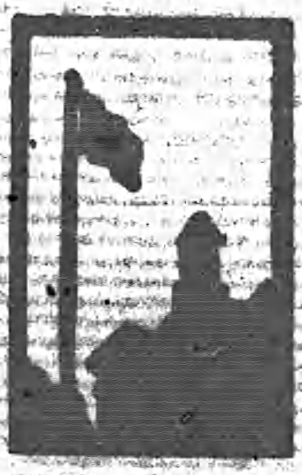
THE SECONDARY-SCHOOL POPULATION



BULLETIN, 1932, No. 17

MONOGRAPH No. 8

UNITED STATES DEPARTMENT OF THE INTERIOR

OFFICE OF EDUCATION

NATIONAL SURVEY OF SECONDARY EDUCATION

DIRECTIONAL STAFF

WILLIAM JOHN COOPER, *United States Commissioner of Education, Director.*
LEONARD V. KOOS, *Professor of Secondary Education, The University of Chicago, Associate Director.*
CARL A. JESSEN, *Specialist in Secondary Education, United States Office of Education, Coordinator.*

BOARD OF CONSULTANTS

H. V. CHURCH, *Superintendent, J. Sterling Morton High School, Cicero, Ill.*
ELLWOOD P. CUBBERLEY, *Dean, School of Education, Leland Stanford University, Stanford University, Calif.*
JAMES B. EDMONSON, *Dean, School of Education, University of Michigan, Ann Arbor, Mich.*
CHARLES H. JUDD, *Dean, School of Education, The University of Chicago, Chicago, Ill.*
CHARLES R. MANN, *Director, American Council on Education, Washington, D. C.*
A. B. MEREDITH, *Professor of Education, School of Education, New York University, New York, N. Y.*
JOHN K. NORTON, *Professor of Education, Teachers College, Columbia University, New York, N. Y.*
JOSEPH ROEMER, *Director of Instruction, Junior College Demonstration School, George Peabody College for Teachers, Nashville, Tenn.*
WILLIAM F. RUSSELL, *Dean, Teachers College, Columbia University, New York, N. Y.*

MONOGRAPHS

1. Summary. Leonard V. Koos and Staff. 15 cents.
2. The Horizontal Organization of Secondary Education—A Comparison of Comprehensive and Specialized Schools. Grayson N. Kefauver, Victor H. Noll, and C. Elwood Drake. 20 cents.
3. Part-Time Secondary Schools. Grayson N. Kefauver, Victor H. Noll, and C. Elwood Drake. 10 cents.
4. The Secondary-School Population. Grayson N. Kefauver, Victor H. Noll, and C. Elwood Drake. 10 cents.
5. The Reorganization of Secondary Education. Francis T. Spaulding, O. I. Frederick, and Leonard V. Koos. 40 cents.
6. The Smaller Secondary Schools. Emery N. Ferriss, W. H. Gaumnitz, and P. Roy Brammell. 15 cents.
7. Secondary Education for Negroes. Ambrose Caliver. 10 cents.
8. District Organization and Secondary Education. Fred Engelhardt, William H. Zeigel, jr., William M. Proctor, and Scovel S. Mayo. 15 cents.
9. Legal and Regulatory Provisions Affecting Secondary Education. Ward W. Keesecker and Franklin C. Sewell. 10 cents.
10. Articulation of High School and College. P. Roy Brammell. 10 cents.
11. Administration and Supervision. Fred Engelhardt, William H. Zeigel, jr., and Roy O. Billett. 15 cents.
12. Selection and Appointment of Teachers. W. S. Deffenbaugh and William H. Zeigel, jr. 10 cents.
13. Provisions for Individual Differences, Marking, and Promotion. Roy O. Billett. 40 cents.
14. Programs of Guidance. William C. Reavis. 10 cents.
15. Research in Secondary Schools. William H. Zeigel, jr. 10 cents.
16. Interpreting the Secondary School to the Public. Belmont Farley. 10 cents.
17. The Secondary-School Library. B. Lamar Johnson. 10 cents.
18. Procedures in Curriculum Making. Edwin S. Lide. 10 cents.
19. The Program of Studies. A. K. Loomis, Edwin S. Lide, and B. Lamar Johnson. 15 cents.
20. Instruction in English. Dora V. Smith. 10 cents.
21. Instruction in the Social Subjects. William G. Kimmel. 10 cents.
22. Instruction in Science. Wilbur L. Beauchamp. 10 cents.
23. Instruction in Mathematics. Edwin S. Lide. 10 cents.
24. Instruction in Foreign Languages. Helen M. Eddy. 10 cents.
25. Instruction in Music and Art. Anne E. Pierce and Robert S. Hilpert. 10 cents.
26. Nonathletic Extracurriculum Activities. William C. Reavis and George E. Van Dyke. 15 cents.
27. Intramural and Interscholastic Athletics. P. Roy Brammell. 10 cents.
28. Health and Physical Education. P. Roy Brammell. 10 cents.

[Silhouette on cover by WALTER J. GREENLEAF]

UNITED STATES DEPARTMENT OF THE INTERIOR
HAROLD L. ICKES : SECRETARY

OFFICE OF EDUCATION : WILLIAM JOHN COOPER
COMMISSIONER

THE SECONDARY-SCHOOL POPULATION

BY

GRAYSON N. KEFAUVER
VICTOR H. NOLL
AND
C. ELWOOD DRAKE

BULLETIN, 1932, NO. 17

NATIONAL SURVEY OF SECONDARY EDUCATION

MONOGRAPH NO. 4

UNITED STATES
GOVERNMENT PRINTING OFFICE
WASHINGTON : 1933

For sale by the Superintendent of Documents, Washington, D. C. - - - Price 10 cents

NOTE

Grayson N. Kefauver, Victor H. Noll, and C. Elwood Drake are specialists in school organization of the NATIONAL SURVEY OF SECONDARY EDUCATION. *During the period of the Survey Doctor Kefauver in addition held a position as associate professor of education at Columbia University. William John Cooper, United States Commissioner of Education, is director of the Survey; Leonard V. Koos, professor of secondary education at the University of Chicago, is associate director; and Carl A. Jessen, specialist in secondary education of the Office of Education, is coordinator.*

CONTENTS

LETTER OF TRANSMITTAL

DEPARTMENT OF THE INTERIOR,
OFFICE OF EDUCATION,
Washington D. C., June, 1933.

SIR: Within a period of 30 years the high-school enrollment has increased from a little over 10 per cent of the population of high-school age to more than 50 per cent of that population. This enrollment is so unusual for a secondary school that it has attracted the attention of Europe where only 8 to 10 per cent attend secondary schools. Many European educators have said that we are educating too many people. I believe, however, that the people of the United States are now getting a new conception of education. They are coming to look upon education as a preparation for citizenship and for daily life rather than for the money return which comes from it. They are looking upon the high school as a place for their boys and girls to profit at a period when they are not yet acceptable to industry.

In order that we may know where we stand in secondary education, the membership of the North Central Association of Colleges and Secondary Schools four years ago took the lead in urging a study. It seemed to them that it was wise for such a study to be made by the Government of the United States rather than by a private foundation, for if such an agency studied secondary education it might be accused either rightly or wrongly of a bias toward a special interest. When the members of a committee of this association appeared before the Bureau of the Budget in 1928, they received a very courteous hearing. It was impossible, so the Chief of the Budget Bureau thought, to obtain all the money which the commission felt desirable; with the money which was obtained, $225,000, to be expended over a 3-year period, it was found impossible to do all the things that the committee had in mind. It was possible, however, to study those things which pertained strictly to secondary education, that is, its organization; its curriculum, including some of the more

fundamental subjects, and particularly those subjects on which a comparison could be made between the present and earlier periods; its extracurriculum, which is almost entirely new in the past 30 years; the pupil population; and administrative and supervisory problems, personnel, and activities.

The handling of this Survey was intrusted to Dr. Leonard V. Koos, of the University of Chicago. With great skill he has, working on a full-time basis during his free quarters from the University of Chicago and part time during other quarters, brought it to a conclusion.

This short manuscript on the secondary-school population was prepared by Grayson N. Kefauver, a part-time specialist, Victor H. Noll and C. Elwood Drake, full-time specialists on the Survey staff. The surveyors found that their task was somewhat limited by Monograph No. 2 on the organization of secondary education, and Monograph No. 3 on part-time secondary schools. That accounts in general for the shortness of this publication.

In the first chapter they trace again well-known facts of the popularization of secondary education, an increase of from less than 3 per cent to nearly 50 per cent in the course of 50 years. This increase has occurred most rapidly in urban schools were a total of 66.6 per cent of the pupils 14 to 17 years of age are enrolled in secondary schools. In rural areas less than half this number, 30.9 per cent, are found in secondary schools. Naturally one would expect that this rapid increase would be attended by greater social and economic democratization of the school population. In general, this was found to be the case, but in comparing the distribution of pupils in two cities according to occupations of fathers over a 10-year period, it is shown that by this measure one city had developed greater democratization during the interval and the other city had less democratization than 10 years ago. This matter therefore is left statistically in an unsettled state although certain supplementary data indicate increasing democratization. The characteristics of secondary-school pupils were gathered by visiting 34 schools in 13 cities in different parts of the country. These schools which are named in the monograph are not set up as representative of all the schools in the country. The investigation reached

approximately 17,000 pupils. Some interesting facts are brought out about the socio-economic status of the pupils and their mental capacities.

I recommend that this report be published as a monograph of the National Survey of Secondary Education.

Respectfully submitted.

WM. JOHN COOPER,
Commissioner.

THE SECRETARY OF THE INTERIOR.

THE SECONDARY-SCHOOL POPULATION

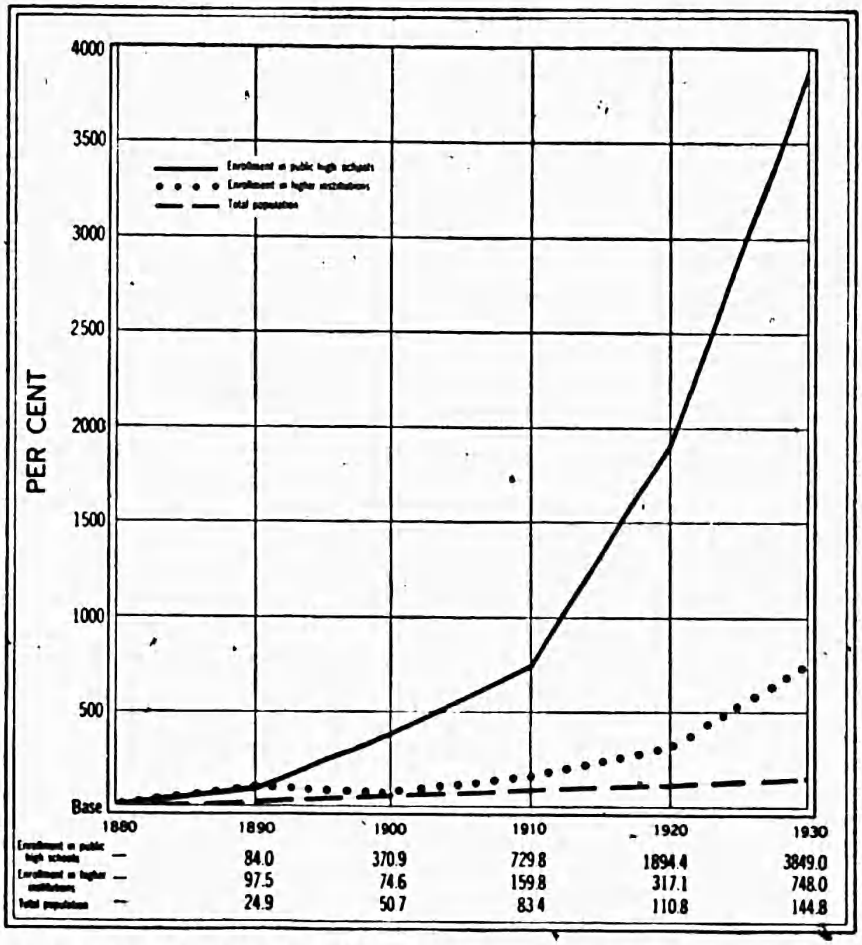
CHAPTER I : CHANGES IN THE SECONDARY-SCHOOL POPULATION

I. THE POPULARIZATION OF SECONDARY EDUCATION

Importance of data concerning pupils.—Data concerning the characteristics of pupils enrolled in the different types of secondary schools are essential to an understanding of the programs in these schools. The schools are maintained to serve the pupils enrolled. The characteristics of the pupils help to explain the nature of the program provided. Also, it is important that data be secured on the extent to which the secondary schools are selective institutions. Not all children of the appropriate ages are in secondary schools. Since organized society is concerned with the education of all the children, our concern as educators must be with the nature of the group not being served by the secondary schools as well as of those who are being served. Besides, the development of guidance programs in secondary schools has focused attention on the nature of the distribution of pupils to occupations and to lines of education: What types of youth are distributed to the different lines of training afforded and to the different types of secondary schools?

Rapid increase in enrollment.—The literature of the last decade dealing with secondary education contains numerous references to the recent astounding increase in the enrollment in secondary schools. Mention has been made of this growth and expansion at several points in other monographs of the report of the National Survey of Secondary Education. This growth is unquestionably one of the most significant facts about American secondary education, not only from the standpoint of sheer increase in numbers, but because of the effects of this increase on our educational problems.

