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A STUDY OF THE COLLEGES AND HIGH SCHOOLS IN THE NORTH CENTRAL ASSOCIATION

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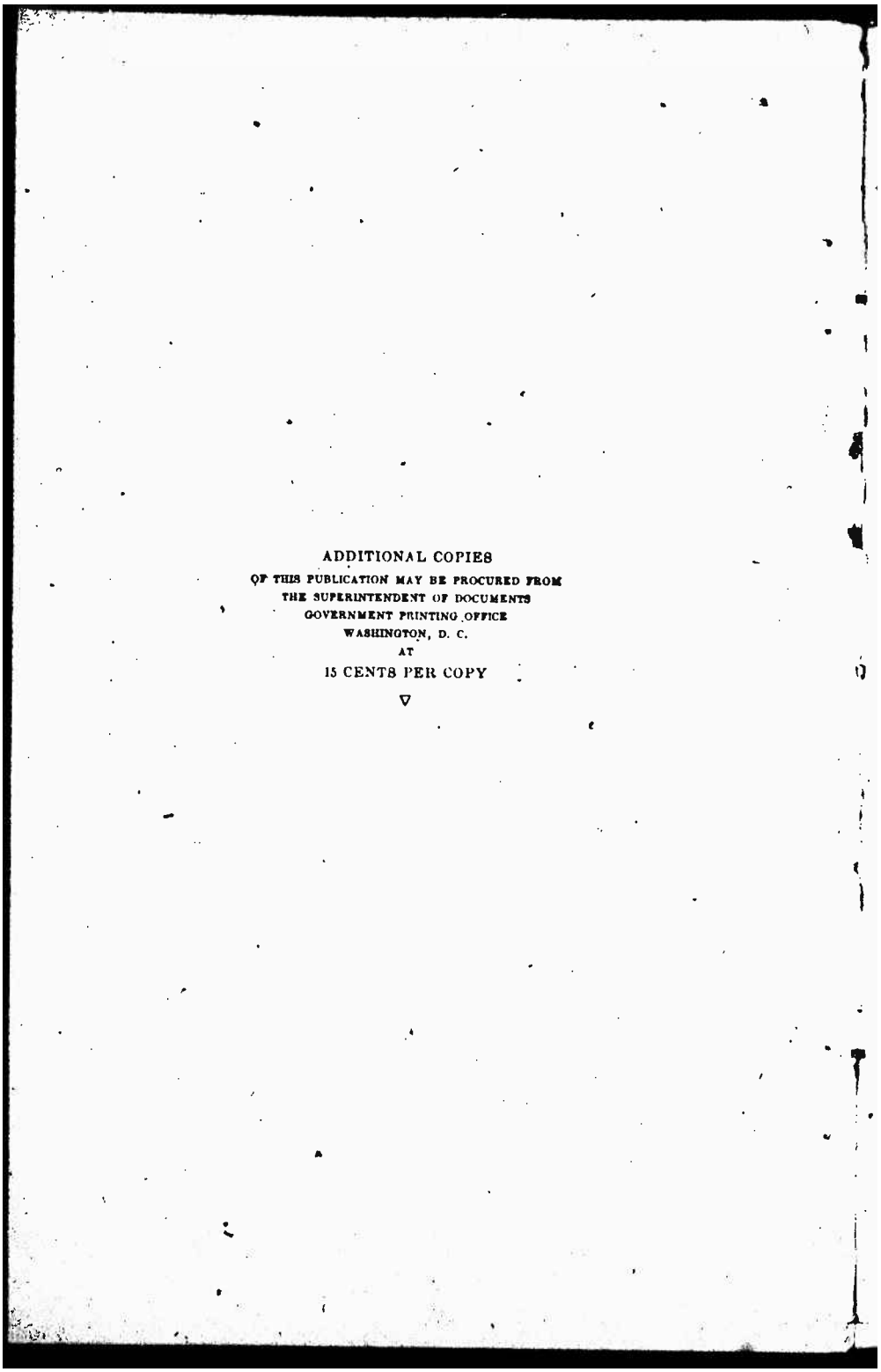

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By CHARLES H. JUDD,

Secretary of the Commission of the Association.

INTRODUCTION.

At the meeting of the North Central Association held in 1913 a list of colleges and universities prepared on the basis of standards previously adopted by the association was approved and ordered to be published. Furthermore, the officers of the commission were directed to prepare and publish a summary of all of the returns made by colleges and universities on the blanks used in collecting information. At the meeting held in March, 1914, by the same routine, a revised list was prepared and approved. The approved list of 1914 is based on the same standards as the earlier list. These standards are as follows:

STANDARDS OF ACCREDITING COLLEGES AND UNIVERSITIES.

The standard American college is a college with a four-year curriculum with a tendency to differentiate its parts in such a way that the first two years are a continuation of, and a supplement to, the work of secondary instruction as given in the high school, while the last two years are shaped more or less distinctly in the direction of special, professional, or university instruction.

The following constitute the standards for accrediting colleges for the present year:

1. The minimum scholastic requirement of all college teachers shall be equivalent to graduation from a college belonging to this association, and graduate work equal at least to that required for a master's degree. Graduate study and training in research equivalent to that required for the Ph. D. degree are urgently recommended, but the teacher's success is to be determined by the efficiency of his teaching, as well as by his research work.

2. The college shall require for admission not less than 14 secondary units, as defined by this association.

3. The college shall require not less than 120 semester hours for graduation.

4. The college shall be provided with library and laboratory equipment sufficient to develop fully and illustrate each course announced.

5. The college, if a corporate institution, shall possess a productive endowment of not less than $200,000.

6. The college, if a tax-supported institution, shall receive an annual income of not less than $100,000.

7. The college shall maintain at least eight distinct departments in liberal arts, each with at least one professor giving full time to the college work in that department.

8. The location and construction of the buildings, the lighting, heating, and ventilation of the rooms, the nature of the laboratories, corridors, closets, water supply, school furniture, apparatus, and methods of cleaning shall be such as to insure hygienic conditions for both students and teachers.

9. The number of hours of work given by each teacher will vary in the different departments. To determine this; the amount of preparation required for the class and the time needed for study to keep abreast of the subject, together with the number of students, must be taken into account; but in no case shall more than 18 hours per week be required, 15 being recommended as a maximum.

10. The college must be able to prepare its graduates to enter recognized graduate schools as candidates for advanced degrees.

11. The college should limit the number of students in a recitation or laboratory class to 30.

12. The character of the curriculum, the efficiency of instruction, the scientific spirit, the standard for regular degrees, the conservatism in granting honorary degrees, and the tone of the institution shall also be factors in determining eligibility.

No institution shall be accredited or retained on the accredited list unless a regular blank has been filed with the commission, and is filed triennially unless the inspectors have waived the presentation of the triennial blank.

The following blank was employed in securing statistics in 1914:

STATISTICAL INQUIRY

Name of institution..... Address.....
President..... Registrar.....
Control (sectarian, State, or other).....
Educational organization. Draw a line through the name of each division or school which is represented in your institution by a separate organization. If the work is organized merely as a department, do not mark the name in this list; mark only the college or school including that department. Graduate school, college of liberal arts, college of science, engineering school, school of mines, school of civil engineering, school of chemistry, school of electrical engineering, college of music, college of agriculture, law school, medical school, school of education, school of fine arts (other than music), school of pharmacy, school of dentistry, school of oratory, school of commerce.
Mention any others.....
Do you have a preparatory department?.....
Does the same student in any case take both preparatory and college courses?.....
In case students do thus take courses in preparatory and college classes, do not include them in any of the answers of this report dealing with students.
Is the preparatory department separate in equipment from the rest of the institution?.....
What per cent of the preparatory faculty is entirely occupied in preparatory teaching?.....

ADMISSION TO COLLEGE.

How many units required for admission to college?.....
Maximum number of admission conditions allowed in college.....
Are students admitted on certificate from schools not on this association's list?.....
If so, what steps are taken to determine the adequacy of preparation in such schools?.....

REGISTRATION AND GRADUATION.

Number of new students entering this year.....
Number of students attending classes at this date (include all departments above the preparatory).....
Number of students in college of arts and science.....
Distinguish between two classes of special or unclassified students and report for each:
(a) Those who are mature and are allowed access to classes without detailed classification.....
(b) Those who are conditioned or otherwise recognized as unqualified to receive regular classification. Include here all conditioned students whether technically special or not.....
Number of hours required for graduation (express in semester hours or quarter hours).....
Do you require physical education or public speaking?.....
If so, are these requirements included in above statement of hours?.....
Number of all degrees granted last academic year for work in course (give details, stating specifically number of each degree).....
Number of all honorary degrees granted last academic year (give details, stating specifically number of each degree).....

GRADUATE STUDY.

Are graduates now pursuing graduate courses? If so, where (mention four or five institutions, giving where possible the names of students so that their records may be looked up)?.....

SIZE OF DIVISION.

(By "division" is meant a group of students meeting together for a regular exercise in a course. Thus, if there is one meeting of a chemistry class for lecture and this class then breaks up into laboratory divisions, treat this as the lecture division and as several laboratory divisions.)
Number of students in each of the five largest lecture divisions.....
Number in five largest recitation divisions.....
Number in five largest laboratory divisions.....
Number of students in each of the five smallest divisions.....
Exact average of all divisions. (If this average can not be given exactly, mark it as estimate).....

FACULTY.

(The distinction between those who are responsible for classes and assistants who are not full members of the faculty is the matter referred to in the first question.)
Number of faculty members in independent charge of classes.....
Number of faculty members giving both college and preparatory work.....
Number of faculty members giving part time to regular, salaried engagements outside college.....

FACULTY RANK.

(Do not include in this list student assistants except in the last item.)

	Men.	*Women.*
Professors.....		
Associate professors.....		
Assistant professors.....		
Instructors.....		
Lower ranks.....		

DEPARTMENTS.

Check the departments in the following list in which at least the full time of one professor is devoted to college instruction to the exclusion of any other teaching:
English, modern languages, ancient languages, history, social science, mathematics, physical science, biological science.

INSTRUCTION.

In this paragraph distinguish between laboratory work and lecture or recitation exercises. Report the full time; do not treat two hours of laboratory work as equivalent to one hour of recitation.
Number of hours per week of instruction given by five members of faculty in each of the classes (a) and (b) who have the heaviest program: (a) Including laboratory .....; (b) recitation or lecture only .....

TRAINING OF FACULTY.

Number members of faculty responsible for classes who are not college graduates.....
Number of same who have not taken graduate work.....

MATERIAL EQUIPMENT.

Value of grounds (not including buildings).....
Buildings other than dormitories: Number .....; aggregate value.....
Dormitories and residences: Number .....; aggregate value .....

Equipment other than buildings and grounds:
Books—Number .....; value .....
Laboratory equipment used in science instruction .....
Other apparatus and furnishings of all kinds—value .....
Indebtedness .....
If there is any reason why indebtedness should not be subtracted from productive endowment, explain why.
.....
Endowment, as given in your ordinary reports .....
Productive endowment (include under this item only funds free from all liens of any kind. Do not include annuities; do not include investment in dormitories) .....
Income from endowment .....
Income other than special gifts and endowment: State ..... denomination ..... other sources (not including tuition) ....., tuition .....
Special gifts last academic year .....
Expenditures last academic year:
Salaries paid for instruction and administration in college or university .....
Salaries in other divisions: Preparatory ..... buildings and grounds salaries .....
Erection of new buildings .....
Equipment other than books .....
Books .....

These blanks were sent to all institutions which were included in the list of 1913 and also to all institutions which, in the course of the year, made application to the secretary of the commission for consideration at the 1914 meeting. Attention should be called explicitly to the fact that the approved list has never purported to include the names of all worthy institutions in the territory of the association. Initiative has always been left entirely to the institutions; and unless they explicitly applied for admission to the association, their cases have never been canvassed.

The officers of the commission, acting as a committee on the approved list, rendered a report suggesting a modification in the mode of procedure of the association. This report, which is given in full below, was adopted by the association and will be the basis of procedure at the meeting of the commission in 1915.

Report of the Officers of the Commission.

The officers of the commission were directed to bring in recommendations regarding two matters: First, a suitable definition of junior colleges, and second, the disposition of the cases of those normal schools and teachers' colleges which have been for some time members of the association and were last year put on an unclassified list. In attempting to deal with these matters, and also in the course of their revision of the approved list of colleges, your committee has become increasingly aware of the marked differences between the institutions in this territory which receive graduates of high schools and continue the education of such graduates. The present standards for colleges and universities were evidently drawn up with the college of arts and science as the chief, if not the sole object of consideration. In view of the present standards, the association obviously has before it two possible courses. The present standards can be maintained and strengthened, when membership in the association will be limited; or a policy of expansion can be adopted which will necessitate a modification of the standards and a thorough revision of the approved list.

The small exclusive membership seems at first sight to have certain advantages. The relation to high schools seems to be relatively simple. The association promises to be fairly homogeneous. The standards are relatively easy to enforce. On the other hand, it is to be noted that even the present small list includes institutions of

widely different character. For example, about one-half of the institutions on the approved list pay their faculties less than $30,000 per annum, while at the other end of the list are institutions paying their faculties $500,000 or more. These figures show that in range of courses and in point of size the institutions now on the list differ very widely; so that the effort to keep relations within the association simple can hardly be expected to succeed.

All these considerations have led your committee to the recommendation which they now submit, that the list of approved institutions be enlarged. It is recommended that an alphabetical list of all institutions which continue the education of students beyond 15 units of high-school work be prepared. Following the name of the institution shall be set down an exact statement of certain facts, such as the following:

(1) Number of the faculty in independent charge of classes.
(2) Number of faculty with the degree of doctor of philosophy.
(3) Number of matriculated students.
(4) Number of degrees granted in course.
(5) Number of elementary courses of instruction actually given.
(6) Number of advanced courses.
(7) Number of professional courses.
(8) Expenditures for salaries.
(9) Hours of class instruction required of members of the faculty.
(10) Material equipment.

This list shall then be submitted to the commission, and the commission shall determine its standards with the facts before it. Thus the commission shall determine the limits permitted in each of the categories above described. Furthermore, the categories which are deemed essential to admission to a classified list shall be determined, and the list shall then be made up automatically, subject to annual review. The approved list and the facts which it presents shall be published.

The officers of the commission do not, it will be observed, offer in this plan any definition of a junior college, nor do they distinguish between colleges and universities, or colleges and normal schools. They recommend rather a comprehensive formula including all grades of institutions. They anticipate that the result of the adoption of this plan will be the ultimate development of a system of rating which may be used for high schools as well as for higher institutions.

The administrative system for carrying out the enterprise is not negligible. The officers recommend the following plan of operation: When a new institution applies for admission to the list, it shall pay a fee of $25. It shall further open its records to the officers of the commission and fill out such blanks as the officers shall prepare under the approval of the commission. An institution on the approved list shall be responsible at intervals of at least three years to supply in a form to be determined by the commission such information as may be necessary to keep the approved list revised and up to date. An annual fee of $10 shall be paid by all institutions on the list, except that no institution shall pay the $10 fee in the same year that it has paid the inspection fee of $25. The officers of the commission shall be empowered to use the fund thus created for purposes of personal visit to institutions, for blanks, correspondence, and for printing of reports. A comprehensive annual report shall be printed showing the operations of the commission in the preparation of the final list.

In preparing the list of colleges and universities for 1914 the officers of the commission scrutinized with special care those institutions in the list of 1913 which stood low in the tables reported for the year 1913; that is, if an institution had a large indebtedness, note was made of the fact that in Table XXIII of the report of 1913 that particular institution had a low standing; if the number of books in the

library was small, note was made of the fact that that particular institution had a low rating in Table XXII, and so on through the list. When it was found that a given institution had low rating in several different tables, this institution was set aside to be especially examined by the committee. If, on the other hand, an institution had a low standing in only one or two of the tables and the report rendered in 1914 on the blank was substantially the same as that of the previous year, the committee passed favorably on the institution without hesitation.

In addition to the information which was presented in the report of 1913, the committee also utilized the returns given to the Comissioner of Education of the United States by the colleges on the approved list. A careful tabulation was made of the facts reported to the Commissioner of Education; and the colleges were rated in the order of their high standing in the various items collected by the Bureau of Education. It was found that the 10 institutions which were dropped from the approved list of 1913 because of their low standing in the tables of the North Central Association also appeared among the 13 lowest in the classification based upon the returns to the Commissioner of Education. Special note should be made of the fact that the University of Kentucky disappeared from the approved list of the North Central Association wholly on the ground that this institution lies within the territory of the Southern Association, and it was deemed wise, both in the cases of high schools and colleges, to leave the Southern Association to deal with all institutions in its own territory. The list of 72 colleges and universities as finally approved in 1914 includes 10 new institutions not in the list of 1913. The new institutions are in italics. The full list is as follows:

LIST OF APPROVED COLLEGES AND UNIVERSITIES OF THE NORTH CENTRAL ASSOCIATION, 1914.

Ohio:
- Case School of Applied Science, Cleveland.
- Denison University, Granville.
- Heidelberg University, Tiffin.
- *Hiram College, Hiram.*
- Kenyon College, Gambier.
- Lake Erie College, Painesville.
- Marietta College, Marietta.
- Miami University, Oxford.
- Mount Union College, Alliance.
- Oberlin College, Oberlin.
- Ohio State University, Columbus.
- Ohio University, Athens.
- Ohio Wesleyan University, Delaware.
- Otterbein University, Westerville.
- *Municipal University of Akron, Akron.*

Ohio—Continued.
- University of Cincinnati, Cincinnati.
- Western College for Women, Oxford.
- Western Reserve University, Cleveland.

Michigan:
- University of Michigan, Ann Arbor.

Indiana:
- Indiana University, Bloomington.
- Purdue University, La Fayette.
- University of Notre Dame, Notre Dame.
- Wabash College, Crawfordsville.

Illinois:
- Augustana College, Rock Island.
- Bradley Polytechnic Institute, Junior College, Peoria.

LIST OF APPROVED COLLEGES AND UNIVERSITIES OF THE NORTH CENTRAL ASSOCIATION, 1914—Continued.

Illinois—Continued.
- Illinois College, Jacksonville.
- Illinois Woman's College, Jacksonville.
- Knox College, Galesburg.
- Lake Forest College, Lake Forest.
- Lewis Institute, Junior College, Chicago.
- *Lombard College, Galesburg.*
- *James Millikin University, Decatur.*
- Monmouth College, Monmouth.
- *Northwestern College, Naperville.*
- Northwestern University, Evanston.
- Rockford College for Women, Rockford.
- University of Chicago, Chicago.
- University of Illinois, Urbana.

Wisconsin:
- Beloit College, Beloit.
- Carroll College, Waukesha.
- Lawrence College, Appleton.
- Milwaukee-Downer College, Milwaukee.
- Ripon College, Ripon.
- University of Wisconsin, Madison.

Minnesota:
- Carleton College, Northfield.
- *Hamlin University, St. Paul.*
- University of Minnesota, Minneapolis.

Iowa:
- Coe College, Cedar Rapids.
- Cornell College, Mount Vernon.
- Drake University, Des Moines.
- Grinnell College, Grinnell.

Iowa—Continued.
- Morningside College, Sioux City.
- Parsons College, Fairfield.
- Simpson College, Indianola.
- State University of Iowa, Iowa City.

Missouri:
- Park College, Parkville.
- University of Missouri, Columbia.
- Washington University, St. Louis.

Nebraska:
- Doane College, Crete.
- *Nebraska Wesleyan University, University Place.*
- University of Nebraska, Lincoln.

Kansas:
- Baker University, Baldwin.
- College of Emporia, Emporia.
- *Ottawa University, Ottawa.*
- University of Kansas, Lawrence.
- Washburn College, Topeka.

Colorado:
- University of Colorado, Boulder.
- *University of Denver, University Park.*

Oklahoma:
- University of Oklahoma, Norman.

South Dakota:
- State University of South Dakota, Vermilion.

North Dakota:
- University of North Dakota, University.

Montana:
- *State University of Montana, Missoula.*

Unclassified list of teachers' colleges and normal schools adopted for the year 1914–15.

- Illinois State Normal University, Normal, Ill.
- Southern Illinois State Normal University, Carbondale, Ill.
- Western Illinois State Normal School, Macomb, Ill.
- Winona State Normal School, Winona, Minn.
- Iowa State Teachers' College, Cedar Falls, Iowa.
- State Normal School, Kirksville, Mo.

The details of the reports received on the 1914 blanks are summarized in the following pages. The numbers of the tables are the same as in the report for 1913.[1]

[1] Published as monograph supplement No. IV of the School Review.

CONTROL.

Twenty-eight of the institutions in the list of 1914 are independent of State or denominational control. This is an increase of six over the number of independent institutions included in the list of 1913. On the other hand, the number of denominational institutions is less. In 1913 it was 31; in the list of 1914 there are only 24 such institutions; 10 of these 24 are under the control of the Methodist Church; 7 are under the control of the Presbyterian Church. The others belong to various other denominations. The degree to which denominations support the institutions connected with them is presented in the following table. A new institution under municipal control appears in the list of 1914. This is the University of Akron in Ohio. Buchtel College was turned over by its trustees to the municipality of Akron.

TABLE I.—*Denominational support of educational institutions.*

None	3	$5,000-$7,000	2
Indefinite	1	$10,000-$11,000	2
Less than $1,000	5	$13,000-$14,000	1
$1,000-$2,000	2	$15,000-$16,000	1
$2,000-$3,000	2	$25,000-$26,000	1
$3,000-$4,000	1	$30,000-$40,000	1
$4,000-$5,000	2		

EDUCATIONAL ORGANIZATION.

Seventeen of the institutions in the list of 1914, as contrasted with 16 in 1913, report no departments other than the college of arts, literature, and science. Two engineering institutions continue to hold their place in the list. The details of organization of the institutions are presented in Table II.

TABLE II.—*Number of institutions reporting special departments.*

Music	27	Engineering	18	Agriculture	6
Fine art	11	Electrical engineering	2	Oratory	8
Medicine	18	Civil engineering	2	Commerce	13
Pharmacy	13	Mining engineering	3	Divinity	3
Dentistry	7	Chemical engineering	2	Education	18
Law	23	Architecture	1	Others	19

ADMISSIONS.

In general it may be said that there is a tendency for specific requirements of admission to be relaxed. There is, on the other hand, a clear tendency to make more rigid the adherence to the requirements for admission which the institutions announce. Two institutions on the list of 1914 admit students presenting 14 units of preparatory work. This is one less than in the list of 1913. Sixty-four institutions require 15 units; six require 16.

CONDITIONS.

The following table shows all of the facts with regard to the admission of students with conditions. Especial attention is to be drawn to the fact that 9 institutions allow no conditions, as contrasted with 5 in 1913; 23 allow only one condition, as contrasted with 18 in 1913. This shows a marked tendency to enforce requirements more fully than a year ago.

TABLE III.—*Admission of students with conditions.*

Units required.	Number of institutions allowing no conditions.	Allowing one condition.	One and one-half conditions.	Two conditions.	Three conditions.	Total.
14	1	0	1	0	0	2
15	8	23	5	24	3	63
16	0	0	0	4	2	6

METHODS OF ADMISSION.

The practice of institutions in admitting students from high schools not on the approved list is much the same as it was last year. State lists are evidently much more liberal than the lists of the North Central Association. In Bulletin No. 29 for the year 1913 the United States Bureau of Education presented a list of all of the accredited secondary schools in the United States.[1] This list shows very clearly that institutions in this association are much more liberal in their policies of admission than is the North Central Association. In the Southern Association the question has been raised very pointedly whether it is wise to make a list of secondary schools which shall be so exclusive that no institution can base its admissions entirely on this list. If the North Central Association is to have a small exclusive list of secondary schools to which little or no attention is paid in the various States, its influence is not likely to increase. The statement that the North Central list is used as the basis of admission when students go outside the State probably has little force in actual practice. Furthermore, the number of students who go outside of the territory of the State institution to which they are most directly related is so small that this particular motive on the part of a high school for securing admission to the association's list is relatively weak.

The comments made in the reports of various colleges indicate that adherence to the standards of the North Central Association is not commonly required. One institution, for example, says that the North Central Association blanks are required to be filled out in full, but that is the only institution which makes any explicit reference to such a practice. Several institutions canvass individual cases

[1] For a revision of this list, see Bulletin, 1915, No. 7.

through members of the faculty. Several report a probationary system. There are still 12 institutions that have inspectors of their own working in parallel with the inspectors from the State universities. Two institutions report that they keep a careful record of the work done in college by students from the different high schools in their territory and base their acceptance of new students on the records of past students. Evidently there is a good deal of general activity going on in the effort to enlarge the list approved by the North Central Association.

REGISTRATION OF STUDENTS.

The information collected in 1914 with regard to registration of students is much more exact than the information that was available for the report of 1913. Table IV gives the results in two columns showing the number of new students entering institutions in 1913–14 and also the number of students now in attendance in all of the departments above the preparatory department.

TABLE IV.—*New students in 1914; whole number above preparatory department.*

	1–50	51–100	101–150	151–200	201–250	251–300	301–350	351–400	401–450	451–500	501–550	551–600
Distribution of institutions as to number of matriculants	1	19	8	14	4	1	1	.....	2	3	3	1
As to present registration	.....	.....	7	9	8	7	3	7	1	1	1	3

	601–650	651–700	701–800	801–850	851–900	951–1,000	1,001–1,500	1,501–2,000	2,001–3,000	3,001–4,000	Over 4,000
Distribution of institutions as to number of matriculants	0	0	3	0	3	0	3	2	1	.....	.....
As to present registration	2	1	0	0	1	1	7	3	4	2	4

Table IV A shows the ratio between matriculants and the total number of students in the institution. The impressive fact which is here presented is that a very large number of the institutions in the association matriculate half or nearly half of their students each year. The problem of maintaining attendance at institutions of the type which thus change their student population to the extent of one-half each year is an important consideration in determining the status of the institutions. Evidently the range of elective opportunities offered in many institutions is so small that students do not find it possible to continue their work profitably for more than two or three years. There can be no doubt that many students are attracted away from college departments to attend technical schools of law, medicine, or engineering. It is fair to raise the question in this connection

whether it would not be better for many institutions to face frankly the fact that their students are likely to leave them after a short period. If such is the case, it might be better to specialize on those lines of instruction which are appropriate to a short course as distinguished from the supposed four-year course which institutions now attempt to administer.

TABLE IV A.—*Ratio of matriculants to total number of students.*[1]

	70–61 per cent.	60–51 per cent.	50–41 per cent.	40–31 per cent.	30–21 per cent.	20–11 per cent.
Number of institutions having percentage of matriculants	4	10	28	18	6	3

[1] No report from three institutions.

SPECIAL AND IRREGULAR STUDENTS.

Table V, showing the percentages of special and irregular students, exhibits a marked improvement over the conditions that were reported in 1913. Thus in 1913 the number of institutions that were able to report that they had no students who had not satisfied the entrance requirements was only 4. At the present time the number of institutions able to make this report is 10. In 1913 only 3 institutions were able to report that they had less than 2 per cent of their students who had not satisfied the entrance requirements. There are 12 such institutions at the present time. The extreme lower end of the table is also much improved, though this is due in part to elimination of institutions from the list. In 1913 there were 3 institutions with more than 30 per cent of their students who had not satisfied the entrance requirements. These institutions have disappeared from the list. There are still 3 institutions with more than 20 per cent of their students who have not satisfied the entrance requirements, but from the movement which is apparent during the year, this number is sure to decrease. The matter was made the subject of special discussion at the last meeting of the association. Doubtless many institutions are finding relief from this difficulty in the fact that they are changing their entrance requirements so as to require less specific work and more of the type of work which can be supplied by the high schools in their territory

TABLE V.—*Number of institutions having various percentages of special students when these are compared with total attendance—Also number of institutions having various percentages of students who have not satisfied all entrance requirements when these are compared with the total attendance.*

	0 per cent.	0.1-1 per cent.	1.1-2 per cent.	2.1-3 per cent.	3.1-4 per cent.	4.1-5 per cent.	5.1-6 per cent.	6.1-7 per cent.	7.1-8 per cent.	8.1-9 per cent.	9.1-10 per cent.
Number of institutions having a given percentage of special or unclassified students[1]	13	14	6	8	8	4	2	2	0	1	1
Number of institutions having a given percentage of students who have not satisfied the entrance requirements[2]	10	8	4	5	5	2	3	3	4	2	1

	10.1-11 per cent.	11.1-12 per cent.	12.1-13 per cent.	13.1-14 per cent.	14.1-15 per cent.	15.1-16 per cent.	16.1-17 per cent.	17.1-18 per cent.	18.1-19 per cent.	19.1-20 per cent.	20.1-25 per cent.	25.1-30 per cent.
Number of institutions having a given percentage of special or unclassified students[1]	0	1	3	.....	.....	.....	.....	.....	.....	.....	1	.....
Number of institutions having a given percentage of students who have not satisfied the entrance requirements[2]	0	0	2	2	1	2	0	1	.....	.....	1	2

[1] Eight institutions not reporting.

[2] Fourteen institutions not reporting.

REQUIREMENTS FOR GRADUATION.

Some effort was made in the blanks used this year to find out whether the institutions having different requirements for admission based their calculations on differences with regard to physical education, public speaking, and other irregular courses. It appears that these irregular courses do not account in any large measure for the discrepancies in graduation requirements. Thus the institutions which require 120 semester hours for graduation include 3 which require public speaking and count public speaking as a part of the 120 semester hours. Among the institutions which require a larger number of semester hours for graduation there are some which explain the additional requirements by the fact that they include public speaking. Thus 1 institution which requires 125 semester hours includes public speaking; 2 which require 128 semester hours include public speaking. The table in general, even after deductions are made of these few cases, shows that there are real discrepancies between the requirements for graduation, since there are several institutions requiring as high as 133 semester hours for graduation which do not include public speaking or other extra courses in the list of their requirements.

One item which was not included in the report, but is suggested by a study of these differences in the amount of work required for grad-

uation, is the item of the length of the college year. Many institutions open a week or more earlier in the autumn than other institutions in the list. Probably the length of session ought to be included in any report on the colleges exactly as it is included in the standards for secondary schools in the association.

Even in secondary schools, as appears in the report prepared by Mr. Counts, there is great variation in the amount of work which constitutes a year's course.

TABLE VI.—*Amount of work required for graduation.*[1]

Semester hours	110	117	118	119	120	122	124	125	126	128	130	132	133	164–176
Institutions	1	1	2	2	33	3	8	2	3	7	1	1	1	1
Term hours					180			188			195			
Institutions					1			1			1			
Major,[2]					36									
Institutions					2									

[1] One institution reports in wholly different terms, indicating its requirements as 400 to 450 points. The following definition of the term "point" is given: One hour per week of class work not requiring preparation counts one point. Prepared work one hour per week counts two and one-half points.
[2] A major is a 12-week course meeting four or five times a week.

DEGREES CONFERRED.

Table VII is significant as indicating an increase over the number of degrees granted by institutions in the association in 1913. There were, however, several omissions of reports in this matter last year which rendered the figures incomplete and make it undesirable to compare the present table too closely with that reported in the previous year. An inspection of Table VIII makes it clear that there is a disposition to eliminate all of the variations in degrees and award only the bachelor of arts for all sorts of courses.

TABLE VII.—*Degrees conferred in 1914.*

	Undergraduate.					Graduate.			
	A. B.	B. S.	B. Ph.	B. L.	Total.	M. A.	M. S.	Ph. D.	Total.
Number in Report of Commissioner of Education	14,154	5,253	1,281	629	21,317	2,350	429	509	3,288
Number of degrees in institutions on the North Central list	4,474	1,957	155	113	6,699	622	88	103	813

TABLE VIII.—*Percentage of various degrees conferred.*

	Percentage of A. B.	Percentage of B. S.	Percentage of Ph. B.	Percentage of B. L.	Percentage of A. M.	Percentage of M. S.	Percentage of Ph. D.
North Central Association list	66.8	29.1	2.3	1.7	76.5	10.8	12.7
Commissioner of Education Report	66.4	24.6	6.1	2.9	71.5	13.0	15.5

HONORARY DEGREES.

Table IX, showing the number of honorary degrees granted in the institutions in the list, indicates some decrease in the number of such degrees conferred. This is in part due to the fact that fewer special celebrations fall within the period covered by this report.

TABLE IX.—*Number of institutions giving honorary degrees, together with the number of each of the degrees granted.*[1]

	None.	1	2	3	4	5	7	8	9	Total.
Number of institutions giving in toto number of degrees at top of column	25	14	[2] 9	8	7	3	...	2	1	[2] 124
Number giving D. D. to extent indicated at top of column	...	[4] 12	[5] 8	6	1	1	1	...	...	55
LL. D	...	10	3	4	...	...	...	...	...	41
A. M	...	5	1	...	1	...	...	...	...	11
Sc. D	...	4	1	...	...	...	...	...	...	6
L. H. D or D. Litt. or D. Eng	...	2	...	...	...	...	...	...	...	2
Others	...	[3] 6	1	...	...	...	...	...	...	8
Grand total	...	...	...	...	...	...	...	...	...	[2] 124

[1] No report from three institutions.
[2] This represents 18 degrees.
[3] One degree not specified.
[4] This represents 12 D. D.'s.
[5] This represents 16 D. D.'s.

TABLE X.

	D. D.	LL. D.	A. M.	Sc. D.	Literary doctor.	Others.	Total.
Number of degrees, Commissioner of Education list	321	205	129	41	84	31	871
Percentage of total North Central Association list	44.3	33.0	8.8	4.8	1.6	6.4	.....
Percentage of total Commissioner of Education list	36.9	30.4	14.8	4.7	9.6	3.6	.....

GRADUATE STUDY.

