a State system in deed and in truth."

"I am very firmly of the opinion that we have advanced far enough in our civic life to risk a more centralized form of educational procedure. I believe that we could learn something from the French organization of public schools, that our Commissioner of Education should be of sufficient authority and dignity to be a member of the President's Cabinet."

"Just now there is a demand for greater centralization of the control of education."

"The establishment of an educational system is a matter of evolution. Order is gradually emerging from chaos, and this process can not be greatly hastened. The most that can be done to-day is to endeavor to formulate a plan of ideal organization, to be fulfilled as conditions seem favorable. Such an ideal plan would be: A strong central (representative) national body, whose duty it should be to unify standards for primary, secondary, academic, and professional education."

"The organization of education ought to be such as will bring the opportunities for at least a high-school education home to the great majority and not the favored few. To this end there ought to be county and township high schools everywhere organized and supported."

"Colleges and universities need to be defined by law. It should be possible, as in Germany, for a student to go from any secondary school in any State to any college in the land without loss of time. I hope the day will come when no one can teach in an elementary school without a full normal-school course of training, and no one in a high school without at least a college training, plus a year of professional study and practice."

"The question of education everywhere is a question of teachers; and certainly under the present State methods good teachers can not be secured, at least in the rural and elementary and even high schools. The teachers of the rural schools of the Nation are not as good, as a class, as they were 25 or 35 years ago, for a strong element of young men have left the work at the call of more remunerative opportunities. I believe there is room for some degree of nationalization of education."

"The lack in education is rationality. Instructors have not much to build on; hence in taking a boy in charge it is a matter of memory."

"My whole being repels the suggestion of business men that our children should throw to the winds every thought save only the one of practicality. The American youth has no business with the business of the world, per se. When we shall have developed his highest potential, in his physical, ethical, and intellectual nature, then give him opportunity to test his powers with his fellows; he soon will discover his bent and will be achieving effectively for himself and for the country."

"This subject is always too comprehensive to be considered very briefly. In general, I think that education as it is generally pursued in the United States is inclined to be superficial, especially in these latter days of elective and special courses in our colleges. I am a great believer in the old-time college curriculum set out by men of knowledge and training, as they certainly can judge what is better for the average youth than that youth himself. Let the youth receive such a training and then devote from one to three years, and more if necessary, in acquiring some specialty, such as law, theology, medicine, business, industrial and mechanical art or agriculture, or even some one branch of any of these, they will then be better prepared to devote their lives to the very thing they wish to pursue and do so successfully."

"No school that is regarded as primarily 'preparatory' to some other school has yet achieved a real educational reason for being. There can be no doubt that when real culture is through with the bachelor's degree, commerce will set a high value upon it, reinstate it with new propriety as a 'degree'—a mere step in the preparation for profession. Yet for the present it belongs to the college, and the college deserves to live to use the bachelor's degree. I should like to see the college course and its degrees relieved from the pressure of this discussion, being allowed its place as a divergent limb of higher education whose integrity is to be tested by itself. The colleges, smothered beneath the wings of all-absorbing universities, are too fast losing character as colleges by the suffocating suction of specialization which sucks out every serious thought of education except for vocation, or the sordid dollar. No person of normal ambition, child or adult, can be blamed for losing all taste for a task whose chief end consciously set before him, is to do the task simply to be able later to do some other task whose claims can not yet be presented. Educational chaos muddles the mind of any school that assumes a hierarchy of stages and itself as possessing any rights whatever in the premises over the preceding stage. We should be able to read the title of the college clear to a place among educational, not 'preparatory,' institutions. I object to deciding the fate of the college, the length and character of its course, the very question of its right to any separate existence at all, in a court, which, I claim, has no jurisdiction in the case. If there is a college, its own specialty is 'highest' education, and if faithfully pursued it is a higher education than that of any special school which prepares for any special vocation or profession."

"Great needs are: (1) More money, and more men in the schoolrooms of upper elementary and high schools; (2) greater economic and official independence and freedom of the teacher; (3) more attention to practical usefulness, and the culture of powers and appreciation and enjoyment, 'the unbought and wholesome joys of life.' The righteous and enlightened will."

"(1) We should encourage endowed enterprises, of all grades and plans. (2) We should raise slowly but steadily the requirements for teachers in all grades and positions, including State and municipal superintendents. (3) We must have better boards of education. To get them we need small membership, election at large and election at special elections upon the petition and nomination of the citizens (not over four or five members). (4) We should have better fundamental school legislation: (*a*) Minimum salary law; (*b*) minimum professional requirements for teachers; (*c*) pensions for those invalided for any reason; (*d*) one year of rest on full pay every seven years (all the spring of life is out of nearly all our experienced teachers); (*e*) proper school buildings. (5) We need better and many more professional schools for teachers. (6) We need to separate in public opinion, in fundamental legislation, and in board rules and regulations the relative duties of boards and of superintendents."