To show this very large development in the enrollment of public secondary schools, data were obtained from the annual reports of the United States Commissioner of Education and from the Biennial Survey of the United States Office of Education for the past 50 years up to and including 1930. The three factors concerning which data were secured



	1890	1900	1910	1920	1930
Enrollment in public high schools	84.0	370.9	729.8	1894.4	3849.0
Enrollment in higher institutions	97.5	74.6	159.8	317.1	748.0
Total population	24.9	50.7	83.4	110.8	144.8

FIGURE 1.—Percentage increases in (1) enrollment in public high schools, (2) enrollment in higher institutions, and (3) total population during the 50-year period, 1880 to 1930. (The numbers for 1880 were used as the base for all percentages)

are the total population of the country as a whole; the total enrollment in colleges, universities, and professional schools, exclusive of those in the preparatory departments; and the total enrollment in public secondary schools. The data were obtained for the beginning of each decade, 1880 to 1930, inclusive. On the basis of these figures it was possible to

calculate the percentage of increase for each type of data by 10-year periods using those of 1880 as the base. The results are presented in Figure 1. It is clear from these data that the total population has shown a steady and practically constant rate of increase, with little change in rate of growth at any time. The average increase has been about 25 per cent per decade. The enrollment in higher institutions has shown, except for the decade 1890 to 1900, a substantial growth and an increase in rate of growth, particularly during the last 20 years. The average increase for the half century has been about 280 per cent per decade. Contrasted with this, the curve for high-school enrollments shows not only growth but very rapid acceleration since 1910, and to a lesser degree from 1890 to 1910. An attempt was made to obtain data on the growth in enrollment in elementary schools for the same period of 50 years, but these were not available previously to 1890. Although it was not feasible to construct a growth curve of enrollment in elementary schools, since the same base could not be used as in the case of the others, it appears from the facts available that the increase in enrollment in elementary schools has followed rather closely that of the total population, exhibiting no marked spurts or acceleration.

The repetition of Thorndike's investigation by Kline.—A study, the findings of which aids to an appreciation of the influx in upper elementary-school and high-school grades, is one recently reported by Kline.[1] In his study Kline repeated by identical procedures for the same group of cities a study of elimination reported by Edward L. Thorndike for the period 1900–1904. The procedure in both studies was to compute the percentage which the enrollment in each grade beginning with the fourth was of the average of the enrollments in the first three grades. The average of the first three grades was taken as the base in the computations on the assumption that it would be more reliable as a measure of the number of pupils entering school than the enrollment in any single grade. Kline reports his findings in a number of "curves of elimination" and for various periods since 1900–1904. The inter-

[1] Kline, Elias J. Significant Changes in the Curve of Elimination since 1900. Journal of Educational Research, 26: 608–616, April 1933.

ested reader will do well to secure access to the complete report as published. No more can be done here than to cite a few items to illustrate the increased retention between 1900–1904 and 1928–29 (the latter being the latest year for which figures are reported in the study). The average proportion shown to be retained in the ninth grade for 16 cities in 1928–29 was almost three fourths, whereas the proportion found in Thorndike's study was less than a fifth. The proportion shown to be retained in the twelfth grade in 1928–29 was almost three tenths, whereas the proportion in 1900–1904 was not far from a sixteenth. The study thus discloses a almost astonishing pouring in of pupils into high-school grades in the urban situation.

Increase in popularization in the United States as measured by the percentage which the high-school enrollment is of the population of high-school age.—It will help to an appreciation of what has been going on in the way of popularization of high-school education to report the increased percentages which the enrollment in public high schools of the entire country have been of the population of high-school age. The census of 1880 shows that there were at that time 3,941,365 persons aged 14 to 17 years, inclusive, in the entire country, of whom 110,277, or 2.8 percent, were enrolled in public secondary schools. In 1930, the census shows that there were 9,341,221 persons aged 14 to 17 years, inclusive, in the United States of whom 4,354,815, or 46.6 percent, were enrolled in public secondary schools. These facts prove the rapidly increasing popularization of secondary education. The contrasts between 1880 and 1930 would be slightly less if private schools were included, since it is probably true that a larger proportion of persons of high-school age attended private secondary schools in 1880 than do so at present. However, the influence on the contrast here presented would be slight since the actual numbers enrolled in private secondary schools have also increased during the 50-year period.

With enrollments in private secondary schools added, the proportion of the population of high-school age represented by the enrollment in secondary schools, public and private, was well over half of all. This proportion has unquestionably increased strikingly since 1930, but the exact extent of the increase is not known.

Factors affecting popularization.—This increase in the popularization of secondary education has been in part the result of conscious and concerted efforts by leaders in the field. It has in part been the result of improved standards of living and increased income, especially in the middle classes. It has in part been the result of the American interpretation of democracy as an equal opportunity for all. It has been partly a result of the increased complexity of our civilization and the increased demands placed upon the individual by society. The modification of the educational program has doubtless been a factor. An unquestionably important factor in recent years has been the lack of opportunity for employment of the population of high-school age. Denied opportunities for employment, youth have turned, in larger proportions, to the schools. Other causes could be mentioned, but these are probably the most important. The extent of the influence of each factor can not be determined, but the combination of factors favorable to increased education is obvious to one who examines the data concerning school enrollments. Increases in popularization occurred in other countries during this period but the amount of increase has not been so large as in this country and the proportion of pupils of high-school age in school is much smaller than for the United States.

The belief is held by many that the ultimate goal of a democratic system of secondary education is to have all the children in school during the years usually considered to comprise the high-school age, that is, approximately 14 to 17, inclusive. Of course, there will always be a small proportion who, because of mental or physical disabilities, are unable to profit by ordinary methods of instruction or even by special procedures. But the frequent contention is that those who are physically and mentally able to learn should be kept in school at least until the close of the adolescent period. Leaders in secondary education, almost without exception, support this policy.

Differences in popularization in urban and rural communities.—The general data for the country as a whole do not show the differences in the extent of popularization between urban and rural communities. Data for the two types of communities were gathered for the Survey by W. H.

Gaumnitz, of the Office of Education. He compared the enrollment of high schools in communities with population of 2,500 and more, known as urban, and communities with population of fewer than 2,500, designated rural. A total of 2,834,683 pupils were enrolled in public high schools in urban communities and 297,377 in private high schools, making a grand total of 3,132,060. The population of the urban communities of the country, 14 to 17 years of age, was 4,704,237. Thus, the enrollment in urban public high schools in 1929–30 was 60 per cent of the urban population 14 to 17 years of age; the enrollment in private schools constituted 6.3 per cent of the total group of children of high-school age; and the total enrollment of both public and private schools was 66.6 per cent.

The proportions of the youth in high school are much smaller for the rural communities. The total population 14 to 17 years in the rural communities was 4,636,080, nearly as large a number as reported above for the urban communities. The number of pupils enrolled in the rural high schools was only 1,376,030 for the public schools and 57,386 for the private schools, making a total of 1,433,110. The number of pupils in the rural public high schools was 29.7 per cent of the total population 14 to 17 years of age, 1.2 per cent for the private high schools, and 30.9 per cent for the combined public and private high-school enrollment. The percentage is more than twice as large for the urban communities as for the rural communities. The contrast is even greater in certain States; in others, the figures for the rural and urban communities are not so far apart. For instance, the percentage is 83 for the urban communities of West Virginia in contrast with 21 for the rural communities of the same State. In California, the contrast is from 30.8 for rural communities to 93.9 for urban communities. The contrast is not so large in Michigan, with 64.4 per cent for the urban communities and 36.5 for the rural communities. In no State does the percentage for the rural communities equal that for the urban communities.

The contrasts between the data for the urban and rural communities just noted are accentuated somewhat by the attendance of some rural children in high schools located in urban communities. Data submitted for 24 States show that

on the average 12.8 per cent of the children attending urban high schools live in rural centers. This percentage is as high as 53.2 for Idaho, 35.9 for South Carolina, 30.4 for Tennessee, and as small as 2.5 for Arkansas, 2.6 for Rhode Island, and 2.2 for Massachusetts. These percentages were calculated by the State officials in 19 States, and those for the remaining 5 States were computed by Gaumnitz. Gaumnitz also made a questionnaire study of the extent to which rural children were attending urban high schools. Of 71 urban high schools, 48 reported that they served both urban and rural children. The proportion of the children in these urban schools coming from the open country was 11.3, a finding closely comparable to the 12.8 per cent reported above for 24 States.

The tendency for urban children to attend rural schools and rural children to attend urban schools is much more marked for private than for public schools. As many as 22.5 per cent of the enrollment in a group of private urban high schools were from rural communities and about a third (34.7 per cent) of those in private rural high schools were from urban communities. The total numbers represented, however, are not large enough greatly to affect the relationships noted for the public high schools.

With corrections made for the attendance of rural children in urban schools noted above, the results indicate that the approximate proportion of rural children of the ages 14 to 17 attending high school in 1929–30 was about 39 per cent as compared with somewhat more than 58 per cent for urban children of those ages. On this basis approximately 20 per cent fewer of the rural children of ages 14 to 17 attend high school than of the urban children of the same ages.

The proportions of the population of appropriate ages in secondary schools will vary not only as between urban and rural communities, but also from State to State and from one urban community to another. If space permitted it would be possible to name cities in which the proportions enrolled in all types of schools at the secondary level are in excess of nine-tenths of all.

2. SOCIO-ECONOMIC DEMOCRATIZATION OF SECONDARY EDUCATION

Meaning of democratization.—Popularization in the previous section referred to increases in the proportion of children of high-school age in enrollment. Democratization refers to the extent to which children of different socio-economic and intellectual levels attend the secondary school. Socio-economic democratization will be given first consideration here. If a large proportion of children from higher socio-economic levels are in school and a small proportion of those from lower levels attend, the school would be said to be undemocratic. On the other hand, if the same proportion of the children from the different levels are in school, the situation would be considered to be democratic; that is, attendance in the secondary school would not be contingent on economic and social status. The difference between the proportions of children from the higher and the lower economic and social levels is thus considered as a measure of the extent of the democratization of secondary education. Complete democratization will have been achieved when the proportions are the same for all groups. The greater the differences the less democratic the school. If the differences between the proportions decrease from year to year, one might say that the secondary school is becoming more democratic.

The measure of democratization.—An ideal measure of democratization would involve a count of all the children of high-school age on each social, economic, and intellectual level, and determination of what proportions of each group were enrolled in secondary schools. After a period such as that from 1880 to 1930, considered here, one would repeat the process and determine what changes had taken place. This would give in actual numbers the progress toward complete representation of all groups. Unfortunately, no investigator carried on such a study in 1880 or for a long time after. Various studies have been made more recently, however, to ascertain the degree of selection of the secondary-school population. Book [2] on the basis of tests administered to more than 6,000 high-school seniors in Indiana concluded

[2] Book, William F. The Intelligence of High-School Seniors. New York, The Macmillan Co., 1922. 371 pp.

that they were a highly selected group as compared with the general population. Wessel [3] found that three selective factors seemed operative in the Cheltenham (Pa.) high-school population. These were intelligence, socio-economic status as indicated by the fathers' occupations, and ethnic origins. Among others who have come to rather similar conclusions are Colvin and MacPhail,[4] Holley,[5] and Counts,[6] to mention a few of the more outstanding investigators in the field. Among the best and most widely known studies of this question is that of Counts. Since an understanding of the techniques he used are essential to the interpretation of the data to be presented here, detailed consideration will be given to them.

The investigation by Counts.—Counts used a number of bases in studying the selection of the high-school population. The most important of these, in his judgment, was socio-economic status as indicated by the fathers' occupations. He obtained this information from 17,265 pupils in the high schools of St. Louis, Seattle, Bridgeport, and Mount Vernon, N.Y. It was necessary, in order to use these data, to devise some method of classifying them. Counts therefore devised an occupational classification and, on the basis of data collected from the pupils, classified the occupations of their fathers.

Counts then proceeded to relate these classified occupations to the occupational distribution of men in the same cities. He grouped the occupations listed in the Federal census in accordance with the classification made of occupations of fathers of pupils in the high school and calculated the number of persons 45 years of age and over employed in each group. The limit of 45 years was set on the basis of the age-distribution of the fathers of more than 1,000 high-school pupils in Seattle. The median age was found to be 48.5 years and

[3] Wessel, H. M. The Secondary School Population in Some of Its Social and Economic Relationships. Doctor's dissertation, 1930. University of Pennsylvania, Philadelphia.

[4] Colvin, Stephen S., and MacPhail, Andrew H. Intelligence of Seniors in the High Schools of Massachusetts. Washington, United States Bureau of Education Bulletin, 1924, No. 9. 39 pp.

[5] Holley, Charles E. The Relationship Between Persistence in School and Home Conditions. Fifteenth Yearbook. National Society for the Study of Education. Part II. Chicago, University of Chicago Press, 1916. 119 pp.

[6] Counts, George S. The Selective Character of American Secondary Education. Chicago, University of Chicago Press, 1922. 162 pp.

Counts set 45 as the age above which the majority of fathers of high-school pupils would fall. The use of the age-classification 45 years and over was facilitated by the use in the reports of the Federal census of an identical classification.