The 1914 blanks called for detailed and explicit information regarding students who are doing graduate work in the graduate schools of the country. It was the intention of the committee to follow up the record of any doubtful institution by finding out what credit is awarded in the various graduate departments to these students who are candidates for advanced degrees. The change in the mode of rating institutions for 1915 makes it unnecessary to canvass in this explicit fashion the records of graduate students. The committee will, however, collect during the autumn some statements with regard to those institutions which stand at the lower extremes of the various tables and will be prepared to report to the commission in 1915 on the amount of credit commonly given to graduates of various institutions in graduate schools. In the meantime, the names of the various institutions attended by graduates have some interest as indicating the development of graduate work within the territory of the association itself. The following list of figures shows very little deviation from the report rendered in 1913: Chicago is

mentioned 38 times, Harvard 37, Columbia 37, Illinois 21, Yale 17, Wisconsin 16, Princeton 14, Johns Hopkins 13, Cornell 13, Northwestern 9, Michigan 7, Pennsylvania 7, Minnesota 7, Oxford, England, 7, California 6, Kansas 6, Bryn Mawr 6, Ohio State 3, and 29 others from 1 to 3 times.

PREPARATORY DEPARTMENTS.

Thirty-four institutions in the association still conduct preparatory departments. This year, as last, it has been almost impossible to distinguish in statements with regard to the organization of the institution between the two branches of the institution. Members of the faculty are evidently called upon to serve both in the college and preparatory school. With the present development of public secondary schools there can be very little doubt that preparatory departments are in most cases superfluous. The efforts of various standardizing agencies have been turned in the direction of the elimination of preparatory departments of colleges. The association should take cognizance of the complication which is here presented and should define the type of relationship which it is prepared to tolerate in the institutions included in the list.

SIZE OF COLLEGE CLASSES.

The information collected for the 1914 report with regard to the size of college classes is much more detailed than that collected in 1913. It was apparent from the figures secured for the 1913 report that there is very great irregularity in this matter. A table corresponding directly to that which was included in the first report is presented (Table XI). The figures reported by the colleges were evidently again in some cases mere estimates, although the blank called explicitly for a statement in this matter. Supplementary tables are given in XII A, B, and C, showing the sizes of the largest and smallest classes in all of the institutions. These tables draw attention very emphatically to the lack of economy which appears in the organization of many very small classes. The difference between lecture and recitation divisions is also made clear and much light is thrown on the differences that obtain in different departments in the conduct of class work. The significance of these figures for the association in general is not obscure. The association has not hesitated to lay down a definite numerical standard for recitation and laboratory classes in college and for all high-school classes. The secondary schools have a right to ask colleges to standardize their practices. The problem of whether a small class should meet as frequently as a large class is a pedagogical and economic problem that should properly lead to a consideration of the standards in

the association with reference to both colleges and secondary schools. At all events, it is perfectly obvious from an examination of these tables that the colleges have not regarded themselves as bound by the association's standards or by any of the principles which they have enforced in their treatment of the secondary schools. The tables covering this matter are given in full detail so that a comparison may be made of all of the different practices in different institutions in the association. It would have been possible to combine the figures so as to give the returns in general terms, but it was deemed better to give all of the details so that the practices may be exposed to the fullest view and to the careful consideration which follows upon such a complete exhibition of the facts.

TABLE XI.

	Average size of classes										
	6	9	10	11	12	13	14	15	16	17	18
Number of institutions	1	2	1	1	1	1	4	7	4	3	1

	Average size of classes.											
	19	20	21	22	23	24	25	26	30	35	36	62
Number of institutions	7	10	1	2	2	1	7	1	4	1	1	1

No report from eight institutions.

TABLE XII A.—*Smallest divisions.*

	1	2	3	4	5	6	7	8	9	10	11	12	14	15	No report.
Number of institutions reporting smallest class containing given number of students	33	12	9	4	7	....	1	....	....	....	....	....	....	....	6
Number of institutions reporting the largest of their five smallest classes containing given number of students	3	9	11	6	12	4	7	5	1	3	1	1	1	1	7

TABLE XII B.—*Largest laboratory and recitation divisions.*

	5	6	8	9	10	12	13	14	15	16	17	18	20	21	22	23	24
Number of institutions reporting largest laboratory division at number given	....	....	....	....	1	....	....	1	2	1	....	2	2	4	2	2	4
Number of institutions reporting smallest of 5 largest laboratory divisions at number given	1	2	2	1	4	2	2	7	5	....	1	1	8	2	3	3	4
Number of institutions reporting largest recitation division	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Number of institutions reporting smallest of 5 largest recitation divisions	....	....	....	....	....	....	....	....	....	....	....	1	3	2	2	4	5

TABLE XII B.—*Largest laboratory and recitation divisions*—Continued.

	25	26	27	28	30	31	33	34	35	36	37	38	40	41	42	43	44
Number of institutions reporting largest laboratory division at number given	7	2	....	....	4	3	....	1	3	....	....	1	1	1	....	1	1
Number of institutions reporting smallest of 5 largest laboratory divisions at number given	2	1	1	1	2	....	1	....	....	2	....	....	....	....	....	1	1
Number of institutions reporting largest recitation division	2	....	1	1	7	3	1	....	4	....	2	2	7	3	2	....	1
Number of institutions reporting smallest of 5 largest recitation divisions	4	3	2	1	4	3	2	3	1	2	2	5	5	1	1	2	....

	45	46	47	48	49	51	52	53	55	55	58	59	60	63	64	65	67
Number of institutions reporting largest laboratory division at number given	2	2	....	1	....	....	....	1	1	....	1	....	1	1	....	1	....
Number of institutions reporting smallest of 5 largest laboratory divisions at number given	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Number of institutions reporting largest recitation division	3	2	....	1	1	3	2	2	1	1	....	....	1	1	....	1	1
Number of institutions reporting smallest of 5 largest recitation divisions	....	....	1	....	....	....	1	1	....	....	....	1	....	....	1	....	....

	71	74	75	76	77	82	86	90	93	95	98	100	110	121	139	153	No report
Number of institutions reporting largest laboratory division at number given	....	1	1	1	....	....	....	....	....	1	....	1	1	....	1	....	8
Number of institutions reporting smallest of 5 largest laboratory divisions at number given	1	....	2	....	....	....	1	....	....	....	....	....	....	....	....	....	8
Number of institutions reporting largest recitation division	....	....	1	....	1	1	....	1	1	....	....	1	....	1	....	1	8
Number of institutions reporting smallest of 5 largest recitation divisions	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	8

TABLE XII C.—*Largest lecture divisions.*

	3	11	12	20	21	23	24	26	27	28	29	30	31	33	34	35	37	38	39
Number of institutions reporting lecture classes of size given	....	....	....	1	....	....	....	....	....	....	....	5	1	1	....	1	1	....	....
Number of institutions reporting smallest of 5 largest lecture divisions of size given	1	1	4	2	1	1	5	1	2	2	3	1	....	1	3	....	1	1	1

	40	41	43	44	45	46	49	50	51	52	55	56	59	60	61	63	64	66	67
Number of institutions reporting lecture classes of size given	1	3	1	1	2	....	1	2	1	1	1	1	....	4	1	1	....	1	....
Number of institutions reporting smallest of 5 largest lecture divisions of size given	....	....	2	....	1	1	1	2	....	....	....	....	1	....	1	....	1	....	1

TABLE XII C.—*Largest lecture divisions*—Continued.

	70	72	74	75	77	80	81	82	84	88	90	91	95	98	100	113	124	125	143
Number of institutions reporting lecture classes of size given			1	1	1		2	1	1	1	2	1	1		2	1		2	1
Number of institutions reporting smallest of 5 largest lecture divisions of size given	1	1				1		1			1	1		1			1		

	134	140	142	149	153	160	170	183	188	200	229	242	291	313	355	365	800	45	No report
Number of institutions reporting lecture classes of size given	1	1	1		1	1		1	1		1	1		1	1	1	1	1	8
Number of institutions reporting smallest of 5 largest lecture divisions of size given				1			1			1			1						15

FACULTY.

Table XIII has been enlarged to indicate the distinction between the larger and the smaller institutions. The figures given in the upper horizontal column show the ratio between students and faculty in all of the institutions included in the list. In the lower horizontal column is presented a supplementary series of figures drawn out of the total number, showing the practices of the largest institutions in the association. This contrast makes it clear that the ratio between faculty and students is not a matter of the size of the institution. It is rather a matter of the general organization and economic conditions of the particular institution.

Again, as pointed out in an earlier paragraph, attention must be drawn to the fact that, in 30 institutions in the list, members of the faculty are called upon to give some attention to the work in the preparatory department. This figure is almost exactly the same as in 1913 and shows that the organization of the colleges in the approved list is very conservative in this matter of preparatory departments.

The effort to discover in detail the preparation of faculty members for their work brings out the fact that there is a good deal of ambiguity in the statement that a member of the faculty has taken graduate work. Very few institutions are prepared to confess that the members of their faculty have not done some graduate work, although it is evident that the amount of this work and its character is difficult to define. Since the adoption by the association of the report of the committee presented on pages 6 and 7, the secretary of the commission has had a number of objections raised by institutions to the setting of the doctor's degree as the standard which must be attained by

members of college faculties. It has been repeatedly asserted in letters and in personal conferences that this method of determining definitely whether a member of a faculty has done graduate work is extreme and prejudicial to those who have pursued regular courses in a number of different institutions. Objection is raised in some quarters even to the requirement of the master's degree, and it is explained on a number of the blanks where the report is made that certain members of the faculty have not taken graduate courses; that these are the members of the faculty who give instruction in technical subjects, such as home economics and engineering. In short, it has been almost impossible to get information on this matter of preparation of members of the faculty. Evidently the colleges are not prepared to lay down categorical requirements for their own faculties such as are represented in the definite requirement that all teachers of academic subjects in the secondary schools must have graduated from colleges of the rank of those on the approved list of the association. It might be possible to get some kind of a distribution table from the colleges reporting of the number of years during which various members of the faculty have pursued graduate work. That there should be some clearer definition of preparation of instructors is obvious to one who has attempted to bring together the vague and indefinite reports rendered by colleges on this topic.

TABLE XIII.

	One faculty member to number of students																		
	6	7	8	9	10	11	12	13	14	15	16	17	18	19	22	24	26	28	34
Number of institutions	1	1	5	2	7	4	8	6	6	10	4	4	2	3	2	1	2	1	1
	0	0	1	1	1	0	2	2	2	0	2	0	0	1	1	0	0	0	1

No report from two institutions

TABLE XIII A.

	None	1	2	3	4	5	6	7	8	10	11	12	15	16	18	20	29	68	No report.
Number of members of faculty who are not college graduates	38	8	7	5	3	2	1	....	2	....	2	....	....	....	....	1	1	....	2
Number of members of faculty with no graduate training	31	6	5	5	1	5	....	1	1	2	....	1	1	1	1	....	....	1	10

Table XIV presents the facts with regard to different ranks within the faculty. The apparent large increase in the number of faculty members in 1914 as compared with 1913 is in part explained by the more complete returns in 1914 as contrasted with 1913.

TABLE XIV.

	Professor.	Associate professor.	Assistant professor.	Instructor.	Lower titles.
Total number	2,089	781	912	1,694	1,453
Percentage of the whole number	30	11	13	25	21

Table XIV A is compiled in view of the standard of the association that there must be a full professor devoting his whole time to the interests of the eight fundamental departments designated by the association.

TABLE XIV A.

	English.	Modern languages.	Ancient languages.	History.	Social science.	Mathematics.	Physical science.	Biological science.
Departments which do not have full time of at least 1 professor	2	4	5	7	13	5	5	5

TABLE XIV B.

	Professor.	Associate professor.	Assistant professor.	Instructor.	Lower titles.
Number of institutions in which titles appear	72	40	55	67	51

Table XV shows little change as compared with the corresponding table in the report of 1913. Evidently American colleges have no standards with regard to the titles which they employ. Several institutions give the title of professor with great freedom, with the result that this title has no general significance. When a graduate student who has not yet completed his work for the doctor's degree is awarded the title of professor in one institution and must wait for from four to eight years for a similar title in other institutions in the same list, it will be very difficult to evaluate the title in general. The standard of the association which specifies the number of professors necessary to constitute a minimum faculty is therefore of small significance.

TABLE XV.

	Percentage.										
	0	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-92
Number of institutions having above percentage of professors	0	0	5	12	13	12	10	11	2	5	2
Number of institutions having above percentage of instructors	5	8	19	28	7	3	2	0	0	0	0
Number of institutions having above percentage of lower rank than instructor	21	11	16	16	5	3	0	0	0	0	0

HOURS OF INSTRUCTION.

The information collected on the blanks of 1914 with regard to hours of instruction was much more detailed than that which was collected in 1913. Distinction was drawn between laboratory instructors and those who have charge of recitations. The results are presented in Table XVI. The diversity of practice in these matters is very striking indeed. If the standards of the association were rigidly enforced, a number of the institutions would be excluded by virtue of the large number of hours assigned to the numbers of their faculties. There can be no doubt at all that the standard referring to hours of work is important in judging of the organization of the institution. At the next meeting of the commission the facts in this respect will be reported with reference to each institution and there can be little doubt that the commission will regard this matter as one of serious importance in determining the position of an institution on the approved list.

TABLE XVI.—*Showing hours of work required of instructors in various institutions.*

	6	8	9	10	12	13	14	15	16	17	18	19	20	21	22	23
Number of institutions reporting maximum of laboratory hours	0	0	0	0	2	1	0	3	3	0	6	1	6	2	4	1
Number of institutions reporting maximum of recitation and lecture hours	0	0	0	1	....	1	1	8	7	2	20	1	9	3	2	3
Number of institutions reporting average of laboratory hours	1	1	1	....	1	1	....	4	2	7	8	4	6	4	4	1
Number of institutions reporting average of recitation and lecture hours	0	0	0	2	3	2	6	11	11	12	8	1	4	3	2	....

	24	25	26	27	28	29	30	32	34	35	36	38	39	40	45	No report.
Number of institutions reporting maximum of laboratory hours	4	7	2	4	3	1	4	2	1	1	1	....	....	1	1	11
Number of institutions reporting maximum of recitation and lecture hours	2	1	0	0	1	....	....	....	....	....	....	....	1	....	....	9
Number of institutions reporting average of laboratory hours	3	3	3	....	1	1	4	....	1	....	....	1	....	....	....	10
Number of institutions reporting average of recitation and lecture hours	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	7

MATERIAL EQUIPMENT.

The returns on material equipment were much more complete and detailed than in the 1913 report. All of the institutions with endowments less than $200,000, except one, were eliminated from the list. Where the indebtedness of the institution when subtracted from the productive endowment brought the net productive funds of the institution below $200,000, the commission ruled that the institution could not be accepted by the association. There was a question on the blank explicitly asking institutions to explain why this procedure

should not be taken in all cases. The answers given are of some interest. Some of the institutions explained that the indebtedness is due to the fact that they have invested funds in dormitories. A number explained that their charters do not permit them to draw upon their funds to meet temporary indebtedness. Some appeal to subscriptions as the offset to indebtedness. In some cases the subscriptions bear interest. In other cases the subscriptions seemed to lack some of the definiteness of this first class and reference was made merely to pledges. One institution had evidently become disadvantageously involved in annuity arrangements. In short, indebtedness appears to arise from a very great variety of causes and appears also in many cases to be a very difficult encumbrance to remove. The amount of indebtedness is set forth in a subsequent table.

Among the items which the committee has come to regard as of large importance in estimating the efficiency of an institution's organization is the item of expenditures for instructorial salaries. Where an institution attempts to carry a large faculty, but evidently expends on the faculty only a very meager sum, it is obvious that the general organization of the institution is at least in danger. Furthermore, in some institutions it appears that the tuition from students contributes a very large portion of the amount which is expended on instructorial salaries. Where this is the case, the probability that the institution can carry on any definite policy of organization is very small, for the simple reason that a falling off in the student body in any given year would immediately result in such a curtailment of the funds of the institution that the faculty itself would have to be reduced. The balance between instructorial and other salaries is also a matter of some interest. Especially was it difficult in a number of cases to get any definite statement of the amount of money which is expended in the preparatory department as distinguished from the college department. The complete analysis of these returns would demand a scrutiny of the accounts of the institutions which the committee did not feel it was qualified to undertake.

The major outstanding fact which appears in the tables on expenditures is that many of the institutions in the association are conducted on a very meager financial basis. Perhaps the simplest way of dealing with the whole situation at the present juncture is to present in tables all of the details that were collected on the blanks. The figures for productive endowment are derived from that part of the blank in which the distinction was definitely drawn between productive endowment and endowment as ordinarily reported. When institutions are called upon, as in this blank, to deduct all funds which are subject to annuity or other liens, it is noticeable that a very great deduction is in some cases made from the sum which is ordinarily

reported as productive endowment. There can be no doubt that it is bad policy and bad bookkeeping to include in productive endowment a fund which at the present moment is not producing income for the conduct of the institution. Sooner or later the association will have to take the position that a full financial statement from each institution shall conform to the general standards of the association in its net showing and in the details of the items which are reported.

TABLE XVII.

Number of institutions:	Productive endowment.
1 [1]	Below $200,000
22	200,000 to 300,000
5	300,000 to 400,000
5	400,000 to 500,000
12	500,000 to 1,000,000
3	1,000,000 to 2,000,000
2	2,000,000 to 3,000,000
2	3,000,000 to 4,000,000
2	4,000,000 and over.

Number of institutions—Con.	Income from State or city.
3	Below $100,000
6	100,000 to 200,000
3	200,000 to 300,000
5	500,000 to 1,000,000
2	1,000,000 to 2,000,000
1	2,000,000 to 5,000,000

TABLE XVII A.

Number of institutions:	Income from endowment.
1	No endowment.
2	$1,000 to $5,000
5	5,000 to 10,000
26	10,000 to 20,000
7	20,000 to 30,000
7	30,000 to 40,000
4	40,000 to 50,000

Number of institutions—Con.	Income from endowment.
2	$50,000 to $60,000
3	60,000 to 70,000
2	70,000 to 80,000
1	80,000 to 90,000
4	100,000 to 200,000
1	200,000 to 500,000
2	500,000 to 1,000,000

Five institutions not reporting.

TABLE XVII B.

Number of institutions:	Income from tuition.
1	$1,000 to $5,000
8	5,000 to 10,000
20	10,000 to 20,000
12	20,000 to 30,000
1	30,000 to 40,000
7	40,000 to 50,000
3	50,000 to 60,000

Number of institutions—Con.	Income from tuition.
1	$70,000 to $80,000
1	80,000 to 90,000
2	90,000 to 100,000
7	100,000 to 200,000
4	200,000 to 500,000
1	Over 500,000

Three institutions not reporting.

[1] Special action of the commission.

TABLE XVIII.

Number of institutions:	Aggregate of salaries.
4	$10,000 to $20,000
17	20,000 to 30,000
12	30,000 to 40,000
6	40,000 to 50,000
1	50,000 to 60,000
4	60,000 to 70,000
2	$70,000 to $80,000
3	80,000 to 90,000
7	100,000 to 200,000
5	200,000 to 300,000
2	300,000 to 400,000
7	500,000 and over.

Two institutions not reporting.

TABLE XVIII A.

Number of institutions:	Salaries, preparatory division.
1	Less than $1,000
21	$1,000 to 10,000
5	10,000 to 20,000
1	30,000 to 40,000
2	$40,000 to $50,000
1	60,000 to 70,000
1	200,000 to 300,000

No preparatory department in 33 institutions.
Seven institutions not reporting.

TABLE XVIII B.

Number of institutions:	Salaries, buildings, and grounds.
1	Less than $1,000
47	$1,000 to 10,000
8	10,000 to 20,000
1	$20,000 to $30,000
2	50,000 to 60,000
2	100,000 to 200,000

Twelve institutions not reporting.

TABLE XVIII C.

Number of institutions:	Expenditure, equipment other than books.
4	Nothing.
4	Less than $500
5	$500 to 1,000
24	1,000 to 5,000
5	5,000 to 10,000
12	10,000 to 20,000
1	$20,000 to $30,000
1	40,000 to 50,000
2	50,000 to 60,000
1	60,000 to 70,000
1	80,000 to 90,000
2	100,000 to 200,000

Ten institutions not reporting.

TABLE XVIII D.

Number of institutions:	Expenditures, books.
1	Nothing.
3	$100 to $300
6	300 to 500
13	500 to 800
1	800 to 1,000
25	1,000 to 5,000
5	$5,000 to $10,000
4	10,000 to 20,000
1	20,000 to 30,000
2	30,000 to 40,000
2	40,000 to 50,000

Eight institutions not reporting.

TABLE XIX.

Number of institutions:	Aggregate value of buildings (not dormitories).	
4	Less than	$100, 000
20	$100, 000 to	200, 000
15	200, 000 to	300, 000
7	300, 000 to	400, 000
5	400, 000 to	500, 000
2	500, 000 to	600, 000
1	600, 000 to	700, 000
1	700, 000 to	800, 000

Number of institutions—Con.	Aggregate value of buildings (not dormitories).	
1	$800, 000 to	$900, 000
2	900, 000 to	1, 000, 000
6	1, 000, 000 to	2, 000, 000
4	2, 000, 000 to	3, 000, 000
1	3, 000, 000 to	4, 000, 000
1	4, 000, 000 to	5, 000, 000
1	5, 000, 000 to	10, 000, 000

One institution not reporting.

TABLE XIX A.

Number of institutions:	Value of grounds (not including buildings)	
3	$10, 000 to	$20, 000
5	20, 000 to	30, 000
4	30, 000 to	40, 000
4	40, 000 to	50, 000
5	50, 000 to	60, 000
5	60, 000 to	70, 000
1	70, 000 to	80, 000

Number of institutions—Con.	Value of grounds (not including buildings).	
2	$80, 000 to	$90, 000
1	90, 000 to	100, 000
21	100, 000 to	200, 000
11	200, 000 to	500, 000
4	500, 000 to	1, 000, 000
5	Above	1, 000, 000

One institution not reporting.

TABLE XX.

Number of institutions:	Percentage of investment in dormitories as compared with total value of other buildings.
2	Less than 1
11	1 to 10
17	11 to 20
10	21 to 30
3	31 to 40
4	41 to 50

Number of institutions—Con.	Percentage of investment in dormitories as compared with total value of other buildings.
3	51 to 60
4	61 to 70
3	81 to 90
1	91 to 100
1	349

Eight institutions with no dormitories or residences.
Five institutions not reporting.

TABLE XXI.

Number of institutions:	Value of apparatus and furnishings.	
14	$1, 000 to	$10, 000
13	10, 000 to	20, 000
3	20, 000 to	30, 000
2	30, 000 to	40, 000
4	40, 000 to	50, 000
6	50, 000 to	60, 000
4	60, 000 to	70, 000

Number of institutions—Con.	Value of apparatus and furnishings.	
2	$70, 000 to	$80, 000
3	80, 000 to	90, 000
1	90, 000 to	100, 000
9	100, 000 to	200, 000
2	200, 000 to	300, 000
6	Over	500, 000

Four institutions not reporting.

TABLE XXI A.

Number of institutions:	Value of laboratory equipment.	Number of institutions—Con.	Value of laboratory equipment.
17	$1,000 to $10,000	1	$90,000 to $100,000
16	10,000 to 20,000	9	100,000 to 200,000
9	20,000 to 30,000	3	200,000 to 300,000
2	30,000 to 40,000	1	300,000 to 400,000
4	40,000 to 50,000	1	400,000 to 500,000
1	50,000 to 60,000	4	Over 500,000

Four institutions not reporting.

TABLE XXII.

Number of institutions:	Number of books.	Number of institutions—Con.	Number of books.
9	1,000 to 10,000	3	60,000 to 70,000
21	10,000 to 20,000	2	70,000 to 80,000
9	20,000 to 30,000	2	80,000 to 90,000
6	30,000 to 40,000	9	Miscellaneous.
4	40,000 to 50,000		
3	50,000 to 60,000		

Four institutions not reporting.

TABLE XXII A.

Number of institutions:	Value of books.	Number of institutions—Con.	Value of books.
1	$1,000 to $5,000	1	70,000 to 80,000
8	5,000 to 10,000	1	80,000 to 90,000
14	10,000 to 20,000	2	90,000 to 100,000
10	20,000 to 30,000	6	100,000 to 200,000
4	30,000 to 40,000	5	200,000 to 500,000
7	40,000 to 50,000	3	500,000 to 800,000
3	50,000 to 60,000		
3	$60,000 to $70,000		

Four institutions not reporting.

TABLE XXIII.

Number of institutions:	Debt.	Number of institutions—Con.	Debt.
43	None.	1	$50,000 to $60,000
3	$5,000 to $10,000	1	60,000 to 70,000
2	10,000 to 20,000	5	70,000 to 80,000
4	20,000 to 30,000	1	80,000 to 90,000
8	30,000 to 40,000	3	Miscellaneous.
1	40,000 to 50,000		

Nine institutions not reporting.

PART II.—APPROVED HIGH SCHOOLS OF THE NORTH CENTRAL ASSOCIATION OF COLLEGES AND SECONDARY SCHOOLS.

By GEORGE S. COUNTS.

INTRODUCTION.

The present investigation is a statistical study based upon 1,000 annual reports sent in by the principals of 1,000 high schools of the North Central Association during the first semester of the school year 1913–14. The scope of the report blank sent to these high schools is made clear by the accompanying reproduction. It should be stated, however, that many of the reports were far from complete. Consequently, no single item of information is complete for the 1,000 schools sending in reports; in each table a statement is made of the exact number of reports at hand for that special item. Furthermore, the reports from the schools of two States, Colorado and Montana, were withdrawn for a time while the work was under way, with the result that these States are not represented in all of the tables. But since the number of schools reporting from these two States is comparatively small in each case, 36 from Colorado and 16 from Montana, the omission is not of great consequence.

The following report blank was sent to the high schools:

City.....State.....Special name of high school.....
Superintendent.....Principal.....
Population of city.....Total present enrollment of high school.....
Date of this report.....
Date of first accrediting by the North Central Association.....
Date of organization of high school.....Date of last inspection.....

TEACHING STAFF.

Total number individuals who give instruction in high school.....
How many of them are new to the system this year?.....
Of the NEW teachers, how many are inexperienced?.....
Of the NEW teachers, how many have no special pedagogic preparation?.....
Of the NEW teachers, how many are not graduated from standard college?.....
Of the old teachers, how many are not graduated from standard college?.....
Of the old teachers, how many have no special pedagogical preparation?.....

DISTRIBUTION OF WORK.

Number of periods taught by superintendent.....principal.....
*Number of periods in assembly room, superintendent.....principal.....
Number of teachers who teach the following number of periods:
Men: 1..... 2..... 3..... 4..... 5..... 6..... 7.....
Women: 1..... 2..... 3..... 4..... 5..... 6..... 7.....
*Number of teachers who, in addition to teaching, supervise study:
*Men: 1..... 2..... 3..... 4.....
*Women: 1..... 2..... 3..... 4.....

*Items marked with the * are not required for approval.

LENGTH OF SCHOOL YEAR.

Date of opening of school year.....date of closing.....
Number of weeks of five days each during which school is actually in session.....
Hour of opening.....of closing.....
Number recitations (including laboratory periods) in daily program.....
Actual number of 60-minute hours in each full day, excluding all recess periods.....
Number minutes in the clear in each recitation period.....
Number minutes in the clear in each laboratory period.....
Number minutes in the clear in each manual training period.....
Number minutes in the clear in each agriculture period.....
Number minutes in the clear in each cooking period.....
Number minutes in the clear in each sewing period.....
Number minutes in the clear in each commercial period.....
Mention all exceptions to the foregoing statement of the length of recitation period.....

GRADUATION.

Number "units" required for graduation in your high school.....
What grade is required for passing?.....
For recommendation to college?.....
Number graduated last year.....

SIZE OF CLASSES.

Name subjects in which there are classes of over 30. (If there is more than one section in any subject, note the number of sections in that subject having more than 30 pupils.).....
.....
*Number of classes or sections with 1 to 10 pupils.....
*Number of classes or sections with 11 to 20 pupils.....
*Number of classes or sections with 21 to 30 pupils.....
*Number of classes or sections with 31 to 40 pupils.....
*Number of classes or sections with 41 to 50 pupils.....

*Items marked with the * are not required for approval.

HIGH-SCHOOL ENROLLMENT.

Total enrollment December 1, this year..... This date.....
*Total enrollment close of last year..... Opening of this.....
*Number of students now in fourth year.....; third year.....; second year.....; first year.....
*Number of students classified as "special" or "irregular".....
*Number of present senior class who, including this year, have attended any high school 6 years.....
5 years.....; 4 years.....; 3 years.....; only 2 years.....; only 1 year.....
*Number belonging to this class four years ago who dropped out of high school during first year.....; second year.....; third year.....; fourth year.....
*Number of postgraduates..... Number in city eighth grade.....
*Number of students in the high school from outside the school corporation.....

*Not required for approval.

*INFORMATION REGARDING LAST GRADUATING CLASS.

*This section is not required for approval.

*Number of pupils who graduated last year with more than 14 units:

15..... 15½..... 16..... 16½.....
17..... 17½..... 18..... 18½.....
19..... 19½..... 20.....

*Number of last year's class who have gone to—

	Boys.	*Girls.*		*Boys.*	*Girls.*
College			Medicine		
Commercial school			Dentistry		
Trades			Engineering		
Farming			Pharmacy		
Normal school			Law		
Business			Domestic economy		
Remain at home			Agriculture		
Other occupations			Unknown		

(See other side. Standards in full on other side.)

MATERIAL EQUIPMENT.

Number rooms used exclusively for laboratory purposes.....
Number rooms used exclusively for recitation purposes.....
Number rooms used exclusively for assembly purposes.....
Number rooms used exclusively for manual training purposes.....
Number rooms used exclusively for domestic science purposes.....
Number rooms that are overcrowded.....
Do you have recitations in study room?.....
Number rooms used for more than one purpose.....
Value of equipment in: Physics..... Chemistry..... Botany..... Zoology.....
Agriculture..... Sewing..... Cooking..... Commercial course.....
Number dollars expended in equipment annually.....

COURSE OF STUDY.

Do students elect by subject?..... or by "courses"?.....
Number of units or half units of work actually being given this year in each subject:

English.....	German.....	Domestic science.....
Physics.....	French.....	Music.....
Cooking.....	History.....	Latin.....
Commercial course.....	Civics.....	Algebra.....
Agriculture.....	Chemistry.....	Geometry.....
Manual training.....	Botany.....	Drawing.....
Physical geography.....	Zoology.....	Sewing.....
Physiology.....	Education.....	Normal.....

Name other subjects.....

LIBRARY.

Does the city maintain a public library?.....
How far is it from school?..... Number of volumes.....
Number of volumes in high-school library distributed by departments:

English.....	History.....	Physics.....
Botany.....	Chemistry.....	Agriculture.....
Sewing.....	Cooking.....	Physical geography.....
Zoology.....	Latin.....	German.....
Manual training.....	Education.....	Fiction.....
Physiology.....	French.....	Civics.....
Mathematics.....	Drawing and art.....	Commercial.....
Government reports: United States.....		State.....

Number encyclopedias for high school.....
Total number volumes of all kinds added last year.....
Number dollars expended last year for books.....

*STANDINGS.

*This section is optional.

*What was the average in all subjects of the last year's graduating class?.....
*What was the average in all subjects of the highest ranking student in your last year's graduating class?.....
*Same for the lowest ranking student actually graduated?.....
*Of those who went to college, what per cent stood in the highest third of the class (highest third meaning highest numerical third after class is ranked from best to worst) in your school?.....
*Do you receive information from the colleges in regard to the standing of your graduates?.....

*SALARIES OF TEACHERS.

*This section is optional.

Please fill out the following table, showing the range of salaries, including in the figures the principal but marking his salary so that it can be distinguished from the others.

*Number having—

300 to 399.....	400 to 499.....	500 to 599.....	600 to 699.....	
700 to 799.....	800 to 899.....	900 to 999.....	1,000 to 1,099.....	
1,100 to 1,199.....	1,200 to 1,299.....	1,300 to 1,399.....	1,400 to 1,499.....	
1,500 to 1,599.....	1,600 to 1,699.....	1,700 to 1,799.....	1,800 to 1,899.....	
1,900 to 1,999.....	2,000 to 2,099.....	2,100 to 2,199.....	2,200 to 2,299.....	
2,300 to 2,399.....	2,400 to 2,499.....	2,500 to 2,599.....	2,600 to 2,699.....	
2,700 to 2,799.....	2,800 to 2,899.....	2,900 to 2,999.....	3,000 to 3,099.....	
3,100 to 3,199.....	3,200 to 3,299.....	3,300 to 3,399.....	3,400 to 3,499.....	

Above.....

STANDARDS OF THE NORTH CENTRAL ASSOCIATION.

The aim of the North Central Association of Colleges and Secondary Schools is, first, to bring about a better acquaintance, a keener sympathy, and a heartier cooperation between the colleges and secondary schools of this territory; secondly, to consider common educational problems and to devise best ways and means of solving them; and thirdly, to promote the physical, intellectual, and moral well-being of students by urging proper sanitary conditions of school buildings, adequate library and laboratory facilities, and higher standards of scholarship and of remuneration of teachers. The association is a voluntary organization consisting of representatives of both secondary schools and colleges, is devoted solely to the highest welfare of the boys and girls of this territory, and bespeaks the cordial and sympathetic support of all schoolmen.

The following constitute the standards for accrediting secondary schools for the present year:

1. No school shall be accredited which does not require 15 units, as defined by the association, for graduation. More than 20 periods per week should be discouraged.

(A unit course of study in a secondary school is defined as a course covering an academic year that shall include in the aggregate not less than the equivalent of 120 sixty-minute hours of classroom work, two hours of manual training or laboratory work being equivalent to one hour of classroom work.)

2. The minimum scholastic attainment of all secondary school teachers of academic subjects shall be equivalent to graduation from a college belonging to the North Central Association of Colleges and Secondary Schools. It is strongly advised that this attainment include, or be supplemented by, special study of the content and the pedagogy of the subject taught. Such requirements shall not be construed as retroactive.

3. The number of daily periods of classroom instruction given by any teacher should not exceed five, each to extend over at least 40 minutes in the clear. The board of inspectors will reject all schools having more than six recitation periods per day for any teacher.

4. The laboratory and library facilities shall be adequate to the needs of instruction in the subjects taught, as outlined by the association.

5. The location and construction of the buildings, the lighting, heating, and ventilation of the rooms, the nature of the lavatories, corridors, closets, water supply, school furniture, apparatus, and methods of cleaning shall be such as to insure hygienic conditions for both pupils and teachers.