"I have a suspicion strong enough almost to amount to a conviction that bookwork up to the age of 13 or 14 ought to be almost abolished, and that the basis of education up to that age should be almost exclusively motor, dancing, games, music, drawing, manual training of every sort, with reading and writing taught early of course, and ciphering, but very little methodical instruction out of books."

"My own interest in school matters has been in methods of testing school results rather than in policies themselves. I have urged strongly more attention to current school records so devised as to make possible an analysis of experience."

"Questionnaires will never settle great educational problems in controversy. Every school should be a laboratory or should, at least, be preparing materials for educational research. Every county, city, and State superintendent of education should be in position to tell truthfully and legibly the experience of the pupils and teachers under his supervision. The national Commissioner of Education should be able to collect and to interpret facts as to methods and results in all parts of the United States. A small part of the energy that is now expended in squabbling over controverted theories could, if properly directed, insure the truth about what is happening and point the way to what ought to be made to happen."

"We are working out a system of education in the true Anglo-Saxon way, i. e., by experimenting and trying first one thing and then another—now going ahead and now backing up and starting again. The process is slow and painful, and sometimes discouraging, but it suits the genius of our race. Some other peoples would lay down a principle and then work up to it, but we deduce the principle from our experience. But we shall 'get there,' I am confident."

(C) EXTRACTS CONDENSED AND REARRANGED.[1]

[The figures refer to the numbered Questions, Summaries, and full Extracts, pp. 63-86.]

Refer to Question 1, page 63.

1 (*a*).

Most of the schemes for modification come under subsequent heads.

"The medium age of graduation from American colleges is 22 years and 10 months."[2]

1 (*b*).

"It is a pity that A. B. has been advanced two years in quantity since 1880, rather than in quality."

"Sacrifice the length of the college course rather than that of the professional course."

"The purely preparation stage is too long extended."

"Time should be saved by rapid promotions throughout the elementary school system, and by flexibility in the high school and in the college course."

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[1] See Extracts in full, pp. 63-86.

Refer to Question 2, page 65.

2 (*a*).

"I suspect present results could be had in half the time now taken."
Time is wasted by—
"Lack of medical inspection of school children."
"Unmotivated and ineffective reading, writing, arithmetic, and geography."
"Covering unimportant and unpractical topics."
"Needless multiplication of the subjects taught."
"Hopelessly expending energies upon nonessentials."
"Scattering of pupil resources."
"Routine practice, odds and ends, 'fads and frills' generally."
"Lack of great, strong, enthusiastic, educated teachers."
"Lack of enlightenment regarding the ideals at which education aims."

2 (*b*).

Time can be shortened by—
"More careful pruning of the elementary program of study."
"Making distinction between first-rate facts and principles and tenth-rate."
"Casting out worthless rubbish."
"Not trying to teach everything that is good."
"Sticking to the elements of the subject."
"Pruning and vitalizing subject matter."
"Confining period of elementary education to mastering the tools of education."
"Not overemphasizing military and political details in history."
"Putting less time on formal reviews."
"Not teaching content studies with the method suitable to the formal subjects."
"Fitting the course of study to the individual."
"Following social and concrete interests."
"Using industrial or manual training to vitalize academic instruction."
"Teaching children relations of what they are doing to ends that they desire to reach."
"Separating the brighter pupils destined to a profession and securing concentration and continuous progress."
"Introducing secondary school work in the higher grades."
"Beginning the study of foreign language, elementary algebra, constructive geometry, and elementary science, thus saving one or two years of the high school."

2 (*c*).

Provision for vocational schools or studies:
"Providing studies which take the place of the work children formerly did with their parents in the home, or on the farm, or in the shop."
"Placing greater emphasis on the practical aspects of nearly all the subjects."
"Setting apart from one-sixth to one-fourth of the time for some elective interest."
"Putting in manual training, elements of commercial practice, etc."
"Providing vocational training for defective and irregular pupils, who for these and other causes are over age."
"Converting first our legislatures and our boards of education, and next our teachers. (Within one year I have visited the schools in 23 of our largest cities, and I confess complete disheartenment in respect to further development in many of them.)"
"Employing for vocational work one who is a teacher as well as cook, plumber, or dressmaker. (There are almost no such persons at present alive in America.)"