Counts thus had two distributions: First, that of the occupations of the fathers of pupils classified into 17 occupational groups, and second, the distribution of the occupations of all men 45 years and over in the same four cities in 1910 classified into the same groups. By comparing the two distributions it was possible to determine to what extent the high-school population in these four cities was representative of the general population. This comparison was made on the basis of the number of pupils in high school representing each of the 17 occupational groups per thousand men 45 and over in the total population in each occupational group. Counts found, for example, that there were 145 pupils in high school whose fathers were engaged in occupations classified as building trades for every 1,000 men 45 and over whose occupations as listed in the census could be so classified; similarly, 219 pupils in high school per thousand in clerical service, etc. Now, on the assumptions that the information on occupations obtained from pupils and from the census was correct, that it could be correctly interpreted and classified, and that the classification was conceived in such a way as to result in really different socio-economic levels, the comparisons just described should be valid.

A source of error in the use of the census data should be noted. Underlying the relating of occupations of fathers of high-school pupils to the occupational distribution as obtained from census data is the assumption that the number of children eligible for high school per thousand men 45 and over is the same for the different occupational groups. That is, it is assumed that 1,000 men 45 and over in the professional group would have the same number of children of high-school age as a group of 1,000 laborers or as 1,000 men of any other group, 45 and over. This we know is not true on at least two counts. In the first place, it is generally accepted as true that those at the higher socio-economic levels marry later than those at the lower levels. In the second place, it is true that the families at the upper levels are smaller than those at lower levels. On

these two counts, at least, it would be expected that there would be fewer children eligible for high school on the average from the families of higher levels than from those of lower levels. In view of these facts, any disparity between the proportionate representation of upper and lower occupational groups would be even greater than appears, if correction were made for these two factors. In other words, the proportionate representation of occupational groups at the upper end of the distribution should be larger and those at the lower end should be smaller than reported here.

Counts' chief conclusion was that, in the high schools of the four cities included in the study, such occupational groups as the professional, proprietory, and managerial, were still represented in decidedly greater proportions than groups like personal service, public service, and common labor and that the American secondary school was still a highly selective institution and its pupils a highly selected group. It was undoubtedly true in 1920 when Counts made his study, and he implies in his report that the secondary school at that time was not so selective as it was in 1880. However, he had no data similar to his own with which direct comparison could be made. The study to be reported here is an attempt at such a comparison.

Progress in democratization.—Progress in democratization was measured by a comparison of the conditions when Counts made his study and at the time of the Survey. In order to gather data making the comparison possible it was necessary to repeat, as exactly as could be done, the procedures used by Counts. It was found possible to do so in Seattle and in Bridgeport. Counts' questionnaire was duplicated and filled out by all the pupils in attendance at the high schools of Seattle in December 1930, just 11 years after Counts had collected similar data. The data for the present study were collected in Bridgeport during December 1931, also just 11 years after this was done in Counts' study. These data were classified into occupational groups using Counts's system of classification and duplicating his procedure as accurately as possible. Likewise, the distribution of occupations of men, 45 and over, according to the census of 1930 was classified into his 17 occupational groups. In addition, the data from the

census of 1920 were classified in the same way and Counts' results from Seattle and Bridgeport were related to this census instead of the one of 1910 which he used. Consequently, all the calculations of the study pertaining to both 1920 and 1930 were made by the present investigators. The only phase of the work that could not be repeated or checked was Counts' own work of classifying the data on occupations of the fathers of pupils. Before proceeding to a study of the data thus obtained one or two considerations should be noted.

In the first place, the assumptions regarding the validity of the classification and the facts regarding differences in size of families must be kept in mind. With these reservations we may say then, that to the extent that the proportionate representation of occupational groups differ, the secondary school is still selective. In other words, if no selective factors were operative, we should expect all occupational groups to be represented, not in equal numbers, but in equal proportions to their numbers in the general population. In the second place, to the extent that any change has taken place in the proportionate representation of any or all groups, the high school has become more or less selective as the case may be, with respect to those particular groups.

The facts based on the two sets of data are shown in Table 1. In the first column are given the occupational groups used by Counts. In the first column under Seattle 1920 are given the number of pupils in high school for each thousand men 45 and over for each of these occupational groups as found by Counts recalculated with data from the 1920 census. In the second column under Seattle are given data on this item for 1930 related to the 1930 census.

In every one of these occupational groups there is a greater proportionate representation in 1930 than in 1920. We may therefore conclude that high-school education in Seattle is more popular for all occupational groups in 1930 than in 1920. This would have been expected from what was shown earlier in this chapter. However, the actual increases in the number of pupils in high school for every thousand men 45 and over are larger for the higher level occupations. The average increase is 193 per 1,000 for the managerial, proprietary, and professional groups; 118 per 1,000 for the commercial

and clerical groups; 112 for the trade groups; 153 for the transportation and public-service groups; and 86 for the personal service and common-labor groups.

TABLE 1.—*Number of high-school pupils from each occupational group for every 1,000 men over 45 years of age in the same occupational group. Data for Seattle, Wash., and Bridgeport, Conn., related to the Federal Census of 1920 and of 1930*

Occupational group	Seattle			Bridgeport		
	1920	1930	Increase	1920	1930	Increase
1	2	3	4	5	6	7
Proprietors	382	534	152	523	590	67
Professional	301	413	112	299	270	[1] 29
Managerial	623	937	314	580	963	383
Commercial	158	277	119	239	325	86
Clerical	157	274	117	160	181	21
Building trades	162	312	150	116	203	87
Machine trades	169	293	124	192	357	165
Printing trades	310	346	36	115	151	36
Miscellaneous trades	38	177	139	66	228	162
Transportation	112	263	151	127	308	171
Public service	108	262	154	120	309	189
Personal service	40	138	98	90	98	8
Miners, lumber workers, and fishermen	92	191	99	------	143	------
Labor	19	92	73	21	154	133
All occupations	166	322	156	171	308	137
1. Average number of pupils per 1,000 men 45 and over in proprietors, professional, managerial, commercial, and clerical groups	303	452	149	375	485	110
2. Average number of pupils per 1,000 men 45 and over in the building, machine, printing, miscellaneous trades, transportation, public and personal service, miners, lumber workers, fishermen, and common-labor groups	91	215	124	93	232	139
Differences between the upper (1) and lower (2) groups	212	237	25	282	253	[1] 29

[1] Number larger for 1921 than in 1931.

For purposes of additional comparison, the proportionate representations of the five upper or "white-collar" groups were averaged; the same was done with those for the remaining groups. These comparisons are shown in the lower part of the table. The average number of pupils per 1,000 men 45 and over in the proprietary, professional, managerial, commercial, and clerical groups in 1920 was 303 per 1,000; and the average for all the remaining groups was 91 per 1,000. The difference between these is 212 per 1,000. In 1930 the mean of the first five occupational groups was 452 per 1,000 while the mean of the other groups was 215 per 1,000, a difference of 237 per 1,000. Thus the difference between the

means increased from 212 per 1,000 in 1920 to 237 per 1,000 in 1930. This signifies that in Seattle the upper and lower occupational levels as here classified are actually further apart now than they were 10 years ago in the proportion of children of high-school age who are enrolled in high school.

In summary of this situation in Seattle the following may be said: First, every one of the occupational groups is better represented in the high-school population in 1930 than it was in 1920. This points toward increased popularization of secondary education for all economic levels and to increased democratization to the extent that lower-level occupational groups show increased representation. Second, in spite of the fact that the proportions of all groups increased during the decade, the differences between the upper- and lower-occupational levels has increased. These changes indicate that the upper levels have actually increased their representations to a greater extent during the 10-year period than have the lower levels. It appears, therefore, that secondary education as represented in Seattle high schools is more popular with all occupational groups, but less democratic, or more selective than it was 10 years ago with respect to socio-economic status as measured by the type of classification used.

Consideration of the data for Bridgeport indicates also that with the exception of the professional group there was a greater proportionate representation for each occupational group in the high schools in 1930 than in 1920. It may therefore be concluded that a high-school education is more popular for all occupational groups now than in 1920, with the exception of the professional group. The average increase for the professional, proprietary, and managerial groups is higher than the increase in any other combination, being 206 per 1,000 as compared with an increase of 54 per 1,000 for the commercial and clerical groups, 115 per 1,000 for the trade groups, 185 per 1,000 for the transportation and public service groups, and 71 per 1,000 for the personal service and common labor groups.

The comparative figures given in the lower part of the table show that in Bridgeport the average number of pupils per 1,000 men 45 and over in the proprietary, professional,

managerial, commercial, and clerical groups in 1920 was 375; and the average for all the remaining groups in 1920 was 93 per 1,000. This was a difference in proportionate representation of 282 per 1,000. In 1930 the mean of the first five occupational groups was 485 per 1,000 while the mean of the remaining occupational groups was 232 per 1,000, a difference of 253 per 1,000. These figures for Bridgeport differ from those reported above for Seattle. In Bridgeport the difference between the means of the upper and the lower occupational groups has decreased, showing that not only has there been a greater popularization of secondary education but also an increasing democratization, or, in other words, less socio-economic selection.[7]

There is additional evidence here of increasing popularization of secondary education in both Seattle and Bridgeport. Using fathers' occupation as a measure of selection of the secondary-school population, it has also appeared that in Seattle there has been an increasing selectivity of pupils at the secondary level; in Bridgeport, on the other hand, we have found an increased democratization. However, it should be pointed out that, whereas Bridgeport in 1920 had a greater proportionate representation for all occupations combined than did Seattle (171 to 166), Seattle now leads in proportionate representation for all groups combined having 322 per 1,000 to 308 per 1,000 for Bridgeport.

The data for Seattle are so much in disagreement with what was expected that some consideration of the factors that may have influenced the findings should be appropriate. The general observation has been that the new recruits in secondary schools have come more largely from the lower socio-economic levels than from the higher levels. Consequently, one would expect that the increases in numbers for the lower levels would be greater than for the higher levels, as was true for Bridgeport.

[7] It should be pointed out that following Counts' example the State Trade School at Bridgeport was not included in this population study. Had it been included, there is little doubt that the figures would have been even more conclusive that there has been decreasing selection in the secondary schools of Bridgeport in the past 10 years. In this school there are approximately 500 trade pupils drawn largely from families of which the fathers are engaged in the skilled, semiskilled, and common labor occupations, all of which would tend to still further decrease the difference between the means of the upper and lower occupational levels.

There are several possible explanations of the findings for Seattle. The groupings of occupations used are so broad that each contains occupations that vary greatly in their economic status. In fact, they are so broad as to prompt the present authors to make certain changes from Counts' classifications for a study reported in Chapter II in which comparison with an earlier period is not required. The proprietary group in Counts' classification contains proprietors of the largest establishments and proprietors of the smallest concerns with few or no employees. Wide variation exists also for the other groups. Many of the children of parents in the upper occupational groups were not in school when Counts secured his data 11 years earlier. The forces favorable to increased school attendance may have been more potent for those in the upper groups not in school than for those from the lower groups. If this hypothesis should be correct, it is logical that the proportion of children in school should increase for all groups and that the increases might be greatest for the higher socio-economic levels.

A second possible influence is the modification during the interval of years of the personnel of the different occupational groups. It is possible that there might have been considerable shift in the characteristics of persons employed in the lower-level occupations. If those in lower-level occupations should have moved up into the higher-level occupations, and the persons taking their places come from national and social groups with lower educational status and aspirations, or if there were decreases in the proportions of men over 45 in the lower occupational groups, it is easy to understand how the figures for representation of the lower groups in high school might fail to show larger increases. This shift in the constituency of the different groups might offset any changes that were made in the movement towards increased democratization. Data were not secured to ascertain whether such changes have taken place. The possibility of such change should caution against an interpretation that the increases in high-school attendance have not been greater for the type of persons in the lower economic groups 11 years ago than for the upper groups.

3. INTELLECTUAL DEMOCRATIZATION OF SECONDARY EDUCATION

Intelligence in relation to democratization.—Another way in which any change either towards or away from democratization of secondary education might be shown is by the intelligence of the pupils now enrolled in secondary schools as compared with that of pupils enrolled a number of years ago. Studies of the intelligence of high-school pupils have shown beyond question that they are, in this respect also, a selected group as compared with the total population of high-school age. The studies cited earlier in this chapter are only a few among those showing this type of selection. In connection with the visiting of schools during the progress of the Survey, data were obtained on the intelligence of 9,120 pupils in general and comprehensive high schools and 954 pupils in trade schools. With these data available it should be possible to throw light on the question of whether or not the high school is less selective than it was 10 years ago. If the present population of secondary schools is nearer a cross-section of the total population in intelligence, then it may be concluded that in this respect, at least, it has become less selective. Because of the positive correlation which exists between socio-economic status and intelligence it may also be inferred in that event that relatively more children of the lower levels are in secondary schools than were there at some previous period.

Previous studies in the field.—Among the earlier reports on the intelligence quotients of high-school pupils is that by Terman.[8] Referring to data on 107 pupils entering high school, he states that the median I. Q. of this group was 105, with a range from 79 to 136. These results were based on individual examinations with the Stanford-Binet tests. Proctor,[9] in a study on guidance, presents a distribution of I. Q.'s of 131 high-school pupils in which the median is 106. This is based on results also obtained by use of the Stanford-Binet tests and apparently includes students of different grades.

[8] Terman, L. M. The Intelligence of School Children. Boston, Houghton Mifflin Co., 1919. pp. 80-81.

[9] Proctor, W. M. Educational and Vocational Guidance. Boston, Houghton Mifflin Co., 1925. pp. 40-41.