6. The efficiency of instruction, the acquired habits of thought and study, the general intellectual and moral tone of a school are paramount factors, and therefore only schools which rank well in these particulars, as evidenced by rigid, thoroughgoing, sympathetic inspection, shall be considered eligible for the list.

7. The association will decline to consider any school whose teaching force consists of fewer than four teachers of academic subjects, exclusive of the superintendent. The association recommends the introduction of the so-called vocational subjects, such as agriculture, manual training, household arts, and commercial subjects, into schools where local conditions render such introduction feasible, but the inspectors will hold that a sufficient number of qualified teachers must be added to provide adequately for such instruction.

8. No school shall be considered unless the regular annual blank furnished for the purpose shall have been filled out and placed on file with the inspector. In case of schools having 12 or more teachers a complete report on teachers once in three years will be sufficient; but full data relative to changes should be presented annually.

9. All schools whose records show an excessive number of pupils per teacher, as based on average number belonging, even though they may technically meet all other requirements, are rejected. The association recognizes 30 as maximum.

10. The time for which schools are accredited shall be limited to one year, dating from the time of the adoption of the list by the association.

11. The agent of communication between the accredited schools and the secretary of the commission for the purpose of distributing, collecting, and filing the annual reports of such schools and for such other purposes as the association may direct, is as follows: (*a*) In States having such an official, the inspector of schools appointed by the State university. (*b*) In other States the inspector of schools appointed by State authority, or, if there be no such official, such person or persons as the secretary of the commission may select.

The association is very conservative, believing that such action will eventually work to the highest interests of the schools and the association. It aims to accredit only those schools which possess organization, teaching force, standards of scholarship, equipment, esprit de corps, etc., of such character as will unhesitatingly commend them to any educator, college, or university in the north central territory. Wherever there is reasonable doubt concerning the standing of a school, the association will accept that doubt as ground sufficient to justify rejection.

The method used in making the analysis of these reports has, in a large measure, been taken over from a similar study made by Jessup and Coffman last year. Jessup and Coffman analyzed their material on the basis of State and population, with especial reference to the

latter. In both reports schools are grouped according to the States and also according to the size of the city in which they are located. The cities are divided into seven classes, those with populations of 2,500 and under, those with populations from 2,501 to 5,000, from 5,001 to 7,500, from 7,501 to 10,000, from 10,001 to 15,000, from 15,001 to 50,000, and those with populations above 50,000. In addition to the classification adopted by Jessup and Coffman this report presents a classification of schools according to enrollment in some of the tables, since it seemed that enrollment would furnish a more significant basis of analysis for certain items. The schools are divided into six groups: Those with 100 students or less, those with from 101 to 200 students, from 201 to 300, from 301 to 500, from 501 to 1,000, and those with more than 1,000 students.

The purpose of the study is to present a body of material to those interested in secondary education which will enable them to get some idea of the nature and scope of the work now being done by a selected group of secondary schools in the Middle West. It is hoped that the information here set forth will be of practical value to those in control of the high schools in the territory covered by this report. One of the chief values of the presentation of these facts in the form of tables is that it makes it possible for school authorities to compare the organization, material equipment, course of study, etc., of their own schools with a group of selected schools. If, for instance, the principal of a high school finds out by reference to these tables that his high school does not have as good material equipment as the majority of the high schools of the same size, he has a strong argument to put before the school board in recommending appropriations for material equipment.

For purposes of ready reference medians have been worked out in many cases. In a series of variants the median is the middle one. For example, suppose we have 15 schools reporting on some particular item. The schools are ranked from lowest to highest. The median is the eighth school, counting from either the top or the bottom of the series. Thus the median is a measure of central tendency lying midway between the two extremes. Now, if it should be found by the principal of a school that the value of the material equipment of his school is much below the median, he should at least give the matter his attention. In this way the standards of the schools will gradually be raised.

At the time that the information summarized in this report was collected from the schools additional information was collected from individual teachers regarding their training and work. This body of material is so bulky that it will require more time to complete a report in regard to teachers. The general facts regarding teachers are pre-

sented in the summary form in which this matter was called for in the principal's report.

TABLE I.—*Population of cities—School enrollment.*

	Under 2,500	2,501-5,000	5,001-7,500	7,501-10,000	10,001-15,000	15,001-50,000	50,001 and over.	Total.
Colorado	8	11	4	4	1	3	5	36
Illinois	21	33	18	12	11	25	26	146
Indiana	6	12	9	12	5	11	8	63
Iowa	13	26	6	2	5	12	3	67
Kansas	27	21	4	9	6	6	3	76
Michigan	21	22	14	8	12	10	12	99
Minnesota	22	17	10	8	4	1	11	73
Missouri	5	11	12	7	1	2	14	52
Montana	1	6	3	1	4	1	0	16
Nebraska	26	11	6	4	2	4	2	55
North Dakota	17	5	3	0	3	0	0	28
Ohio	16	32	27	19	13	17	34	158
Oklahoma	2	6	1	4	6	2	1	22
South Dakota	5	7	3	1	3	0	0	19
Wisconsin	17	29	14	4	4	17	5	90
Total	207	249	134	95	80	111	124	1,000

	1-100	101-200	201-300	301-500	501-1,000	1,001 and over.	Total.
Colorado	4	12	8	6	4	2	36
Illinois	21	48	22	21	20	12	144
Indiana	2	21	17	14	6	3	63
Iowa	1	28	12	16	5	2	64
Kansas	4	36	16	15	1	3	75
Michigan	11	30	26	17	11	3	98
Minnesota	5	32	17	10	1	6	71
Missouri	10	21	6	5	3	6	51
Montana	3	5	3	3	2	0	16
Nebraska	9	28	7	6	0	1	51
North Dakota	12	14	0	-	0	0	28
Ohio	16	48	33	29	20	9	155
Oklahoma	1	9	3	5	0	0	18
South Dakota	2	11	3	2	0	0	18
Wisconsin	3	44	18	12	9	3	89
Total	104	386	191	163	83	50	977

LOCATION OF SCHOOLS.

Table I is a somewhat general table giving the size and location of the 1,000 high schools sending in the reports upon which this investigation is based. Beginning at the top of the table, we read that 8 of the Colorado schools are situated in cities with a population of 2,500 or less, 11 in cities with populations ranging from 2,501 to 5,000, etc., and that, in all, Colorado is represented by 36 schools. Reading further, we see that of these 36 schools 4 have enrollments between 1 and 100, 12 between 101 and 200, and so on.

It is to be noted that 15 States are represented, and the number of schools in the several States ranges from 16 in Montana to 158 in Ohio. In a general way the number of schools varies with the population and age of the State. For the entire association the largest number of schools is found in cities of the second size. This also holds for most of the States, but it does not hold for Kansas, Minnesota, Nebraska, and North Dakota, in which States the city with a

population of 2,500 or less is most frequent, nor for Missouri, where the city of the third size predominates.

As regards enrollment, 386 out of a total of 977 have enrollments varying from 101 to 200, and this size of school is also most frequent in every one of the States. This does not mean that schools of this size are most frequent in the north central territory, but merely in the association, for a great many of the smaller schools are unable or unwilling to meet the requirements for admission to membership in the association. It is the exceptional school having an enrollment of 100 or less that becomes a member of the association.

The discrepancy between the totals when the schools are arranged with reference to population and when they are arranged on the basis of enrollment is due to the fact that, of the 1,000 schools reporting, only 977 reported enrollment, while the population could be obtained in every case by consulting the United States census reports.

TABLE II.

Total enrollment.	Under 2,500	2,501–5,000	5,001–7,500	7,501–10,000	10,001–15,000	15,001–50,000	50,001 and over.	Total.
Under 50	2		2	5	1	1	5	16
51–75	13	5	1	0	1	2	5	27
76–100	32	9	2	4	2	1	3	53
101–125	49	20	3	2	0	1	2	86
126–150	45	38	14	3	1	2	2	105
151–175	32	43	14	0	1	1	3	94
176–200	9	43	16	6	3	2	1	80
201–225	3	26	19	4	5	2	3	62
226–250	3	14	10	11	5	0	0	43
251–275	1	7	14	10	2	0	2	36
276–300	1	4	9	13	5	2	1	35
301–350	2	8	10	13	13	11	1	60
351–400	1	3	3	8	10	5	4	24
401–450	1		0	7	9	16	4	39
451–500	1		1	1	9	11	1	24
501–550			1	0	1	5	4	11
551–600				1	2	6	6	15
601–650					0	7	3	10
651–700					1	2	3	6
701–750						3	6	9
751–800						5	4	9
801–850						1	1	2
851–900						2	3	5
901–950						2	4	6
951–1,000						1	3	4
1,001–1,050						1	2	3
1,051–1,100						2	3	5
1,101–1,150						0	3	3
1,151–1,200						2	2	4
1,201–1,250						0	7	7
1,251–1,300						0	1	1
1,301–1,350						1	1	2
1,351–1,400						0	2	2
1,401–1,500						1	3	4
1,501–1,550							4	4
1,551–1,600							2	2
1,601–1,700							3	3
1,701–1,800							3	3
1,801–1,900							1	1
2,001–2,100							2	2
2,100–2,200							1	1
2,701–2,800							1	1
Total number of schools	196	229	119	88	73	100	114	918
Total enrollment	28,395	40,909	25,952	23,404	24,338	52,082	94,213	288,693
Median	125	176	210	273	335	459	742	200
Quartile deviation	26½	36	51	60½	88½	143	427	.....

TABLE II—Continued.

Total enrollment.	Illinois.	Indiana.	Iowa.	Kansas.	Michigan.	Minnesota.	Missouri.
Under 50	2	1	.....	.....	2	.....	3
51–75	5	0	.....	2	4	2	4
76–100	12	1	1	2	6	3	3
101–125	13	3	4	10	7	6	8
126–150	13	3	10	10	7	10	4
151–175	12	5	6	7	9	9	3
176–200	8	8	9	8	7	7	6
201–225	7	6	4	5	9	8	3
226–250	4	5	1	6	5	3	0
251–275	4	3	4	3	6	2	2
276–300	5	2	2	3	5	3	1
301–350	7	3	11	5	6	5	3
351–400	8	4	1	6	5	3	0
401–450	6	5	3	2	4	1	1
451–500	2	2	2	2	1	1	1
501–550	6	1	1	0	0	0	0
551–600	4	1	0	1	0	0	1
601–650	3	1	2	0	2	0	0
651–700	0	0	0	0	1	0	0
701–750	2	0	0	0	1	1	1
751–800	4	1	1	0	1	0	0
801–850	0	0	0	0	2	0	0
851–900	2	0	0	0	0	0	1
901–950	1	1	0	0	3	0	0
951–1,000	0	1	1	0	0	0	0
1,001–1,050	1	0	0	0	0	0	0
1,051–1,100	2	0	1	1	0	0	0
1,101–1,150	0	1	0	0	0	0	0
1,151–1,200	2	1	0	0	0	0	0
1,201–1,250	0	0	1	1	1	1	1
1,251–1,300	0	0	.....	0	0	0	1
1,301–1,350	0	0	.....	1	0	1	0
1,351–1,400	0	0	.....	.....	1	0	0
1,451–1,500	2	0	.....	.....	0	1	1
1,501–1,550	2	0	.....	.....	0	2	0
1,551–1,600	0	0	.....	.....	0	0	1
1,601–1,700	0	0	.....	.....	0	1	1
1,701–1,800	1	1	.....	.....	0	0	1
1,801–1,900	0	0	.....	.....	0	0	.....
2,001–2,100	1	0	.....	.....	0	1	.....
2,100–2,200	.....	1	.....	.....	0	.....	.....
2,701–2,800	.....	.....	.....	.....	1	.....	.....
Total number of schools	141	61	65	75	96	71	51
Total enrollment	51,977	23,208	19,530	19,700	31,243	24,411	18,378
Median	220	243	216	190	217	195	177

Total enrollment.	Nebraska.	North Dakota.	Ohio.	Oklahoma.	South Dakota.	Wisconsin.	Total.
Under 50	3	.....	4	.....	1	.....	16
51–75	3	4	3	.....	0	.....	27
76–100	4	9	7	1	1	3	53
101–125	10	4	9	1	3	8	86
126–150	6	5	16	2	4	15	105
151–175	8	0	13	3	2	16	93
176–200	3	4	10	3	2	5	80
201–225	4	0	10	1	1	4	62
226–250	2	0	12	0	1	4	43
251–275	0	0	6	1	0	5	36
276–300	1	0	6	1	1	5	35
301–350	3	0	10	2	1	4	60
351–400	1	0	5	0	0	1	34
401–450	2	1	7	1	0	6	39
451–500	0	1	8	2	1	1	24
501–550	0	.....	3	.....	.....	0	11
551–600	0	.....	6	.....	.....	2	15
601–650	0	.....	1	.....	.....	1	10
651–700	0	.....	4	.....	.....	1	6
701–750	0	.....	2	.....	.....	2	9
751–800	0	.....	1	.....	.....	1	9
801–850	0	.....	0	.....	.....	0	2
851–900	0	.....	1	.....	.....	1	5
901–950	0	.....	1	.....	.....	0	6
951–1,000	0	.....	1	.....	.....	1	4
1,001–1,050	0	.....	0	.....	.....	2	3
1,051–1,100	0	.....	1	.....	.....	0	5

TABLE II—Continued.

Total enrollment.	Nebraska.	North Dakota.	Ohio.	Oklahoma.	South Dakota.	Wisconsin.	Total.
1,101–1,150	0		1			1	3
1,151–1,200	1		0				4
1,201–1,250			2				7
1,251–1,300			0				1
1,301–1,350			0				2
1,351–1,400			1				2
1,451–1,500			0				4
1,501–1,550			0				4
1,551–1,600			1				2
1,601–1,700			1				3
1,701–1,800			0				3
1,801–1,900			1				1
2,001–2,100			0				2
2,100–2,200			0				1
2,701–2,800			0				1
Total number of schools	51	28	154	18	18	89	918
Total enrollment	9,452	3,898	53,046	4,375	3,313	25,967	288,698
Median	148	106	235	192	156	188	200

ENROLLMENT.

In Table II the distribution of schools according to enrollment is shown more in detail. The table should be read as follows: In cities having a population of 2,500 or less there are 2 schools out of the 195 represented with an enrollment of 50 or less, 13 with enrollments ranging from 51 to 75, etc.; in cities of the second size no school of the 229 sending in reports has an enrollment of 50 or less, 5 have enrollments falling between 51 and 75, etc. For the States the table is read in the same way.

A glance at the table shows that there is some relation between the size of the school and the size of the city in which the school is located. The median enrollment ranges from 126 for schools situated in cities of less than 2,500 population to 742 in cities having populations of over 50,000; but it is an interesting fact, very clearly brought out in the table, that, while the large schools are, with hardly an exception, found in the large cities, the small schools are by no means confined to the small cities. The range of variation in size of schools increases with the size of the cities. This is plainly shown by the quartile deviation which increases steadily from 26½ for schools in towns of less than 2,500 population to 427 for the schools located in towns of the largest size. The quartile deviation is a measure of the variation in a series of items. The term quartile is used to refer to the points in the series, which divide the series into quarters. There are therefore three quartiles—first, second, and third; but the second is the median, since it is the division point of the second and third quarters, which is at the middle point of the series. The quartile deviation is one-half the difference between the first and third quartiles. The matter will be better understood by reference to the table. For example, take the group of schools located in cities of 2,500 inhabitants and under,

There are 195 schools in the group. By a process of division the first quartile is found to be the forty-ninth school; the second quartile, or median, the ninety-eighth school; and the third quartile, the one hundred and forty-seventh school, when the schools are ranked from lowest to highest according to enrollment. By counting down from the top of the column we find that the forty-ninth school is the second school of the 49 schools having enrollments from 101 to 125. By computation the enrollment of the school is found to be 101. Following the same method the median enrollment is found to be 126 and the third quartile 154. Subtracting 101 from 154 gives a difference of 53, and one-half of 53 is 26½, which is the quartile deviation for the group of schools in question.

This relation between the range of school enrollments and the size of cities is shown graphically in Figure 1. The limits of each of the

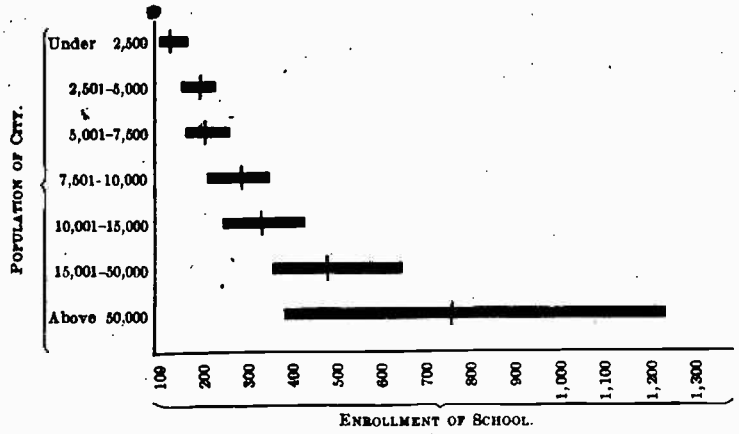

FIG. 1.—First and third quartiles and median enrollment.—The limits of each line represent the first and third quartiles for its particular group of cities. The central point represents the median enrollment.

horizontal lines represent the first and third quartiles, and the point near the middle of the line the median of each group of schools when grouped according to the size of city in which they are located. In other words, each line represents the range of the middle 50 per cent of the schools situated in each size of city.

The great range in size of schools in large cities is doubtless due to the fact that the range of conditions is greater than in the smaller cities. The large city with its large population is divided into many different social groups on the basis of nationality, varied religions, industrial and commercial interests, etc. Each group has its peculiar needs which must be met by schools of different sorts. The large city, therefore, maintains all sorts and kinds of schools because its needs are of all sorts and of all kinds. Because of concentration of population and resources a great many special and private schools are maintained in addition to the usually large public high schools.

We also notice a rather large variation in the size of schools from State to State. The median enrollment for the several States ranges from 106 in North Dakota to 243 in Indiana. It seems that the large enrollments are found in the older and more densely populated States, Ohio, Indiana, Illinois, Michigan, and Iowa, and the smaller enrollments in the newer States and where the population is more scattered, North Dakota, Nebraska, and South Dakota.

In most cases the results obtained here are in agreement with the findings of Coffman and Jessup in their investigation based upon these same reports for the year 1912–13, except that the median enrollment as found by them is with few exceptions slightly less than that shown in Table II.

TABLE III.

	Illinois.	Indiana.	Iowa.	Kansas.	Michigan.	Minnesota.	Missouri.	Montana.
Number of students in fourth year	5,351	2,492	2,399	2,924	3,260	2,885	1,633	320
Number in third year	6,498	2,864	2,844	3,429	4,170	3,690	2,205	410
Number in second year	9,609	3,996	3,726	4,978	5,530	4,856	3,296	567
Number in first year	13,810	5,116	4,998	7,142	7,904	7,428	5,568	860
Total	35,268	14,468	13,967	18,473	20,864	18,859	12,702	2,157
Number of schools	102	49	53	73	85	61	36	10
Per cent of students in fourth year	15.2	17.2	17.2	15.8	15.6	15.3	12.8	14.8
Per cent in third year	18.4	19.8	20.3	18.5	20.0	19.6	17.2	19.1
Per cent in second year	27.2	27.7	26.7	27.0	26.5	25.7	26.0	26.2
Per cent in first year	39.2	35.3	35.8	38.7	37.9	39.4	44.0	39.9

	Nebraska.	North Dakota.	Ohio.	Oklahoma.	South Dakota.	Wisconsin.	Total.
Number of students in fourth year	1,384	584	6,845	487	450	3,351	34,365
Number in third year	1,649	674	8,273	607	540	4,126	41,978
Number in second year	1,964	929	10,930	907	765	5,163	57,216
Number in first year	3,034	1,504	15,289	1,262	1,120	6,995	82,030
Total	8,031	3,691	41,336	3,263	2,875	19,635	215,589
Number of schools	43	28	124	14	15	72	765
Per cent of students in fourth year	17.2	15.8	16.5	15.0	15.6	17.1	15.9
Per cent in third year	20.6	18.3	20.0	18.6	18.8	21.0	19.5
Per cent in second year	24.4	25.2	26.4	27.7	26.7	26.3	26.5
Per cent in first year	37.8	40.7	37.0	38.7	38.9	35.6	38.1

TABLE IV.

	Under 2,500	2,501–5,000	5,001–7,500	7,501–10,000	10,001–15,000	15,001–50,000	50,001 and over.	Total.
Number of students in fourth year	3,740	6,003	3,800	3,117	3,667	5,880	8,158	34,365
Number in third year	4,383	6,945	4,683	4,040	4,605	7,404	9,918	41,978
Number in second year	5,538	8,648	6,028	5,412	6,320	10,029	15,241	57,216
Number in first year	7,420	12,238	8,548	7,752	8,960	14,332	22,780	82,030
Total	21,081	33,834	23,059	20,321	23,552	37,645	56,097	215,589
Number of schools	165	200	105	74	69	74	78	765
Per cent of students in fourth year	17.8	17.7	16.5	15.4	15.5	15.6	14.5	15.9
Per cent in third year	20.8	20.6	20.3	19.9	19.5	19.6	17.7	19.5
Per cent in second year	26.2	25.6	26.2	26.6	26.9	26.7	27.2	26.5
Per cent in first year	35.2	36.1	37.0	38.1	38.1	38.1	40.6	38.1

DISTRIBUTION OF STUDENTS IN THE FOUR YEARS.

One of the great problems confronting secondary education is that of keeping students in the high school after they have enrolled for the freshman year. One of the measures of the inefficiency of a school is found in its inability to keep its students in school long enough for them to complete a well-rounded curriculum, even if this is only a two-year course. The extent to which a school holds its students tells in some degree the extent to which that school is meeting the needs of its students and of the community in which it is situated.

Concerning the distribution of students in the four years of the high school we have reports from 765 schools. Tables III and IV are based upon these reports, the one showing the variation in the distribution of students from State to State, and the other from city to city. Each table is composed of two parts, the upper half giving the exact numbers of students found in each of the four years in the various States and groups of cities and the lower half the percentages. Thus the first column of Table III would be read in this way: Of the 35,268 students in the 102 schools reporting from Illinois, 5,351, or 15.2 per cent, are in the fourth year; 6,498, or 18.4 per cent, in the third year; 9,609, or 27.2 per cent, in the second year; and 13,810, or 39.2 per cent, in the first year. Table IV is read in the same way.

From an examination of the tables it is not difficult to see in what year there is the greatest number of students. The number in the first year ranges from 35.3 per cent in Indiana to 44 per cent in Missouri, and in the fourth year from 12.8 per cent in Missouri to 17.2 per cent in Indiana, Iowa, and Nebraska. Thus it is seen that, while there is in every case a very large preponderance of students in the first year, the schools in some States hold their students considerably better on the average than those in other States. This variation probably has some relation to variations in population and enrollment. But that population is not the only factor to be considered is brought out by the fact that the variation is greater from State to State than from cities of one size to cities of another size. The same may also be said of enrollment, since the median-sized school in Indiana is larger than in any other State. Yet Indiana surpasses all the other States in the ability to hold students. The factors which operate in holding a student in school or in causing him to drop out are undoubtedly many and complex.

This same variation is shown in the groups of cities, although not so markedly as in the case of the States. There seems to be a greater tendency, however, for students to leave school in the large cities than in the small cities, since the percentage of students in the fourth year decreases more or less gradually from 17.8 per cent in cities having a population of 2,500 or less to 14.5 per cent in cities of over

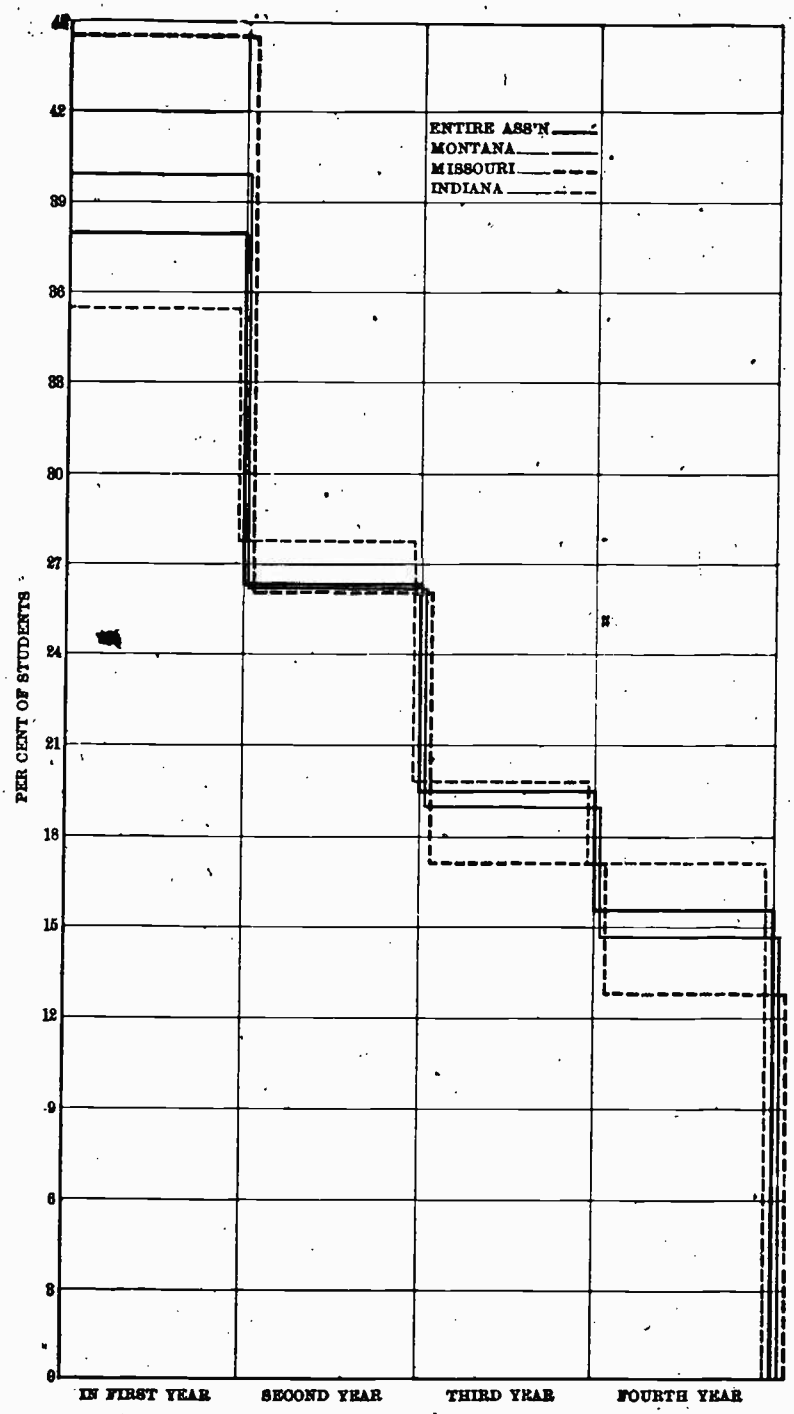

FIG. 2.—Distribution of students in the four high-school years in Montana, Missouri, Indiana, and the entire North Central Association.

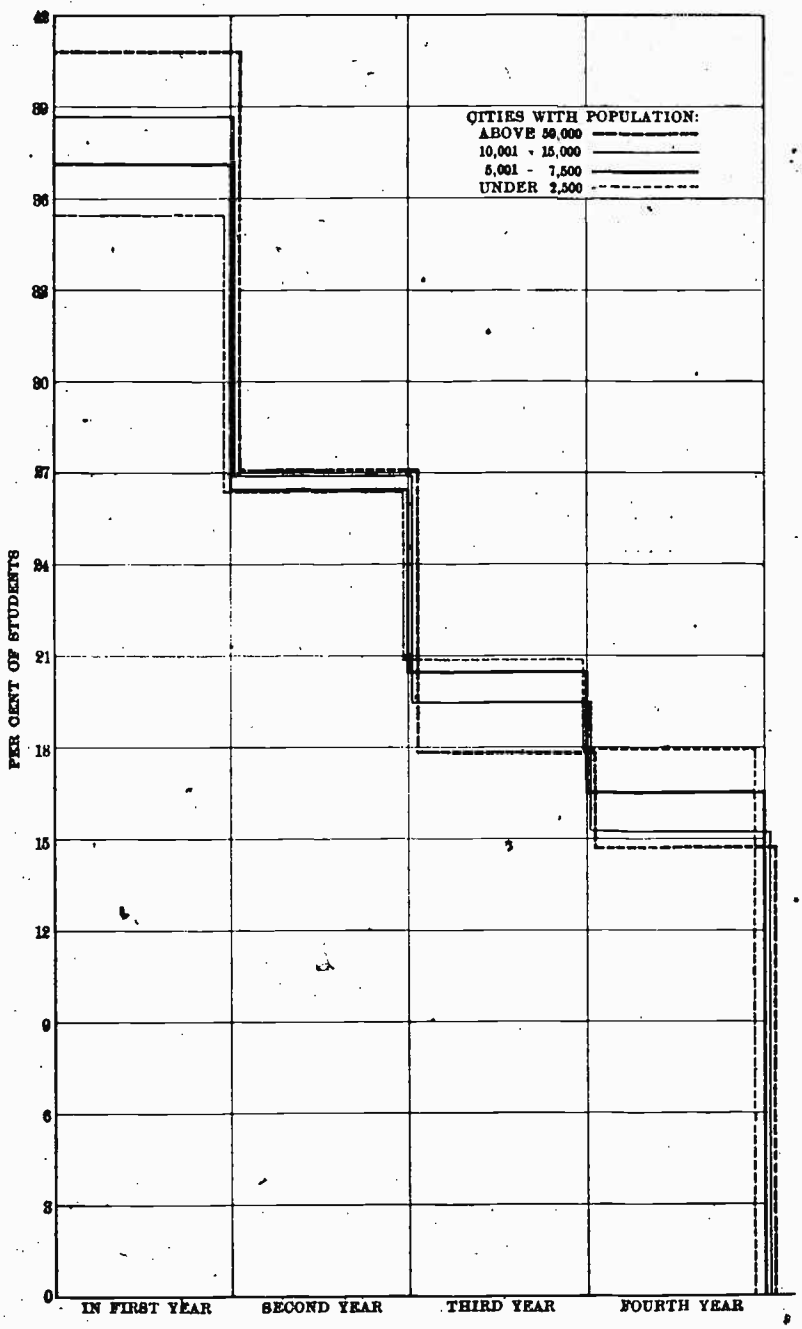

FIG. 3.—Distribution of students in the four high-school years in different groups of cities.

50,000 population, and the percentage in the first year increases from 35.2 per cent to 40.6 per cent. This is probably due to the fact that in the large cities there are more temptations of economic, social, or antisocial character to draw the interests of the student from the school.

TABLE V.

	United States, 1912.	North-Central Association, 1913–14.
Per cent of students in fourth year	13.45	15.90
Per cent in third year	18.50	19.50
Per cent in second year	27.05	26.50
Per cent in first year	41.00	38.10
Total	100.00	100.00

In figures 2 and 3 an attempt is made to bring out this variaion. The four curves in figure 2 represent the two extreme States in this matter of distribution of students—Missouri and Indiana—a median State—Illinois—and the association as a whole. In figure 3 the four curves represent the two extreme groups of cities and two intermediate groups. The bar diagrams in figure 4 bring out the distribution of students in the four years for the entire association. It can readily be seen from this figure that there is not only absolutely more dropping out of school between the first and second years than between any other two years, but that there is proportionately more.

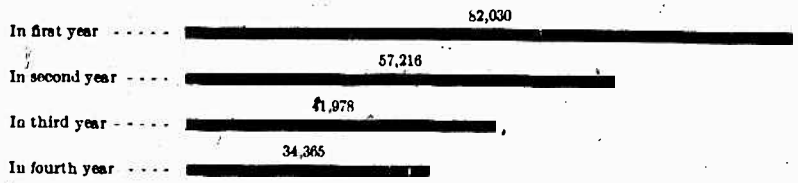

FIG. 4.—Number of students in different high-school years (in entire association).

It is interesting to make a comparison between the schools of the North Central Association and the schools of the United States as a whole in this matter of distribution of the students in the four years. Table V gives us such a comparison. The percentages for the United States were taken from page 7 of the second volume of the United States Commissioner's Report for 1913 and are based upon the estimated distribution of the enrollment for 1912. The figures slightly favor the schools of the association. If the figures are correct, the difference in favor of the association is probably due to the fact that these schools are a selected group, having better equipment, teachers, etc., than the average school and located in a section of the country in which much attention is being given to secondary education.

TABLE VI.

	First year.	Second year.	Third year.	Fourth year.	Total.
Number of students who dropped out of school	4,431	2,869	1,624	248	9,172
Percentage of students who dropped out of school	48.4	31.3	17.6	2.7	100

A matter somewhat related to that just discussed is found in Table VI. A special inquiry was made regarding the number of students who had dropped out of school from the class graduating in 1913. The class in question was the freshman class in 1909–10, the sophomore class in 1910–11, the junior class in 1911–12, and the senior class in 1912–13. Reports were received from 271 schools. An analysis of these 271 reports has given us Table VI. The table is read thus: Of the 9,172 students dropping out of school who belonged to the freshman class of 1908–9, 4,431, or 48.4 per cent, dropped out during the first or freshman year; 2,869, or 31.3 per cent, during the second or sophomore year; 1,624, or 17.6 per cent, during the third or junior year; and only 248, or 2.7 per cent, during the fourth or senior year.

This table clearly shows that the chances that a student will drop out of school before graduation rapidly grow less the longer he remains in school. Very nearly 80 per cent of those who leave school before graduation drop out before the junior year, while only 2.7 per cent drop out during the senior year.

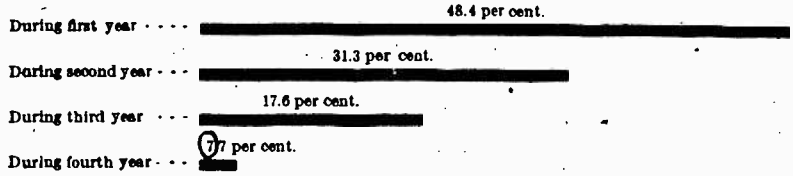

FIG. 5.—Percentage of students dropping out of school in different high-school years.