Refer to Question 3, page 68.

3 (*b*).

"Six years, 12–18; for the first two years simply differentiating the work of the elementary school."

"At 12 specialization should begin either for vocation or college."

"Only two divisions of education that is dominantly cultural should exist, elementary and higher. At present the distinction between the aims of the high school and liberal college does not exist. The student at 20 should be ready to enter a professional course."

3 (*c*).

Reforms of high school are—

"Simplify course of instruction; it is not necessary to take all the sciences in a high school."

"Adapt subject matter to the pupils' interests, capacity, and mental development."

"Concentrate on a few valuable studies. Cease multiplying subjects."

"Have less educational padding."

"Make college-entrance requirements reasonable."

"Emphasize, like the Greeks, the value of continuous and systematic attention to the development of the human body."

"Banish from the high school elementary attitudes and relationships."

"Emphasize elementary ethics."

"Emphasize character elements."

"More training for character; less of the purely bookish elements."

"More thoroughness, initiative, and moral emphasis."

"Emphasize history, civil government, and economics for citizenship."

"Make more real; less formal."

"More vocational; less textbook work."

"More training for life, citizenship, vocation, and service."

"Organize courses on basis of general vocational activities, with so-called culture coming from the wisdom of knowing what the world is like, what it wants, and what one can do about it."

"Correlate industrial studies with what is known as purely academic studies."

"Recognize the differing cultural, vocational, and social ends of various groups and prepare for these."

"Provide for a classical, a general-scientific, a commercial, a domestic-economy, a manual-training, or a technical course."

"Provide continuation or night schools for special cases."

"Improve quality of teaching."

3 (*d*).

Provision for vocation schools or studies:

"Adding hours for industrial work without loss to regular high-school work."

"In connection with high schools."

"Vocation studies as electives."

"In the surroundings of the school, rather than under the conditions of apprenticeship."

"Spending one-fourth to one-half the time in vocation work."

"Manual training branching into trade activities, or commercial training, definite, thorough, practical. In some cases part time might be spent in actual shop or factory."

"By grouping electives, by providing in connection with the regular high-school work facilities for training in simple business methods, wood and iron working, use of tools and simple construction of buildings, elementary principles of gardening and farming, sewing and cooking, stenography, etc."

Refer to question 4, p. 73.

4 (*a*).

Length of college course:

"The German gymnasium and university plan is more rational than our high school, college, and university or professional school. Annex the first two years of the college to the secondary school and allow the students to enter the graduate or professional school of the university at once."

"Professional work should undoubtedly begin at 20 in the majority of cases."

4 (*b*).

Beginning university at junior year:

"I have recommended (2), and have made a report to our board of trustees urging its adoption here in 1913, the freshman and sophomore years to be required for entrance."

"Keep four years for those not aiming at professional degree, but have last two years for the others count for professional degree."

"In professional and technical schools I believe that the best of general culture will yet be found in the biographies of leaders in the lines studied, and in a history of the development of the occupation and the sciences and social life related to it."

"The chances are in favor of the work being better done if the college course should take on two years of basic science training for medicine, rather than that the medical school should pretend to do the scientific work which is almost certain to be done better in a university laboratory."

"The colleges and universities (so called), especially in the East, but also elsewhere, have deteriorated, if we measure their standards by their educative value. I am only voicing the judgment of the most experienced and thoughtful when I say that fully one-half of all the courses offered and the work done is of almost no educative value whatever. I would, therefore, thoroughly reconstruct the American college from top to bottom; for it retains its name, having lost its character. (1) I would reduce the number and increase the thoroughness in the subjects required for admission; (2) reduce the time to three years, from 17 to 20; (3) reduce the foolish and expensive and needless exhibition of courses offered, making them much fewer and much more thorough; (4) make two-thirds or three-quarters of the curriculum required—compelling such studies in language and literature, mathematics and physical science, and in the psychological sciences as are preparatory and introductory to professional and Ph. D. studies; (5) clean out the whole hotchpotch of courses which have the name, but can never have the substance of true professional studies. Business demands trained and disciplined men; if the colleges would do this, of course their graduates would be in demand in business circles."

4 (*c*).

Other views of organization of college and university:

"I would save the two years needed for the college course by simplifying the grade work and shortening the time these two years."

"I would suggest the following scheme:

"Elementary school, years of child's life, 6, 7, 8, 9, 10, 11.

"High school, years of child's life, 12, 13, 14, 15.

"College, years of child's life, 16, 17, 18, 19.