In a report of research in the school district of Reading, Pa., for 1929, a distribution of intelligence quotients for the tenth, eleventh, and twelfth grades is given. These results are based on the Terman group test. The median I. Q. for 606 tenth-grade pupils is 100.6, for 450 eleventh-grade pupils it is 103.7, and for 398 twelfth-grade pupils it is 107.

In the study reported by Wessel [10] the distribution of intelligence quotients of students in the Cheltenham (Pa.) High School as derived from results on the Terman group test indicates that the median I. Q. for 172 ninth-grade pupils is 107.5, for 151 tenth-grade pupils it is 107.5, for 124 eleventh-grade pupils it is 110, and for 87 twelfth-grade pupils it is 108.7.

In a research bulletin (unpublished) of the New Hampshire State Board of Education for 1931 are given the results of a State testing program in 97 approved high schools and academies in which, among other tests, the Otis Self-Administering Test, Higher Examination, Form B, was given to more than 11,000 twelfth-grade pupils. In this report are given the median intelligence quotients of the twelfth-grade pupils for four successive years, 1928 to 1931, inclusive. Between 2,500 and 3,000 pupils took this test in each of the four years. In two of these years the median I. Q. was found to be 105 and in the other two, 106. In this report it is also indicated that from 5 per cent to 8 per cent of each group of twelfth-grade pupils for the four years had I. Q.'s below 90, and that from 29 per cent to 32 per cent had I. Q.'s above 110.

It seems unnecessary to cite from many other similar studies. It is clear that the median I. Q. of high-school pupils is somewhere between 105 and 110. It is also clear from the reports for Reading and Cheltenham that the I. Q.'s of each next higher grade are slightly but definitely higher than those of the preceding class or grade. This is believed to be due to selection and the elimination of those with lower intelligence quotients.

The question which interests us here is whether or not the data of the present investigation show results which are different from those just reviewed and, if so, what the tend-

[10] Op. cit., p. 72.

ency of this difference is. It should be pointed out that the results of previous studies are based largely on one type of high school, namely, the general or comprehensive type. As a matter of fact, it may safely be assumed that almost all the schools included in the New Hampshire study are predominantly college-preparatory schools. The same would be true of the schools in the other studies cited. With such a homogeneous group of schools any differences which our results show would perhaps be due as much to the fact that all types of secondary schools in many different types of communities were included in the present study as to any change in amount of selection taking place. On the other hand, to the extent that the studies cited base their results on anything but a representative group of all types of secondary schools, these results are not representative of all American secondary education. If it appears that the population of secondary schools of all types taken as a whole is approaching the point where it constitutes a representative cross-section of the entire population, then it would surely be justifiable to conclude that we are nearer now than formerly to a truly democratic secondary education.

Data secured in Survey.—In connection with the Survey, tests were given in 2 comprehensive schools, 4 general schools, 4 trade or vocational schools, and 1 commercial school. In 5 of these schools, including 2 trade schools, 1 general school, 1 comprehensive school, and the commercial school, the Otis Higher Examination, Form A, was given. In all the rest, the Pressey senior classification test was used. In a number of other schools included in the Survey, test records were obtained for some of the pupils. These results were based in most cases on the Terman or Otis tests.

The obvious weakness of such results is that intelligence quotients based on different tests are not often directly comparable. This fact was pointed out in 1924 by Miller, who proposed a method of equating the results of various tests when administered to the same pupils.[11] Although this could not be carried out in the present instance because not more than one test was given to most of the pupils, it was possible

[11] Miller, W. S. The Variation and Significance of Intelligence Quotients Obtained from Group Tests. Journal of Educational Psychology, 15: 359-366. September 1924.

by use of the technique described by Miller to equate the Otis and Pressey tests which were used in all schools where tests were administered in connection with the present study. The equating process was accomplished on the basis of results obtained by administering both tests to 126 pupils in one of the general high schools visited. It showed the mean I. Q. of the group on the Pressey test to be 98 and on the Otis to be 102, a difference of four points. At the point 122, I. Q.'s on the two tests are interchangeable. From 122 upward or downward the differences increase. At 90 and 150 the differences are approximately five, which is not greater than the probable error of individual measurement. It seems, therefore, that the error introduced by combining and averaging results obtained by the use of these two tests is not large. If the mean scores of other groups tested are closer to 122 than in this small group used for experimental purposes, the error would be even less than is indicated. On the other hand, if the means are farther removed from that point, the error would be greater.

With these considerations in mind we may proceed to a study of the results of tests given in the schools visited, either previously to this investigation or by the present investigators. The central tendencies and variability of the distributions of intelligence quotients as obtained in the present investigation are shown in Table 2. The comparisons of the I. Q.'s of pupils in the various groups or types of schools show that in order from highest to lowest they are technical, general, comprehensive, commercial, and trade. The medians of all the high-school groups, that is, of the first four groups named, fall between 97 and 109. The largest difference occurs between high schools as a group and trade schools, the latter being distinctly lower than the commercial group, which is lowest among the high schools.

TABLE 2.—*Data on intelligence quotients of pupils in different types of secondary schools*

Measure	Type of school					
	Comprehensive	General	Technical	Commercial	All types except trade	Trade: All grades
1	2	3	4	5	6	7
Ninth grade:						
Median	97	103	.....	98	99	91
First quartile	88	92	.....	92	90	84
Third quartile	110	114	.....	105	109	100
Number	756	736	.....	150	1,643	954
Tenth grade:						
Median	100	105	106	99	101	.....
First quartile	91	94	97	90	92	.....
Third quartile	109	116	115	108	110	.....
Number	1,406	935	71	494	2,906	.....
Eleventh grade:						
Median	102	105	109	101	103	.....
First quartile	93	95	100	93	94	.....
Third quartile	101	116	118	109	112	.....
Number	1,244	737	138	418	2,517	.....
Twelfth grade:						
Median	103	107	109	105	105	.....
First quartile	95	97	100	96	96	.....
Third quartile	112	117	118	114	114	.....
Number	1,083	643	102	226	2,054	.....

The median I. Q. for all high schools combined ranges from 99 to 105 according to the grade classification of the pupils. For all grades and high schools combined the median is 102.

The middle 50 per cent in all types of schools falls within a range of approximately 20 points. The first quartile ranges from 84 to 100 and the third quartile from 100 to 118. In other words, although the distributions overlap each other greatly, they also have distinct differences. For example, the first quartile for the technical group is approximately the third quartile for the trade group, which means that three-fourths of the pupils in technical high schools have I. Q.'s above the point on the scale that is reached or exceeded by only one-fourth of the pupils in the trade schools.

The comparisons of I. Q.'s from grade to grade show that in all types of schools there is some selection in this respect as pupils proceed through the schools. These comparisons can, of course, not be made in the trade schools because the pupils there are not so classified. The amount of this selection is

indicated by differences between the ninth-grade and twelfth-grade medians. These differences range from 2 to 7 points.

Comparison of data reported in various studies.—The data provided by the results of previous studies already cited and those of the present study provide a basis for comparison of intelligence quotients of pupils in secondary schools as determined from 1919 to the present. The summary of the findings of each study expressed in terms of median I. Q.'s is presented in Table 3. It was necessary in some instances, in order to obtain the median, to take the medians of the separate grades and to average them, each being weighted first by the number of cases on which it was based. Some of the medians are therefore really weighted averages of separate medians. The error thus introduced is probably not large.

The outstanding fact here appears to be that there is no evidence of a general tendency toward decreasing selection with respect to intelligence if the schools are taken as a whole. The differences are not large enough in most cases to be reliable and where they are substantial, as between the New Hampshire study and the present one, the situations are not comparable because only the twelfth grade was tested in the former study. Again, as between the Wessel study and the present one, the difference can be explained, in part at least, by differences in types of schools, as was explained earlier in this chapter.

The differences that appear are probably to be explained largely in terms of differences in types of schools represented in the various studies, or more accurately, differences in the intelligence of pupils following the various lines of work. The differences between the intelligence of pupils in commercial and trade schools and that of pupils in technical and general high schools bears out this interpretation. The fact that the intelligence of pupils in comprehensive high schools falls between these extremes is additional evidence on this point, since this type of school enrolls pupils pursuing all kinds and degrees of specialization.

A study recently published[12] indicates that these interpretations are substantiated by still other evidence. In the

[12] Rutledge, R. E., and Fowler, A. The Changing Senior High School Population and the Curriculum Problem. School Review, 40: 109-114, February, 1932.

study referred to it is shown that the mean or average I. Q. of 5,626 tenth-grade, eleventh-grade, and twelfth-grade pupils in eight senior high schools of Oakland, Calif., is 102, which is exactly that found in the present study. When these pupils are grouped according to the type of curriculum being followed it appears that those in the college-preparatory curriculums have a mean I. Q. of 111, while those in general, commercial, and trade-preparatory curriculums have mean I. Q.'s of 97, 99, and 93, respectively. These results also agree almost fully with those found in the present study. Moreover, the data on grade selection presented in the Rutledge and Fowler study show results that are almost identical with those obtained in the project of the National Survey of Secondary Education.

One other aspect of the question should be considered. If an intelligence quotient of 100 is taken as the average for the general population, it appears that the pupils in high schools are very nearly a representative cross-section of the total population. As a matter of fact, if pupils in trade schools are included with those in high schools, the median I. Q. is approximately 100. It is appropriate that they be included since the pupils enrolled in the trade curriculums in the high schools have also been included.

TABLE 3.—*Comparison of I. Q. of pupils in secondary schools as obtained in various investigations*

Investigation	Date	Test	Grade	Number of cases	Median I. Q.
1	2	3	4	5	6
Terman	1919	Stanford-Binet	9	107	105
Proctor	1925	....do	9–12	131	106
Reading, Pa.	1929	Terman	10–12	1,454	103
Wessel	1930	....do	9–12	534	108
New Hampshire	1931	Otis	12	11,000	106
National Survey of Secondary Education	1932	Otis and Pressey	9–12	9,120	102
Do	1932	....do	Trade	954	91

With respect to the average I. Q. of the general population of high-school age it is very doubtful that on our present verbal tests the general population would have an average

I. Q. of 100. The verbal tests place a premium on linguistic ability, which would be a severe handicap to a considerable proportion of the population and an almost insurmountable one to the illiterate. If one proposed to exclude at least the illiterates and say that the average I. Q. of the literate population were 100 it would probably be nearer the truth. However, with the proportionately large numbers of foreign born and of foreign parentage in the trade-school enrollment there are undoubtedly many in it who are handicapped by language difficulties. On the whole, then, it seems that the persons of secondary age who are in school may be said not to differ markedly from the general population with respect to intelligence as measured by our present group tests.

Moreover, reverting to the differences found for different types of schools, it may be said that this high degree of intellectual democratization is being achieved by the extension of the offering to provide curriculums suited to pupils of lower levels of intellectual ability. By the same token it may be assumed that by and large the schools that have done most in extending the offering to include vocationalized and other noncollege-preparatory curriculums have made most progress toward democratization. This is a highly significant inference for determination of the means by which the American secondary school is to be fully democratized.

4. GENERALIZATION FROM THE EVIDENCE

(1) American secondary education has grown with great rapidity during the past half century, both in numbers of pupils enrolled and in popularization among persons in all walks of life. The rate of growth is far in excess of that of the general population and has not been equalled at any other educational level. The growth has been especially marked during the last two decades.

(2) The measure used to indicate the gain of high-school enrollment on the population is the percentage which the enrollment in public high schools in the United States has been of the number in the population of high-school age, that is 14 to 17 years of age, inclusive. From 1880 to 1930 this percentage mounted from 2.8 to 46.6. With enrollments in private secondary schools added, the proportion of the population of high-school age represented by the enrollment in

secondary schools, public and private, was well over half of all. This proportion has unquestionably increased strikingly since 1930, but the exact extent of the increase is not known.

(3) The proportions vary from State to State and from one type of community to another. A conspicuous difference is that between urban and rural communities, the proportions being much larger for cities than for communities with populations of fewer than 2,500. Individual cities might be named in which the proportions enrolled in all types of schools at the secondary level are in excess of nine-tenths of all.

(4) The results of a repetition for two cities, namely, Seattle and Bridgeport, of a study of the social composition of the high-school population made by Counts, disclosed striking increases from 1920 to 1930 in the proportionate representation in the high school of all occupational levels in the total population. This finding is in harmony with the conclusion just reported concerning the rapidly increasing popularization of high-school education. To the extent that the lower occupational levels share in the increases, it may be assumed that there has been considerable progress toward socio-economic democratization of the secondary schools.

(5) However, when the increases in representation in the high school of the different socio-economic groups are compared it is found that for Seattle the groups at the upper levels during the interval, already larger at the outset of the interval of years, were gaining on the groups at the lower levels. For example, the gains were larger for the proprietary and professional groups than for skilled and common labor. For Bridgeport the proportions at the different levels appeared to be drawing together. A first inference from the comparisons for these two cities might be that the high schools in Seattle were during the interval becoming less socio-economically democratic despite the obviously increased popularization and that an opposite tendency was at work in Bridgeport. At least two considerations detract from the acceptability of such an inference for Seattle. One of these is the wide range of socio-economic status represented by certain of the occupational groups in Counts' classifications; they are so wide that they might easily hide genuine progress toward socio-economic democratization in

high-school attendance. The other is the possibility that the movement of the occupational distribution among men over 45 in the city during the interval has been from the lower to the upper levels; the work of repeating Counts' investigation did not include the additional inquiry in this direction. It is unfortunate that it was not possible to make such comparisons for two different periods for a large number of cities, so as to justify a more clearly unequivocal conclusion applicable to most urban communities, or even to the country as a whole.