In figure 5 the relation of one high-school year to another in this respect is very clearly shown by the use of bar diagrams.

TABLE VII.

Number of students per class.	Illinois.	Indiana.	Iowa.	Kansas.	Michigan.	Minnesota.	Missouri.
1–10	849	445	250	496	612	459	416
11–20	2,435	1,536	1,044	1,426	1,836	1,446	936
21–30	3,312	1,395	1,239	1,756	1,898	1,660	1,333
31–40	870	73	78	234	222	206	246
41–50	93	6	3	43	25	42	62
Total	7,560	3,453	2,614	3,955	4,593	3,803	2,993
Median	21.5	18.5	20	26	19	20	21
Number of schools	115	51	46	73	81	58	41
Per cent of classes having—							
1–10 students	11.2	12.9	9.5	12.6	13.3	12.1	13.9
11–20	32.2	44.5	40.0	36.0	40.0	38.0	31.3
21–30	43.8	40.4	47.4	44.4	41.4	43.4	44.5
31–40	11.5	2.1	3.0	5.9	4.8	5.4	8.2
41–50	1.3	.1	.1	1.1	.5	1.1	2.1

TABLE VII—Continued.

Number of students per class.	Nebraska.	North Dakota.	Ohio.	Oklahoma.	South Dakota.	Wisconsin.	Total.
1-10	232	227	471	105	73	388	5,023
11-20	615	486	2,571	238	280	1,384	16,233
21-30	687	255	4,467	228	259	1,683	20,163
31-40	59	21	453	59	22	175	2,718
41-50	0	9	36	13	3	21	356
Total	1,593	998	7,998	643	637	3,651	44,493
Median	19	15.5	22	19	19	20.5	20
Number of schools	44	27	126	13	14	65	756
Per cent of classes having—							
1-10 students	14.6	22.7	5.9	16.3	11.5	10.6	11.3
11-20	38.6	48.8	32.1	37.0	44.0	37.9	36.5
21-30	43.1	25.5	55.8	35.5	40.7	46.1	45.3
31-40	3.7	2.1	5.7	9.2	3.5	4.8	6.1
41-50	.0	.9	.5	2.0	.3	.6	.8

Number of students per class	0-100	101-200	201-300	301-500	501-1,000	1,001 and over.	Total.
1-10	831	1,873	774	920	335	290	5,023
11-20	950	4,795	3,000	3,602	2,147	1,739	16,233
21-30	306	3,200	3,112	4,957	3,319	5,269	20,163
31-40	39	491	324	523	354	987	2,718
41-50	9	36	46	74	61	130	356
Total	2,135	10,395	7,256	10,076	6,216	8,415	44,493
Median	12.5	17	19.5	21	22	24	20
Number of schools	78	305	146	139	51	37	756
Per cent of classes having—							
1-10 students	38.9	18.0	10.7	9.2	5.4	3.5	.....
11-20	44.5	46.1	41.4	35.7	34.5	20.7	.....
21-30	14.4	30.7	42.8	49.2	53.4	62.5	.....
31-40	1.8	4.8	4.5	5.2	5.7	11.7	.....
41-50	.4	.4	.6	.7	1.0	1.6	.....

SIZE OF CLASSES.

The size of a class has a great deal to do with the efficiency of instruction. The association, considering classes of over 30 too large to secure the maximum of efficiency, discourages the maintenance of classes of this size.

Table VII represents the analysis of 756 reports concerning the size of classes. This table is composed of two parts, the one showing the relation of location in the different States, the other the relation of enrollment in the schools to the size of classes. And again each of these parts is divided into two divisions, the upper giving the actual number of cases and the lower the percentages. The table should be read thus: Of the 7,560 classes in the 115 schools in Illinois reporting on this item, 849, or 11.2 per cent, have from 1 to 10 students; 2,435, or 32.2 per cent, have from 11 to 20; 3,313, or 43.8 per cent, have from 21 to 30, etc., and the median size of class for the State of Illinois is 21½ students.

For the entire association it is seen that the median is 20 students per class and that the largest percentage of classes, 45.3 per cent, is found in classes of the third size, those having from 21 to 30 students. As to median the States range from 15½ in North Dakota to 26 in

Kansas. The largest percentage of classes is found in classes of the third size, except in the States of Indiana, North Dakota, Oklahoma, and South Dakota, in which States the greatest number of classes is found in the second group, i. e., those having from 11 to 20 students. The frequency of the small classes having 10 students or less varies from 22.7 per cent in North Dakota to 5.9 per cent in Ohio, while the percentage of classes of more than 30 students varies from 2.2 per cent in Indiana to 12.8 per cent in Illinois.

From the foregoing it is evident that the size of class is by no means standardized and that there is a great variation from State to State. This variation is probably due in many cases to the presence or absence of large high schools within the State, but that large high schools do not always necessitate large classes is proved by the case of Indiana, where we find the smallest percentage of large classes combined with the largest median enrollment. Another important factor which probably operates in a good many cases is the rapid increase in enrollment from year to year, with the result that the facilities for instruction lag a year or two behind the actual needs of the school.

A further examination of the table shows that there is a positive correlation between enrollment and size of classes. The median increases steadily from 12½ in schools having an enrollment of 100 or less to 24, nearly double, in schools with an enrollment of 1,001 or larger; the percentage of small classes of from 1 to 10 students decreases from 38.9 per cent in the smallest schools to 3.5 per cent in the largest schools; and the percentage of classes with over 30 students increases from 2.2 per cent in the smallest schools to 13.3 per cent in the largest. It is a notable fact in this connection that while in the majority of features the large schools show a greater tendency to vary among themselves than the small schools, the exact opposite is true here. The largest percentage of classes found in any one group anywhere in the table is 62.5 per cent, which is the percentage of classes of 21 to 30 students in schools having an enrollment of 1,001 and over.

This relation between size of classes and enrollment is shown graphically in figures 6 and 7. In figure 6 the bar diagrams represent the median size of class for the schools grouped according to enrollment. The four curves in figure 7 are based upon the percentage tables showing the relation between size of class and enrollment.

This great variation in size of classes presents a rather serious problem to secondary education. If the work done in a large class is as efficient as that done in a small class, then there are many teachers in many schools who are not using their energy or the finances of the public school to the best advantage. If, on the other

hand, as is probably much nearer the truth, the individual students in the large classes are not so efficiently taught as they would be if the classes were smaller, the definition of the unit of the North Central Association should be restated or the size of classes stand-

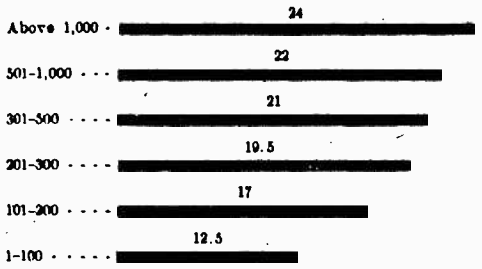

FIG. 6.—Median number of students per class in schools having different enrollments.

ardized to a greater extent than we find them at present. It is true, of course, that the size of class that can be taught most efficiently varies with the subject and with the teacher, but hardly to the extent that it is found to be varying in the association.

TABLE VIII.

Students per teacher.	Illinois.	Indiana.	Iowa.	Kansas.	Michigan.	Minnesota.	Missouri.	Nebraska.	North Dakota.	Ohio.	Oklahoma.	South Dakota.	Wisconsin.	Total.
2		1			1									2
3		0			0		2							2
4		0			0		0	1		1				2
5	3	0		1	0		0	0		0				4
6	3	0		2	9		1	3		3		1	1	14
7	3	0		0	0	1	1	1		1		0	1	8
8	1	0		0	3	1	2	1	2	1		0	0	11
9	2	1	1	0	1	0	2	1	1	2		0	0	11
10	4	1	0	1	1	2	1	0	2	1		0	0	13
11	5	1	0	0	1	1	0	0	6	2		0	1	17
12	4	2	0	1	3	4	1	0	4	0	1	0	1	21
13	1	2	1	2	2	4	4	1	1	2	0	1	2	23
14	6	3	2	1	0	4	3	0	1	4	2	2	4	32
15	7	5	3	2	2	5	0	3	2	1	0	3	5	38
16	6	2	6	4	3	8	1	1	2	3	1	3	8	48
17	6	3	6	2	6	11	0	1	2	5	1	1	8	52
18	11	9	8	8	14	3	3	3	1	4	1	1	8	74
19	8	3	8	8	8	4	4	6	1	10	1	2	10	73
20	15	6	7	8	10	2	5	8	2	10	2	1	8	84
21	12	13	7	8	9	2	3	4	1	12	0	0	5	76
22	12	8	4	5	4	1	4	7		9	1	0	5	55
23	4	3	4	8	10	5	6	3		8	2	1	5	59
24	11	2	3	5	4	4	1	0		12	0	1	5	48
25	6	2	2	1	5	1	2	2		9	1	0	5	36
26	4	0	1	2	2	2	0	1		16	1	0	2	31
27	2	0	0	4	2	1	2	1		13	2	0	3	30
28	5	0	0	1	2	2	2	2		6	2	1	1	24
29	0	0	1	0	1	1	0	0		8			1	12
30	3	1		1	2	1	0	1		4				13
31	1				0	1	0			1				3
32					1		1			2				4
33					0					1				1
34					0					3				3
62					1									1
Total	145	63	64	75	98	71	51	51	28	154	18	18	89	925
Median	20	19	19	20	20	17	20	20	12	23	21	16	19	20

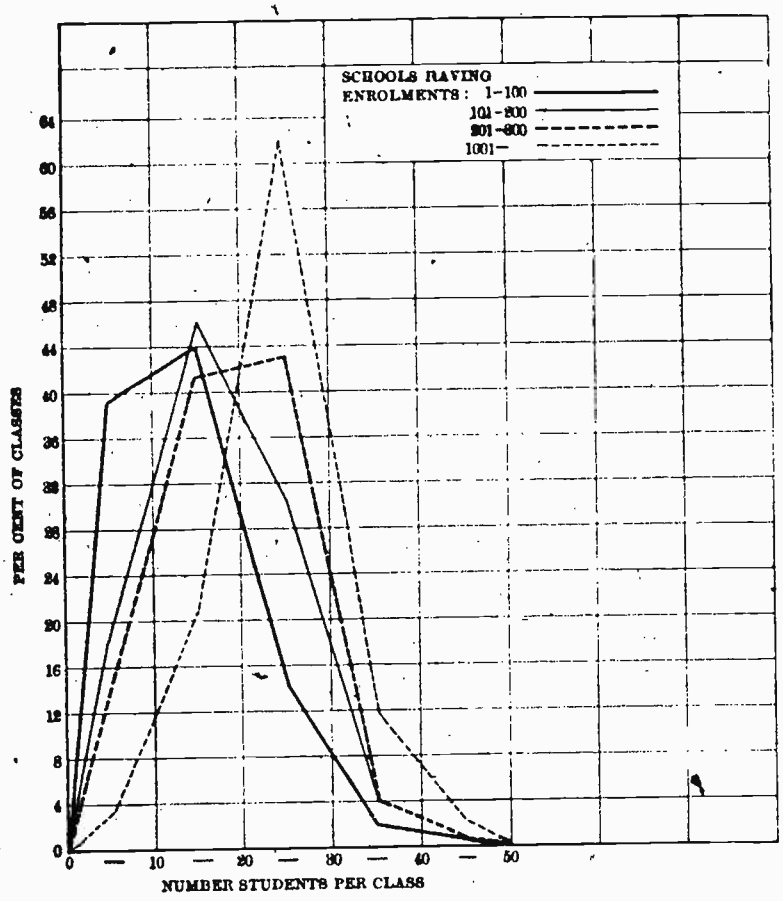

FIG. 7.—Relation between size of classes and enrollment.

TABLE VIII—Continued.

Students per teacher.	Under 2,500	2,501–5,000	5,001–7,500	7,500–10,000	10,001–15,000	15,001–50,000	50,001 and over.	Total.	1–100	101–200	201–300	301–500	501–1,000	1,001 and over	Total.
2	....	....	1	1	....	....	....	2	2	....	....	....	....	....	2
3	....	....	0	2	....	....	....	2	1	1	....	....	....	....	2
4	1	....	0	0	....	....	1	2	2	0	....	....	....	....	2
5	1	....	0	0	....	1	2	4	3	1	....	....	....	....	4
6	3	1	0	4	2	1	3	14	13	1	....	....	....	....	14
7	3	0	0	0	0	2	3	8	5	2	1	....	....	....	8
8	4	1	1	1	1	0	3	11	10	1	0	....	....	....	11
9	5	1	1	0	0	0	4	11	5	4	1	1	....	....	11
10	2	3	0	2	0	2	4	13	6	6	0	1	....	....	13
11	8	6	2	0	0	0	1	17	11	5	1	0	....	....	17
12	7	5	4	2	1	2	0	21	6	13	2	0	....	....	21
13	10	7	3	1	0	1	1	23	8	15	0	0	....	....	23
14	7	12	5	1	2	2	3	32	5	19	4	4	....	....	32
15	11	13	4	3	1	4	2	38	7	26	1	4	....	....	38
16	20	17	5	2	2	1	1	48	5	34	4	5	....	....	48
17	17	15	5	5	4	5	1	52	0	36	11	4	1	....	52
18	16	25	10	8	5	5	5	74	0	37	23	12	2	....	74
19	21	15	13	7	6	9	2	73	4	36	17	10	6	....	73
20	16	23	12	8	9	8	8	84	4	34	17	16	11	2	84
21	11	18	15	8	7	11	6	76	....	27	21	17	9	2	76
22	9	8	12	5	2	15	4	55	....	16	16	11	10	2	55
23	7	20	5	1	7	6	13	59	....	13	19	12	7	8	59
24	3	8	7	6	5	9	10	48	....	7	10	16	8	7	48
25	2	9	4	7	2	6	6	36	....	8	8	10	7	3	36
26	2	12	1	3	4	1	8	31	....	7	8	6	6	4	31
27	3	7	3	3	4	3	7	30	....	9	5	8	3	5	30
28	3	2	5	1	5	0	8	24	....	6	4	6	2	6	24
29	1	0	2	4	1	1	3	12	....	2	4	3	1	2	12
30	1	4	0	1	2	1	4	13	....	2	2	3	0	6	13
31	....	0	0	0	0	1	2	3	....	0	0	1	1	1	3
32	....	0	0	0	1	3	....	4	....	0	0	2	2	....	4
33	....	0	0	1	....	0	....	1	....	0	0	1	0	....	1
34	....	0	2	....	....	1	....	3	....	1	1	1	0	....	3
62	....	1	....	....	....	....	....	1	....	....	....	....	1	....	1
Total	196	233	122	87	73	101	113	925	37	369	180	154	77	48	925
Median	17	19	20	20	21	21	23	20	11	18	21	22	22	26	20

NUMBER OF STUDENTS PER TEACHER.

An aspect of the high school very closely related to the size of classes and upon which the size of classes very largely depends is the number of students per teacher. If a school is deficient in its number of teachers, the size of classes in many cases will have to be increased. That the association recognizes the prime importance of this factor for efficiency is shown by the following statement found in its standards:

> All schools whose records show an excessive number of pupils per teacher, as based on average number belonging, even though they may technically meet all other requirements, are rejected. The association recognizes 30 as a maximum.

Let us see if this standard requirement is met by all the schools of the association.

Table VIII, based upon the reports of 925 schools representing 13 States, shows just where each school stands in this matter of the number of students per teacher. The analysis of the reports has been made on the three bases of State, population, and enrollment. The table should be read as follows: Of the 145 schools reporting from

the State of Illinois, 3 have a teacher for every 5 students, 3 a teacher for every 6 students, 3 a teacher for every 7 students, etc., and the median number of students per teacher for the entire State is 20.

The surprising fact, which is seen at once, is the great variation from school to school in this matter. Two schools report 1 teacher for every 2 students, while 1 reports only 1 teacher for every 62 students; and 20, which is the most frequent number of students per teacher, is but slightly more frequent than either 18, 19, or 21. We find a considerable variation in the median among the States, ranging from 12 in North Dakota to 23 in Ohio. Of schools having over 30 students per teacher there are 12, of which 7 are in the State of Ohio; and there are 13 schools with just 30 students per teacher.

The evidence of correlation between density of population and the number of students per teacher is not in accord with the results obtained by Coffman and Jessup in their investigation of a year ago. They found that there was no correlation between the two. As shown by the median here, which increases with the population or size of city from 17 to 23, there does seem to be some correlation. However, the correlation is evidently an indirect correlation. It is really between enrollment and number of students per teacher, but, since the large schools are usually found in the large cities, there is seemingly a correlation with density of population.

That enrollment is the real factor influencing the number of students per teacher is very clearly shown by an examination of that portion of the table in which the grouping of schools is made on the basis of enrollment. It is seen that the median increases from only 11 in the schools having enrollments of 100 and less to 26 in the schools of enrollments of 1,001 and over. It is a noteworthy fact that between the very smallest schools and the next group larger, and between the very largest schools and the next group smaller, are found the greatest differences between the medians, while the medians of the four intermediate groups of schools vary but little. The very small number of students per teacher found in the schools of 100 students and under may be due to the fact that, since the association sets four teachers as a minimum, those small schools which do have a large number of students per teacher are not admitted to membership in the association because they do not have a sufficient number of teachers. Of course, this is not the sole cause, but simply one of the many factors operating.

The influence of enrollment upon number of students per teacher is brought out again in figure 8, the bar diagrams representing the medians in Table VIII.

Table IX, in which the average number of students per teacher has been worked out, is simply a view from another angle of the material presented in Table VIII.

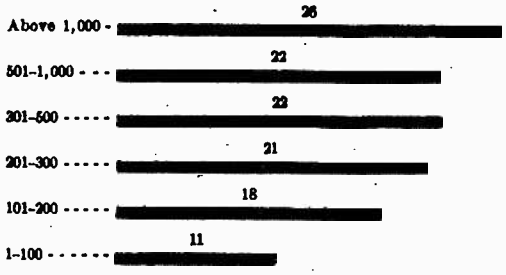

FIG. 8.—Median number of students per teacher in schools having different enrollments.

In conclusion, it may be said that the number of students per teacher presents a feature of the school which is far from being standardized, and that even the rather liberal requirement of one teacher for every 30 students is not being lived up to in at least 12 instances. Of course, the number of students that can be handled most efficiently by a teacher depends partly upon the teacher. One teacher may be able to teach 30 students just as well as another can teach 10, and the small number of students per teacher in the small schools may be more than counterbalanced by the presence of more efficient teachers in the large schools. Nevertheless, it is evident that in many cases there are either too many or too few teachers.

In the standards of the association the emphasis is placed upon the number of students per teacher rather than upon the number of students per class. It would seem that this is misplaced emphasis, because the number of students per teacher is significant only in so far as it determines the number of students per class. It is in the class that the instruction is given. The number of students per teacher may be very low, and yet the number of students in some classes much too high for efficient instruction.

TABLE IX.

	Under 2,500	2,501–5,000	5,001–7,500	7,501–10,000	10,001–15,000	15,001–50,000	50,001 and over.	Total.
Total number of teachers	1,637	2,115	1,349	1,228	1,187	2,492	4,034	14,042
Total enrollment	28,345	40,309	25,952	23,404	24,338	52,082	94,213	288,693
Number of pupils per teacher	17.4	19.1	19.3	19.1	20.6	21.0	23.4	20.6

	Illinois.	Indiana.	Iowa.	Kansas.	Michigan.	Minnesota.	Missouri.
Total number of teachers	2,562	1,137	969	943	1,516	1,156	945
Total enrollment	51,977	23,203	19,530	19,700	31,243	24,411	18,378
Number of pupils per teacher	20.8	20.4	20.1	20.9	20.6	21.1	19.5

	Nebraska.	North Dakota.	Ohio.	Oklahoma.	South Dakota.	Wisconsin.	Total.
Total number of teachers	510	285	2,340	231	189	1,319	14,042
Total enrollment	9,452	3,898	53,046	4,375	3,313	25,967	288,693
Number of pupils per teacher	18.5	13.7	22.7	19.0	17.5	19.7	20.6

TABLE X.

Number of teachers.	Under 2,500	2,501–5,000	5,001–7,500	7,501–10,000	10,001–15,000	15,001–50,000	50,001 and over.	Total.
4			1				1	2
5–6	57	28	8	3	1	3	5	105
7–8	76	62	16	6	1	2	1	164
9–10	33	78	32	10	7	1	4	165
11–12	16	42	25	19	5	2	6	115
13–14	2	12	18	18	17	2	2	71
15–16	3	5	12	12	13	9	4	58
17–18	1	0	1	7	11	8	2	30
19–20	3	2	5	6	6	19	3	44
21–22	1		0	4	6	6	5	22
23–24	0		0	1	2	8	5	16
25–26	0		1	0	2	11	4	18
27–28	1			1	0	2	3	7
29–30	0			0	1	5	7	13
31–32	1			0	1	2	4	8
33–34	1			0		3	3	7
35–36				1		2	2	5
37–38						2	4	6
39–40						1	5	6
41–42						3	5	8
43–44						2	2	4
45–46						0	7	7
47–48						0	2	2
49–50						2	2	4
51–52						3	3	6
53–54						1	2	3
55–56						0	4	4
57–58						0	2	2
59–60						0	4	4
61–72						1	1	2
63–64							1	1
67–68							2	2
69–70							2	2
71–72							2	2
75–76							1	1
97–98							1	1
101–102							1	1
Total number of schools	195	229	119	88	73	100	114	918
Median	8	9	11	13	15	22	33	11

TABLE XI.

	Illinois.	Indiana.	Iowa.	Kansas.	Michigan.	Minnesota.	Missouri.
Total number of teachers	2,502	1,137	969	943	1,516	1,156	945
Number of new teachers	467	240	326	327	351	344	226
New teachers inexperienced	61	40	80	100	122	78	67
New teachers with no special pedagogic preparation	55	22	12	26	14	30	22
New teachers not college graduates	79	47	21	58	40	50	59
Old teachers not college graduates	330	138	92	126	161	124	108
Old teachers with no special pedagogic preparation	226	47	38	26	40	51	42
Total teachers not college graduates	409	185	113	184	201	174	227
Total teachers with no special pedagogic preparation	281	69	50	52	54	81	64
Per cent of new teachers	18.7	21.1	33.6	34.7	23.1	29.7	23.9
Per cent of new teachers inexperienced	13.1	16.7	24.6	30.6	34.9	22.7	29.7
Per cent of new teachers with no special pedagogic preparation	11.8	9.2	3.7	7.9	4.0	8.7	9.7
Per cent of new teachers not college graduates	16.9	19.6	6.4	17.7	11.4	14.5	26.1
Per cent of old teachers not college graduates	16.2	15.4	14.3	20.5	13.8	15.3	23.8
Per cent of old teachers with no special pedagogic preparation	11.1	5.2	5.9	4.2	3.4	6.3	5.8
Per cent not college graduates [1]	16.3	16.3	11.7	19.5	13.3	15.0	24.0
Per cent with no special pedagogic preparation [1]	11.2	6.1	5.2	5.5	3.6	7.0	6.8
Number of schools	141	61	65	75	96	71	51

	Nebraska	North Dakota.	Ohio.	Oklahoma.	South Dakota.	Wisconsin.	Total.
Total number of teachers	510	285	2,340	231	189	1,319	14,042
Number of new teachers	172	114	493	109	81	411	3,661
New teachers inexperienced	32	24	116	17	23	84	854
New teachers with no special pedagogic preparation	8	10	76	3	7	29	314
New teachers not college graduates	29	28	55	18	16	73	573
Old teachers not college graduates	51	26	274	20	9	169	1,688
Old teachers with no special pedagogic preparation	14	8	138	4	3	57	694
Total teachers not college graduates	80	54	329	38	25	242	2,261
Total teachers with no special pedagogic preparation	22	18	214	7	10	86	1,008
Per cent of new teachers	33.7	40.0	21.1	47.2	42.9	30.7	26.2
Per cent of new teachers inexperienced	18.6	21.1	23.5	15.6	28.4	20.5	23.3
Per cent of new teachers with no special pedagogic preparation	4.6	8.8	15.4	2.8	8.6	7.0	8.6
Per cent of new teachers not college graduates	16.8	24.6	11.2	16.5	19.9	17.8	15.7
Per cent of old teachers not college graduates	15.1	15.2	14.8	16.4	8.3	18.6	16.3
Per cent of old teachers with no special pedagogic preparation	4.1	4.7	7.4	3.3	2.8	6.3	6.7
Per cent not college graduates [1]	15.7	19.0	14.1	16.5	13.2	18.4	16.2
Per cent with no special pedagogic preparation [1]	4.3	6.3	9.2	3.1	5.3	6.6	7.8
Number of schools	51	28	154	18	18	89	918

[1] These percentages are based upon the total number of teachers.

THE TEACHING STAFF.

It should be said in this connection that the facts relating to the teaching staff will be dealt with further and in much greater detail in a subsequent report based upon the teachers' cards. The bulk of that material has retarded its preparation.

The teaching staff and population.—In Table X we have the results of an analysis of 918 reports concerning the relation between number of teachers per school and the population of the cities in which the schools are located. This table should be read thus: Of the 195 schools situated in cities having a population of 2,500 or less, 57 have 5 or 6 teachers, 76 have 7 or 8, 33 have 9 or 10, etc.; and in the whole association there are two schools with but 4 teachers, 105 with 5 or 6, etc.

The same thing is noticed here that was brought out in connection with the discussion regarding the relation between enrollment and population. The great variation in the number of teachers per school is found in the large cities, as is the great variation in size of school. In the smaller cities the number of teachers per school is practically uniform.

The correlation between the number of teachers per school and population is expressed in the median which increases from 8 in the cities with a population of 2,500 or less to 33 in cities of over 50,000 population.

Training and experience.—Table XI is a rather complex table based upon the grouping of the 918 schools reporting according to States. In this table the actual number of teachers is given along with several items of information regarding training and experience. The table is divided into two parts, one giving the actual numbers, the other the percentages. It should be read as follows: In the 141 schools reporting from the State of Illinois are 2,502 teachers, of whom 467 are new to the school systems in which they are teaching; of these new teachers 61 are without experience, 55 have had no special pedagogic preparation, and 79 are not graduates of a standard college; among the old teachers there are 330 who are not college graduates, and 226 who have had no special pedagogic preparation; of both old and new teachers there are 409 who are not college graduates and 281 who have had no special pedagogic training; 18.7 per cent of the teachers are new, 13.1 per cent of these new teachers are inexperienced, etc.

For the entire association we find that 3,661, or 26.2 per cent, of the 14,042 teachers reported are new to the school systems in which they are teaching. The percentage of new teachers is by no means uniform from State to State, for we notice that it varies from 18.7 per cent in Illinois to 47.2 per cent (very nearly one-half of the teachers) in Oklahoma. It is an interesting fact that in the older and more densely populated States—Ohio, Indiana, Illinois, and Michigan—where the school organization is more firmly established, there is less changing of teachers than in the newer States—Oklahoma, South Dakota, and North Dakota. In this connection it must be remembered that the schools of the North Central Association are

selected schools and that the conditions among the public schools as a whole must be considerably worse than we find them here.

If these new teachers were all experienced it would not be so bad, but we find this not to be the case, for 23.3 per cent of the new teachers of the association are without experience. This also varies among the States from 13.1 per cent of new teachers who are inexperienced in Illinois to 34.9 per cent of such teachers in Michigan. It is to be noted that Illinois has not only the smallest percentage of new teachers, but of the new teachers she has the smallest percentage who are inexperienced.

In figure 9 the proportion of inexperienced teachers to the new teachers, of the inexperienced teachers to the total number of teachers, and of the new teachers to the total number of teachers is represented graphically. The large square representing all of the teachers of the association includes the smaller square representing the new teachers, which in turn includes a still smaller square which represents the inexperienced teachers.

According to the standards of the association—

> The minimum scholastic attainment of all secondary school teachers of academic subjects shall be equivalent to graduation from a college belonging to the North Central Association of Colleges and Secondary Schools. It is strongly advised that this attainment include, or be supplemented by, special study of the content and the pedagogy of the subject taught.

The table shows that the association as a whole comes nearer to conforming to the advisory portion of the standard than to the requirement, since but 7.2 per cent of the teachers have had no special pedagogic preparation, while 16.2 per cent are not graduates from a standard college. The percentage of teachers who are not college graduates ranges from 11.7 per cent in Iowa to 24 per cent in Missouri, and the percentage having no special pedagogic training, from 3.1 per cent in Oklahoma to 11.2 per cent in Illinois. Of course it may well be that in many cases the noncollege-graduate teacher is not teaching academic subjects, but that does not explain away the whole 16.2 per cent.

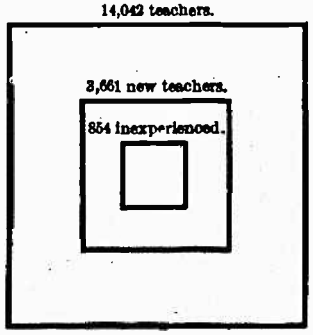

FIG. 9.—A comparison of the number of teachers to the number of new teachers and inexperienced teachers.

TABLE XII.

	Under 2,500.	2,501–5,000	5,001–7,500	7,501–10,000	10,001–15,000	15,001–50,000	50,001 and over.	Total.
Total number of teachers	1,637	2,115	1,349	1,228	1,187	2,492	4,034	14,042
Number of new teachers	648	805	424	387	332	527	538	3,661
New teachers inexperienced	199	243	94	111	66	89	52	854
New teachers, no special pedagogic preparation	57	62	29	30	26	53	57	314
New teachers, not college graduates	106	130	60	84	32	80	81	573
Old teachers, not college graduates	161	217	145	129	155	289	592	1,688
Old teachers, no special pedagogic preparation	47	96	48	59	42	114	288	694
Total teachers, not college graduates	267	347	205	213	187	369	673	2,261
Total teachers, no special pedagogic preparation	104	158	77	89	68	167	345	1,008
Per cent of new teachers	39.6	38.0	31.5	31.5	27.9	21.2	13.3	26.2
Per cent of new teachers inexperienced	30.7	30.2	22.2	28.7	19.9	16.9	9.7	23.3
Per cent of new teachers with no special pedagogic preparation	8.9	7.7	6.8	7.8	7.8	10.1	10.6	8.6
Per cent of new teachers not college graduates	16.3	16.1	14.1	21.7	9.9	15.2	15.1	15.7
Per cent of old teachers not college graduates	16.3	16.6	15.7	15.3	18.1	14.9	16.9	16.3
Per cent of old teachers with no special pedagogic preparation	4.8	7.4	5.2	7.0	4.9	6.1	8.2	6.7
Per cent not college graduates[1]	16.3	16.4	15.2	17.4	15.7	14.8	16.7	16.2
Per cent with no special pedagogic preparation[1]	6.3	7.5	5.7	7.2	5.7	6.7	8.6	7.2
Number of schools	195	229	119	88	73	100	114	918

[1] These percentages are based upon the total numbers of teachers.

TABLE XIII.

Total salary of teachers.	Colorado.	Illinois.	Indiana.	Iowa.	Kansas.	Michigan.	Minnesota.	Missouri.
$300–$399	.....	19	3	.....	0	1	1	7
400– 499	.....	16	1	2	7	10	5	8
500– 599	3	27	3	61	10	20	38	53
600– 699	23	77	31	151	120	132	82	62
700– 799	16	166	127	117	181	207	141	60
800– 899	42	191	147	86	136	200	93	36
900– 999	30	194	135	78	79	159	67	40
1,000– 1,099	47	135	85	44	50	100	45	36
1,100– 1,199	36	124	42	27	12	56	40	52
1,200– 1,299	33	126	34	14	19	65	53	40
1,300– 1,399	21	93	17	6	9	34	53	46
1,400– 1,499	30	95	1	5	0	22	50	22
1,500– 1,599	15	80	6	3	4	12	44	39
1,600– 1,699	5	64	9	.....	0	11	62	36
1,700– 1,799	4	57	3	.....	0	3	21	12
1,800– 1,899	2	45	4	.....	1	0	3	17
1,900– 1,999	0	19	1	.....	0	0	1	12
2,000– 2,099	0	30	0	.....	0	2	1	22
2,100– 2,199	0	16	2	.....	0	1	1	21
2,200– 2,299	0	22	.....	.....	0	0	.....	0
2,300– 2,399	0	20	.....	.....	0	0	.....	0
2,400– 2,499	0	12	.....	.....	0	0	.....	1
2,500– 2,599	0	6	.....	.....	0	1	.....	1
2,600– 2,699	0	15	.....	.....	2	.....	.....	0
2,700– 2,799	0	5	.....	.....	.....	.....	.....	0
2,800– 2,899	1	0	.....	.....	.....	.....	.....	1
2,900– 2,999	.....	0	.....	.....	.....	.....	.....	.....
3,000– 3,099	.....	3	.....	.....	.....	.....	.....	.....
Above	.....	1	.....	.....	.....	.....	.....	.....
Total	358	1,658	641	600	636	1,036	801	624
Median	1,032	1,103	906	768	797	874	980	1,120

TABLE XIII—Continued.