"Professional, Ph. D., years of child's life, 20, 21, 22."

"The University of North Dakota gives additional credits for superior work, thereby shortening the time for excellent students."

"Group subjects as minor electives or minor requirements about a major core of subjects in which advanced work must be done, and which may even make the group prelegal, premedical, etc."

"It is easily possible to make the college course so easy by elective courses and avoidance of advanced work that it never forces the choices which should be made, say, even for or against, future study and a learned profession."

"The graduate school loses educational perspective when it assumes to influence the college course."

4 (*d*).

Value of college for business:

"None. I refer to the typical business man, and not to the great business man. The latter unusual person is in favor of a sane college course in history, languages, sciences, history courses, economics, English, very thorough; German, biology, physics, chemistry, history of philosophy, algebra and geometry with trigonometry. This course is to be taken by a youth who takes part in the social and athletic life as a doer of things. Business men as I know them—manufacturers, wholesalers, railroad men—desire in the young man certain moral qualities—obeying rules and instructions implicitly, promptness and punctuality, arithmetical perfection, rapid and legible handwriting, facility and accuracy in English. I call these 'moral' qualities, and so they seem to me; and they are glad to get also the young man who knows a great deal of geography, of civil government, and of general information. They desire also certain physico-moral qualities, such as cleanliness, neatness, and orderliness. This is to say, they desire health, strength, and discipline. They like frankness, openness, courage toward themselves and discretion toward all others. Our school courses can not develop these qualities for two reasons: Our teachers do not themselves manifest them, and our courses are not designed to produce them."

"Let the college course be sincerely and seriously a part of vocation, too definite to attract the 'elective' students; too hard to attract the man who is too lazy to go to work at a serious business; too exacting to be satisfactorily done by the unmotivated trifler who goes to college, kindheartedly acquiescing in his parents' fond wishes, with a superior indulgence of their ambition."

"They (college men) think, few people (or educated people for that matter) do. They are systematic. They have many bits of knowledge that are useful sometimes when least expected."

"So far as I can judge, business men value highly the training which young men who are going into business get in college."

"Without question the men with college education who have gone into business have been forged to the front. I have been teaching for a number of years in manufacturing centers, and I know that this condition is true in great manufacturing plants."

Refer to Question 5, page 77.

"Culture should relate to fundamentals in society, business, civilization."

"The problem is one that affects and is affected by social and business conditions."

"A certain amount of conformity to standards set by modern social forces is necessary, else the young graduate will find himself in a world for which he is unprepared."

"That subject is most cultural which is most serviceable to humanity from a dynamic standpoint. All industrial, vocational, and other subjects, when studied and realized in life for a richer life and deeper civilization are cultural and at the same time meet the business interests of life. The business interests think too much is consumed by education without equivalent results. It is very natural for us to interpret with our experiences, which are those of the educational cloister."

"The practical demands of life and the interests of culture are congruent in this, that nothing which is valuable merely for the training it gives is worth pursuing. The instruments of culture are practical means to a large, rich life. Sixteen years of school work preliminary to professional study is unnecessary and hostile to the time interests of culture."

"For the sake of business I would lay far more stress than is now put on the studies that deal with man and history, what man has done—on literature, what man has thought and felt. The best way to adjust students to the intelligent demands of business is to adjust them to the interests of society, and, so far as may be, to the ideals of our civilization."

"Give up archaic ideas regarding a distinction between culture and utility. The university should be a place where everything useful under the sun is taught, and everything useful has a place in the university, and anything useless has no place in it."

"The drift is away from alleged disciplinary effects to studies that combine both discipline and useful information."

"Culture will come best by an enrichment of vocational life. This is real culture. Culture has been a borrowed thing since the Romans began aping the Greeks. Vocational preparation is entirely in harmony with culture in the best sense, and there is doubtless plenty of time for each."

"Business, society, civilization, demand of the world's workers a certain minimum of equipment and maximum of achievement. Society is the loser if academic requirements carry a man past the time of his greatest energy, efficiency, and adaptability."

"There is evidently a need of squeezing a lot of water out of our curriculum."

"The modern demand is for young men and women to get into things while plastic and full of the sense of adaptation."

"It is desirable that the time element should not seem too extended, in order that we may persuade our youth not to yield to the temptation of neglecting education, particularly so-called cultural education."

"Make the training ever richer, better, more effective, rather than shorter."

"I think that the true ideals of our civilization demand high culture and an abundance of time in our education schemes. One great need of our country now is men who can think straight."

Refer to Question 6, page 81.