(6) The evidence presented seems to indicate progress toward intellectual democratization, that is, toward increased representation in secondary schools of intellectually less competent youth. It is not that intellectual selection is no longer operative, but that it is *less* operative than formerly. There is evidence that in many communities the secondary-school population as a whole is not far from being a representative cross-section of at least the total literate population. The data at hand are not sufficient to yield a statement of the exact degree of progress toward intellectual democratization of education at the secondary level.

In view of the high measures of relationship usually found between intelligence and socio-economic status, the conclusion just set down concerning progress toward intellectual democratization lends support to a conclusion of progress toward socio-economic democratization suggested by the data on popularization and by the increased representation in secondary schools of children of fathers in the lower occupational groups. The evidence reported concerning the two phases of democratization appears to be internally consistent.

(7) A highly important conclusion from the evidence presented is that intellectual democratization is being achieved by extension of the offering to include vocationalized and other noncollege preparatory curriculums in the secondary schools. This is true whether these curriculums are provided in comprehensive high schools or in specialized schools such as commercial high schools or trade schools. By the same token, school systems that have gone farthest in providing such curriculums have probably made most progress toward complete intellectual democratization.

CHAPTER II : CHARACTERISTICS OF SECONDARY-SCHOOL PUPILS

1. SCHOOLS AND PUPILS OF THE PRESENT INVESTIGATION

The plan of presentation in this chapter.—The data presented in this chapter are reported at various points in monographs of the National Survey of Secondary Education dealing with the different types of secondary schools. Data concerning pupils in the different types of full-time secondary schools including the general, comprehensive, academic, technical, and trade schools are reported in Monograph No. 2, The Horizontal Organization of Secondary Education. Data concerning pupils enrolled in the continuation and evening high schools are reported in Monograph No. 3, Part-Time Secondary Schools. The present report will be less detailed than that in the monographs referred to and comparisons will be made of the pupils enrolled in different types of institutions. These comparisons were not undertaken in the monographs referred to, as it seemed advisable to bring the groups together in a single monograph devoted to the secondary-school pupil.

The schools included in this investigation.—The data concerning pupils in full-time schools were collected during personal visiting of 34 schools in 13 cities in various parts of the country. These schools included all the fairly common types of full-time schools at the secondary level. Most of them were high schools, but an effort was made to include representative trade schools in different parts of the country.

The full-time schools included in this study, grouped according to the types of organizations and programs, are as follows:

Comprehensive group

Arsenal Technical High School, Indianapolis, Ind.
Emmerich Manual Training High School, Indianapolis, Ind.
Joliet Township High School, Joliet, Ill.
Manual Arts High School, Los Angeles, Calif.
Technical High School, Omaha, Nebr.
Chaffey Union High School, Ontario, Calif.
Central High School, Tulsa, Okla

General group

Central High School, Bridgeport, Conn.
Warren Harding High School, Bridgeport, Conn.
Northwestern High School, Detroit, Mich.
Shortridge High School, Indianapolis, Ind.
Central High School, La Crosse, Wis.
Riverside High School, Milwaukee, Wis.
Easton High School for Boys, New Orleans, La.
Wright High School for Girls, New Orleans, La.
Central High School, Omaha, Nebr.
Central High School, Springfield, Mass.
R. J. Reynolds High School, Winston-Salem, N. C.

Technical group

Cass Technical High School, Detroit, Mich.
Boys' Technical and Trade High School, Milwaukee, Wis.
Girls' Technical and Trade High School, Milwaukee, Wis.
Technical High School, Springfield, Mass.

Commercial group

High School of Commerce, Detroit, Mich.
Kohn High School of Commerce for Girls, New Orleans, La.
Peters High School of Commerce for Boys, New Orleans, La.
High School of Commerce, Springfield, Mass.

Trade group

Bridgeport State Trade School, Bridgeport, Conn.
Boys' Junior Trade School, Detroit, Mich.
Building Trades, Detroit, Mich.
Goldberg Girls' Trade School, Detroit, Mich.
Wright Trade School, Detroit, Mich.
Isaac Delgado Trade School, New Orleans, La.
Francis T. Nicholls Trade School for Girls, New Orleans, La.
Trade School, Springfield, Mass.

The general group includes 11 schools, the comprehensive group includes 7, the technical group includes 4, the commercial group includes 4, and the trade group includes 8. These schools were judged by informed persons to incorporate better developments of the types of schools represented.

The sampling of full-time schools represented.—It can not be said that these schools are representative of the full-time secondary schools of the country. They are all located in cities of considerable size and, consequently, do not repre-

sent conditions in the smaller communities. Also, a larger representation of technical and trade schools is included than would be justified by the relative number of each type among the secondary schools of the country. Not all the schools in the cities represented in the investigation were included. Each type of school is represented in each city. When several schools of a type were maintained in a city, the practice was followed of including only one of each type. Consequently, when the data are combined for the various schools, it can not be said that the pupils are representative of the total secondary-school population of the cities studied. The data are chiefly significant in showing the characteristics of pupils enrolled in the various types of secondary schools.

The part-time secondary schools included in the investigation.—The part-time schools included in the investigation are located in the same cities as the full-time schools listed in the preceding section. The pupils in 10 continuation schools are represented in the study. Four of these schools are located in Detroit, Mich.; and 1 each in Joliet, Ill.; La Crosse, Wis.; Los Angeles, Calif.; Milwaukee, Wis.; Tulsa, Okla.; and Springfield, Mass. A total of 11 evening schools are included. Four of these are located in Detroit, Mich.; 2 in Bridgeport, Conn.; 2 in Indianapolis, Ind.; 1 in Joliet, Ill.; and 2 in Milwaukee, Wis. These continuation and evening schools are widely scattered geographically and the data concerning the pupils enrolled in them should give a reliable indication of the characteristics of pupils served in schools of these types.

Numbers of pupils included in investigation.—Data are presented for a total of 17,180 pupils enrolled in the full-time secondary schools. (See Table 4.) These pupils were enrolled in the various types of schools as indicated. The largest numbers are in the comprehensive and general schools, with 5,908 in comprehensive schools and 5,002 in general schools. The smallest number, 1,540, is for the commercial schools. The number from the trade schools, 2,190, is approximately the same as the number from the technical schools, 2,540. About 65 per cent of all the pupils included in the study were enrolled in comprehensive and general high schools and about a third in specialized schools. Another

analysis made on the basis of the curriculums in which these same pupils are enrolled shows that slightly less than a half were enrolled in nonvocational curriculums including academic, scientific, general, and other curriculums essentially college preparatory. Slightly more than half of these pupils were enrolled in commercial, fine arts, industrial arts, and household arts curriculums. If allowance were made for those enrolled in the latter group of curriculums who are planning to go to colleges or universities, it is probably conservative to say that more than a half of the sampling are in nonvocational and college-preparatory curriculums. Data are not available to show the extent to which this representation is typical of that for the schools of the country.

TABLE 4.—*Distribution by sex and grade of pupils in each group of full-time schools included in the study*

Grade	Type of school												
	Comprehensive		General		Technical		Commercial		Trade		All groups		
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Total
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Ninth	718	385	522	440	148	148	4	89	.....	.....	1,392	1,062	2,454
Tenth	1,111	669	702	885	624	254	74	361	.....	.....	2,511	2,169	4,680
Eleventh	936	646	500	681	518	171	65	260	.....	.....	2,019	1,758	3,777
Twelfth	755	578	432	564	395	108	66	189	.....	.....	1,648	1,439	3,087
Others	78	32	147	129	106	68	272	160	.....	.....	603	389	992
Total	3,598	2,310	2,303	2,699	1,791	749	481	1,059	1,684	506	9,857	7,323	17,180
Total, boys and girls	5,908		5,002		2,540		1,540		2,190				17,180

As many as 2,992 pupils in continuation schools were included in the investigation. This group is divided almost equally between boys and girls, the number of the former being 1,547 and of the latter, 1,445. A larger number is included for the evening schools. Data are presented for a total of 4,145 pupils. The boys predominate in this group: 2,842 are boys and 1,303, girls. A combination of all these groups gives a grand total of 22,317 pupils.

Sampling of pupils in different types of schools.—It was not possible to secure information concerning all pupils except in

a few of the smaller schools. In most schools the sampling procedure aimed to secure a large enough number of each group enrolled in a particular curriculum to make any results based on the data from the sample representative of the entire group. For example, if only 35 pupils in the whole school were enrolled in household arts, all these would probably be included in the sampling. On the other hand, if 500 were enrolled in the general curriculum, perhaps only one of every five pupils or even fewer might be taken as a sampling of this group. By varying the proportions in the sampling it was hoped to obtain adequate representation of pupils in all lines without getting the large numbers from certain groups and very small numbers from others that a constant proportion would have given.

This method of sampling may be further clarified by comparisons with two other possible procedures. (1) The same number of pupils might have been taken from each school regardless of the size of its enrollment, thereby giving each school equal weight in the sampling. This plan would have ignored completely the variation in the size of schools. (2) The number from each school might have been made proportionate to the size of its enrollment. Proportionate representation would have made it possible for a school with a very large enrollment to influence the sampling of the schools of a certain type more than a number of smaller schools. Thus, a school of 5,000 would have a representation equal to that for 10 schools of an enrollment of 500. The smaller schools have a smaller number in the sampling than the larger schools, but the contrasts are not so great as would have been obtained if the representation had been made proportionate to the size of the enrollments.

The same general procedure described above for securing representation of a school was followed in determining the number of pupils to represent each subject field within a school. That is, the sampling did not include an equal number from each subject group; neither were the proportions from the various groups the same in all cases. When the enrollment in a subject was small, most or all pupils were taken. When it was large, only a fraction of the group was

included in the sample and the fraction became smaller as the size of the group increased.

The sampling could not be based on the number enrolled in each curriculum as some schools did not have specialized curriculums and still otheres did not have records of the curriculums followed by the pupils. Enrollments were available for the different courses. By sampling the pupils enrolled in the courses in each of the various curriculums, a sampling was obtained of the pupils specializing in each curriculum.

While the plan used does not give a completely proportionate representative sampling of secondary-school population, it is probable that the combination of the schools into groups served to make the variation of percentage of representation for types of curriculums within groups of schools less than exists among curriculums within a single school. For example, in one school the pupils in auto mechanics might receive undue weighting when combined with those in carpentry. However, in a second school those in carpentry might receive as much excess weighting when combined with auto mechanics as the latter did in the first school. Then, when the pupils in these two lines of work, along with a large number of others in similar lines, are all combined into an industrial arts group for each school, and when all the industrial arts groups for the schools of a type, such as the comprehensive type, are also combined, it seems probable that the total will be a rather fair and adequate representation of pupils in this particular field of work. However, it should be recognized that curriculums with uniformly high enrollments in all schools do not have a representation in the sampling comparable to the total numbers enrolled in them and that curriculums with uniformly small enrollments in all schools have larger representations than their enrollments would give them.

The pupils from part-time schools included in the report also represent a sampling of the pupils in the schools studied. In each case, an attempt was made to secure a sampling representative of the entire group of pupils. For the continuation school, all pupils or a sampling of pupils in attendance during one of the days were studied. In other situations,

where the group in attendance on any one day was not considered to be representative, a sampling was made of the pupils in attendance on two different days. A sampling was also made of pupils in the evening schools. The class group was used as the basis for sampling pupils in evening schools. That is, if it was considered possible to study a number constituting half of the enrollment, half of the class groups were studied, selecting the groups so as to secure the best sampling of the total enrollment.

Present treatment a summary and comparative statement.—As already stated, the data concerning pupils enrolled in secondary schools have been presented in detail in two other monographs of the Survey. The present treatment will constitute a summary statement of the various treatments. The more extensive study of the pupil population was of the pupils in the full-time secondary school. Data were also secured on pupils enrolled in continuation and evening schools. A considerable number of tables are presented in the treatment reported in the two monographs mentioned. References will be made here to those data but they will not be reproduced in great detail. Persons interested in analyzing these data in detail should refer to the monograph, The Horizontal Organization of Secondary Education, for the materials on the pupils enrolled in full-time secondary schools and to the monograph, Part-Time Secondary Schools, for details concerning pupils in continuation and evening schools.

Changes in enrollment in the different types of secondary schools.—Before reporting the evidence from the study of characteristics of secondary-school pupils, it seems desirable to give a picture of the relative status of full-time and part-time schools in the country as a whole. Reference was made in Chapter I of this monograph to the rapid increase in enrollment in full-time secondary schools. The number of pupils has doubled each decade since 1900, an increase much larger than the increase in number of children of high-school age. Consequently, in 1930 as many as 4,354,815 children of high-school age were in high school, a number which is 46.6 per cent of the total number of appropriate ages for high-school attendance in the population. The increase has been almost as rapid for the evening schools. The enrollment in

the evening high schools as indicated in the statistics of the United States Office of Education was 1,038,052. This number is nearly double the enrollment in 1920, nearly three times that of 1910, and five times that of 1900. In contrast with these indications of increase in enrollment, the enrollment in the continuation schools has in recent years experienced a decrease. The enrollment in continuation schools reported by the Federal Office of Education for 1930 was 310,214, in contrast with 355,115 for 1928. If one compares the enrollment for 1930 with an earlier year, for instance 1922, when the enrollment was 177,618, the increase is impressive. As the full-time schools increase in enrollment, thereby holding a larger proportion of youth during the ages of compulsory attendance, the number of children available for attendance at continuation schools becomes smaller. Consequently, if the full-time secondary schools should continue to increase in the proportion of the children of high-school age who are served, the number attending continuation schools must decrease.