Total salary of teachers.	Montana.	Nebraska.	North Dakota.	Ohio.	Oklahoma.	South Dakota.	Wisconsin.	Total.
$300-$399	.....	2	.....	10	.....	.....	2	51
400- 499	1	23	1	16	2	.....	1	93
500- 599	1	32	13	65	9	11	85	381
600- 699	0	73	30	135	37	19	132	1,110
700- 799	0	61	47	204	39	31	202	1,609
800- 899	1	50	47	144	34	18	173	1,388
900- 999	18	24	42	151	18	19	71	1,181
1,000- 1,099	19	31	20	143	12	17	85	869
1,100- 1,199	27	5	11	83	2	18	34	569
1,200- 1,299	46	9	11	93	5	9	36	593
1,300- 1,399	29	0	3	96	0	0	35	442
1,400- 1,499	14	1	3	75	11	2	3	334
1,500- 1,599	7	2	4	95	2	2	0	324
1,600- 1,699	0	0	.....	44	1	.....	2	234
1,700- 1,799	2	0	.....	24	.....	.....	8	134
1,800- 1,899	1	0	.....	39	.....	.....	7	119
1,900- 1,999	0	0	.....	22	.....	.....	1	56
2,000- 2,099	2	0	.....	12	.....	.....	.....	69
2,100- 2,199	0	1	.....	4	.....	.....	.....	46
2,200- 2,299	0	.....	.....	6	.....	.....	.....	28
2,300- 2,399	0	.....	.....	7	.....	.....	.....	27
2,400- 2,499	0	.....	.....	2	.....	.....	.....	15
2,500- 2,599	0	.....	.....	2	.....	.....	.....	10
2,600- 2,699	0	.....	.....	.....	.....	.....	.....	17
2,700- 2,799	0	.....	.....	.....	.....	.....	.....	5
2,800- 2,899	0	.....	.....	.....	.....	.....	.....	2
2,900- 2,999	0	.....	.....	.....	.....	.....	.....	0
3,000- 3,099	1	.....	.....	.....	.....	.....	.....	4
Above	.....	.....	.....	.....	.....	.....	.....	1
Total	169	324	232	1,472	172	146	842	9,711
Median	1,238	752	853	1,008	797	868	828	919

Total salary of teachers.	Under 2,500.	2,501- 5,000	5,001- 7,500	7,501- 10,000	10,001- 15,000	15,001- 50,000	50,001 and over.	Total.
$300- 399	11	16	8	7	1	4	4	51
400- 499	29	23	20	4	6	6	5	93
500- 599	139	120	67	15	18	13	9	381
600- 699	329	357	153	96	87	66	22	1,110
700- 799	289	428	308	207	185	182	30	1,609
800- 899	139	271	190	205	168	343	72	1,388
900- 999	78	126	119	143	185	393	137	1,181
1,000- 1,099	38	92	80	84	120	242	213	869
1,100- 1,199	27	41	40	55	69	138	199	569
1,200- 1,299	23	49	39	44	47	149	242	593
1,300- 1,399	12	39	9	19	22	93	248	442
1,400- 1,499	22	9	13	14	22	48	206	334
1,500- 1,599	9	8	13	8	13	50	223	324
1,600- 1,699	4	1	5	5	3	21	195	234
1,700- 1,799	4	2	3	1	3	13	108	134
1,800- 1,899	3	4	4	1	0	10	97	119
1,900- 1,999	0	0	1	0	0	1	54	56
2,000- 2,099	1	3	.....	1	2	1	61	69
2,100- 2,199	0	1	.....	.....	2	2	41	46
2,200- 2,299	1	0	.....	.....	.....	2	25	28
2,300- 2,399	.....	0	.....	.....	.....	0	27	27
2,400- 2,499	.....	0	.....	.....	.....	0	15	15
2,500- 2,599	.....	0	.....	.....	.....	1	9	10
2,600- 2,699	.....	0	.....	.....	.....	0	17	17
2,700- 2,799	.....	0	.....	.....	.....	0	5	5
2,800- 2,899	.....	0	.....	.....	.....	1	1	2
2,900- 2,999	.....	0	.....	.....	.....	.....	0	0
3,000- 3,099	.....	1	.....	.....	.....	.....	3	4
Above	.....	1	.....	.....	.....	.....	.....	1
Total	1,138	1,592	1,072	909	953	1,779	2,268	9,711
Median	723	765	793	861	906	970	1,381	919

The difference between the new teachers and the old teachers in this matter of college graduation and pedagogic training does not seem to be consistently in favor of either one group or the other. In some States the new teachers seem to exhibit better preparation

than the old teachers, while in about as many States the reverse is true. So the evidence here does not seem to point toward an improvement of the teaching staff. Of course it must be kept in mind that only 23.3 per cent of these new teachers are inexperienced and that a great many of the others are simply new to the schools in which they are teaching and not new to the schools of the association.

Table XII, based upon population, is in its organization identical in form with the previous tables, and consequently is read in the same way.

That there is less changing of teachers from year to year in the large cities than in the small cities is very clearly set forth by the table, for the percentage of new teachers decreases from 39.6 per cent in the cities with population of 2,500 and under to 13.3 per cent in cities of over 50,000 population, and it should be noticed that the decrease is especially pronounced as we proceed from the cities with a population of 10,000 to the still larger cities. This comparative stability in the teaching force of the large cities is doubtless due to the fact that salaries are higher and the positions consequently more desirable.

In regard to the percentage of the new teachers who are inexperienced, we find the evidence still favoring the large cities. Again, with the exception of the percentage for cities with populations between 7,500 and 10,000, there is a more or less steady decrease from 30.7 per cent in the group of smallest cities to 9.7 per cent in the largest cities.

In figure 10 an attempt is made to bring out the relation between population, on the one hand, and the percentage of new teachers and the percentage of the new teachers who are inexperienced, on the other. The entire bar represents the percentage of new teachers and the first section of the bar, the percentage of the new teachers who are inexperienced. The graph brings out very clearly the fact that the large cities are able in a large measure to select and to hold their teachers.

From Table XII it would seem that there is little or no relation between population and the percentage of college graduates among the teachers or between population and the percentage of teachers with special pedagogic preparation.

SALARIES.

The efficiency of a school system depends very largely on the character of its teachers, and the character of the teachers is determined to a great extent by the salaries which that system is able to offer. That school which is able to pay the largest salaries to its teachers will, other things being equal, have the best instructorial

staff. Furthermore, the teaching profession itself will be able to compete with the other professions in securing the best talent of the country only when the compensation for teaching, other things being equal, at least approach those of the other professions. Of course, the "other things" are very seldom equal.

Salaries of teachers.—Concerning salary of teachers we have reports involving 9,711 teachers. Table XIII is based upon these reports. In this table the material has been analyzed on the basis of both State and population. Consequently it has two parts. It

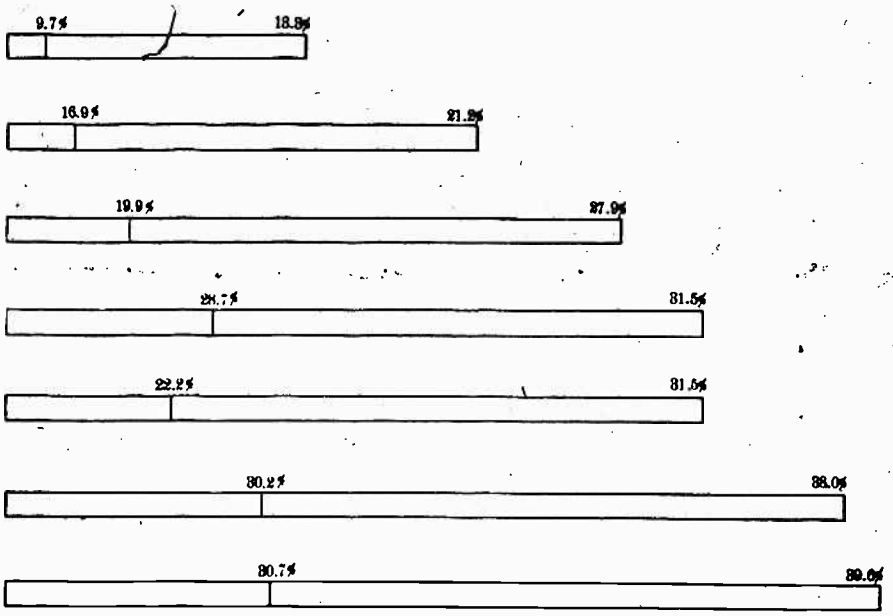

FIG. 10.—Showing the percentage of new teachers and the percentage of new teachers who are inexperienced in cities having a population, respectively (reading from the top), of over 50,000, 15,001–50,000, 10,001–15,000, 7,501–10,000, 5,001–7,500, 2,501–5,000, under 2,500. The entire bar represents the percentage of the total number of teachers who are new to the school systems in which they are teaching. The first section of the bar represents the percentage of the new teachers who are inexperienced. For instance, in the group of cities having population of 2,500 or less, 39.6 per cent of the total number of teachers are new teachers, and 30.7 per cent of these new teachers are inexperienced.

should be read as follows: Of the 358 teachers reported from Colorado, 3 were receiving a salary somewhere between $500 and $599, inclusive, 23 between $600 and $699, etc., and the median salary for Colorado is $1,032.

It is very interesting to note the variation in salary from State to State. The median salary varies from $752 in Nebraska to $1,238 in Montana. There are four States geographically contiguous in which the median falls below $800, Nebraska, Iowa, Kansas, and Oklahoma, and five States in which the median is above $1,000,

Montana, Missouri, Illinois, Colorado, and Ohio. It should be observed that in every State the median salary is much nearer to the smallest salary paid than it is to the largest.

There is a direct correlation between the size of city and the size of salary paid, as is made clear in the table. The median increases from $723 for schools located in cities under 2,500 to $1,381 for those in cities of over 50,000 population, but it should be noted that this increase is not equally distributed among the several groups of cities. The median for the group of cities second largest in size is only $970, while the median for the largest cities is $1,381. Thus it seems that the cities having populations of over 50,000 are in a class by themselves.

The relation between the size of city and the salary of teachers may be better understood by reference to figure 11, in which four curves have been drawn representing the salaries of teachers for four groups of cities: Those with population of less than 2,500, those with population between 7,501 and 10,000, those between 15,001 and 50,000, and those over 50,000. The following points are made clear: First, the range of salaries increases with the size of city; second, the mode, or most frequent salary, becomes less pronounced as the size of city increases; and, third, both of these features are so accentuated in the cities having populations of over 50,000 that this group of cities stands out distinctly from the other groups.

TABLE XIV.

Total salary of principals.	Colorado.	Illinois.	Indiana.	Iowa.	Kansas.	Michigan.	Minnesota.	Missouri.
$500–$599								1
600– 699						1		0
700– 799			1	2		1	1	4
800– 899		2	0	4	3	3	5	1
900– 999	1	4	4	11	8	8	9	4
1,000–1,099	4	12	2	7	11	5	6	6
1,100–1,199	2	1	2	6	2	7	6	1
1,200–1,299	3	9	7	3	9	15	5	4
1,300–1,399	1	7	2	2	9	8	2	2
1,400–1,499	2	4	2	1	2	4	4	2
1,500–1,599	1	6	3	3	5	10	2	3
1,600–1,699	4	5	3	1	6	3	1	1
1,700–1,799	3	3	2	1	4	4	2	0
1,800–1,899	1	4	1	2	2	3	2	0
1,900–1,999	0	6	1	3	0	1	0	0
2,000–2,099	0	4	2	2	1	2	1	2
2,100–2,199	0	0	0	1	1	1	1	0
2,200–2,299	1	5	0	0	.....	5	0	0
2,300–2,399	1	2	0	0	.....	1	0	0
2,400–2,499	0	0	0	1	.....	0	0	0
2,500–2,599	3	6	2	2	.....	0	0	1
2,600–2,699	.....	3	0	0	.....	1	0	0
2,700–2,799	.....	2	0	1	.....	0	0	0
2,800–2,899	.....	1	0	.....	.....	1	0	0
2,900–2,999	.....	0	0	.....	.....	.....	0	0
3,000–3,099	.....	3	1	.....	.....	.....	5	2
Above $3,100	.....	19	1	.....	.....	.....	.....	5
Total	27	106	36	53	63	84	52	39
Median	1,550	1,825	1,400	1,142	1,283	1,325	1,183	1,263

Total salary of teachers.	$200–$300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600
Per cent of teachers under 2,500	1.0	1.7	12.3	29.3	23.8	12.1	6.8	3.4	2.4	2.1	1.0	2.0	0.8	0.4
2,501–10,000	.8	.4	1.7	10.6	22.8	22.5	15.7	9.2	6.1	4.8	2.1	1.5	.9	.6
10,001–50,000	.3	.4	.7	3.7	10.2	19.3	22.0	13.6	7.8	8.4	5.2	2.7	2.8	1.2
Above 50,000	.2	.2	.4	1.0	1.3	3.2	6.1	9.4	8.8	10.7	11.0	9.1	9.8	8.5

Total salary of teachers.	$1700	1800	1900	2000	2100	2200	2300	2400	2500	2600	2700	2800	2900	3000
Per cent of teachers under 2,500	0.4	0.3	0	0.1	0	0.1	.....	.....	.....	.....	.....	.....	.....	.....
2,501–10,000	.1	.1	0	.1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
10,001–50,000	.7	.6	0.05	.05	0.1	.1	0	0	0.05	0	0	.05	.....	.....
Above 50,000	4.7	4.3	2.4	2.6	1.7	1.1	1.2	0.[illegible].4		0.8	.2	0.05	0	1.5

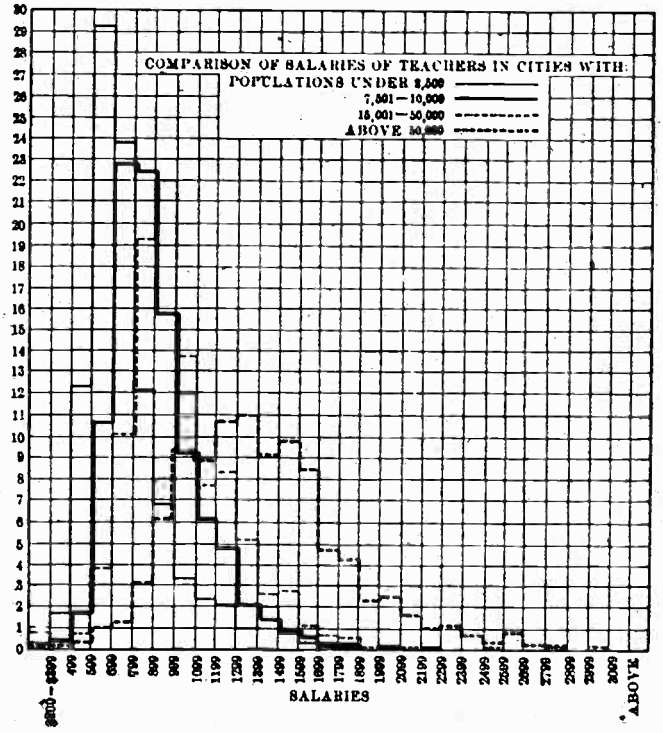

FIG. 11.—Salaries of teachers in different groups of cities.

TABLE XIV.—Continued.

Total salary of principals.	Montana.	Nebraska.	North Dakota.	Ohio.	Oklahoma.	South Dakota.	Wisconsin.	Total.
$500–$599				2				1
600– 699		1		2				4
700– 799		5	1	9		3		17
800– 899		2	2	7		0	4	34
900– 999		11	3	13	1	2	2	74
1,000–1,099	1	5	4	16	2	1	1	81
1,100–1,199	1	3	1	14	2	3	1	52
1,200–1,299	1	5	9	8	2	1	5	90
1,300–1,399	0	2	1	9	1	0	6	52
1,400–1,499	0	1	1	6	1	3	7	39
1,500–1,599	1	3	2	5	0	1	7	56
1,600–1,699	0	0	0	1	0	0	9	37
1,700–1,799	0	0	0	6	1	1	7	29
1,800–1,899	1	1	1	0	0	0	3	33
1,900–1,999	0	0	0	4	0	0	6	14
2,000–2,099	1	0	1	0	0	0	3	26
2,100–2,199	0	0	0	3	1	1	2	7
2,200–2,299	2	0	0	0	0		1	20
2,300–2,399	0	0	0	2	2		1	5
2,400–2,499	0	1	0	5			3	7
2,500–2,599	1		1	0			0	24
2,600–2,699	1			0			0	5
2,700–2,799	1			3			2	4
2,800–2,899				1				7
2,900–2,999				8				1
3,000–3,099				3				19
Above $3,100								28
Total	11	40	27	127	13	16	70	766
Median	2,050	1,020	1,228	1,306	1,375	1,266	1,722	1,358

Total salary of principals.	Under 2,500	2,501–5,000	5,001–7,500	7,501–10,000	10,001–15,000	15,001–50,000	50,001 and over.	Total.
$500–$599				1				1
600– 699	3	1		0				4
700– 799	14	3		0				17
800– 899	21	12	1	0				34
900– 999	34	34	3	1		2		74
1,000–1,099	24	39	16	2		0		81
1,100–1,199	7	29	11	2	3	0		52
1,200–1,299	17	25	26	12	8	1	1	90
1,300–1,399	11	7	14	12	5	3	0	52
1,400–1,499	9	4	6	10	6	3	1	39
1,500–1,599	10	12	3	11	12	5	3	56
1,600–1,699	6	7	4	3	10	6	1	37
1,700–1,799	5	6	6	2	1	7	2	29
1,800–1,899	3	5	2	5	7	9	2	33
1,900–1,999	3	3	2	1	1	4	0	14
2,000–2,099	0	2	5	2	4	10	3	26
2,100–2,199	1	0	1	0	1	3	1	7
2,200–2,299	0	3	0	1	3	8	5	20
2,300–2,399	0	0	0	2	0	3	0	5
2,400–2,499	1	0	0	0	1	2	3	7
2,500–2,599	1	3	8	0	0	7	5	24
2,600–2,699	0	1	1	1	1	1	0	5
2,700–2,799	0	1	0	0	1	2	0	4
2,800–2,899	0	2	0	0	0	0	5	7
2,900–2,999	0	0	1	0	0	0	0	1
3,000–3,099	2	2		1	0	0	14	19
Above $3,100					1	5	22	28
Total	172	201	110	69	65	81	68	766
Median	1,058	1,140	1,292	1,445	1,587	2,005	3,014	1,358

TABLE XV.

Total salary of superintendents.	Colorado	Illinois.	Indiana.	Iowa.	Kansas.	Michigan.	Minnesota.	Missouri.
$1,000–$1,099		1						
1,100– 1,199		0					1	
1,200– 1,299		0					1	1
1,300– 1,399	1	3			6	4	0	3
1,400– 1,499	0	1	1	5	5	2	1	4
1,500– 1,599	0	0	1	5	4	4	2	4
1,600– 1,699	4	2	2	3	9	3	4	0
1,700– 1,799	2	3	1	1	2	2	2	0
1,800– 1,899	0	5	2	4	2	7	7	3
1,900– 1,999	1	2	0	1	5	2	6	0
2,000– 2,099	2	2	1	1	6	0	3	1
2,100– 2,199	1	6	0	0	0	1	2	1
2,200– 2,299	0	3	0	0	2	2	2	1
2,300– 2,399	0	1	1	0	0	1	0	0
2,400– 2,499	1	0	0	0	1	0	1	1
2,500– 2,599	0	0	0	1	1	2	1	1
2,600– 2,699	0	0	0	1	0	2	0	[illegible]
2,700– 2,799	0	2	0	0	1	0	1	[illegible]
2,800– 2,899	0	0	0	0	0	2	0	[illegible]
2,900– 2,999	0	0	1	0	0	0	0	[illegible]
3,000– 3,099	0	2	0	1	0	2	1	[illegible]
Above	3	1	1		1	2	1	[illegible]
Total	15	35	11	23	45	38	35	20
Median	1,950	1,983	1,825	1,650	1,694	1,857	1,893	1,850

Total salary of superintendents	Montana.	Nebraska	North Dakota.	Ohio.	Oklahoma.	South Dakota.	Wisconsin.	Total.
$1,000–$1,099								1
1,100– 1,199		1		1				3
1,200– 1,299		2		0				4
1,300– 1,399		2	1	5		1		28
1,400– 1,499		1	1	5		0		26
1,500– 1,599		3	1	6		1	1	32
1,600– 1,699		4	5	2		1	1	40
1,700– 1,799		2	2	4		1	4	26
1,800– 1,899		5	3	6	1	1	4	50
1,900– 1,999		1	1	1	0	1	1	22
2,000– 2,099	2	0	2	2	0	1	2	25
2,100– 2,199	0	1	1	0	0		2	15
2,200– 2,299	1	1	1	2	1		1	17
2,300– 2,399	0		0	0	0		0	3
2,400– 2,499	0		0	0	0		0	4
2,500– 2,599	0		0	2	0		0	8
2,600– 2,699	0		0	1	0		0	4
2,700– 2,799	0		0	1	0		1	6
2,800– 2,899	1		0	1	0			4
2,900– 2,999	0		0	0	0			1
3,000– 3,099	0		0	0	0			6
Above	1		1	1	2			14
Total	5	23	19	40	4	7	17	337
Median	2,250	1,663	1,775	1,755	2,700	1,750	1,853	1,821

TABLE XV—Continued.

Total salary of superintendents.	Under 2,500.	2,501–5,000	5,001–7,500	7,501–10,000	10,001–15,000	15,001–50,000	50,001– and over.	Total.
$1,000–$1,099	.....	1	.....	.....	.....	.....	.....	1
1,100– 1,199	1	2	.....	.....	.....	.....	.....	3
1,200– 1,299	3	1	.....	.....	.....	.....	.....	4
1,300– 1,399	14	8	3	1	.....	.....	.....	26
1,400– 1,499	18	7	0	1	.....	.....	.....	26
1,500– 1,599	16	12	2	2	.....	.....	.....	32
1,600– 1,699	23	11	3	1	.....	1	1	40
1,700– 1,799	8	16	1	0	.....	1	0	26
1,800– 1,899	19	15	10	4	.....	1	1	50
1,900– 1,999	5	6	5	4	2	0	0	22
2,000– 2,099	2	12	6	3	1	1	0	25
2,100– 2,199	3	3	5	1	2	1	0	15
2,200– 2,299	2	2	2	4	5	1	1	17
2,300– 2,399	1	0	1	0	1	0	0	3
2,400– 2,499	0	0	1	1	1	1	0	4
2,500– 2,599	1	0	1	3	0	3	0	8
2,600– 2,699	0	0	0	0	1	3	0	4
2,700– 2,799	0	1	0	0	2	3	0	6
2,800– 2,899	0	0	0	1	2	1	0	4
2,900– 2,999	0	0	0	.....	0	1	0	1
3,000– 3,099	1	2	1	.....	0	2	0	6
Above	.....	1	2	.....	2	6	3	14
Total	117	100	43	26	19	26	6	337
Median	1,628	1,750	1,950	2,000	2,290	2,700	2,700	1,821

Salaries of principals.—Table XIV, based upon reports concerning the salaries of 766 principals, is similar in form and organization to the immediately preceding table and is consequently read in the same way. It therefore needs no further explanation.

Here again we find Nebraska footing the list with a median salary for principals of only $1,020 and Montana leading with a median salary of $2,050, more than twice that of Nebraska. There are three States, Nebraska, Iowa, and Minnesota, with medians of less than $1,200, and four, Montana, Illinois, Wisconsin, and Colorado, with medians of more than $1,500.

The size of city has the same effect on the salaries of principals as upon salaries of teachers, except that in the former case it is more pronounced. We see the median increasing from $1,058 in the smallest cities to $3,014 in the largest. Here, too, the line is sharply drawn between the cities of over 50,000 population and all the other groups.

Salaries of superintendents.—The value of Table XV, which has to do with the salaries of superintendents, is somewhat less than that of Tables XIII and XIV because it represents only 337 cases. The reports from the larger cities were very few, consequently the part of the table referring to these cities is without value.

The table will be understood if read in the same way as the two preceding tables.

Among the States the median varies from $1,550 for Missouri to $2,700 for Oklahoma, but owing to the poor representation of these two States these figures should not be taken too seriously.

The positive correlation between salaries and size of cities continues, although for cities of over 50,000 inhabitants the median salary for superintendents is $2,700, whereas we discovered the median salary for principals to be $3,014 for the same group of cities. That this is due to the fact that only six cases are reported is borne out by the findings of Jessup and Coffman in their investigation of last year.

TABLE XVI.

	Colorado.	Illinois.	Indiana.	Iowa.	Kansas.	Michigan.	Minnesota.	Missouri.
Median salary for teachers	$1,032	$1,103	$906	$768	$797	$874	$960	$1,120
Median salary for principals	1,550	1,825	1,400	1,142	1,283	1,325	1,183	1,263
Median salary for superintendents	1,950	1,983	1,825	1,650	1,694	1,857	1,863	1,550

	Montana.	Nebraska.	North Dakota.	Ohio.	Oklahoma.	South Dakota.	Wisconsin.	Total.
Median salary for teachers	$1,238	$752	$853	$1,008	$797	$868	$828	$919
Median salary for principals	2,050	1,020	1,228	1,306	1,375	1,266	1,722	1,358
Median salary for superintendents	2,250	1,663	1,775	1,725	2,700	1,750	1,863	1,821

	Under 2,500.	2,501–5,000.	5,001–7,500.	7,501–10,000.	10,001–15,000.	15,001–50,000.	50,001 and over.	Total.
Median salary for teachers	$723	$765	$793	$861	$906	$970	$1,381	$919
Median salary for principals	1,058	1,140	1,292	1,445	1,587	2,005	3,014	1,358
Median salary for superintendents	1,628	1,750	1,950	2,000	2,290	2,700	2,700	1,821

Comparison of salaries of teachers, principals, and superintendents.—In figure 12 we have a comparison of the salaries of teachers, principals, and superintendents. The height of any particular curve at any point represents the per cent of cases, or frequency, and the distance along the horizontal line, the salary.

A number of interesting points are brought out in this figure besides the somewhat general comparison which is seen at a glance. The curves representing the teachers and the principals, especially the one representing the teachers, are skewed toward the lower end of the scale. This is occasioned by the fact that, while a few individuals in each case may expect high salaries, the great majority must be content to receive rather mediocre salaries, much nearer the lower than the upper extreme. Another fact that comes out is that there is greater uniformity in the salaries of teachers than in the salaries of either the principals or the superintendents. Still another fact that should receive attention is indicated by the irregularity of the principals' and superintendents' curves. Let us examine the principals' curve, since it shows the irregularity most markedly. It will be observed that the frequent salaries are $1,000, $1,200, $1,500, $1,800, $2,000, $2,200, $2,500, $2,800, and $3,000. This

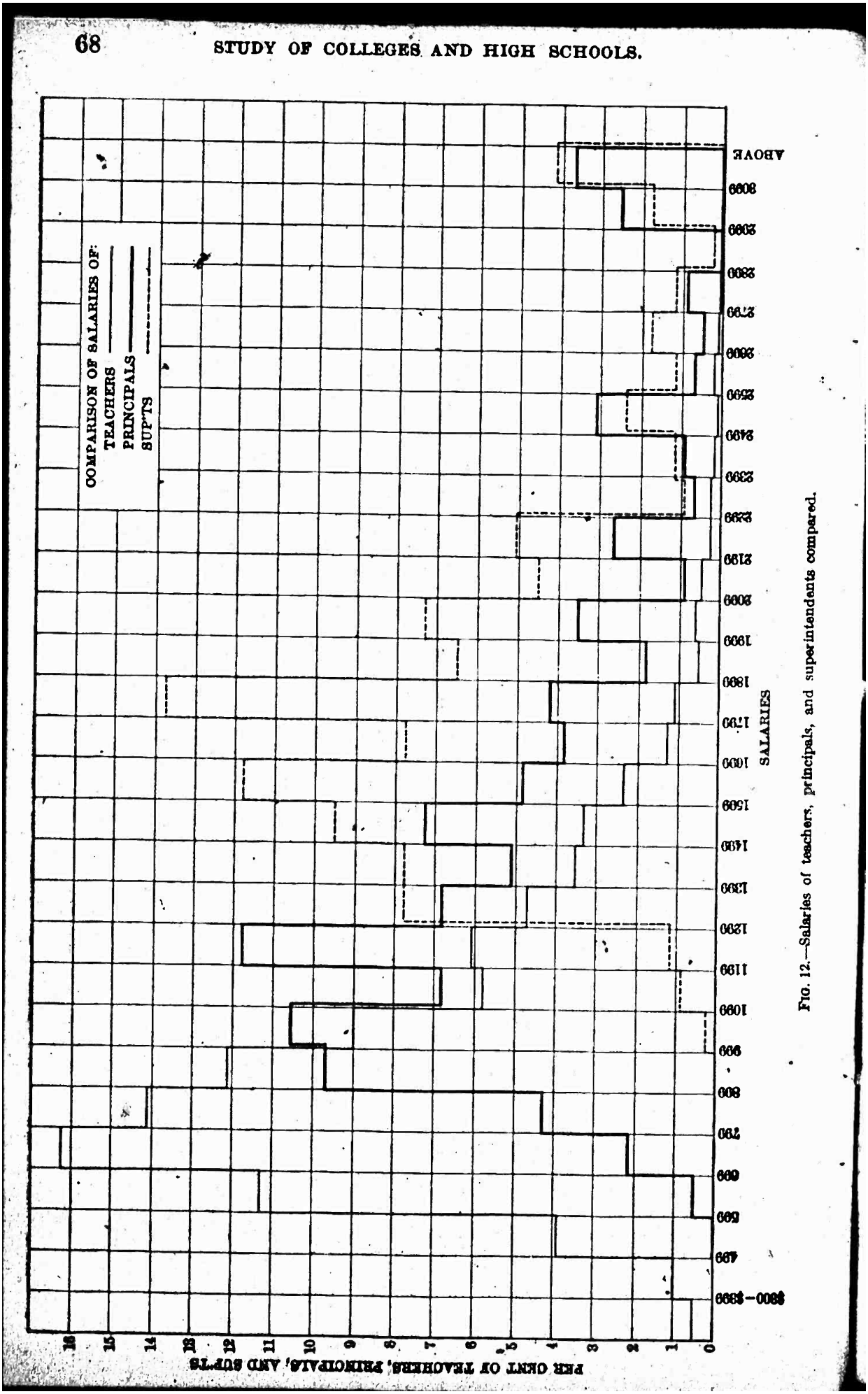

FIG. 12.—Salaries of teachers, principals, and superintendents compared.

must indicate that the salaries of principals and superintendents are not determined entirely by the merit of the individuals, or the curve would show no such preference for certain salaries, for merit surely does not vary in any such fashion. It would seem, therefore, that in many cases a principal or superintendent is given a salary of $2,500 not because he merits it, but because $2,500 is a rather convenient number, easily handled, familiar to everyone, and because it occupies a certain place in our number series. On the other hand, $1,900, $2,100, $2,300, $2,700, $2,900, and others seem to be avoided on their own account rather than on the merits or demerits of the individual principals and superintendents.

Table XVI is simply a convenient table for comparing the medians in Tables XIII, XIV, and XV, and needs no further explanation.

The bar diagrams in figure 13 were devised for comparing the median salaries of teachers, principals, and superintendents within each group of cities as well as from group to group. In each bar the first section represents the median salary of teachers for the particular group of cities concerned, the first and second sections the median salary of principals, and the first, second, and third sections the median salary of superintendents. The bar representing the cities of over 50,000 inhabitants has but two sections, because the superintendents have only six cases in this group, not enough to warrant any conclusions.

An interesting as well as significant fact that is made very clear is that the salaries of principals increase with the increase in the size of cities much more rapidly than do the salaries of teachers; and the salaries of superintendents increase in about the same fashion as the salaries of principals. These facts would indicate that the need for efficient administrators and supervisors becomes increasingly apparent as the city increases in size, while there is no corresponding change in the demands on classroom teachers. Indeed, in the smaller schools, as will be brought out later, the principal is little more than an instructor and the superintendent frequently teaches a number of classes. Thus the character of work demanded of the principal and the superintendent changes and becomes of more vital importance to the school as the school becomes larger, while the work of the teacher changes but comparatively little.

FIG. 13.—The first section of each bar represents the median salary of teachers, the first and second the median salary of principals, and the first, second, and third the median salary of superintendents.

TABLE XVII.

	Illinois.	Indiana.	Iowa.	Kansas.	Michigan.	Minnesota.	Missouri.
Number of periods taught by superintendent:							
0	108	48	29	40	63	46	32
1	15	7	19	6	16	14	7
2	14	7	15	18	10	7	4
3	3	1	1	9	7	3	8
4	2	.....	.....	2	2	.....	.....
5	1	.....	.....	1	1	.....	.....
6	1	.....	.....	.....	.....	.....	.....
Total	144	63	64	74	99	70	51
Per cent of superintendents teaching—							
No period	75.0	76.2	45.3	54.1	63.6	65.7	62.7
1 period	10.4	11.1	29.7	8.1	16.2	20.0	13.8
2 periods	9.7	11.1	23.4	21.6	10.1	10.0	7.8
3 periods	2.1	1.6	1.6	12.2	7.1	4.3	15.7
4 periods	1.4	.....	.....	2.7	2.0	.....	.....
5 periods	.7	.....	.....	1.3	1.0	.....	.....
6 periods	.7	.....	.....	.....	.....	.....	.....
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

	Nebraska.	North Dakota.	Ohio.	Oklahoma.	South Dakota.	Wisconsin.	Total.
Number of periods taught by superintendent:							
0	19	9	96	14	8	61	573
1	11	7	31	2	2	18	155
2	10	6	18	1	5	9	122
3	8	4	5	0	2	1	52
4	2	2	2	1	1	.....	14
5	.....	.....	0	.....	.....	.....	3
6	.....	.....	1	.....	.....	.....	2
Total	50	28	153	18	18	89	921
Per cent of superintendents teaching—							
No period	38.0	32.1	62.8	77.7	44.5	68.5	62.3
1 period	22.0	25.0	20.2	11.1	11.1	20.2	16.8
2 periods	20.0	21.4	11.7	5.6	27.7	10.1	13.3
3 periods	16.0	14.3	3.3	0	11.1	1.2	5.0
4 periods	4.0	7.2	1.3	5.6	5.6	.....	1.5
5 periods	.....	.....	0	.....	.....	.....	.3
6 periods	.....	.....	.7	.....	.....	.....	.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Population.	Under 2,500	2,501–5,000	5,001–7,500	7,501–10,000	10,001–15,000	15,001–50,000	50,001 and over.	Total.
Number of periods taught by superintendent:								
0	44	89	87	76	68	101	108	573
1	38	72	26	10	5	2	2	155
2	61	52	4	4	1	.....	0	122
3	37	12	3	.....	.....	.....	0	52
4	12	2	.....	.....	.....	.....	0	14
5	2	1	.....	.....	.....	.....	0	3
6	.....	1	.....	.....	.....	.....	1	2
Total	194	229	120	90	74	103	111	921
Per cent of superintendents teaching—								
No period	22.7	38.9	72.5	84.4	91.9	98.1	97.3	62.3
1 period	19.6	31.4	21.7	11.1	6.7	1.9	1.8	16.8
2 periods	31.4	22.8	3.3	4.5	1.4	.....	.0	13.3
3 periods	19.1	5.2	2.5	.....	.....	.....	.0	5.6
4 periods	6.2	.9	.....	.....	.....	.....	.0	1.5
5 periods	1.0	.4	.....	.....	.....	.....	0	.3
6 periods	.....	.4	.....	.....	.....	.....	.9	.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

TABLE XVII—Continued.