"If it were possible to reorganize the whole of education in the United States now, I believe that we are more nearly prepared for the German system than we ever would have been before now."

"We have shoved elementary education too far and crowded our universities to the wall."

"There are four units in our educational system; each element magnifies its own functions; and each unit seeks to control the units below itself, and to increase still further the burdens they are carying."

"I think it desirable that a professional direction be given to the upper half of the four-year college course, or that specialized studies leading toward original research begin in the junior year."

"One correspondent gives instances of students, prepared privately, nonessentials being omitted, who recently entered college at 14 and 15 and graduated successfully."

"I would advocate considerable diminution of the quantity element in college-entrance requirements."

"We must eliminate unnecessary subject matter in elementary subjects; must have different kinds of high schools to meet the needs of different kinds of pupils."

"We are trying to do too much in our colleges, secondary schools, and in our grammar schools."

"I believe the greatest waste is in the dilettante attack on the elementary subjects in the late primary and the secondary schools. A differentiation in the middle of the high school which shall give an optional trend similar to the Gymnasium and Real Schools in Germany might be desirable."

ORGANIZATION OF THE SYSTEM.

"Education to-day from the kindergarten to the university is lacking in effective organization."

"I would have the Commissioner of Education a member of the President's Cabinet; would establish a great national university at Washington; would have a State university in every Commonwealth except in New England, and the incorporated colleges and universities associated with it in the closest relations that can be secured; would have the superintendent of public instruction the head of the system."

"The educational system in a State should be recognized as a department of State government. State systems should have some sort of Federal coordination in a bureau of education at Washington."

"We should have a strong, central (representative) national body whose duty it should be to unify standards for primary, secondary, academic, and professional education."

"Colleges and universities need to be defined by law. It should be possible, as in Germany, for a student to go from any secondary school in any State to any college in the land without loss of time."

VOCATION ELEMENT IN EDUCATION.

"The tendency is to get away more and more from the monastic system and to educate men and women more in real life, for real work. The greatest defect of our educational system is this neglect of those who have to go to work at about 14 years."

"Dropping out of school is because of the violation of the natural impulse to do, keeping it repressed."

"Some way should be found of getting part of one's education while engaged in productive work."

"I would have vocational courses of various kinds branch off at different points from the central line of general culture."

"I would make it possible for a B. A. graduate to go from the Greek recitation room to the blacksmith shop or carpenter shop, and have the one line of work count equally with the other toward the B. A. degree."

"People think a trade school a very good thing for their neighbor's sons."

BETTER TEACHING.

"One deplorable defect in our system is the lack of scholarship, breadth, and training on the part of the elementary-school teacher, and to a large extent on the part of the high-school teacher."

"We need more men in the schoolrooms of the upper elementary and high schools. We need better and many more professional schools for teachers."

"The lack in education is rationality. Instructors have not much to build on. Hence in taking a boy in charge, it is a matter of memory."

"Teachers of the rural schools of the Nation are not as good as a class as they were 25 or 35 years ago."

EDUCATIONAL AIMS.

"We might express our educational aims in the four specific fields of physical, vocational, social, and cultural ends, and then make our adjustments to the needs of varying groups with which society and education must deal."

"No school that is regarded as primarily preparatory to some other school has yet achieved a real educational reason for being. I should like to see the college allowed its place as a divergent limb of higher education whose integrity is to be tested by itself."

ELECTIVE SYSTEM.

Education superficial.

"In our overemphasis at times upon the rights of the individual, we are making serious mistakes in our elective system."

"In general I think education as it is generally pursued in the United States is inclined to be superficial."

Solidarity of system.

"I believe in the unity and solidarity of our educational system. Professional, technical, trade, and continuation schools should be as closely coordinated with the elementary schools, high schools, and colleges as possible."

MOTOR EDUCATION.

"I have a suspicion strong enough almost to amount to a conviction that book work up to the age of 13 or 14 ought to be almost abolished, and that the basis of education up to that age should be almost excludively motor—dancing, games, music, drawing, manual training of every sort, with reading and writing, taught early of course, and ciphering, but very little methodical instruction out of books."

MEANS OF INVESTIGATION OF PROBLEMS.

"Questionnaires will never settle great educational problems in controversy. Every school should be a laboratory, or should at least be preparing materials for educational research. Every county, city, and State superintendent of education should be in position to tell truthfully and legibly the experience of the pupils and teachers under his supervision. The national Commissioner of Education should be able to collect and to interpret facts as to methods and results in all parts of the United States."

"I urge strongly more attention to current school records, so devised as to make possible an analysis of experience."

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