2. THE INTELLIGENCE AND SUCCESS IN SCHOOL WORK OF THE PUPILS REPRESENTED

The intelligence of pupils.—Data concerning intelligence were secured for 5,290 pupils in full-time secondary schools. These data were summarized for the pupils enrolled in the various curriculums in the different types of secondary schools. The boys in the college-preparatory curriculum in the technical school rank highest with a median I. Q. of 114. As might be expected, the academic and scientific groups in the comprehensive and general schools rank next. The lowest groups are those in industrial arts. The median I. Q. for the trade school is 92.4; for the industrial arts in the comprehensive school, 97.5; and for the industrial arts in the general school, 94.6. The commercial groups were uniformly lower than the academic groups and higher than the industrial arts groups, although the differences are not marked. Similar contrasts are noted for girls. The group in household arts bears the same relationship to the other curriculum groups as does industrial arts for boys. Again, for girls as for boys, the commercial groups are between the academic and the household arts groups in intelligence rating.

With respect to grade level, it is evident that some selection takes place in the traits measured by intelligence tests as pupils progress through the secondary school. The medians of the I. Q.'s for pupils in the tenth grade are consistently higher than those for pupils in the ninth grade; those for the eleventh grade are consistently higher than those for the tenth grade, and those for the twelfth grade are, on the whole, a little higher than those for the eleventh grade, although the differences at this point are not so consistent for the various groups. The mean of the medians for all groups weighted according to the number of cases in each group are as follows: Ninth grade, 98.6; tenth grade, 101; eleventh grade, 103.7; twelfth grade, 104.5

Few intelligence test data are available for pupils of the evening schools. Less is done locally in the measurement of intelligence of evening school pupils and it was not possible to administer many tests in connection with the Survey. The Pressey test was given to 597 pupils in 1 evening school and the median I. Q. was found to be 92.3—about the same as that for the pupils in the full-time trade schools. The median mental age of this group was 14 years and 10 months. Data were not secured in the Survey on the intelligence of continuation school pupils, but the investigation by Hopkins provides the results of a comparison of the full-time high-school pupils and the continuation school pupils. He compared the intelligence test scores of 971 regular school children and 890 continuation school children.[1] The distributions of the scores for the two groups overlap greatly. The upper and lower limits of the two distributions are practically the same. However, there is a wide difference between the median scores of the two groups. The median score for the regular high-school groups is 129.3 in contrast with 92.9 for the group enrolled in the continuation school.

These differences between averages should not lead one to ignore the large amount of overlapping of the distributions of intelligence of the pupils in the various groups. All contain many pupils at the different levels of ability. However,

[1] Hopkins, L. Thomas. The Intelligence of Continuation School Children in Massachusetts. Harvard Studies in Education, 1924. p. 59.

some groups have a larger proportion of pupils on certain levels of intelligence than other groups.

There is little variation in the intelligence of pupils in a given curriculum appearing in different types of schools. That is, about the same type of pupil, intellectually, elects commercial and industrial courses regardless of the type of school in which such courses appear. The median I. Q.'s for boys in commercial curriculums range only from 100 for the comprehensive school to 103.7 for the general school. The median for the commercial school is 101.8. For the girls, the median I. Q. is the same for the comprehensive and commercial school (98.9); that for the general school is 103.5. The variation in intelligence of the industrial groups is about the same as that for the commercial groups. The trade schools are slightly lower than the other types but the differences are small. These data would suggest that the type of organization of secondary schools does not affect the selection of the pupils in the various fields of work.

Success in school work.—The data on success in school work bear out to a considerable extent data already presented concerning the intelligence of groups of pupils in the different curriculums and types of schools. The proportion of pupils repeating a fraction of a grade or one or more grades is a rough measure, yet it gives some indication of the degree of success of pupils. In general, the percentage having experienced failure of some type is largest for the household arts and industrial arts groups, although the group for the scientific curriculum is large in the general school. Between a third and a half of the boys and between a fourth and a third of the girls reported having experienced repetition during their school course. It will be noted that the proportion is somewhat smaller for girls.

The proportion reporting some failure in school is larger for pupils in the continuation school. About two-fifths of the boys and three-tenths of the girls reported that they repeated one or more grades or a part of a grade in the full-time school. About a fourth failed one or more subjects in their last full semester in full-time schools. However, a very small proportion (2.4 per cent of boys and 1 per cent of girls) gave failure as the important reason for leaving full-

time school. Data along these lines were not secured for pupils in the evening schools.

3. THE SOCIO-ECONOMIC STATUS OF PUPILS

The occupation of father as a measure of socio-economic status.—One of the most commonly used indexes of socio-economic status of the pupil is the occupation or means of livelihood of the father. It has been found by various investigators to be perhaps the most valuable single item of information in determining the socio-economic level of an individual. To go a step farther, one may say that the social and economic level of the family is largely dependent upon the type of work done by the father, who is usually the chief or the only means of support to the family. Socio-economic status depends in large part on the financial resources of the individual or of his family. Intellectual development, amount of education, economic resources, social level, and similar factors are positively correlated with occupational status. It is not surprising that this is so, in view of the elements of causal relationships between them. Counts stated his belief that—

> Occupation is the central fact in the lives of the great masses of people. It is the interest that occupies the time and energy of the ordinary person for the major part of his waking hours. In large measure it determines his place of residence, his associates during the working day, and his more intimate acquaintances and friends of the leisure moments. If pursued for years, it will set its mark on his physical nature and will stamp his mind with its special pattern. It will determine to a considerable degree what he does, what he thinks, and his outlook on life.[1]

It is in the light of this significance that it was decided to make a careful study of the paternal occupations of the pupils included in this comparison.

Granting that the occupational status of an individual is an important index of his level in society, the first task is to find out what his occupation is, and the second is to classify him according to his occupation in such a way that he will be placed in the most nearly correct relationship to others similarly classified. In order to make accurate and valid classifications of occupations, certain facts about the occupa-

[1] Counts, George S. The Selective Character of American Secondary Education. Chicago, University of Chicago Press, 1922. p. 21.

tions must be ascertained. The great complexity of our industrial and business organization makes it increasingly difficult to classify occupations. The first step in the approach to the problem was a study of systems of classifying occupations already extant. Those studied were devised by Taussig,[3] Terman,[4] Haggerty and Nash,[5] Barr,[6] Sims,[7] Goodenough,[8] and Counts.[9]

The classification used in this study.—The classification finally adopted for this study more nearly resembles Counts's than any other. Certain changes were made in his procedure. The chief difficulty of classification used by Counts was the wide range of certain groups, especially the proprietary and managerial groups. All proprietors, whether owners of a large business or of a very small business, are put in the same classification. The purpose in making the modifications was to secure more homogeneous groupings. It may be noted that the proprietary group has been broken up into four groups according to the size of the business owned and the amount of training possessed by the individual. The managerial group has been broken up into four groups according to the number of workers supervised and the amount of training possessed by the individual. Also, workers in transportation and communication service have been placed in two groups according to the type of work done and the training of the individual.

The introduction of the training of the individual in the plan of classification is a significant departure from previous plans. It was used only to aid in differentiating among workers at different levels in certain types of work. Differentiation was made between professional and semiprofessional owners and managers, and between transportation

[3] Taussig, F. W. Principles of Economics. New York, The MacMillan Co., 1911. Vol. II, pp. 134–148.

[4] Terman, L. M. Genetic Studies of Genius. Stanford University Press, 1925. Vol. I, pp. 61–72.

[5] Haggerty, M. E., and Nash, H. B. Mental Capacity of Children and Paternal Occupation. Journal of Educational Psychology 15:559–572, December 1924.

[6] Barr, F. E. See Terman, op. cit.

[7] Sims, Varnor M. The Measurement of Socio-Economic Status. Bloomington, Ill., Public School Publishing Co., 1928.

[8] Goodenough, Florence L. The Relation of the Intelligence of Preschool Children to the Occupation of Their Fathers. American Journal of Psychology 40:284–294, April 1928.

[9] Counts, George S. Op. cit., pp. 20–25.

and communication at different levels. In these divisions both training and characteristics of the position were considered. It was believed that the more general fields, such as proprietors and managers, would be divided into groups more homogeneous in socio-economic status if the training of the worker was considered in addition to the information obtained about the occupation. If the groups which appear at more than one level were combined, the classification would be practically the same as that developed by Counts. The injection of the element of training into the classification tends to greater recognition of the cultural element that should aid in setting aside an overemphasis on the economic elements in the older classification. At the same time, it would not be within the strict truth to claim that the present grouping is more cultural than it is socio-economic.

Reference should be made also to the classification of the occupations into the five groups—professional, semiprofessional, skilled, semiskilled, and unskilled. These groupings should be regarded as only rough groupings to facilitate comparisons of the percentages of pupils in different schools and curriculums with fathers employed in occupations at various levels. Comparisons for individual occupations would have been too detailed for the purposes of the present study.

The larger owners and executives were included in the professional group. Some may question the appropriateness of this arrangement. These groups have been shown in previous studies to be among the highest in socio-economic status. Another justification of the grouping lies in the tendency towards professionalization of positions in business and industry.

It is probably not necessary to go into great detail in interpreting this system of classification to the reader. Those interested will find in the presentation of the system all the facts necessary to its understanding and use. One further question that will probably arise should be anticipated. This is in regard to the basis for deciding the numbers of workers employed or supervised for each of the various proprietary and managerial groups. For example, an owner employing 50 or more persons goes into the "large owners and

proprietors" group, while if the same man should employ between 6 and 50 persons he would go into the group of "middle owners and proprietors." Similarly with the other owners and the managers. These limits were set more or less arbitrarily on the basis of experience gained in classifying the occupations of almost 50,000 persons. Potent reasons might be advanced for other limits and it would be difficult to prove that those used are the best. In general, two considerations were kept in mind in setting these limits. In the first place, an attempt was made to set limits that would really differentiate large owners from middle owners; and middle owners from the others. In the skilled and semi-skilled owners groups more importance was attached to training or skill as a differentiating criterion than to numbers of persons employed. Similarly with the managerial groups. In the second place, the principle was adhered to throughout that for a manager to be classed on the same level as a proprietor the number of persons under his supervision must be greater than the number of persons employed by the proprietor.

The socio-economic scale itself, certain notes on the occupations classifications used in each group, and the lists of occupations represented are here given in full.

A Socio-Economic Scale [10]

I. The Professional Group

1. Large owners and proprietors (more than 50 workers).
2. The professions.
3. Executives (more than 100 workers).

II. The Semiprofessional Group

4. Middle owners and proprietors (6 to 50 workers).
5. Semiprofessional workers.
6. Managerial workers (11 to 100 workers).

III. The Skilled Group

7. Skilled small owners 0 to 5 workers).
8. Supervisory workers (1 to 10 workers).
9. Commercial workers.
10. Clerical workers.

[10] As will later be indicated, amount of education was used in some cases in classifying workers.

11. Building trades.
12. Machine and related trades.
13. Printing trades.
14. Transportation and communication workers.

IV. The Semiskilled Group

15. Manufacturing, mechanical, and production workers.
16. Transportation and communication workers.
17. Semiskilled owners and proprietors (0 to 5 workers).
18. Small agents and managers (1 to 10 workers).
19. Public service.
20. Personal service.

V. The Unskilled Group

21. Common labor.

VI. Occupation Unknown

22. Unknown and unclassified.

NOTES ON OCCUPATIONAL CLASSIFICATIONS IN THE GROUPS

Group I

1. *Large owners.*—Includes the large owners and controllers of enterprise in every field of work. They have under their control not fewer than 51 employees.
2. *The professions.*—Includes the well-established, socially recognized professions. In general, members of this group have had at least 4 years of college training or its equivalent.
3. *Executives.*—Includes the captains of industries, the leaders, directors, and officials in every field. In general, they have some voice in dictating and directing the policies of the industries, corporations, etc. Includes executives in both public and private service. These executives have more than 100 workers under their direction.

Group II

4. *Middle owners.*—This group is similar in make-up to the large owners in Group I, but they employ 6 to 50 workers. (An owner who employs fewer than 6 workers but who has had one year or more of college training is included in this class.)
5. *Semiprofessional workers.*—Includes those occupations of a professional nature or bent, generally requiring less training than the professions in Group I.
6. *Managerial workers.*—Includes those people engaged in managerial work in every field, either public or private, who have from 11 to 100 workers under their direction. (A manager who has fewer than 11 workers under his direction, but who has had one or more years of college training, is included in this class.)

Group III

7. *Skilled small owners.*—Includes those workmen who are highly skilled in their occupations, but who have set up their own shop or gone into business for themselves. They employ five people or fewer, and in many cases do not employ anyone. This group includes all skilled artisan proprietors. (Owners who would otherwise be placed in this class, but who have had one or more years of college training, are grouped with the middle owners, Class 4.)
8. *Supervisory workers.*—Includes those foremen, bosses, supervisors, managers, and agents who are highly skilled in some trade themselves, and who would naturally be classified in the skilled group. They have from 1 to 10 workers under their direction. (A supervisor who has from 1 to 10 workers under his direction but who has had one or more years of college training is grouped with the managerial workers, Class 6.)