Enrollment.	1-100	101-200	201-300	301-500	501-1,000	1,001 and over.	Total.
Number of periods taught by superintendent:							
0	46	140	121	142	78	46	573
1	17	93	35	9	.....	1	155
2	17	87	13	5	.....	.....	122
3	10	36	6	.....	.....	.....	52
4	5	9	0	.....	.....	.....	14
5	1	1	1	.....	.....	.....	3
6	1	1	.....	.....	.....	.....	2
Total	97	367	176	156	78	47	921
Per cent of superintendents teaching—							
No period	47.5	38.2	68.7	91.0	100.0	97.9	62.3
1 period	17.5	25.2	19.9	5.8	.....	2.1	16.8
2 periods	17.5	23.7	7.4	3.2	.....	.....	13.3
3 periods	10.3	9.8	3.4	.....	.....	.....	5.6
4 periods	5.2	2.5	.0	.....	.....	.....	1.5
5 periods	1.0	.3	.6	.....	.....	.....	.3
6 periods	1.0	.3	.....	.....	.....	.....	.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

DISTRIBUTION OF WORK.

Number of periods taught by superintendent.—In Table XVII the attempt has been made to show the extent to which the superintendent is a teacher in the north central high schools. The table is based upon State, population, and enrollment and is composed of two parts, the one giving the actual number of cases and the other the percentages. It is to be read as follows: In Illinois 108 of the superintendents reported, or 75 per cent, do no teaching; 15, or 10.4 per cent, teach one period per day each, etc.

This table shows that 62.3 per cent, considerably over half, of the superintendents in the entire association do no teaching whatsoever, while only .2 per cent teach six periods daily. However, there is much variation from State to State in this particular. In North Dakota and Nebraska a larger percentage of the superintendents teach than in any of the other States; only 32.1 per cent in the former and 38 per cent in the latter are entirely free from teaching. On the other hand, in Oklahoma, Indiana, and Illinois we find 77.7 per cent, 76.2 per cent, and 75 per cent, respectively, of the superintendents doing no teaching. This variation is due at least in a measure to the variation in the size of the schools.

The size of the city in which a school is located and the enrollment of the school both seem to be factors in determining the amount of teaching done by a superintendent. In cities with populations of 15,000 or more and in schools of 300 enrollment and above the superintendent does practically no teaching. It is in the smaller cities and schools that this demand is made upon his time.

The important question to be considered in this connection is, how much supervision is needed. Evidently the time which a superintendent gives to teaching can not be used for supervision. In the smaller schools, since the supervisory aspect of the school is, while probably not less important, less extensive, a portion of the superintendent's time can be given over to teaching without lowering the efficiency of the school. However, it is doubtless true that in many cases supervision is sacrificed to teaching, owing to the lack of an adequate teaching force.

Number of periods taught by principal.—Table XVIII needs no explanation, since its form is exactly like that of Table XVII.

It is seen that the principal does a great deal more teaching than the superintendent, as is brought out by the fact that only 18.7 per cent of the principals do no teaching, as opposed to 62.3 per cent of the superintendents. As regards differences from State to State and effects of population and enrollment, the same points are brought out that were shown in the case of superintendents; so they need not be repeated here. Suffice it to say that the effect of enrollment is somewhat more pronounced than the effect of population, as evinced by the fact that the percentage of principals which teach in the larger schools is somewhat less than the percentage which teach in the larger cities. This shows that where the principal is left free to organize the school the size of the school regularly increases. The tables therefore present a strong argument for increase in supervision.

TABLE XVIII.

	Illinois.	Indiana.	Iowa.	Kansas.	Michigan.	Minnesota.	Missouri.
Number of periods taught by principal:							
0	33	8	11	7	10	10	14
1	26	8	5	2	10	2	5
2	20	14	11	14	13	9	3
3	17	10	13	10	24	14	4
4	19	12	20	18	17	19	12
5	21	11	4	20	20	16	8
6	8	.....	.....	3	5	.....	5
Total	144	63	64	74	99	70	51
Per cent of principals teaching:							
No periods	22.9	12.7	17.2	9.5	10.1	14.3	27.4
1 period	18.1	12.7	7.8	2.7	10.1	2.8	9.9
2 periods	13.9	22.2	17.2	18.9	13.1	12.8	5.9
3 periods	11.8	15.8	20.3	18.5	24.2	20.0	7.8
4 periods	13.2	19.1	31.2	24.3	17.2	27.2	23.5
5 periods	14.6	17.5	6.3	27.0	20.2	22.9	15.7
6 periods	5.5	.....	.....	4.1	5.1	.....	9.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

TABLE XVIII—Continued.

	Nebraska.	North Dakota.	Ohio.	Oklahoma.	South Dakota.	Wisconsin.	Total.
Number of periods taught by principal:							
0	5	1	42	3	1	27	172
1	6	0	9	0	0	17	90
2	4	3	17	2	5	31	146
3	5	2	12	5	5	7	128
4	17	16	37	4	4	5	200
5	11	5	24	3	2	2	147
6	2	1	12	1	1	.....	38
Total	50	28	153	18	18	89	921
Per cent of principals teaching:							
No periods	10.0	3.6	27.4	16.6	5.6	30.3	18.7
1 period	12.0	.0	5.9	.0	.0	19.0	9.8
2 periods	8.0	10.8	11.1	11.2	27.7	34.9	15.8
3 periods	10.0	7.2	7.8	27.7	27.7	7.9	13.9
4 periods	34.0	57.0	24.2	22.2	22.2	5.6	21.7
5 periods	22.0	17.8	15.8	16.7	11.2	2.3	16.0
6 periods	4.0	3.6	7.8	5.6	5.6	.....	4.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

	Under 2,500.	2,501–5,000.	5,001–7,500.	7,501–10,000.	10,001–15,000.	15,001–50,000.	50,001 and over.	Total.
Number of periods taught by principal:								
0	10	13	15	12	9	41	72	172
1	2	11	9	9	12	27	20	90
2	18	30	17	21	28	26	6	146
3	13	41	27	21	15	6	5	128
4	67	63	37	20	7	2	4	200
5	67	55	13	7	2	0	3	147
6	17	16	2	.....	1	1	1	38
Total	194	229	120	90	74	103	111	921
Per cent of principals teaching:								
No periods	5.2	5.7	12.5	13.4	12.1	39.8	64.9	18.7
1 period	1.0	4.8	7.5	10.0	16.2	26.2	18.0	9.8
2 periods	9.3	13.1	14.2	23.3	37.8	25.2	5.4	15.8
3 periods	6.7	17.9	22.5	23.3	20.3	5.8	4.5	13.9
4 periods	34.5	27.5	30.8	22.2	9.5	2.0	3.6	21.7
5 periods	34.5	24.0	10.8	7.8	2.7	.0	2.7	16.0
6 periods	8.8	7.0	1.7	.....	1.4	1.0	.9	4.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

	1–100.	101–200.	201–300.	301–500.	501–1,000.	1,001 and over.	Total.
Number of periods taught by principal:							
0	16	28	12	29	47	40	172
1	6	16	8	34	20	6	90
2	7	36	40	53	10	0	146
3	9	54	44	20	1	0	128
4	25	116	45	14	.....	0	200
5	27	90	24	5	.....	1	147
6	7	27	3	1	.....	.....	38
Total	97	367	176	156	78	47	921
Per cent of principals teaching:							
No periods	16.5	7.6	6.8	18.5	60.3	85.1	18.7
1 period	6.2	4.4	4.6	21.8	25.6	12.8	9.8
2 periods	7.2	9.8	22.7	34.0	12.8	.0	15.8
3 periods	9.3	14.7	25.0	12.8	1.3	.0	13.9
4 periods	25.8	31.6	25.6	9.0	.....	.0	21.7
5 periods	27.8	24.5	13.6	3.2	.....	2.1	16.0
6 periods	7.2	7.4	1.7	.7	.....	.....	4.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

TABLE XIX.

	Illinois.	Indiana.	Iowa.	Kansas.	Michigan.	Minnesota.	Missouri.
Number of teachers teaching—							
1 period	102	46	34	45	63	23	61
2 periods	98	72	41	40	65	38	36
3 periods	131	48	51	36	111	45	38
4 periods	343	109	124	66	148	126	82
5 periods	895	355	443	291	662	399	425
6 periods	628	414	163	388	322	476	264
7 periods	149	7	2	50	17	41	35
Total	2,346	1,051	858	916	1,388	1,158	941
Number of schools	152	62	64	74	96	70	50
Per cent teaching—							
1 period	4.4	4.4	4.0	4.9	4.6	2.9	6.5
2 periods	4.2	6.9	4.8	4.4	4.7	3.3	3.8
3 periods	5.6	4.6	5.9	3.9	8.0	3.9	4.0
4 periods	14.6	10.4	14.5	7.2	10.7	10.9	8.7
5 periods	38.1	33.7	51.8	31.8	47.6	34.4	45.2
6 periods	26.8	39.3	19.0	42.3	23.2	41.0	28.1
7 periods	6.3	.7	.2	5.5	1.2	3.6	3.7

	Nebraska.	North Dakota.	Ohio.	Oklahoma.	South Dakota.	Wisconsin.	Total.
Number of teachers teaching—							
1 period	36	24	86	4	8	62	604
2 periods	33	24	82	6	11	70	616
3 periods	37	13	77	8	14	42	651
4 periods	64	46	221	30	31	202	1,592
5 periods	164	90	781	71	79	534	5,189
6 periods	144	58	782	70	40	307	4,056
7 periods	0	0	49	0	0	14	364
Total	478	255	2,078	189	183	1,231	13,072
Number of schools	50	27	148	16	18	87	914
Per cent teaching—							
1 period	7.5	9.4	4.1	2.1	4.4	5.1	4.6
2 periods	6.9	9.4	3.9	3.2	6.0	5.7	4.8
3 periods	7.7	5.1	3.7	4.3	7.7	3.5	5.0
4 periods	13.4	18.0	10.8	15.9	17.0	16.4	12.2
5 periods	34.4	35.3	37.5	37.5	43.1	43.2	39.6
6 periods	30.1	22.8	37.6	37.0	28.1	24.9	31.0
7 periods	.0	.0	2.4	.0	.0	1.2	2.8

	0–100	101–200	201–300	301–500	501–1,000	1,001 and over.	Total.
Number of teachers teaching—							
1 period	110	244	85	101	42	22	604
2 periods	97	219	93	103	64	40	616
3 periods	65	195	98	127	113	53	651
4 periods	132	431	207	304	287	231	1,592
5 periods	203	978	694	1,036	1,074	1,204	5,189
6 periods	125	1,033	762	927	495	714	4,056
7 periods	6	53	61	59	56	129	364
Total	738	3,153	2,000	2,657	2,131	2,393	13,072
Number of schools	94	360	175	156	75	54	914
Per cent teaching—							
1 period	14.9	7.8	4.3	3.8	2.0	0.9	4.6
2 periods	13.2	7.0	4.7	3.9	3.0	1.7	4.8
3 periods	8.8	6.2	4.8	4.8	5.3	2.2	5.0
4 periods	17.9	13.7	10.4	11.4	13.5	9.7	12.2
5 periods	27.5	30.9	34.6	39.0	50.4	50.3	39.6
6 periods	16.9	32.7	38.1	34.9	23.2	29.8	31.0
7 periods	.8	1.7	3.1	2.2	2.6	5.4	2.8

Number of periods taught by teachers.—The efficiency of the instruction is likely to be greatly lessened if the teacher is required to teach an excessive number of periods. The recognition of this fact

by the association is shown by the following statement found among its standards:

> The number of daily periods of classroom instruction given by any teacher should not exceed five, each to extend over at least 40 minutes in the clear. The board of inspectors will reject all schools having more than six recitation periods per day for any teacher.

However, that the board of inspectors does not always reject schools that do not meet this requirement will be seen from the reports.

Table XIX is based upon the reports from 914 schools concerning the number of periods per day taught by their teachers. The table brings out the differences from State to State in this particular and shows their relation to enrollment. From the table we read that there are 2,346 teachers reported from 152 schools in Illinois, and that 102, or 4.4 per cent, of these teachers teach but one period daily; 98, or 4.2 per cent, two periods, etc.

It will be sufficient to call attention to a few of the more important facts brought out by the table. First and foremost it should be noticed that 2.8 per cent of the teachers reported teach seven periods daily, which is contrary to the standards of the association. Among the States the worst offender in this respect is Illinois, with Kansas a close second, while no teachers reported from Nebraska, North Dakota, Oklahoma, and South Dakota teach seven periods. From the standpoint of enrollment the schools having more than 1,000 students have the largest percentage of teachers (5.4 per cent) teaching seven periods. Furthermore, 31 per cent, or nearly one-third of all the teachers reported, teach six periods. This is contrary to the advice of the association, as stated above. The worst offender among the States in this case is Kansas with 42.3 per cent, and the State most nearly approaching the standards of the association is Iowa with but 19 per cent of her teachers teaching six periods. The medium-sized schools rather than the extra-large schools seem to be the worst offenders here, although they are not a great deal worse than the association as a whole. Another interesting fact is that the number of periods per teacher is more nearly standardized in the large schools than in the small schools. In the former 50.3 per cent of the teachers teach five periods daily, while in the latter the largest percentage teaching any given number of periods is 27.5 per cent and each particular number of periods is represented by a rather large percentage of teachers except the last. The tendency toward standardization becomes more and more apparent as we proceed from the smallest to the largest schools This is probably due in a measure to the fact that in the smaller schools the percentages of teachers teaching one and two periods are swelled by the inclusion of superintendents and principals as teachers.

TABLE XX.

Number of periods supervised.	Colorado.	Illinois.	Indiana.	Iowa.	Kansas.	Michigan.	Minnesota.	Missouri.
0	7	42	24	23	19	36	26	20
1–5	7	15	9	9	9	17	18	11
6–10	13	45	20	22	43	25	17	9
11–15	3	8	3	4	2	6	2	3
16–20	0	3	1	3	1	3	2	0
21–25	2	1	1	.....	0	1	2	0
26–30	1	2	0	.....	1	0	0	1
31–35	0	0	1	.....	.....	1	1	0
36–40	0	2	.....	.....	.....	0	0	0
41–45	0	1	.....	.....	.....	0	0	1
46–50	0	1	.....	.....	.....	0	0	0
51–55	0	0	.....	.....	.....	0	1	1
56–60	0	0	.....	.....	.....	1	0	0
61–65	0	0	.....	.....	.....	.....	0	0
66–70	0	0	.....	.....	.....	.....	1	0
96–100	0	0	.....	.....	.....	.....	0	1
111–115	0	0	.....	.....	.....	.....	1	.....
126–130	0	1	.....	.....	.....	.....	.....	.....
131–135	0	0	.....	.....	.....	.....	.....	.....
136–140	0	1	.....	.....	.....	.....	.....	.....
151–155	1	0	.....	.....	.....	.....	.....	.....
156–160	.....	1	.....	.....	.....	.....	.....	.....
186–190	.....	1	.....	.....	.....	.....	.....	.....
Total	34	124	59	61	75	90	71	47
Median	6	6	3	4	6	3	3	2

Number of periods supervised.	Montana.	Nebraska.	North Dakota.	Ohio.	Oklahoma.	South Dakota.	Wisconsin.	Total.
0	5	11	7	50	4	5	25	304
1–5	2	9	7	28	2	3	9	155
6–10	7	25	12	45	7	8	37	335
11–15	1	2	1	12	0	0	2	49
16–20	1	1	.....	2	1	2	3	23
21–25	.....	0	.....	2	0	.....	3	12
26–30	.....	1	.....	0	1	.....	2	9
31–35	.....	.....	.....	2	.....	.....	.....	5
36–40	.....	.....	.....	1	.....	.....	.....	3
41–45	.....	.....	.....	0	.....	.....	.....	2
46–50	.....	.....	.....	1	.....	.....	.....	2
51–55	.....	.....	.....	0	.....	.....	.....	2
56–60	.....	.....	.....	0	.....	.....	.....	1
61–65	.....	.....	.....	1	.....	.....	.....	1
66–70	.....	.....	.....	0	.....	.....	.....	1
96–100	.....	.....	.....	0	.....	.....	.....	1
111–115	.....	.....	.....	0	.....	.....	.....	1
126–130	.....	.....	.....	0	.....	.....	.....	1
131–135	.....	.....	.....	1	.....	.....	.....	1
136–140	.....	.....	.....	.....	.....	.....	.....	1
151–155	.....	.....	.....	.....	.....	.....	.....	1
156–160	.....	.....	.....	.....	.....	.....	.....	1
186–190	.....	.....	.....	.....	.....	.....	.....	1
Total	16	49	27	145	15	18	81	912
Median	6	6	5	4	6	6	6	5

TABLE XX—Continued.

Number of periods supervised.	0-100	101-200	201-300	301-500	501-1,000	1,001	Total.
0	49	119	55	47	23	11	304
1-5	21	80	31	13	6	4	155
6-10	22	134	87	69	17	6	335
11-15	3	10	4	17	13	2	49
16-20	3	7	1	3	8	1	23
21-25		0	0	4	4	4	12
26-30		2	0	4	2	1	9
31-35		0	1	1	2	1	5
36-40		0		0	1	2	3
41-45		1		0	0	1	2
46-50				0	1	1	2
51-55				0	0	2	2
56-60				0	0	1	1
61-65				0	0	1	1
66-70				1	0	0	1
96-100					1	0	1
111-115					0	1	1
126-130					1	0	1
131-135						1	1
136-140						1	1
151-155						1	1
156-160						1	1
186-190						1	1
Total	98	353	179	159	79	44	912
Median	0	4	5	6	8	13	5

From the foregoing it is evident that many teachers are being overworked. Consequently much of the work done in these schools is not of the very best order. It is further evident that the standards of the association are not being lived up to in practice in a good many instances.

Supervised study.—Since supervised study is still in the experimental stage, it is of especial interest to know to what extent the schools of the association are adopting some method of study supervision. The analysis of the reports concerning supervised study from 912 schools is represented in Table XX, which should be read thus: Of the 34 schools reporting from Colorado, 7 have no supervised study, 7 supervise from 1 to 5 periods, 13 from 6 to 10 periods, etc., and the median number of periods supervised for the State is 6.

Before passing to the following table attention should be directed to three points: First, the wide range of variation among the schools; second, the comparative uniformity in the median from State to State; and third, the effect of enrollment as expressed in the median. The wide range from no supervision at all to the supervision of 190 periods shows that the value of supervised study has not come to be universally recognized and that efforts along this line are as yet experimental. The uniformity in the median from State to State would indicate that no particular State is especially interested in the matter. On the other hand, the increase of the median from 0 for schools having enrollments of 100 and less to 13 for the largest schools indicates that the larger schools have been forced, possibly because of the character of the communities in which they are located, to provide some place in which students may study.

Table XXI is a condensation of Table XX with the additional percentage feature. From it we read that 7, or 20.6 per cent, of the 34 schools reporting from Colorado have no supervised study; 20, or 58.8 per cent, supervise from 1 to 10 periods daily; and 7, or 20.6 per cent, supervise more than 10 periods.

TABLE XXI.

	Colorado.	Illinois.	Indiana.	Iowa.	Kansas.	Michigan.	Minnesota.	Missouri.
Number of periods supervised:								
0	7	42	24	23	19	36	26	20
1-10	20	60	29	31	52	42	35	20
Above	7	22	6	7	4	12	10	7
Total	34	124	59	61	75	90	71	47
Per cent supervising:								
No periods	20.6	33.9	40.7	37.7	25.4	40.0	36.7	42.6
1-10	58.8	48.4	49.1	50.9	69.3	46.7	49.3	42.6
Above	20.6	17.7	10.2	11.4	5.3	13.3	14.0	14.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

	Montana.	Nebraska.	North Dakota.	Ohio.	Oklahoma.	South Dakota.	Wisconsin.	Total.
Number of periods supervised:								
0	5	11	7	30	4	5	25	304
1-10	9	34	19	73	9	11	46	490
Above	2	4	1	22	2	2	10	118
Total	16	49	27	145	15	18	81	912
Per cent supervising:								
No periods	31.3	22.5	26.0	31.5	26.7	27.8	30.9	33.3
1-10	56.3	69.4	70.3	50.3	60.0	61.2	56.8	53.7
Above	12.4	8.1	3.7	15.2	13.3	11.0	12.3	13.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

	0-100	101-200	201-300	301-500	501-1,000	1,001 and over.	Total.
Number of periods supervised:							
0	49	110	55	47	23	11	304
1-10	43	214	118	82	23	10	490
Above	6	29	6	30	33	23	118
Total	98	353	179	159	79	44	912
Per cent supervising:							
No periods	50.0	33.7	30.7	29.5	29.1	25.0	33.3
1-10	43.9	60.6	65.9	51.6	29.1	22.7	53.7
Above	6.1	5.7	3.4	18.9	41.8	52.3	13.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

TABLE XXII.

Number of weeks of 5 days each in the school year.	Illinois.	Indiana.	Iowa.	Kansas.	Michigan.	Minnesota.	Missouri.	Montana.	Nebraska.	North Dakota.	Ohio.	Oklahoma.	South Dakota.	Wisconsin.	Total.
Below 34	2	3	....	....	1	1	....	....	1	....	2	....	....	1	11
34	1	1	....	....	1	0	1	....	1	....	1	....	....	2	8
35	2	2	1	4	0	3	5	....	3	....	6	2	1	1	30
36	40	38	48	70	5	49	30	8	42	20	69	15	14	44	492
37	13	0	0	0	2	0	1	0	0	3	4	1	1	3	28
38	40	6	12	2	34	12	2	3	1	4	54	....	0	23	193
39	9	2	0	....	10	2	2	1	....	....	8	....	0	1	35
40	26	3	1	....	42	3	8	2	....	....	8	....	1	13	107
41	1	....	....	....	1	....	....	....	....	....	0	....	....	....	2
42	1	....	....	....	0	....	....	....	....	....	0	....	....	....	1
Above 42	1	....	....	....	1	....	....	....	....	....	1	....	....	....	3
Total	136	55	62	76	97	70	49	14	48	27	153	18	17	88	910
Median	38	36	36	36	39	36	36	36	36	36	36	36	36	36	36

TABLE XXIII.

Number of recitation periods in daily program.	Illinois.	Indiana.	Iowa.	Kansas.	Michigan.	Minnesota.	Missouri.	Montana.	Nebraska.	North Dakota.	Ohio.	Oklahoma.	South Dakota.	Wisconsin.	Total.
5	3	....	....	....	1	1	1	....	....	....	2	....	....	....	8
6	15	....	9	....	7	3	4	1	1	1	26	....	....	5	72
7	44	12	26	1	38	19	14	6	14	9	52	6	3	40	284
8	17	12	3	0	7	7	11	5	7	1	10	3	5	13	101
9	3	....	....	1	2	....	2	....	....	....	2	....	1	....	11
10	2	....	....	....	....	....	....	....	....	....	1	....	....	....	3
Total	84	24	38	2	55	30	32	12	22	11	93	9	9	58	479
Median	7	7	7	8	7	7	7	7	7	7	7	7	8	7	7

The table shows that in 33.3 per cent of the schools of the association there is no supervised study, that in 53.7 per cent there are from 1 to 10 periods supervised, and that in 13 per cent there are more than 10 periods supervised. It is very likely that in a large number of the cases represented by the 53.7 per cent supervised study does not so much give evidence of an attempt to make an experiment or to try out supervised study as it is a by-product of the school organization. It is forced rather than voluntary. Not infrequently a school has a study room where the students are supposed to be when not in class. Some teacher who happens not to have a class during a given period is put in charge of the study room for the one period; another teacher takes the room the following period, and so on. In a great many cases where from 1 to 10 periods of supervised study are reported this is probably what is referred to—not exactly supervised study, but something akin to it. In the 13 per cent of schools which have more than 10 periods supervised, doubtless we have in some cases serious attempts at study supervision.

LENGTH OF SCHOOL YEAR, SCHOOL DAY, ETC.

In Table XXII we have the analysis of 910 reports in answer to the inquiry as the number of weeks of five days each during which school is actually in session. The table should be read thus: Two of the 136 schools reporting from Illinois have school years of less than 34 weeks, one has a school year of 34 weeks, etc., and the median length of school year is 38 weeks.

The striking fact brought out by the table is the very wide variation from school to school in this respect, a variation of 10 weeks. This variation is especially noticeable in Illinois, Michigan, and Ohio. However, while there is this wide variation, the mode of 36 weeks stands out very clearly with 38 and 40 marked off distinctly from the rest. The median is also 36 in every State except Michigan and Illinois, in which States it is 39 and 38 respectively.

TABLE XXIV.

Number of 60-minute hours in daily program.	Illinois.	Indiana.	Iowa.	Kansas.	Michigan.	Minnesota.	Missouri.	Montana.	Nebraska.	North Dakota.	Ohio.	Oklahoma.	South Dakota.	Wisconsin.	Total.
Below 4	1	....	....	....	....	....	....	....	....	....	....	....	....	....	1
4	3	....	1	1	1	1	....	....	....	....	....	....	....	....	7
4½	0	....	0	0	0	2	1	....	....	....	2	....	....	2	7
4½	2	1	2	1	5	0	3	1	....	....	12	....	....	1	28
4½	10	4	0	1	2	0	3	0	....	....	9	....	1	2	32
5	14	7	12	14	13	14	9	1	8	1	25	2	0	16	136
5½	32	11	21	12	27	10	14	3	7	10	42	3	4	23	219
5½	16	15	12	5	21	23	5	5	12	9	30	4	7	24	188
5½	9	7	4	12	4	6	4	3	11	4	9	1	2	7	83
6	16	11	6	10	5	2	5	1	5	2	10	5	2	5	85
6½	0	0	0	3	2	0	0	....	0	1	4	0	....	0	10
6½	6	2	0	4	3	1	3	....	3	0	1	1	....	2	26
7	3	3	1	4	4	1	1	....	2	1	3	1	....	1	25
Above	2	2	2	2	1	2	1	....	....	....	2	....	....	1	15
Total	114	63	61	69	88	62	49	14	48	28	149	17	16	84	862
Median	5½	5½	5½	5½	5½	5½	5½	5½	5½	5½	5½	5½	5½	5½	5½

TABLE XXV.

Number of minutes in recitation period.	Illinois.	Indiana.	Iowa.	Kansas.	Michigan.	Minnesota.	Missouri.	Montana.	Nebraska.	North Dakota.	Ohio.	Oklahoma.	South Dakota.	Wisconsin.	Total.
Below 37	....	....	....	....	....	1	....	....	....	....	....	....	....	....	1
37	1	....	....	1	1	0	....	....	....	....	....	....	....	....	3
38	17	4	1	9	1	3	2	....	1	....	2	....	....	1	25
39	0	0	0	1	0	1	0	1	0	....	1	....	....	0	4
40	40	31	15	34	29	38	19	7	34	12	51	7	7	38	672
41	5	1	0	0	2	0	0	0	1	[illegible]	2	0	0	0	11
42	23	3	13	10	18	3	3	1	[illegible]	[illegible]	18	3	2	9	112
43	17	5	11	8	11	4	8	5	3	[illegible]	13	0	3	10	101
44	1	0	0	0	1	0	1	0	1	[illegible]	1	1	1	1	8
45	35	9	21	5	29	11	11	1	4	0	58	6	5	17	218
46	0	0	0	1	0	0	0	....	0	0	0	0	....	0	1
47	3	0	0	0	1	0	2	....	0	0	0	0	....	0	6
48	3	0	1	0	2	0	1	....	1	0	0	1	....	0	9
49	0	0	0	0	0	0	0	....	0	0	0	0	....	0	0
50	10	0	1	1	1	0	2	....	2	2	4	0	....	2	25
55	4	0	....	3	1	0	1	....	....	....	1	1	....	....	11
Above 55	2	1	....	1	....	1	1	....	....	....	[illegible]	....	....	....	8
Total	145	64	63	74	97	62	51	15	50	26	154	18	18	78	915
Median	43	40	43	40	42	40	43	40	40	42	42	42	43	41	42

Number of recitation periods in the daily program.—Owing to a misinterpretation of the question on the blank, the available reports on the number of recitation periods in the daily program is comparatively small. The blank asked for the number of recitations in the daily program. Some interpreted this to mean the total number of daily recitations, while others thought it had reference to the number of recitation *periods* in the daily program. Since the latter interpretation was made in the majority of cases, it was accepted and made the basis of Table XXIII. Where another interpretation was put on the question, or where the case is doubtful, the report is not included in the table. From the table we read that of the 84 schools reporting from Illinois 3 have but 5 recitation periods in the daily program, 15 have 6 periods, etc.

The mode is clearly seen to be 7. The median is 7 for the association as a whole, and 7 for every State except for Kansas and South Dakota, where it is 8.

Number of 60-minute hours in the daily program.—The actual number of 60-minute hours in the school day, excluding all recess periods, as reported from 862 schools, constitutes the basis of Table XXIV. The table is understood if read thus: One of the 114 schools reporting from Illinois has a school day of less than four 60-minute hours, three of 4 hours, 0 of 4¼ hours, etc.

The striking fact here brought out is the great variation in the length of the school day from school to school, which ranges from less than 4 to more than 7 hours. The variation from State to State, however, is not great, the medians being very uniform, in no case being either less than 5¼ or more than 5¾ hours.

Number of minutes in the recitation period.—Table XXV shows the distribution of 915 schools reporting on the number of minutes in the recitation period. It should be read as follows: The recitation period in one of the 145 schools reporting from Illinois is 37 minutes in length, in one it is 38 minutes, in 0 it is 39, etc.

Again, the absence of uniformity is the surprising fact. As important as is the length of the recitation period, we find it varying from below 37 minutes to above 55, a difference of 20 minutes at least. Some of the variation may be due to the misinterpretation of the question asked, which called for the number of minutes *in the clear* in each recitation period. The phrase "in the clear" was probably overlooked or disregarded in some cases and misinterpreted in others. It was intended that the number of minutes required to pass from one recitation to another be deducted from the length of the recitation period, because the class is not actually in session until the students are in the classroom and the recitation begun. The bimodal character of the distribution is evidenced by the much greater frequency at both 40 and 45 points to this conclusion. It

was easier to give just 40 or 45 minutes, as the case might have been, than to deduct the 2 or 3 minutes necessary to pass between classes.

The length of the recitation period seems to vary but little from State to State, and not enough to call forth any particular comment.

It should be pointed out in this connection that the length of the recitation period is of real significance and that the marked lack of uniformity in this respect presents a serious problem to an association which is attempting to standardize certain of the features of the secondary school in order that there may be a more thorough cooperation among the secondary schools and between the secondary schools and the colleges. The "unit" course of study, while defined as "not less than the equivalent of 120 60-minute hours of classroom work," is seen to be a somewhat variable unit. The lower limit is set, but, since the upper is not, the actual classroom work done for a unit's credit in one school may be over one and a half times as much as that done in another school, as is shown by the reports. For example, computation based upon the reports from the four extreme schools concerning the number of weeks of five days each in the school year and the number of minutes in each recitation period discloses the fact that in two of these schools the total classroom work done during the school year to get a unit's credit amounts in each case to 185 60-minute hours, and in the other two schools the unit's credit is secured by doing only 103 60-minute hours of classroom work. Surely a unit's credit from the two latter schools should not be considered equal to that from the other two, if conditions are otherwise at all comparable. It should also be noted that the two schools giving a unit's credit for only 103 hours of work are not meeting the requirements of the association. Of the 910 schools reporting, there are 36 that do not meet these requirements. It perhaps should be added that in practically every case the commercial period is of exactly the same length as the recitation period, while the laboratory, manual training, agriculture, cooking, and sewing periods are in each case just double the recitation period.

Number of daily recitations.—The total number of daily recitations in a school is important, because it determines the scope of the course of study offered by that school to its students. If there are but comparatively few daily recitations, the chances are that opportunities of selection on the part of the student will be limited to the standard academic subjects, since the other subjects generally come as additional subjects and do not take the place of those which are considered to be unquestionably necessary to the course of study of the public high school. Table XXVI is a brief table which may throw some light on this feature of the school. It is read thus: In the 115 schools reporting from Illinois the average number of daily recitations per school is 66, in the 51 Indiana schools it is 68, etc.

TABLE XXVI.

	Illinois.	Indiana.	Iowa.	Kansas.	Michigan.	Minnesota.	Missouri.	Nebraska.	North Dakota.	Ohio.	Oklahoma.	South Dakota.	Wisconsin.	Total.
Average number of daily recitations per school	66	68	54	54	57	66	73	36	37	63	49	46	56	59
Number of cases	115	51	48	73	81	58	41	44	27	126	13	14	65	756

	1-100	101-200	201-300	301-500	501-1,000	1,001 and over.	Total.
Average number of daily recitations per school	27	34	50	72	122	227	59
Number of cases	78	305	146	139	51	37	756

TABLE XXVII.

	Number of units required for graduation.													
	13½	14	15	15½	16	16½	17	17½	18	19	20	21½	24	Total.
Number of schools	1	1	152	13	732	7	23	2	14	3	1	1	1	951

It is necessary to call attention to only one or two points of interest. Among the States the average number of daily recitations varies from 36 in Nebraska to 73 in Missouri. That this variation is due largely to variation in size of schools from State to State is brought out in that portion of the table in which enrollment is made the basis of grouping the schools. Here we see the number of daily recitations increasing from 27 in schools having 100 students or less to 227 in schools of over 1,000 enrollment. Of course, this is a fact that is familiar to all, but it nevertheless makes it very clear that the large school has a distinct advantage over the small school in that it is able to offer a wider range of subjects and is therefore better enabled to meet the needs occasioned by individual differences among the students as well as the needs of the community.