9-14. Classes 9, 10, 11, 12, 13, and 14 are quite homogeneous and do not present difficulties. They include only skilled workmen and are not managers or in business for themselves. Semiskilled or unskilled workmen in any of these fields should be classified under Groups IV and V.

Group IV

15. *Manufacturing, mechanical, and production workers.*—Includes those semiskilled and slightly skilled workers who are engaged in the production of goods, or who are engaged in manufacturing or mechanical operations. This group includes machine operatives in all lines of work.
16. *Transportation and communication workers.*—Includes the semiskilled and slightly skilled workers in these fields.
17. *Semiskilled owners.*—Includes those workers who are semiskilled or slightly skilled in their occupations, but who have set up their own shop or gone into business for themselves. They employ 5 people or fewer, and in many cases do not employ anyone.
18. *Small agents and managers.*—Includes those foremen, bosses, supervisors, managers, or agents who are engaged in types of work which would naturally place them in the semiskilled and slightly skilled group (Group IV), but who have from 1 to 10 workers under their direction.
19. *Public service.*—Includes all workers serving the public who are not classified in one of the first three groups. All watchmen, attendants, and other guardians of property are in this class.
20. *Personal service.*—Includes those slightly skilled workers in the personal service field who are in the employ of other people, as contrasted with those who are in business for themselves and who are put in one of the owner classes.

Group V

21. *Common labor.*—Includes all unskilled labor.

Group VI

22. *Unknown and unclassified.*—Includes all those workers for whom no information was given, or for whom the information given was inadequate or not clear.

I. The Professional Group

1. Large owners and proprietors [11]

Bankers.
Brokers.
Dairy, farm, and ranch owners.
Druggists.
Garage owners.
Hotel owners.
Landlords.
Laundry owners.
Lumbermen.
Manufacturers.
Merchants (large, wholesale and retail).
Mine owners.
Publishers.
Restaurant owners.

2. The professions

Architects.
Artists.
Authors.
Chemists.
Clergymen.
Consulting and technical engineers:
- Architectural.
- Chemical.
- Civil.
- Electrical.
- Mechanical.
- Mining.

Dentists.
Journalists.
Lawyers.
Librarians.
Musicians:
- Concert soloists.
- Directors and conductors.

Osteopaths.
Physicians.
Statisticians.
Surgeons.
Teachers, professors, and educational administrators.

3. Executives

Editors.
Hotel managers.
Major Army, Navy, and Marine officials:
- Generals, colonels, majors, admirals, captains (Navy), commanders, et al.

Major Federal, State, and city officials:
- Mayors, governors, cabinet members, senators, representatives, treasurers, et al.

Major officials and directors of corporations, etc.
Sales managers.
Superintendents of large concerns, factories, etc.

[11] The preceding notes on the occupational classification will aid in interpreting the following groupings. The notes will be especially important for occupations that appear in more than one group.

II. The Semiprofessional Group

4. Middle owners and proprietors

Bankers.
Brokers.
Contractors.
Dairymen, small farm owners.
Druggists.
Garage owners.
Hotel owners, rooming house proprietors.
Landlords.
Laundry owners.
Manufacturers.
Merchants, small retailers and wholesalers.
Publishers.
Restaurant, cafe, and lunchroom owners.
Undertakers.

5. Semiprofessional workers

Actors.
Artists.
Authors.
Cartoonists.
Chemists.
Chiropractors.
Commercial and clerical workers (1 year or more of college).
- Accountants.
- Agents:
  - Insurance.
  - Real estate, etc.
- Buyers.
- Cashiers.
- Commercial travelers.
- Sales clerks in stores.
- Salesmen.
- Secretaries.
- Tellers, etc.

Craftsmen.
Engineers (less than 4 years college training):
- Chemical.
- Civil.
- Electrical.
- Mechanical.
- Mining.

Interior decoration.
Inventors.
Journalists and news writers.
Landscape gardeners.
Librarians.
Musicians:
- Orchestra, stage and band.

Nurses, trained.
Pharmacists.
Photographers.
Physical directors.
Radio announcers.
Social and religious workers.
Surveyors.
Technicians and laboratory assistants.

6. Managerial workers

Agents:
- Express.
- Railroad.
- Steamship.
- Telegraph.

Contractors.
Editors.
Foremen.
Inspectors and overseers.
Hotel managers.
Managers.
Marine captains, masters, and mates on boats.
Minor Army, Navy, and Marine officials:
- Captains (Army), first and second lieutenants, ensigns, warrant officers, et al.

Minor Federal, State, and city officials:
- Assessors, assistant commissioners, council members, aldermen, et al.

Officials of small industries.
Sales managers.
Superintendents of small industries.

III. The Skilled Group

7. Skilled small owners

Automobile mechanics.
Bakers.
Blacksmiths.
Cabinetmakers.
Draftsmen.
Electricians.
Machinists.
Milliners.
Plumbers.
Printers.
Seamstresses and dressmakers.
Sign painters.
Tinners.
Undertakers.

8. Supervisory workers (not included in group 6)

Agents:
- Express.
- Insurance.
- Railroad.
- Station.
- Steamship.
- Telegraph.
- Ticket.

Conductors (R.R.).
Contractors.
Editors.
Foremen.
Inspectors and overseers.
Managers.
Marine captains, masters, mates on boats.
Salesmen.
Sales managers.
(Any other skilled workers who have from 1 to 10 workers under their direction.)

9. Commercial workers (not included in group 5)

Agents:
- Real estate.
- Insurance.

Buyers.
Commercial travelers.
Salesmen.
Sales clerks in stores.[12]
Window dressers and decorators.
Advertising agents.

[12] Through error, sales clerks in stores without college training were included in public service group, No. 19, in the present investigation.

10. Clerical workers (not included in group 5)

Accountants.
Bookkeepers.
Canvassers.
Cashiers.
Civil service clerks.
Clerks in offices.
Collectors.
Stenographers.
Ticket and station agents.
Typists.

11. Building trades

Bricklayers.
Cabinetmakers.
Carpenters.
Electricians.
Glaziers.
Interior finishers.
Lathers.
Masons.
Painters.
Plasterers.
Plumbers.
Sheet-metal workers.
Stone cutters.
Structural-iron workers.
Tile layers.

12. Machine and related trades

Anglesmiths.
Automobile mechanics.
Blacksmiths.
Boilermakers.
Coppersmiths.
Designers.
Draftsmen.
Engineers (stationary).
Forgemen.
Founders
Furnacemen, smeltermen.
Jewelers and watchmakers.
Machinists.
Mechanics.
Metal finishers.
Millwrights.
Millers.
Molders.
Pattern makers.
Potters.
Tinsmiths.
Toolsmiths.
Welders (acetylene, etc.).

13. Printing trades

Bookbinders.
Compositors.
Electrotypers.
Engravers.
Linotypers.
Lithographers.
Pressmen.
Printers.
Typesetters.

14. Transportation and communication workers

Aviators.
Dispatchers.
Engineers (steam and marine).
Pilots and navigators.
Radio operators.
Telegraph operators.
Telephone and telegraph installers.
Telephone and telegraph trouble shooters, circuit testers, line testers.

IV. The Semi-skilled Group

15. Manufacturing, mechanical, and production workers

Apprentices and helpers.
Bakers.
Boiler-washers.
Bottlers.
Brewers.
Butchers, meat cutters.
Chefs (hotel).
Cigar makers.
Cobblers.
Coopers.
Corset cutters.
Cutters.
Dyers and cleaners.
Engine hostlers.
Factory hands.
Firemen (except locomotive, marine, and fire department).
Furniture finishers.
General repairmen.
Glass blowers.
Grinders.
Harness makers.
Inspectors, gagers, and samplers.
Lumbermen and raftsmen.
Machine operatives.
Milliners.
Moving-picture operators.
Oilers of machinery.
Platers.
Sawmill workers.
Seamstresses and dressmakers.
Ship riggers.
Shoe cutters.
Tailors.
Tanners.
Tire repairers.
Upholsterers.
Vulcanizers.
Weavers.

16. Transportation and communication workers

Baggagemen.
Brakemen.
Chauffeurs.
Conductors (street car).
Draymen.
Deliverymen.
Firemen (locomotive and marine).
Inspectors.
Mariners.
Messengers and office boys.
Motormen (steam and street car).
Oil and gas station attendants.
Switchmen.
Teamsters.
Telephone and Telegraph linesmen.
Telephone operators.
Ticket collectors.
Yardmen.

17. Semiskilled owners and proprietors

Auctioneers.
Barber-shop owners.
Beauty-shop owners.
Bootblack stand owners.
Cobblers.
Fruit-stand owners.
Hairdressers.
Hucksters, venders, and peddlers.
Junkmen.
Manicurists.
Paperstand owners.
Shopkeepers.
Tailors.
(Any other semskilled or slightly skilled workers who own their own business and employ from 0 to 5 people.)

18. Small managers and agents

Agents:
- Cleaners and dyers.
- Shoe repairing.
- Laundry.

Foremen.
Inspectors and overseers.
Minor Army, Navy, and Marine officials:
- Sergeants, corporals, petty officers, etc.

Minor public officials:
- Police captains, sergeants, inspectors, etc.

Managers:
- Shoe repair shops.
- Barber shops.
- Beauty parlors.
- Grocery stores, etc.

(Any other semskilled or slightly skilled workers who have from 1 to 10 workers under their direction.)

19. Public service

Detectives.
Firemen (fire department).
Guards.
Mail carriers.
Marines.
Marshalls.
Policemen.
Sailors (Navy).
Sheriffs.
Soldiers (Army).
Watchmen.

20. Personal service

Barbers.
Bootblacks.
Cooks (family).
Doorkeepers.
Furnacemen.
Hardeners.
Hairdressers.
Janitors.
Launderers.
Manicurists.
Nurses, not trained.
Porters.
Servants.
Sextons.
Stewards.
Waiters, countermen, and [illegible]bus boys.

V. The Unskilled Group

21. Common labor

Circus roustabouts.
Farm hands.
Garbage collectors.
Hostlers and stable hands.
Icemen, coalmen.
Laborers.
Longshoremen.
Miners (not machine operatives).
Odd jobbers.
Stevedores.
Railway track layers and section hands.

VI. Occupation Unknown

22. Unknown and Unclassified

Information used in classifying the pupils.—The system of classification having been devised, the next steps were to plan an inquiry which would secure the necessary information and

to administer it to persons of secondary-school age. The items that were believed necessary are: Name of occupation; ownership; control of workers; training, both educational and vocational; duties; titles; and the employing organization. Questions on these items of information regarding the father's occupation had to be incorporated in the check list filled out by the pupils in the schools visited. This was done in the following form:

a. Give the name of your father's present position (or his last position if he is not living or working now).

---

b. What are (were) his chief duties?

---

c. Where or for whom does (did) he work?

---

d. Is (was) he either owner or part owner in the business in which he works (worked)? Underscore: Yes. No.

e. Does (did) he have any title, such as president, manager, foreman, boss, etc? Underscore: Yes. No.
If he does (did), write it on this line.

---

f. About how many persons work (worked) for or under him? Underscore the right number or group:

1. None.
2. One to five.
3. Six to ten.
4. Eleven to fifty.
5. Fifty-one to one hundred.
6. Over one hundred.

In addition a question in another section of the check list asked for information on the education of the father. All these together provided, in most cases, the information necessary for the use of the classification. However, in some cases pupils failed to provide answers to some of the questions. In these cases the occupation was classified as well as could be done, or put into the unclassified group if no decision could be made.

The findings of the comparisons.—The socio-economic level of the different curriculum groups (Table 5) is somewhat in agreement with the intellectual levels described in the preceding section; that is, the academic and scientific curriculums have larger proportions than the other curriculums from the upper levels, and the household and industrial arts have larger proportions from the lower economic levels than the other curriculums. While about a tenth of the pupils in the

academic and scientific curriculums on the comprehensive schools come from the professional level, the proportion is smaller than 1 out of 20 for the household and industrial arts. The same contrast, though smaller, appears for the semiprofessional group. About a fourth of the pupils in academic and scientific curriculums come from homes with fathers at the semiprofessional level while about a sixth of the pupils in the household arts and industrial arts groups come from this level. The proportions are nearly equal for the different groups on the skilled level and the proportions are smaller for the academic and scientific groups than the other curriculum groups on the semiskilled level. The commercial pupils in the comprehensive schools approximate more nearly the household and industrial arts groups than they do the academic curriculums. In fact, the percentages from the different socio-economic levels are almost identical with those for the household arts group. The pupils in the fine arts curriculum are more nearly like the academic groups. The general curriculum, serving pupils without definite vocational objectives or plans to go to college, draws pupils from socio-economic levels in proportions similar to those from the household and industrial arts in the comprehensive school. The percentages from the professional and semiprofessional levels are smaller than for the academic and scientific curriculums.

The different curriculum groups in the general schools bear the same relationship to each other as indicated in the preceding paragraph for the comprehensive school. All groups except the scientific had a larger proportion of pupils from the professional groups, indicating that these schools served more highly selected socio-economic groups than the comprehensive schools. In the general schools, the academic and scientific curriculums enrolled larger proportions from the professional and semiprofessional levels than the other curriculum groups and larger proportions from the lower economic groups. The commercial group was closely similar to the household arts and the industrial arts groups.

TABLE 5.—*Percentages of fathers of pupils enrolled in various types of schools and curriculums who are employed in occupations at different levels*

Type of school and curriculum	Professional	Semi-professional	Skilled	Semi-skilled	Unskilled
1	2	3	4	5	6
Comprehensive school:					
General (728)	4.7	15.4	36.7	29.8	4.1
Academic (1,009)	11.3	26.6	32.8	22.2	2.0
Scientific (281)	10.6	25.3	27.9	25.0	2.1
Commercial (1,161)	3.2	15.8	36.2	31.3	4.8
Fine arts (252)	9.2	22.3	34.7	24.1	2.5
Industrial arts (1,094)	3.7	15.6	33.9	31.1	7.9
Household arts (273)	4.6	17.3	36.8	30.0	4.2
Others (1,055)	6.5	22.1	31.2	28.2	2.7
Total	6.5	19.4	33.7	28.2	4.2
General school:					
General (1,020)	9.5	26.9	33.0	21.5	1.3
Academic (1,593)	16.9	30.6	27.4	18.2	1.0
Scientific (122)	10.6	37.7	34.5	16.3	.8
Commercial (1,089)	4.3	16.4	35.5	33.1	2.2
Fine arts (106)	14.1	30.3	35.8	14.0	----------
Industrial arts (314)	5.4	17.8	37.6	27.4	3.8
Household arts (161)	5.0	21.1	29.1	34.2	5.0
Others (568)	9.4	28.7	31.9	22.9	1.6
Total	10.4	25.5	31.9	23.7	1.7
Technical school:					
College preparatory (647)	6.1	17.7	36.4	27.9	5.4
Household and industrial arts (596)	2.8	12.1	38.2	32.3	6.4
Commercial (206)	2.0	11.7	41.7	28.6	5.3
Others (1,090)	4.0	16.8	39.2	27.8	3.7
Total	4.1	15.5	38.4	29.0	4.9
Commercial school (1,540)	3.8	16.6	31.8	32.7	3.8
Trade school (2,190)	3.8	11.1	30.8	29.5	9.6
Total in all schools (17,174)	6.6	19.3	33.4	27.5	4.2
Continuation school (2,992)	2.5	7.7	31.5	39.6	11.0
Evening school (4,145)	3.9	10.9	29.1	32.2	7.0

NOTE.—The numbers in parentheses are the numbers of pupils represented.

The socio-economic data for the technical school presents an interesting lack of agreement with the intelligence data reported elsewhere. It was indicated above that the college preparatory group in the techincal school ranked highest in intelligence in comparison with other academic groups. They do not stand so high, however, in socio-economic rating. In fact, they are nearer to the household arts and industrial arts groups than to the academic groups.

In general, the comparison of the socio-economic status of pupils in the different curriculums in each of the types of schools shows little variation with type of school. Approximately the same proportions of the commercial pupils in comprehensive, general, technical, and commerical schools come from each of the economic levels. Similarly, approxi-

mately the same proportion of the industrial arts pupils in the different types of schools come from each level. Slight differences are noted. The percentage of the commercial and industrial pupils from the professional group is highest for the general school and lower for the technical school. The opposite relationship exists for the skilled occupational levels; that is, the precentages are higher in the technical school for both the commercial and the industrial pupils. The differences in the percentage of pupils from each of the occupational levels are very slight between the comprehensive schools and the specialized commercial and trade schools.

The socio-economic status of the pupils enrolled in the continuation school is lower than that of any of the other school or curriculum groups. The continuation school group has a larger percentage from the unskilled and the skilled levels than any other curriculum or school group, and it has a smaller proportion in the two highest levels, the professional and the semiprofessional, than any other group. Thus, there is a higher relationship between retention in full-time school and socio-economic status than between the choice of a curriculum and socio-economic status.

The evening school pupils come from somewhat higher socio-economic levels than the pupils in continuation schools. The evening school pupils are more nearly like the pupils in the trade school and the pupils in the industrial arts curriculum of the comprehensive school. Since the industrial arts pupils are considerably lower than pupils in the academic curriculums, the pupils in evening schools are considerably lower than the academic school groups.

The foregoing indications of differences between groups of pupils should not preclude appreciation of the extent of overlapping of groups. All curriculums and curriculum groups have pupils from all levels.

4. OTHER CHARACTERISTICS OF PUPILS

Countries of birth of pupils and of fathers.—Nearly all the pupils in all groups were born in the United States. The percentages of pupils in different types of schools who were born in the United States range from 92.1 for technical and 92.4 for trade schools to 97.6 for general schools. A slightly

larger proportion of pupils in the evening schools were born in a foreign country. The percentages of native born in the evening schools are 78.6 for men, 88.8 for women, and 81.8 for the total evening school population.

A much larger proportion of the fathers of pupils than of the pupils themselves were born in a country other than the United States. Less than half (43.1 per cent) of the fathers of pupils enrolled in the trade school were born in this country. The next highest percentage is 52.7 for the fathers of pupils in the household arts and industrial arts groups of the technical schools. The lowest percentage for the various curriculums in the technical school is 40.3 for the commercial curriculum. The percentage for the commercial school is 41.2. The proportions of the pupils in the comprehensive and general schools whose fathers were born in this country is much higher. The lowest percentage for the general school is 65.2 for the commercial group and all other percentages lie between 74.7 (academic) and 89.9 (household arts). The range for the curriculums of the comprehensive schools is from 72.7 (industrial arts) to 84.9 (academic). There is thus some tendency for pupils with parents born in foreign countries to choose curriculums and schools of the commercial and industrial types.

The percentage of pupils with parents born in another country is larger for the continuation schools than for the other groups and the percentages for the evening schools is about the same as for the trade schools. Slightly less than half of the pupils in evening schools indicated that their fathers were born in the United States.

Education of fathers.—The education of fathers may be considered an indication of the cultural status of the different groups. The pupils participating in the investigation reported the highest grade in school attained by their fathers. The lowest item to be checked by them was "below seventh grade." Except for several groups in the general high schools and one in the comprehensive, all the medians fall between the eighth and the ninth grades. The exceptions are those in the general, academic, scientific, and fine arts groups. With the exception of the general high schools, none of the other types of schools differs markedly from any other. The

medians are higher for the general high-school groups, reaching 10.4 (between tenth and eleventh grades) for the general curriculum, 12.4 for the academic curriculum, 10.2 for the scientific curriculum, and 12.4 for the fine arts curriculum. The only group in other types of school approaching these levels of education is the academic group in the comprehensive school which has a median of 11.3. There is doubtless some error in these reports of pupils, as some pupils must have been uninformed on the extent of education of their parents. Data were not secured on this point for pupils in the continuation and evening schools.

Occupational status of mothers.—At the present time the occupational status of mothers can scarcely be considered as an indication of economic level since women from all socio-economic levels engage in work outside the home. In fact, employment of a mother outside the home in many instances is a sign of her superior attainments and ambition rather than an indication of low economic level. From 10 to 20 per cent of the pupils' mothers are employed outside the home. There are no groups below 10 per cent and not many over 20 per cent. The notable exception is fine arts boys in general high schools with 28.1 per cent of the mothers employed. There are no consistent or large differences other than this one among types of schools and curriculums. There is a slight indication that the mothers of boys in technical, commercial, and trade schools and those of girls in the latter two types are less frequently employed outside the home than those in other schools. This fact may be a reflection of a tradition in these families that the place of the mother is in the home. Data were not obtained on this point for pupils in continuation and evening schools.

Grade location of pupils at the time they left the regular full-time school.—Pupils transfer from the regular full-time school to the specialized vocational school at varying grade levels. A small proportion (1.3 per cent of boys and no girls) were in the sixth grade. Larger percentages were in the seventh, the percentage for boys being 6.5 and that for girls, 3.9. A total of 7.8 per cent of the boys and 3.9 per cent of the girls, therefore, had not reached or finished the eighth grade at the

time of entrance to the trade school. The largest numbers and proportions of both sexes were in the ninth and tenth grades at the time of transfer. This includes more than two-thirds of the entire group. About 10 per cent of the boys and 17 per cent of the girls had gone beyond the tenth grade.

A considerable number of the continuation-school pupils had not attained the regular high-school level (ninth grade) when they left the full-time school. Twelve per cent of the boys and seven per cent of the girls left before the eighth grade. In other words, about 90 per cent had a seventh-grade education or better before entering the continuation school. About half had one year beyond the eighth grade and about a fourth had as much as two years of high-school work.

The pupils in the evening school have had more formal education than those in the continuation school. The median grade attainment of both sexes in the evening school is the tenth grade. About a fourth of them have gone as far as the twelfth grade and another fourth have not gone further than the eighth grade. For the most part, the evening school serves individuals who were unable to complete the high-school course or who did not have the inclination to do so.

Ages of pupils.—The pupils in the evening schools are older than those in the continuation schools and in the different types of full time schools. The median age of boys in the evening school is 24 while that for girls is 22.1.[13] There is no great variation among the median ages of the different groups, but there is some tendency for the pupils in the academic curriculums to be younger than those in the industrial curriculums. The ages of the continuation school pupils range from 14 to over 18. The median ages of the group studied is 17.7 for boys and 17 for girls. A fourth of the boys were 16.7 or younger and a fourth of the girls were 16.2 or younger. The ages of the continuation-school pupils are scattered over the normal range of the regular high school but most of them are of the age of pupils in the upper years of the high school or of high-school graduates.

[13] In some respects it may seem ridiculous to refer to persons of these ages as "boys," "girls," and "pupils," but the reader will understand that this is necessitated by the undesirability of frequent shifts in terminology in the whole study.

Some additional information concerning pupils of full-time schools.—Practically all pupils (98.5 per cent) studied in the full-time schools have plans to be graduated from high school. In no case does the percentage fall below 93.8. Pupils from all schools and curriculums report plans to go to college, although the proportions are much larger for the academic groups. As many as a fifth in the industrial group in the comprehensive and general schools have ambitions to get to college. Approximately the same proportions in the commercial curriculum have such ambitions. These data would suggest that pupils in the specialized curriculums have not finally decided on the vocation for which the curriculum is presumed to prepare.

The data on the vocational choices of pupils support the foregoing observation. As many as 31.7 per cent of the boys and 27.3 per cent of the girls reported that they were without definite vocational plans. These percentages are high even in the more strictly vocational curriculums of the general, academic, and comprehensive schools. Practically a fifth of the girls and a third of the boys in the commercial curriculums report that they have no vocational plans. The proportion of boys without plans is considerably less for those enrolled in the trade groups. Only about a tenth of the boys in trade schools report no plans and the percentage is only 8.2 for the industrial arts group in the technical schools. In the comprehensive and general schools, however, a much larger proportion of boys enrolled in industrial curriculums reported that they had not yet made a decision as to the occupational field in which they wished to work. The percentage is 33.7 for the general school and 25 for the comprehensive school. When these data are analyzed by grade, one finds a smaller proportion of pupils without vocational plans in the upper grades, although the differences for pupils in the upper and lower grades are not so large as one might expect.

Some additional information concerning pupils in evening schools.—Most of the pupils in evening schools have vocational objectives for attending school. About a third of the boys and a fourth of the girls are trying to improve their chances for increase in salary or in rank in their present

positions. A fourth of both groups are preparing themselves for new fields of work. A smaller proportion, 10.2 per cent for men and 7.2 per cent for women, are trying to keep up with the new developments in the occupation in which they were at the time engaged. Pupils giving these three reasons for attendance constitute 71.5 per cent of the boys and 60.4 per cent of the girls. The proportion concerned about general cultural education is impressively small in comparison with the percentages reported for vocational aims. The percentages are only 6.8 for men and 14.7 for women. A small number are concerned with obtaining credits for graduation from high school or entrance to college.

Many of the pupils in the evening school had not completed the regular high-school course. They left school for various reasons. The reason most commonly checked for all groups and both sexes is the need for their earnings at home. Only about 5 per cent of the girls and about 10 per cent of the boys checked "lack of interest in school work." More than half of these pupils reported an economic reason in some form as the most important in causing them to leave school. Relatively few blame themselves or the school in which they had been enrolled. The economic factor was similarly stressed by pupils in continuation schools as the most important one in causing them to leave the full-time school.

5. PLACE OF PUBLICATION OF DETAILED EVIDENCE

Readers desiring a more intensive analysis of the data concerning pupils enrolled in the different curriculums in the full-time schools and different types of full-time schools should turn to the monograph, The Horizontal Organization of Secondary Education (No. 2). Data concerning pupils in the continuation and evening school may be found in the monograph, Part-Time Secondary Schools (No. 3). A detailed summary of the present monograph is not essayed because the monograph itself is in part a summary. It should be manifest to one who has read the foregoing pages that significant modifications have been taking place in the nature of the population served both in the regular offering of the school and in its newer divisions. Pupils from all

intellectual, social, and economic levels are now being served in larger proportions than ever before. There is still considerable economic selection, a selection which keeps down the proportion of children from the lower economic levels completing the work of the secondary school. The data from one city represented support the general impression that this discrepancy has been reduced in recent years; for another city, it appears not to have been decreased during a decade. In all situations, however, it is clear that larger numbers from the lower socio-economic levels are being served. The data in Chapter II indicate that pupils of different levels are being cared for by different lines of training, with some tendency for pupils of different types to choose certain courses. This increased assumption of the responsibility to provide a secondary education for all young people seems to be in harmony with the democratic aspirations of the American people. The provision of an education that will be of most value to all these pupils constitutes a most important and difficult challenge to the educator. The monographs on the program of studies and on the various subject groups indicate what is being done to serve this heterogeneous school population and what changes are taking place in the program of the school in light of these new educational needs.