CONCERNING GRADUATION.

NUMBER OF UNITS REQUIRED FOR GRADUATION.

In view of the fact that the number of units required for graduation from a secondary school is one of the first matters to be taken into consideration in any attempt to bring about a better understanding among the secondary schools and between the secondary schools and the colleges to which they are accredited, this feature of the high school is of especial interest to us.

Nine hundred and fifty-one schools reported concerning the number of units required for graduation. These reports form the basis of Table XXVII which reads from left to right as follows: One school requires but 13½ units for graduation; one, 14 units; 152, 15 units, etc. It should be stated here that according to the standards of the association, "No school shall be accredited which does not require 15 units, as defined by the association for graduation."

TABLE XXVIII.

Number of units for each graduate in 1913.	Illinois.	Indiana.	Iowa.	Kansas.	Michigan.	Minnesota.	Missouri.	Montana.
15	649	145	299	384	715	14	479	28
15½	305	320	285	40	246	120	103	33
16	4,177	1,875	1,900	2,024	2,081	2,582	848	284
16½	490	197	147	8	302	174	50	19
17	242	143	108	156	233	148	86	76
17½	161	86	48	2	130	74	22	0
18	94	102	26	2	77	69	407	3
19	97	10	28	.....	8	24	50	7
20	107	6	.....	.....	17	8	126	2
21	30	.....	.....	.....	.....	.....	.....	.....
Total	6,352	2,884	2,836	2,616	3,809	3,213	2,171	452

Number of units for each graduate in 1913.	Nebraska.	North Dakota.	Ohio.	Oklahoma.	South Dakota.	Wisconsin.	Total.
15	297	144	158	20	6	903	4,241
15½	114	52	288	64	2	149	2,121
16	872	224	5,775	309	323	2,156	25,430
16½	109	27	515	18	94	279	2,429
17	36	35	445	27	52	208	1,995
17½	25	19	99	10	5	27	703
18	11	14	161	27	10	132	1,135
19	.....	1	241	1	.....	35	502
20	.....	.....	8	.....	.....	33	307
21	.....	.....	.....	.....	.....	.....	30
Total	1,464	516	7,690	476	492	3,922	38,893

Number of units for each graduate in 1913.	Under 2,500	2,501–5,000	5,001–7,500	7,501–10,000	10,001–15,000	15,001–50,000	50,001 and over.	Total.
15	489	431	184	351	310	1,130	1,346	4,241
15½	321	470	370	271	193	436	60	2,121
16	2,637	3,958	2,385	2,355	2,205	4,112	7,778	25,430
16½	276	445	377	223	321	494	293	2,429
17	154	438	239	274	133	328	429	1,995
17½	75	122	102	104	76	122	102	703
18	92	107	183	101	62	144	446	1,135
19	18	59	87	15	5	45	273	502
20	4	23	14	22	1	11	232	307
21	30	.....	.....	.....	.....	.....	.....	30
Total	4,096	6,053	3,941	3,716	3,306	6,822	10,959	38,893

It is seen that 732, or 77 per cent, of the 951 schools reporting require 16 units for graduation, and that the majority of the remaining schools require 15 units. Thus in this matter the schools seem to be thoroughly standardized. The single school requiring 24 units is a six-year high school in a school system in which the six-and-six plan is being tried out.

NUMBER OF STUDENTS GRADUATING IN 1913 WITH MORE THAN 14 UNITS.

While a school requires a student to do a certain amount of work for graduation, it does not prevent his collecting more than the required number of units of work. This surplus of work done in the high school has become a real problem. It raises the question of giving college credit for work done in the secondary school. If college credit is not given for such work, the question arises whether the student has not been sacrified to a lack of coordination between high schools and colleges. On the other hand, if credit is given, it is only fair that work of a high grade be demanded.

In Table XXVIII is shown the number of students graduating from the schools of the association in 1913 with more than 14 units. The table is composed of two parts, the one based upon State, the other upon population. It is understood when read thus: 649 of the students graduating from the schools of Illinois in 1913 graduated with 15 units, 305 with 15½ units, 4,177 with 16 units, etc.

It will be sufficient to call attention to but one or two points brought out in the table. While the great majority of the graduates are credited with 16 units, there are, nevertheless, considerable numbers with both less and more than 16 units. There seems to be no particular variation from State to State in this matter, while the proportion having more than 16 units is slightly larger in the large cities than in the small cities.

TABLE XXIX.

	60	65	67	68	70	71	75	76	77	78	80	81	82	83	85	90	Total.
Passing grade	13	12	1	0	268	1	539	1	0	0	90	0	0	0	3	....	928
College recommendation grade	5	5	0	1	211	1	411	1	1	2	216	4	1	3	56	5	923

The importance of the question just raised regarding the crediting by a college of surplus work done in the high school becomes very evident after an examination of the table, since there is a range of 7 units among the graduates from the schools of the association in 1913. It is obvious that, unless some provision be made on the part of the college for the crediting of the work done in excess of the 15 units (or whatever the entrance requirement for the particular college may be), there is going to be a great deal lost in passing from the secondary school to the college because of poor articulation.

GRADE REQUIRED FOR PASSING AND FOR RECOMMENDATION TO COLLEGE.

That the grade required for passing and the grade required for recommendation to college are not always identical in a high school is brought out by Table XXIX, which is based upon 928 reports

regarding the passing grade and 923 reports concerning the grade required for recommendation to college. Reading from left to right, 13 schools have a passing grade of 60, 12 a passing grade of 65, etc. Aside from the fact that the grade required for recommendation to college is in a number of cases higher than the grade required for passing, it is interesting to note the wide variation in both cases, although 70, 75, and 80 are much more frequent than any other of the grades. Since grades are the means of communication between institutions, there is evident need of standardization in these matters.

TABLE XXX.

Average in all subjects for—	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81
Class of 1913											1	0	3	1	2	2	13	15
Highest ranking student																1	1	0
Lowest ranking student	1	0	1	1	4	3	23	5	13	16	14	47	37	42	58	45	45	31
Percentages:																		
Class of 1913											0.3	0.0	1.0	0.3	0.6	0.6	4.3	5.0
Highest ranking student																.2	.2	0
Lowest ranking student	0.2	0.0	0.2	0.2	0.9	0.7	5.3	1.2	3.0	3.7	3.2	10.9	8.5	9.7	13.3	10.4	10.4	7.2

Average in all subjects for—	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	Total.
Class of 1913	20	32	33	61	35	30	24	9	11	4	4								300
Highest ranking student	1	0	1	1	1	6	6	15	19	22	37	62	79	98	60	50	15	5	489
Lowest ranking student	15	12	9	8	2	0	1												433
Percentages:																			
Class of 1913	6.7	10.7	11.0	20.4	11.8	10.0	8.0	3.0	3.7	1.3	1.3								
Highest ranking student	.2	0	.2	.2	.2	1.2	1.2	3.1	3.9	4.5	7.6	12.7	16.2	20.0	14.1	10.2	3.1	1.0	
Lowest ranking student	3.5	2.8	2.1	1.9	.5	0	.2												

It should be mentioned that a number of the schools reporting, not included in the table, grade by letter A, B, C, etc., instead of by number. This difference further lessens the uniformity in grading.

AVERAGE OF GRADUATING CLASS, HIGHEST AND LOWEST RANKING STUDENTS.

Three hundred schools reported the average in all subjects of the class graduating in 1913, 489 schools reported the average in all subjects of the highest ranking student of the same class, and 433 schools reported the average in all subjects of the lowest ranking student who was actually graduated. The distribution of these 3 groups is found in Table XXX, which is read thus: The average of the class graduating in 1913 from 1 school was 74, 3 schools 76, etc.; the average in all subjects of the highest ranking student in 1 school was 79, in 1 school 80, etc.; and the average of the lowest ranking student in 1 school was 64, in 1 school 66, etc.

The impressive fact brought out by this table is the utter lack of uniformity among the schools in grading. In a number of cases the average of the highest ranking student in some schools is lower than that of the lowest ranking student in others. That which is a very high grade in one school may be a very low grade in another and vice versa; and it is undoubtedly true that with the change of management and teachers the grading in a given school will change. Thus, as the art of grading now stands, for it is evidently far from a science, a grade conveys little meaning to anyone not acquainted with the system in which and the individual by whom it is given. It has a meaning for the person who gives it and possibly for the one who receives it, but it goes little farther.

In figure 14 the relation between the highest ranking student and the lowest ranking student and the average of the class is presented graphically. The distance along the horizontal axis denotes the grade and the distance along the vertical axis the per cent of schools. Two points should be mentioned. In the first place, the grade of the highest ranking student and the average of the class exhibits less variation from school to school than does the grade of the lowest ranking student, the mode or most frequent grade being much less marked in the latter than in the former. In the second place, the irregularities in the curve representing the lowest ranking student, which show 70, 75, and 78 to be more frequent than the grades above or below, seem to indicate that there is not so much care taken in grading the weakest student as in grading the strongest student. In a great many schools 70 and 75 are the passing grades. There seems to be a tendency to give this passing grade to those students who rank close to it. If a student seems to be just below, he is given the benefit of the doubt, while, if he is just above, it is easier to give the passing grade and be done with it.

TABLE XXXI.

	Per cent of those going to college in highest third of the class.												
	0	1-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100	Total.
Number of schools...	11	2	6	17	28	28	82	43	17	27	9	63	333

THE RANKING OF THE STUDENTS WHO GO TO COLLEGE.

It is generally assumed that the better students go to college. This assumption is borne out by Table XXXI, which is based upon the reports from 333 schools regarding the per cent of those students going to college from the class graduating in 1913 who stood in the highest third of the class while in high school ("highest third meaning highest numerical third after the class is ranked from best to worst"). The table becomes clear if read as follows: In 11 of the schools reporting, no students who went to college were in the highest

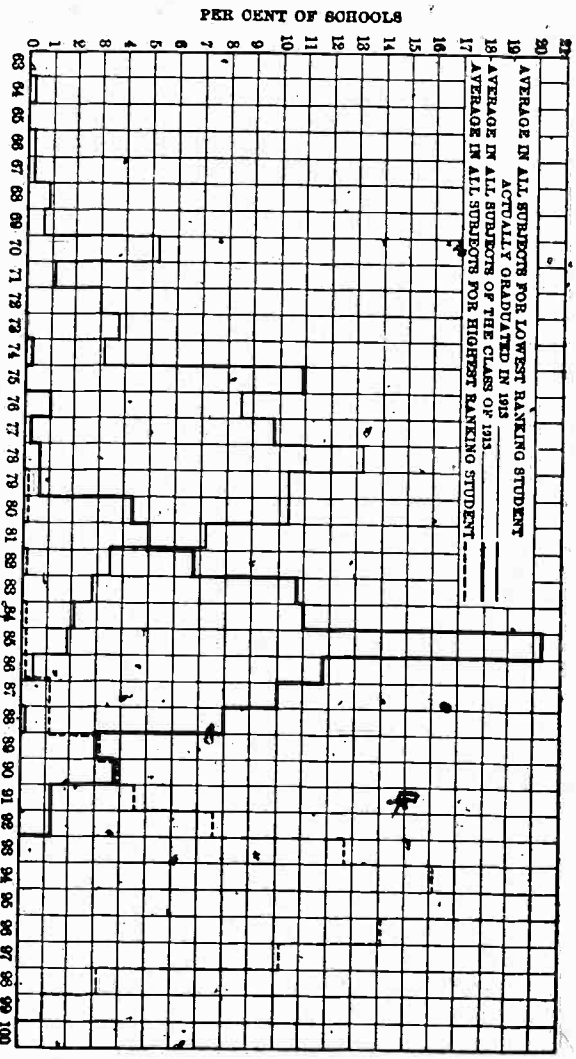

FIG. 14.—Relation between the highest ranking student, the lowest ranking student, and the average of the class.

third; in 2 schools between 1 per cent and 9 per cent were in the highest third; in 6 between 10 per cent and 19 per cent were in the highest third, etc.

TABLE XXXII.

	State.							
	Illinois.	Indiana.	Iowa.	Kansas.	Michigan.	Minnesota.	Missouri.	Montana.
Number students graduating in 1913 who have gone to—								
College	953	436	435	323	440	409	221	41
Commercial school	67	73	49	45	80	53	23	18
Trades	67	42	27	30	108	13	17	0
Farming	65	46	42	76	63	36	11	15
Normal school	141	174	29	91	284	170	45	4
Business	422	148	119	96	215	101	70	22
At home	390	283	208	247	337	157	142	52
Other occupations	231	174	229	643	288	165	114	21
Professions	142	75	31	18	99	38	79	17
Domestic economy and agriculture	48	35	48	63	34	33	17	22
Teaching	124	28	80	(1)	84	160	13	15
Unknown	159	72	88	131	88	113	108	11
Total	2,909	1,586	1,455	1,663	2,120	1,448	810	238
Per cent who have gone to—								
College	33.9	27.5	28.9	19.4	20.7	28.2	27.3	17.1
Commercial school	2.4	4.6	3.4	2.7	3.8	3.7	2.8	7.6
Trades	2.4	2.7	1.9	1.8	5.1	.9	2.1	0
Farming	2.3	2.9	2.9	4.6	3.0	2.5	1.3	6.3
Normal school	5.0	11.0	2.0	5.5	13.4	11.7	5.6	1.7
Business	15.0	9.3	8.2	5.8	10.1	7.0	8.6	9.3
At home	13.9	17.8	18.4	14.9	15.8	10.8	17.6	21.8
Other occupations	8.2	11.0	15.7	32.5	13.6	11.4	14.1	8.8
Professions	5.1	4.7	2.1	1.1	4.7	2.6	3.6	7.2
Domestic economy and agriculture	1.7	2.2	3.3	3.8	1.6	2.3	2.1	9.3
Teaching	4.3	1.8	5.5	(1)	4.0	11.1	1.6	6.3
Unknown	5.7	4.5	6.7	7.9	4.2	7.8	13.3	4.6

	State.						
	Nebraska.	North Dakota.	Ohio.	Oklahoma.	South Dakota.	Wisconsin.	Total.
Number students graduating in 1913 who have gone to—							
College	183	151	1,311	61	121	405	5,490
Commercial school	25	18	203	12	11	85	762
Trades	16	12	275	12	6	66	691
Farming	34	23	110	10	7	62	690
Normal school	54	40	165	26	37	224	1,484
Business	56	67	485	13	8	235	2,057
At home	118	44	631	41	54	327	3,091
Other occupations	126	83	459	49	99	327	2,908
Professions	22	9	129	2	9	53	673
Domestic economy and agriculture	10	4	50	5	55	51	475
Teaching	155	37	88	11	10	66	871
Unknown	34	20	243	20	30	160	1,287
Total	833	508	4,149	282	447	2,061	20,389
Per cent who have gone to—							
College	22.0	29.7	31.5	23.4	27.0	19.7	26.9
Commercial school	3.0	3.6	4.9	4.6	2.5	4.1	3.7
Trades	1.9	2.4	6.6	4.6	1.3	3.2	3.4
Farming	4.1	4.5	2.7	3.8	1.6	3.0	2.9
Normal school	6.5	7.8	4.0	9.9	8.3	10.9	7.3
Business	6.7	13.2	11.7	4.9	1.8	11.5	10.1
At home	14.2	8.7	15.2	15.6	12.1	15.8	15.1
Other occupations	15.1	16.3	11.1	18.7	22.2	15.8	14.3
Professions	2.6	1.8	3.1	.8	2.0	2.6	3.3
Domestic economy and agriculture	1.2	.8	1.2	1.9	12.3	2.5	2.4
Teaching	18.6	7.3	2.1	4.2	2.2	3.2	4.3
Unknown	4.1	3.9	5.9	7.6	6.7	7.8	6.3

(1) The reports from Kansas concerning teaching were unsatisfactory.

TABLE XXXII—Continued.

	Population.							
	Under 2,500	2,501-5,000	5,001-7,500	7,501-10,000	10,001-15,000	15,001-50,000	50,001 and over.	Total.
Number students graduating in 1913 who have gone to—								
College	699	1,038	899	572	612	652	1,018	5,490
Commercial school	99	194	144	73	84	97	71	762
Trades	59	129	122	58	43	116	164	691
Farming	175	198	89	44	46	35	13	600
Normal school	178	323	242	158	173	166	244	1,484
Business	264	408	298	205	234	309	339	2,057
At home	452	757	566	288	344	406	278	3,091
Other occupations	600	787	445	295	303	389	119	2,908
Professions	103	138	90	54	46	104	138	673
Domestic economy and agriculture	79	156	97	38	16	54	35	475
Teaching	285	274	130	66	40	58	18	871
Unknown	134	274	175	107	112	119	366	1,287
Total	3,127	4,676	3,297	1,928	2,053	2,505	2,803	20,389
Per cent who have gone to—								
College	22.3	22.3	27.4	29.7	29.8	26.0	36.3	26.9
Commercial school	3.2	4.1	4.4	3.8	4.1	3.9	2.5	3.7
Trades	1.9	2.8	3.7	3.0	2.1	4.6	5.9	3.4
Farming	5.6	4.2	2.7	2.3	2.2	1.4	.5	2.9
Normal school	5.7	6.9	7.3	8.2	8.4	6.6	8.7	7.3
Business	8.4	8.7	9.0	10.6	11.4	12.3	12.1	10.1
At home	14.5	16.2	17.2	14.9	16.7	16.2	9.9	15.1
Other occupations	19.2	16.8	13.5	13.7	14.8	15.5	4.2	14.3
Professions	3.3	2.9	2.7	2.8	2.2	4.2	4.9	3.3
Domestic economy and agriculture	2.5	3.3	2.9	2.0	.8	2.2	1.3	2.4
Teaching	9.1	5.9	3.9	3.4	2.0	2.3	.6	4.3
Unknown	4.3	5.9	5.3	5.6	5.5	4.8	13.1	6.3

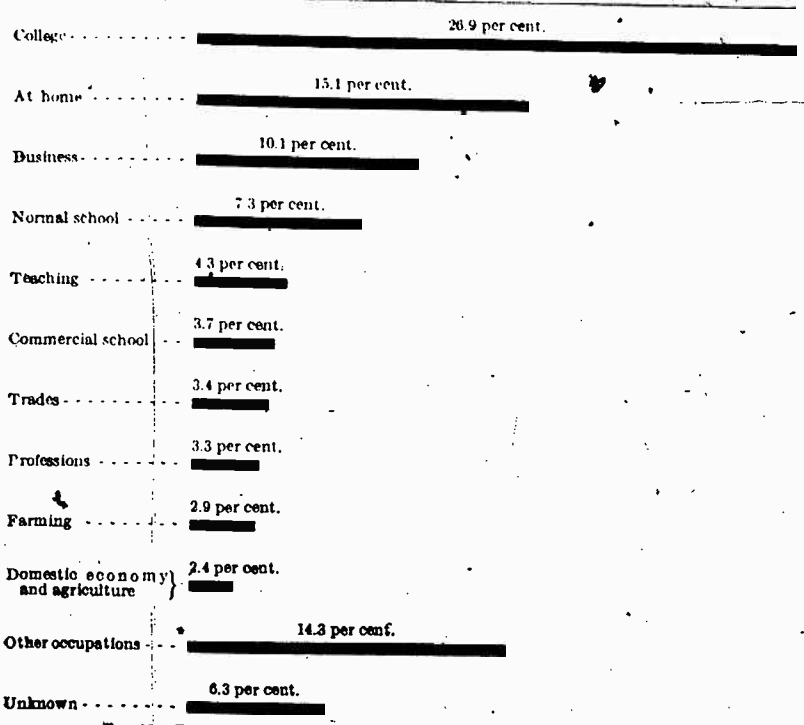

FIG. 15.—Percentage of class graduating in 1913 who are in various pursuits.

The significant fact is that of the 333 schools reporting, 241, or slightly over 72 per cent, report that 50 per cent or more of their students who went to college were in the highest third of the class. Thus it is seen that, although many of the weaker students go to college, the majority rank well above the mediocre student.

OCCUPATIONS OF CLASS GRADUATING IN 1913.

Since the school is coming to be regarded as a place to which the child may go in order to get a training that will fit him for his place in society rather than as a place to which he may go to be put through mental gymnastics of one kind or another, it is of interest to know what these students in the high school do after graduation. The analysis of 596 reports concerning the graduating class of 1913 has given us Table XXXII, which is composed of two parts, the one being based upon State, the other upon population, and each having the accompanying percentage feature. It is read thus: Of the 2,809 pupils graduating in 1913 from the 77 schools reporting from Illinois, 953, or 33.9 per cent, went to college; 67, or 2.4 per cent, went to commercial schools, etc.

There seems to be considerable variation from State to State in every case, although there is a larger percentage of the graduates going to college than doing any other one thing in every State except Montana and Kansas, in which States the largest percentage is found staying at home and in "other occupations," respectively. In the larger cities a larger percentage goes to college, enters the trades, and goes into business than in the small cities, while a larger percentage goes to the farm, enters "other occupations," and takes up teaching in the small cities than in the large cities.

The bar diagrams in figure 15 represent for the entire association the percentages of graduates going to college, staying at home, going into business, and so on. It is seen that over one-fourth of the high-school graduates go to college.

TABLE XXXIII.

Number of recitation rooms.	State.							
	Colorado.	Illinois.	Indiana.	Iowa.	Kansas.	Michigan.	Minnesota.	Missouri.
0–5	15	34	13	17	26	29	27	15
6–10	12	39	31	30	25	40	29	19
11–15	3	18	6	10	14	12	6	7
16–20	3	17	5	2	2	8	2	1
21–25	1	8	2	1	0	3	0	1
26–30	1	3	1	1	0	3	1	2
31–35	0	2	3	0	0	0	1	1
36–40	1	2	1	1	2	1	1	2
41–45		1	0	2	1	0	1	1
46–50		2	0			1	1	0
51 and over			2			1	1	1
Total	38	126	64	64	70	98	70	50
Median	7	9	9	8	7	8	7	7

TABLE XXXIII—Continued.

Number of recitation rooms.	State.							
	Montana.	Nebraska.	North Dakota.	Ohio.	Oklahoma.	South Dakota.	Wisconsin.	Total.
0–5	2	31	19	51	6	6	31	322
6–10	9	14	7	54	8	10	36	363
11–15	1	3	2	21	2	1	10	116
16–20	2	0	.....	9	0	1	1	53
21–25	1	1	.....	7	0	1	3	29
26–30	1	0	.....	4	0	.....	2	19
31–35	.....	1	.....	2	0	.....	0	10
36–40	.....	.....	.....	0	1	.....	0	12
41–45	.....	.....	.....	1	.....	.....	2	9
46–50	.....	.....	.....	.....	.....	.....	.....	4
51 and over	.....	.....	.....	.....	.....	.....	.....	5
Total	16	50	28	140	17	19	85	942
Median	9	5	3	7	7	6	7	7

Number of recitation rooms.	Enrollment.						
	1–100	101–200	201–300	301–500	501–1,000	1,001 and over.	Total.
0–5	67	212	27	6	6	4	322
6–10	31	147	131	49	4	1	363
11–15	1	12	24	71	8	0	116
16–20	.....	0	2	27	23	1	53
21–25	.....	1	1	5	18	4	29
26–30	.....	.....	.....	0	13	6	19
31–35	.....	.....	.....	0	5	5	10
36–40	.....	.....	.....	1	1	10	12
41–45	.....	.....	.....	.....	1	8	9
46–50	.....	.....	.....	.....	.....	4	4
51 and over	.....	.....	.....	.....	.....	5	5
Total	99	372	185	159	79	48	942
Median	4	5	8	12	20	37	7

MATERIAL EQUIPMENT.

NUMBER OF ROOMS FOR THE VARIOUS PURPOSES.

Table XXXIII is the result of an analysis of 942 reports concerning the number of rooms used *exclusively* for recitation purposes. It should be read in this fashion: In Colorado 15 schools reported from 0 to 5 rooms used exclusively for recitation purposes, 12 from 6 to 10, and so on. The table shows that for the whole association the number of recitation rooms for the largest number of schools falls in the interval from 6 to 10, and that 5 schools have more than 50 rooms used for recitation purposes only. The median for the association is 7. Among the States the median ranges from 3 for North Dakota to 9 in Illinois, Indiana, and Montana. It is somewhat surprising to find such a wide variation in so fundamental a matter as the number of recitation rooms.

The median for the several groups of schools when grouped according to enrollment shows that the number of recitation rooms increases with the enrollment of the school since it advances from 4 in schools

with enrollments of 100 and less to 37 in schools having enrollments of more than 1,000 pupils. It should be noted, however, that the median does not increase so rapidly as does the enrollment.

Table XXXIV is a table of medians giving the median number of recitation rooms, laboratory rooms, manual-training rooms, domestic-science rooms, assembly rooms, and rooms used for more than one purpose for each State of the association and for the six groups of schools when grouped according to enrollment. The table is read thus: In Colorado the median number of recitation rooms is 7; laboratory rooms, 2; manual-training room, 1; domestic-science room, 1; assembly room, 1; room used for more than one purpose, 1; and the total of the medians is 13.

The table shows that in number of laboratory rooms the schools of Illinois are better supplied than those of any other State, while in North Dakota and South Dakota the median is lowest. The median number of manual training rooms is greatest in Montana, where it is 3. In both Nebraska and Ohio the median number of domestic science rooms is zero. The median number of assembly rooms is uniformly 1 throughout the States. The total of the medians favors Montana, where it is 18, and Illinois, with 17, and North Dakota foots the list with a total of but 9, Nebraska coming next with 10.

Enrollment seems to affect the median number of rooms for the various purposes in every instance except in the case of assembly rooms, where the median is uniformly 1 regardless of size of school.

In addition to the rooms used exclusively for recitation purposes, laboratory purposes, and so on, a school frequently has a number of rooms which are not used exclusively for any one purpose but for several purposes. The extent to which this is done is again brought out in Table XXXV, as is also the number of overcrowded rooms. From the table we read that the median number of rooms used for more than one purpose in the schools of Colorado is 1, and the median number of overcrowded rooms in the same State is zero. The median is 1 for all the States except Michigan, Minnesota, and North Dakota, where it is 2, and Missouri and Oklahoma, where it is zero. The median number of overcrowded rooms is uniformly zero in every State and in every group of schools. (The reader should keep in mind the fact that the reporting on the number of overcrowded rooms may be influenced by a desire on the part of the individual making out the report to put the school in the best light possible. Exactly what an overcrowded room is, is not defined by the association.)

TABLE XXXIV.

Median number.	State.							
	Colorado.	Illinois.	Indiana.	Iowa.	Kansas.	Michigan.	Minnesota.	Missouri.
Recitation rooms	7	9	9	8	7	8	7	7
Laboratory rooms	2	3	2	2	2	2	2	2
Manual training rooms	1	1	1	1	1	1	2	1
Domestic science rooms	1	2	1	2	1	1	2	1
Assembly rooms	1	1	1	1	1	1	1	1
Rooms used for more than 1 purpose	1	1	1	1	1	2	2	0
Total of medians	13	17	15	15	13	15	16	12

Median number.	State.							
	Montana.	Nebraska.	North Dakota.	Ohio.	Oklahoma.	South Dakota.	Wisconsin.	Total.
Recitation rooms	9	5	3	7	7	6	7	7
Laboratory rooms	2	2	1	2	2	1	2	2
Manual training rooms	3	1	1	1	1	1	2	1
Domestic science rooms	1	0	1	1	2	1	2	1
Assembly rooms	1	1	1	1	1	1	1	1
Rooms used for more than 1 purpose	1	1	2	1	0	1	1	1
Total of medians	18	10	9	12	13	11	15	13

Median number.	Enrollment.						
	1-100	101-200	201-300	301-500	501-1,000	1,001 and over.	Total.
Recitation rooms	4	5	8	12	20	37	7
Laboratory rooms	1	2	2	2	3	4	2
Manual training rooms	0	1	1	2	3	4	1
Domestic science rooms	1	1	1	2	2	3	1
Assembly rooms	1	1	1	1	1	1	1
Rooms used for more than 1 purpose	1	1	1	1	1	1	1
Total of medians	8	11	14	20	30	50	13

TABLE XXXV.

Median number.	State.							
	Colorado.	Illinois.	Indiana.	Iowa.	Kansas.	Michigan.	Minnesota.	Missouri.
Rooms used for more than 1 purpose	1	1	1	1	1	2	2	0
Overcrowded rooms	0	0	0	0	0	0	0	0

Median number.	State.						
	Montana.	Nebraska.	North Dakota.	Ohio.	Oklahoma.	South Dakota.	Wisconsin.
Rooms used for more than 1 purpose	1	1	2	1	0	1	1
Overcrowded rooms	0	0	0	0	0	0	0

TABLE XXXV—Continued.

Median number.	Enrollment.						
	1-100	101-200	201-300	301-500	501-1,000	1,001 and over.	Total.
Rooms used for more than 1 purpose	1	1	1	1	1	1	1
Overcrowded rooms	0	0	0	0	0	0	0

TABLE XXXVI.

Number of rooms.	For laboratory.	For manual training.	For domestic science.	For assembly.	Used for more than 1 purpose.	Overcrowded rooms.
0	99	274	277	112	318	783
1-3	700	551	607	805	495	130
4-8	132	96	54	24	109	15
9-15	10	17	4	1	14	13
16 and over	1	4	.....	.....	6	1
Total	942	942	942	942	942	942
Median	2	1	1	1	1	0

TABLE XXXVII.

Recitations in study room?	State.							
	Colorado.	Illinois.	Indiana.	Iowa.	Kansas.	Michigan.	Minnesota.	Missouri.
No	30	103	58	59	60	63	27	35
Yes	6	23	6	5	10	35	43	15
Total	36	126	64	64	70	98	70	50

Recitations in study room?	State.							
	Montana.	Nebraska.	North Dakota.	Ohio.	Oklahoma.	South Dakota.	Wisconsin.	Total.
No	15	40	15	99	17	19	75	715
Yes	1	10	13	50	.....	.....	10	227
Total	16	50	28	149	17	19	85	942

Recitations in study room?	Enrollment.						
	1-100	101-200	201-300	301-500	501-1,000	1,001 and over.	Total.
No	56	260	164	141	60	34	715
Yes	43	112	21	18	19	14	227
Total	99	372	185	159	79	48	942

Since the median gives only the central tendency and does not give any idea whatsoever of range or deviation from the central tendency, it is likely to be unsatisfactory and give a false impression. Conse-

quently Table XXXVI has been devised to overcome this difficulty. In this table it is attempted to give the distribution for each item of the 942 schools reporting on the number of rooms for the various purposes and the number of overcrowded rooms, without grouping the schools according to either State or enrollment. It is seen that, while the median number of laboratory rooms is 2, there are 99 schools having no rooms given over exclusively to laboratory purposes, and there is 1 school with over 16 laboratory rooms. Furthermore, although the median number of manual training rooms is less than that of laboratory rooms, there are 21 schools having 9 or more manual training rooms as opposed to 11 having a like number of laboratory rooms. And again, the median number of overcrowded rooms is zero, yet there are 159 schools reporting one or more rooms that are overcrowded.

If a school does not have a sufficient number of recitation rooms to meet the demand, it frequently has resort to the study room. This custom is to be deplored because both the student and the teacher are put to a disadvantage when the recitation is conducted in the presence of students other than those concerned in the recitation. It also disturbs the study of the students in the study room. The extent to which this is practiced in the schools of the association is shown in Table XXXVII, which is read as follows: In Colorado 30 of the 36 schools reporting do not and 6 do have recitations in the study room. Among the States the worst offenders in this regard are Minnesota and North Dakota. Although it is more frequent to find recitations in the study room in the small schools than in the large schools, the small schools by no means have a monopoly upon the practice. For the entire association 227, or slightly over 24 per cent, of the 942 schools reporting have recitations in the study room. This is indicative of cramped conditions and inadequate material facilities, or too few instructors.

VALUE OF SCIENTIFIC APPARATUS.

Besides rooms, material equipment includes the apparatus necessary for proper instruction in the sciences and certain of the other subjects. The value of equipment in the various subjects is represented in Table XXXVIII, which is a somewhat general table giving the distribution for the entire association of the schools reporting on each item. The reader will notice at once that manual training is not included in the table. This is due to the omission of this item from the report blank. The value of equipment for manual training was not asked for and consequently information concerning it was not given. The table becomes clear if read as follows: Of the 897 schools reporting the value of physics equipment, 45 report equipment to the

value of from $51 to $200, 311 from $201 to $500, etc., and the median value of physics equipment among the schools of the association is $650.

The reports were not entirely satisfactory in that they were incomplete in many cases, the number reporting varying from 897 for physics to 376 for agriculture. It is doubtless true that frequently information was withheld when the value of equipment was zero. The table shows a very wide variation among the schools in the value of equipment for each subject. In every subject except sewing there is at least one school having over $5,000 worth of equipment, while in every one except physics there are some schools having less than $50 worth of equipment. The amount spent annually for equipment also varies in the same way.

A more interesting table from the standpoint of comparison is Table XXXIX, which is a table of medians similar in organization to Table XXXIV. It should be read thus: Among the schools reporting from Colorado the median value of physics equipment is $895, of commercial equipment $675, etc.

TABLE XXXVIII.

Value of equipment.	Physics.	Chemistry.	Botany.	Zoology.	Agriculture.	Sewing.	Cooking.	Commercial course.	Spent annually.
Under $50	.....	.....	77	66	138	37	3	16	$28
$51–$200	45	10	387	207	164	274	69	36	203
$201–$500	311	263	238	113	51	171	272	155	189
$501–$1,000	292	190	78	45	13	40	158	160	105
$1,001–$2,000	154	99	29	25	6	15	43	90	44
$2,001–$5,000	80	38	12	11	2	6	14	25	15
$5,001–$10,000	12	7	2	1	2	.....	3	1	0
Above $10,000	3	1	.....	.....	.....	.....	.....	.....	1
Total	897	735	823	468	376	543	562	483	583
Median	650	465	180	170	75	175	430	605	285

TABLE XXXIX.

Median value of equipment for—	State.						
	Colorado.	Illinois.	Indiana.	Iowa.	Kansas.	Michigan.	Minnesota.
Physics	$895	$840	$490	$555	$430	$840	$645
Commercial course	675	700	720	535	535	510	500
Chemistry	520	740	415	400	310	460	415
Cooking	490	445	450	365	420	450	540
Botany	215	205	210	110	160	185	155
Sewing	185	185	150	120	175	195	200
Zoology	220	215	185	120	150	165	95
Agriculture	50	140	75	50	60	85	335
Total	3,250	3,470	2,695	2,255	2,240	2,890	2,885
Median amount spent annually	245	320	415	265	295	350	635

TABLE XXXIX—Continued.

Median value of equipment for—	State.							
	Missouri.	Montana.	Nebraska.	North Dakota.	Ohio.	Oklahoma.	South Dakota.	Wisconsin.
Physics	$550	$1,500	$390	$590	$835	$400	$625	$670
Commercial course	775	650	290	565	680	850	500	735
Chemistry	475	820	255	300	635	550	415	485
Cooking	450	900	230	415	450	375	450	390
Botany	190	300	195	195	135	150	225	185
Sewing	200	325	70	160	190	140	125	175
Zoology	195	750	225	150	95	175	175	175
Agriculture	115	350	50	125	50	75	40	55
Total	2,950	5,595	1,705	2,500	3,070	2,715	2,555	2,870
Median amount spent annually	230	650	195	400	200	600	170	260

Median value of equipment for—	Enrollment.						
	1-100	101-200	201-300	301-500	501-1,000	1,001 and over.	Total.
Physics	$490	$460	$680	$930	$1,880	$2,750	$650
Commercial course	350	420	575	760	1,340	1,780	605
Chemistry	375	335	440	740	1,050	1,740	465
Cooking	410	360	380	525	715	865	430
Botany	135	130	165	310	480	1,160	180
Sewing	150	115	160	225	430	800	175
Zoology	120	100	125	260	470	1,080	170
Agriculture	55	65	75	125	200	600	75
Total	2,085	1,985	2,600	3,875	6,565	10,755	2,750
Median amount spent annually	175	190	300	440	800	960	285

For the entire association physics ranks first with $650 as the median, commercial subjects second with $605, and agriculture last with only $75. This same order is followed in most of the States, but there are numerous exceptions, as can be readily seen upon examination of the table. The number of interesting comparisons that could be drawn is almost without limit, but it will be sufficient to point out a few of the most important. A most interesting fact is that the Montana schools seem to be in a class by themselves, for in every case except that of commercial subjects the median is higher for Montana than for any other State. To be sure only 16 selected schools are included in the Montana report. The total of medians gives to Montana $5,595 and to Illinois, the nearest competitor, only $3,470. At the other extreme we find Nebraska with a total of but $1,705, less than one-third that of Montana. In the number of dollars spent annually Montana also heads the list with $650 and South Dakota comes last with $170.

Turning to the other half of the table we see that in every case the median value of equipment increases with the size of school. An interesting exception to this statement is disclosed upon comparing the group of schools having enrollments of 100 pupils or less with the group of schools next larger in size—that is, those having from 101 to 200 pupils. Except in the case of agriculture and commercial

subjects the median favors the group of smaller schools and the total favors the smaller schools by $100. An explanation of this fact is probably found in the fact that only the exceptional school of an enrollment of less than 100 is able to qualify for admission to membership in the association. This includes a number of private schools and academies in which the equipment is generally somewhat more elaborate than in the ordinary public high school of the same size.

LIBRARY FACILITIES.

THE HIGH-SCHOOL LIBRARY.

The high-school library is coming to be a real and valuable feature of the modern high school. The character of this library among the north central schools can be determined in a measure by an examination of Table XL, in which it has been attempted to show the kind and number of books in these schools as determined by the reports. The table becomes clear when read as follows: Of the 704 schools reporting on the number of volumes in the high-school library for English, 4 reported no volumes, 70 reported from 1 to 50, 237 from 51 to 200, etc., and the median number of volumes for English is 238. In addition to the number of volumes in the library this table gives the number of volumes added in 1913 and the number of dollars spent for books during the same year. This table is of interest to show the variation from school to school in the number of volumes for the various subjects.

TABLE XL.

Number of volumes.	English.	History.	Fiction.	Education.	Botany.	Physics.	Civics.	Latin.	German.	Chemistry.	Physical geography.	Agriculture.	Zoology.
0	4	3	158	165	53	42	140	91	127	129	99	176	196
1-50	70	61	129	358	557	589	430	536	473	531	551	453	443
51-200	234	313	192	150	70	65	102	59	78	39	38	55	50
201-500	237	214	145	21	8	2	3	10	13	1	5	8	5
501-1,000	105	77	48	4	.....	.....	0	.....	1	.....	.....	2	.....
1,001-2,000	42	22	10	0	.....	.....	1	.....	.....	.....	.....	1	.....
2,001-5,000	11	1	10	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
5,001 and over	1	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total	704	711	693	697	688	698	676	696	692	700	693	695	694
Median	238	199	83	21	18	16	14	13	10	9	9	8	8

Number of volumes.	Mathematics.	Physiology.	Cooking.	Manual training.	Sewing.	Commercial course.	Drawing.	French.	United States Government reports.	State government reports.	Books added in 1913.	Spent for books in 1913.
0	196	213	295	306	336	340	356	544	114	167	10	10
1-50	442	452	388	370	359	305	281	116	282	401	261	167
51-200	34	17	13	16	4	27	44	17	181	74	342	376
201-500	5	2	1	5	.....	2	1	2	58	10	99	138
501-1,000	1	.....	.....	.....	.....	1	.....	1	12	6	32	34
1,001-2,000	.....	.....	.....	.....	.....	.....	.....	.....	9	0	9	6
2,001-5,000	.....	.....	.....	.....	.....	.....	.....	.....	1	1	.....	1
5,001 and over	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total	678	684	697	697	699	675	682	680	657	659	753	732
Median	7	5	2	2	1	0	0	0	37	13	78	111

In Table XLI is set forth the number of sets of encyclopedias in the libraries of the high schools. From it we read that of the 799 schools reporting, 8 report no encyclopedias; 93 report 1 set each; 218, 2 sets, etc. The median number of sets per school is 3. The table shows that although there is an actual variation of from 0 to 16 sets per school, the great majority have either 2, 3, or 4 sets.

TABLE XLI

	Sets of encyclopedia.																
	0	1	2	3	4	5	6	7	8	9	10	11	12	15	16	Total.	Median.
Number of schools.	8	93	218	219	114	64	27	16	17	9	10	1	1	1	1	799	3

Table XLII is another table of medians, and is read in this way: The median number of volumes for English in the libraries of the schools of Colorado is 290, for history 170, fiction 200, etc., and the total of the medians is 807.

TABLE XLII

Median number volumes for –	State.							
	Colorado	Illinois.	Indiana.	Iowa	Kansas	Michigan.	Minnesota.	Missouri.
English	290	281	269	193	175	275	255	285
History	170	232	196	150	184	221	234	217
Fiction	200	88	23	50	68	140	180	67
Education	23	8	0	34	48	19	32	44
Botany	15	22	20	12	12	22	24	7
Physics	15	19	18	15	9	19	18	12
Civics	18	19	15	14	0	15	26	10
Latin	13	22	18	8	12	14	9	14
German	9	18	13	7	7	13	7	5
Chemistry	15	13	10	4	3	15	17	6
Physical geography	8	13	7	6	7	15	18	5
Agriculture	5	4	1	8	16	5	32	21
Zoology	10	22	3	7	3	14	17	9
Mathematics	13	14	12	9	0	9	8	6
Physiology	2	1	1	6	0	6	13	0
Cooking	0	5	0	5	4	2	9	0
Manual training	0	3	0	0	5	1	10	0
Sewing	0	0	0	3	4	2	5	0
Commercial course	1	7	0	0	0	8	0	0
Drawing	0	6	0	0	0	5	5	0
French	0	0	0	0	0	0	0	0
Total	807	797	606	531	557	820	919	708

TABLE XLII—Continued.

Median number volumes for—	State.						
	Montana.	Nebraska.	North Dakota.	Ohio.	Oklahoma.	South Dakota.	Wisconsin.
English	417	61	350	192	250	375	221
History	217	98	163	138	125	220	238
Fiction	34	40	83	81	41	213	92
Education	8	33	19	13	23	21	21
Botany	22	11	19	10	9	21	28
Physics	21	10	19	14	12	13	25
Civics	(1)	8	15	12	6	18	23
Latin	21	6	9	11	6	16	15
German	27	4	9	10	5	16	16
Chemistry	18	7	14	6	7	11	9
Physical geography	13	6	13	6	8	15	20
Agriculture	3	17	8	6	6	9	12
Zoology	8	0	7	2	5	16	9
Mathematics	(1)	8	9	6	3	15	9
Physiology	(1)	3	8	5	0	9	13
Cooking	0	1	8	0	1	2	6
Manual training	0	0	8	0	0	3	4
Sewing	2	0	6	0	0	3	0
Commercial course	(1)	0	6	0	0	8	7
Drawing	(1)	0	8	0	0	14	1
French	(1)	0	0	0	0	0	0
Total	811	313	781	512	506	1,018	769

Median number volumes for	Enrollment.						Total.
	1-100.	101-200.	201-300.	301-500.	501-1,000.	1,001 and over.	
English	186	175	247	344	517	850	238
History	140	153	198	247	336	750	189
Fiction	125	80	70	64	113	113	83
Education	14	25	23	17	16	25	21
Botany	12	15	16	21	31	53	18
Physics	9	15	17	18	23	40	16
Civics	9	9	15	17	39	69	14
Latin	8	10	12	16	32	43	13
German	6	7	9	17	38	53	10
Chemistry	8	6	9	12	25	27	9
Physical geography	6	9	9	10	16	43	9
Agriculture	5	12	9	8	0	3	8
Zoology	6	6	6	9	21	37	8
Mathematics	7	6	8	8	15	24	7
Physiology	6	5	5	4	12	16	5
Cooking	0	1	3	3	8	16	2
Manual training	0	1	1	2	5	19	2
Sewing	0	0	1	1	5	4	1
Commercial course	0	0	0	0	4	14	0
Drawing	3	0	0	0	12	25	0
French	0	0	0	0	0	17	0
Total	550	537	658	818	1,288	2,241	653

For the entire association the table shows English leading with 238 volumes, history second, with 189, and commercial subjects, drawing, and French tying for last place with medians of zero. English also leads in every State except Kansas, Nebraska, and Wisconsin, where it is surpassed by history. The examination of the totals brings out the interesting fact that here again the Nebraska schools have a firm grip on last place with but 313 volumes, as opposed to 1,018 for the South Dakota schools, which represent the other extreme.

The size of the school seems to have about the same effect upon library equipment as it was found to have upon material equipment,

[1] The blanks sent to the Montana schools did not call for these subjects.

except in the case of books of fiction, for education, and for agriculture. In these three cases the table shows no definite correlation between the number of volumes and the size of school. The same relation between those schools having enrollments under 100 and those with from 101 to 200 pupils is found here that was found in the tables on material equipment. The group of smaller schools has facilities superior to those of the other group.

Table XLIII gives the median number of United States and State Government reports, and is read thus: In the schools of Colorado the median number of United States Government reports is 83 and of State government reports 7. It is seen that the larger schools do not possess a larger supply of these reports than do the smaller schools. This is doubtless due to the fact that they are free.

TABLE XLIII.

Median number volumes of—	State.							
	Colorado.	Illinois.	Indiana.	Iowa.	Kansas.	Michigan.	Minnesota.	Missouri.
United States Government reports	83	35	33	30	39	41	49	22
State government reports	7	11	10	13	9	25	21	7

Median number volumes of—	State						
	Montana.	Nebraska.	North Dakota.	Ohio.	Oklahoma.	South Dakota.	Wisconsin.
United States Government reports	40	50	40	19	31	50	40
State government reports	0	15	9	9	0	12	20

Median number volumes of—	Enrollment						Total.
	1-100.	101-200.	201-300.	301-500.	501-1,000.	1,001 and over.	
United States Government reports	23	41	40	33	34	42	37
State government reports	8	15	14	10	9	10	13

In Table XLIV is given the median number of sets of encyclopedias per school. It is read in the same way as the previous tables. The interesting fact is the striking uniformity from State to State, the median being 3 sets per school in every State except Nebraska and Oklahoma, where it is 2. The larger schools show a median of 4 sets as opposed to 2 for the smallest schools.

TABLE XLIV.

Median number sets of—	State.							
	Colorado.	Illinois.	Indiana.	Iowa.	Kansas.	Michigan.	Minnesota.	Missouri.
Encyclopedias	3	3	3	3	3	3	3	3

Median number sets of—	State.						
	Montana.	Nebraska.	North Dakota.	Ohio.	Oklahoma.	South Dakota.	Wisconsin.
Encyclopedias	3	2	3	3	2	3	3

Median number sets of—	Enrollment.						
	1-100.	101-200.	201-300.	301-500.	501-1,000.	1,001 and over.	Total.
Encyclopedias	2	3	3	3	4	4	3

Table XLV gives the median number of books per school added in 1913 and the median number of dollars spent for books in the same year. Among the States the smallest number of books added per school as represented by the median is 44, for Nebraska; the largest is 150, for Oklahoma. The largest amount of money spent per school is $175, for Oklahoma, and the smallest, $75, for Ohio. The effect of enrollment is the same as in the previous cases, so it need not be discussed again.

TABLE XLV.

Median number of—	State.							
	Colorado.	Illinois.	Indiana.	Iowa.	Kansas.	Michigan.	Minnesota.	Missouri.
Books added in 1913	82	53	72	55	66	102	94	80
Amount spent for books in 1913	$91	$122	$105	$81	$99	$137	$95	$118

Median number of—	State.						
	Montana.	Nebraska.	North Dakota.	Ohio.	Oklahoma.	South Dakota.	Wisconsin.
Books added in 1913	110	44	88	64	150	106	80
Amount spent for books in 1913	$125	$90	$98	$75	$175	$138	$108

Median number of—	Enrollment.						
	1-100.	101-200.	201-300.	301-500.	501-1,000.	1,001 and over.	Total.
Books added in 1913	58	63	70	103	97	270	78
Amount spent for books in 1913	$87	$82	$97	$112	$145	$263	$111

THE CITY LIBRARY.

It often happens that, besides the high-school library, the high school has access to a city library. The extent to which the cities in which the schools of the North Central Association are located have public libraries is brought out in Table XLVI. This table is understood when read thus: In Colorado the cities in which 5 of the 32 schools reporting are located have no public libraries; the cities in which 4 of the schools are located have libraries of 2,500 volumes or less, etc.

The States in which the cities are least well equipped with libraries are Kansas, North Dakota, and Missouri, while the cities of Montana, Illinois, and Indiana seem to be very well provided. An examination of the part of the table based upon population shows that the number of cities not having libraries steadily decreases as the size of city increases and that the size of library increases along with the size of the city. This is one of the advantages which a school enjoys in being situated in a large city, although this advantage may be diminished by the fact that in a large city the library may not be so easily accessible as in a small one.

TABLE XLVI.

Number of volumes in city library.	State							
	Colorado.	Illinois.	Indiana.	Iowa.	Kansas.	Michigan.	Minnesota.	Missouri.
0	5	11	3	1	15	18	7	21
1-2,500	4	15	5	8	14	11	7	6
2,501-5,000	10	16	11	16	10	10	19	2
5,001-10,000	8	31	17	12	9	16	11	4
10,001-25,000	3	20	9	8	2	14	5	1
25,001-50,000	2	12	5	3	3	9	1	0
50,001-100,000	...	2	0	...	...	0	1	1
100,001 and over	...	29	2	...	...	7	10	13
Total	32	132	52	48	54	85	61	48

Number of volumes in city library.	State—Continued.							
	Montana.	Nebraska.	North Dakota.	Ohio.	Oklahoma.	South Dakota.	Wisconsin.	Total.
0	1	9	9	25	3	2	3	133
1-2,500	0	12	7	6	2	2	7	108
2,501-5,000	3	14	5	21	2	5	24	168
5,001-10,000	2	6	2	25	6	4	16	169
10,001-25,000	5	2	...	19	1	3	19	114
25,001-50,000	1	3	...	7	...	...	2	46
50,001-100,000	...	2	...	9	...	...	0	15
100,001 and over	...	...	...	21	...	...	5	87
Total	12	48	23	133	14	16	76	834

TABLE XLVI—Continued.

Number of volumes in city library.	Population.							
	Under 2,500	2,501–5,000	5,001–7,500	7,501–10,000	10,001–15,000	15,001–50,000	50,001 and over.	Total.
0	67	36	19	8	4	1	.....	133
1–2,500	58	29	8	4	2	1	.....	102
2,501–5,000	39	88	20	11	8	0	2	168
5,001–10,000	19	45	40	33	13	15	1	169
10,001–25,000	.....	9	20	16	31	34	4	114
25,001–50,000	.....	1	2	1	5	31	6	46
50,001–100,000	.....	0	.....	.....	.....	2	13	15
100,001 and over	.....	2	.....	.....	.....	1	84	87
Total	183	213	109	71	63	85	110	834

COURSE OF STUDY.

THE METHOD OF ELECTION.

Does the student elect by subject, or by course, or by a combination of the two? This is a question that must be answered in some way by every school that permits any election whatsoever. Table XLVII, is based upon the reports from 909 schools. It is composed of two parts, the one giving the actual number of cases, the other the percentages, and is read as follows: Of the 34 schools reporting from Colorado, 19, or 56 per cent, permit their students to elect by subject; 4, or 12 per cent, permit their students to elect by course; and 11, or 32 per cent, combine the two methods of election.

It is interesting to note that for the whole association election by subject occurs about as frequently as election by course, while the combination method is very nearly as frequent as either of the other two. From State to State, however, some differences are plainly visible. Election by subject predominates to a considerable degree in Colorado, Michigan, and Indiana; election by courses in Ohio, Iowa, and North Dakota; while in Montana, and to a less extent in Kansas, the combination method is most frequently found. The size of city seems not to be definitely related to the method of election, although there does seem to be some tendency in the largest cities to adopt the method of election by course. This same statement holds for the size of school, as an examination of the table will show.

TABLE XLVII.

Method of election.	State.							
	Colorado.	Illinois.	Indiana.	Iowa.	Kansas.	Michigan.	Minnesota.	Missouri.
By subject	19	43	28	17	18	50	25	21
By course	4	49	13	30	24	20	20	15
Both	11	30	18	16	30	25	21	16
Total	34	122	59	63	72	95	66	46
Per cent by subject	56	35	48	27	25	53	38	46
Per cent by course	12	40	22	48	33	21	30	33
Per cent by both	32	25	30	25	42	26	32	22

Method of election.	State.							
	Montana.	Nebraska.	North Dakota.	Ohio.	Oklahoma.	South Dakota.	Wisconsin.	Total.
By subject	1	15	9	28	6	5	30	315
By course	5	21	12	67	4	8	28	220
Both	10	13	6	44	4	6	30	274
Total	16	49	27	139	14	19	88	909
Per cent by subject	6	31	33	20	42	26	34	35
Per cent by course	31	43	45	48	29	42	32	25
Per cent by both	63	26	22	32	29	32	34	30

Method of election.	Population.							
	Under 2,500	2,501–5,000	5,001–7,500	7,501–10,000	10,001–15,000	15,001–50,000	50,001 and over.	Total.
By subject	67	82	42	31	23	40	30	315
By course	62	75	45	26	24	30	58	220
Both	59	69	32	31	28	30	25	274
Total	188	226	119	88	75	100	113	909
Per cent by subject	36	36	35	35	31	40	27	35
Per cent by course	33	33	38	30	32	30	51	25
Per cent by both	31	31	27	35	37	30	22	30

Method of election.	Enrollment.						
	1-100	101-200	201-300	301-500	501-1,000	1,001 and over.	Total.
By subject	37	131	53	55	27	12	315
By course	39	122	54	47	28	26	220
Both	21	100	64	53	23	10	271
Total	97	353	171	155	78	48	902
Per cent by subject	38	37	31	36	35	25	35
Per cent by course	40	35	32	30	36	54	25
Per cent by both	22	28	37	34	29	21	30

NUMBER OF UNITS OF WORK GIVEN IN THE VARIOUS SUBJECTS.

Certain difficulties arose in the preparation of the tables on this matter. The report blank called for the "number of units or half units of work actually being given this year in each subject." This

is somewhat ambiguous, with the result that some reported the number of "units," others, the number of "half units," given in each subject. These differences, however, were in most cases easily detected by a comparison of the various items in the report, and the final table is made of corrected items. A real mistake, which was undoubtedly made in a few cases, although only in a few, and which was more difficult to detect, was a wrong interpretation of the number of units of work actually being given. It seems that in some cases the number of divisions in a subject was given instead of the number of different units of work offered in the school.

Concerning the number of units of work being given in the various subjects, there were reports from 869 schools. Upon these 869 reports all the following tables referring to the course of study are based. The first of these tables—Table XLVIII—is a somewhat general table in which is shown the number of units of work given in each subject in each of the 869 schools reporting. The table is read thus: One school reports 0 units of English, 0 schools report ½ unit, 5 schools report 1, etc.; 15 schools report 0 units of Latin, 2 schools ½ unit, 9 schools 1 unit, etc.

TABLE XLVIII.

Number of units.	English.	Latin.	History.	Commercial Course.	German.	Algebra.	Geometry.	Manual training.	Physics.	Domestic science.	Chemistry.	Cooking.
0	1	15	9	230	18	3	4	294	37	376	216	342
½	0	2	3	52	0	3	1	53	8	60	20	103
1	5	9	13	71	20	76	138	136	777	183	592	252
1½	1	4	32	24	3	632	678	18	21	19	13	29
2	3	63	104	72	435	118	34	206	21	168	20	115
2½	2	5	171	17	7	15	4	9	1	3	3	0
3	105	198	318	40	229	14	6	59	2	29	2	12
3½	55	5	72	15	9	1	0	3	0	0	1	0
4	617	552	119	132	131	2	1	79	1	26	1	15
4½	23	2	8	22	1	0	0	1	0	0	0	0
5	29	6	9	56	3	1	0	4	0	2	0	0
5½	2	0	2	16	0	1	0	0	0	0	0	0
6	3	2	5	43	9	0	2	2	0	1	0	0
6½	1	1	0	12	2	0	0	0	0	0	0	0
7	4	1	0	13	1	1	0	0	0	0	1	0
7½	3	1	0	7	0	1	0	0	0	0	.....	0
8	8	2	3	20	1	0	1	2	1	0	.....	0
8½	2	0	0	5	.....	0	.....	0	.....	0	.....	0
9	0	0	0	5	.....	0	.....	0	.....	2	.....	1
9½	0	0	0	0	.....	0	.....	0	.....	.....	.....	.....
10	0	1	0	3	.....	0	.....	0	.....	.....	.....	.....
11	1	.....	0	0	.....	0	.....	1	.....	.....	.....	.....
11½	0	.....	0	2	.....	0	.....	1	.....	.....	.....	.....
12	1	.....	0	1	.....	0	.....	0	.....	.....	.....	.....
12½	0	.....	0	0	.....	0	.....	0	.....	.....	.....	.....
13	0	.....	1	1	.....	1	.....	0	.....	.....	.....	.....
14	0	.....	.....	3	.....	.....	.....	0	.....	.....	.....	.....
16	0	.....	.....	7	.....	.....	.....	0	.....	.....	.....	.....
18½	1	.....	.....	.....	.....	.....	.....	0	.....	.....	.....	.....
24	1	.....	.....	.....	.....	.....	.....	0	.....	.....	.....	.....
26	1	.....	.....	.....	.....	.....	.....	0	.....	.....	.....	.....
30	.....	.....	.....	.....	.....	.....	.....	0	.....	.....	.....	.....
35	.....	.....	.....	.....	.....	.....	.....	0	.....	.....	.....	.....
62	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Total	869	869	869	869	869	869	869	869	869	869	869	869
Median	4	4	3	1½	2	1½	1½	1	1	½	1	½
Quartile deviation	0	½	½	2	½	0	0	1	0	½	½	½
Mode	4	4	3	0	2	1½	1½	0	1	0	1	0

TABLE XLVIII—Continued.

	Drawing.	Sewing.	Normal subjects.	Agriculture.	Botany.	French.	Physical geography.	Music.	Civics.	Physiology.	Zoology.	Education.	Other subjects.
0	435	379	606	411	160	680	192	490	145	335	520	664	571
¼	120	90	32	168	364	2	467	152	606	493	229	81	122
½	173	228	62	193	334	35	203	153	52	44	112	89	97
¾	21	24	15	10	3	1	2	11	3	2	4	4	13
1	53	104	52	41	7	70	3	34	2	1	2	11	29
1¼	5	0	16	3	0	5	0	2	0	0	0	1	8
1½	17	17	12	25	1	49	0	3	0	0	2	15	11
1¾	1	0	4	4	.....	0	0	0	0	0	.....	1	3
2	30	16	48	13	.....	24	1	17	0	2	.....	3	5
2¼	0	0	4	1	.....	0	0	1	0	0	.....	.....	1
2½	4	0	5	.....	.....	1	0	3	1	0	.....	.....	3
2¾	0	0	3	.....	.....	0	0	.....	.....	0	.....	.....	0
3	3	1	3	.....	.....	2	0	.....	.....	0	.....	.....	0
3¼	0	0	0	.....	.....	.....	0	.....	.....	1	.....	.....	1
3½	0	0	0	.....	.....	.....	0	.....	.....	0	.....	.....	0
3¾	0	0	1	.....	.....	.....	1	.....	.....	1	.....	.....	1
4	2	0	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	0
4½	0	0	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
5	0	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	0
5½	1	0	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	0
6	0	0	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	0
6½	0	0	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	0
7	0	0	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	0
7½	2	0	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	0
8	0	0	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	0
8½	0	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
9	1	.....	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	0
9½	0	.....	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	0
10	2	.....	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	0
11	0	.....	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	0
11½	0	.....	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	0
12	0	.....	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
12½	0	.....	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
13	0	.....	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
14	0	.....	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
16	0	.....	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
18½	0	.....	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
24	0	.....	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
26	0	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
30	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
35	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
62	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total	869	869	869	869	869	869	869	869	869	869	869	869	869
Median	0	½	0	½	½	0	½	0	½	½	0	0	0
Quartile deviation	½	½	½	½	½	0	½	½	½	½	½	0	½
Mode	0	0	0	0	½	0	½	0	½	½	0	0	0

What was said in a previous paragraph in a general way regarding a wrong interpretation by some of those reporting is made specific in this table. Take English for instance. One school reports 26 units of English, another 24, and another 18½. It is hardly possible that so many units are actually being given in any school. These reports must have reference to the number of divisions in English instead of the number of units of English given. Similar extremes for manual training, commercial course, and drawing may be correct, while those for history, algebra, and normal subjects are probably errors.

An examination of the median, mode, and quartile deviation disclose some interesting facts. It should be remembered that the median here represents the number of units given in the middle school when the 869 schools are arranged in order, according to the number of units of a particular subject given, with the school giving the least number of units at one extreme and the school giving the greatest number of units at the other; the mode is the number of

units found in the greatest number of schools; and the quartile deviation is the range of the middle 50 per cent divided by two. Where the quartile deviation is zero, at least 50 per cent of the schools give the same number of units as is represented by the median. In other words, a quartile deviation of zero is indicative of uniformity among the schools. A further indication of uniformity is found when the median and mode are identical.

It will be noticed that the median number of units given is highest in English and Latin, in both of which it is 4; history comes next with a median of 3, and German is third with 2. In algebra, geometry, and the commercial subjects the median is 1½; in physics, manual training, and chemistry it is 1; in cooking, agriculture, physical geography, physiology, civics, botany, domestic science, and sewing it is but ½; and in the remaining subjects, French, zoology, education, music, drawing, and normal subjects it is 0. When the median is zero, that means that at least 50 per cent of the schools do not give a single unit or half unit of the subject.

As previously mentioned, a quartile deviation of zero indicates uniformity, or a tendency toward standardization. An examination of the table shows that the quartile deviation is zero for English, physics, physical geography, French, civics, education, algebra, and geometry. It is also seen that the median is zero for French and education. This means that at least 75 per cent of the schools offer no French and no education. The quartile deviation of zero for the other six subjects, English, physics, physical geography, civics, algebra, and geometry, shows that the number of units offered is thoroughly standardized for each subject. Over 50 per cent of the schools offer 4 units of English; 1 unit of physics, ½ unit of physical geography, ½ unit of civics, 1½ units of algebra, and 1½ units of geometry. The largest quartile deviation is found in the number of units of commercial subjects offered where it is 2. Manual training and domestic science come next with a quartile deviation of 1. The large deviation shows that there is a wide variation among the schools as to the number of units given.

Table XLIX gives the total number of units of work for each subject given in each of the several groups of schools when the schools are grouped according to State, population, and enrollment. It is consequently composed of three parts, and is made clear, if read in this way: In the 122 schools reporting from Illinois, there is given a total of 568½ units of English, 457 units of Latin, 387½ units of history, etc.; the total number of units for all subjects combined is 4,263.

TABLE XLIX.

Number of units of—	State.						
	Illinois.	Indiana.	Iowa.	Kansas.	Michigan.	Minnesota.	Missouri.
English	568½	250	236½	261½	390½	247	201
Latin	457	217½	227	251½	315½	216	185
History	387½	189½	160½	222½	308½	161	167
Commercial course	408½	154	132	215½	339½	152	93½
German	339	202½	133½	174	243½	135	134
Algebra	213½	97	99½	116	162	90½	90
Geometry	194½	93½	86½	110	138	88	76½
Manual training	247	88½	97½	102	116	159½	56½
Physics	132	59½	61½	77	96½	59	46½
Domestic science	115	67½	74½	72	64	84½	45
Chemistry	119½	53	26	34½	97	59	39
Cooking	102	62½	69	65½	56½	76½	35½
Drawing	188	69	22½	43	73½	49½	56½
Sewing	106	62	47½	65	60	74	48½
Normal subjects	25½	3½	131½	174	23½	133	19
Agriculture	35½	23	40½	68½	57	97½	27½
Botany	78	49	34	63½	63½	38	19
French	104	27	7	11½	73½	23	60
Physical geography	67½	23½	29½	31½	70½	28½	22
Music	85½	50	20½	44½	40	21½	31
Civics	62	28	29	40½	31	30½	16
Physiology	71	13	27½	41	19	22½	12½
Zoology	74	13	19½	14	32½	22	13
Education	16½	2	35½	29½	2½	2½	52½
Other subjects	65½	31	14½	26	27	42½	34½
Total	4,263	1,938	1,863	2,354½	2,901	2,113	1,581½
Number of schools reporting	122	61	60	74	93	62	50

Number of units of—	State—Continued.						
	Nebraska.	North Dakota.	Ohio.	Oklahoma.	South Dakota.	Wisconsin.	Total.
English	168	104	568	69½	74	361½	3,500
Latin	156½	75	552½	66	59	293½	3,072
History	123½	62½	378	50	47	272½	2,539
Commercial course	95½	84½	387	50	28	296	2,446
German	117½	55	411	36	45	230	2,256
Algebra	75½	35½	239	27½	26	118½	1,390½
Geometry	72	36	220½	24	27	109	1,275½
Manual training	37½	43	120	25	24	148	1,264½
Physics	48	24	147	16	16	92	876
Domestic science	28	23½	67	21	17½	130½	810
Chemistry	38½	18½	128½	11½	13	51½	689½
Cooking	25½	27	54½	20½	9	78	682
Drawing	11	17	111	10½	5½	27	684
Sewing	14	28½	50	17½	9½	69	651½
Normal subjects	62	11	16½	2½	4½	36	642½
Agriculture	38	17	55½	7½	7½	52	527
Botany	26½	18	65½	8	11	63½	537½
French	6	3	105½	1	4	24½	450
Physical geography	22	12	73½	11	10	55½	457
Music	20½	11½	50	10½	6	19	419½
Civics	22	14	71½	7½	7½	39	398½
Physiology	12½	9½	37½	3	7	36½	312½
Zoology	5½	8	21½	4½	4½	10½	242½
Education	26	15	5½	2	1½	29½	220½
Other subjects	13½	9	70½	5½	5	32	376½
Total	1,265½	762	4,007	517	479	2,675	26,719½
Number of schools reporting	49	28	147	16	18	87	869

TABLE XLIX—Continued.

Number of units of—	Population.							
	Under 2,500.	2,501-5,000.	5,001-7,500.	7,501-10,000.	10,001-15,000.	15,001-50,000.	50,001 and over.	Total.
English	685	883½	462	324½	277	409	459	3,500
Latin	568	787½	427½	296½	259½	357	376	3,072
History	471½	621½	344	252½	210	309	330½	2,539
Commercial course	328	507½	340	260	238½	472	300	2,446
German	383½	523½	289½	225	185½	270	379	2,256
Algebra	270	349	184	129	105	157	196½	1,390½
Geometry	251½	328½	171½	120	101½	144	100½	1,275½
Manual training	166	242½	129½	109½	115½	210	291½	1,294½
Physics	174½	221	114	77½	68	98½	121½	875
Domestic science	129½	193½	96	75½	82	122	111½	810
Chemistry	108	148	98½	70	62½	94½	113	689½
Cooking	123½	144	72	69½	70	93½	109½	682
Drawing	57	94	52	60	57½	78½	285	684
Sewing	105½	134	71½	60	68	84	128½	651½
Normal subjects	212½	183	75	46½	54½	35	36	642½
Agriculture	174½	159	74	36	40½	32	11	527
Botany	106	128½	68	53	43½	68½	72	537½
French	27½	36	20	27	34	74	231½	450
Physical Geography	80	117	61½	36½	42½	54½	65	457
Music	69½	82	44	48½	31½	47	97	419½
Civics	86½	95½	53	34½	30	45½	53½	398½
Physiology	61	69½	32	27	25	37	61	312½
Zoology	30½	51½	30	24	22½	41½	42½	242½
Education	64½	72½	29	16	13	13½	12	220½
Other subjects	71	57½	41½	29½	33	53	91	376½
Total	4,805	6,223	3,378	2,508	2,270½	3,400½	4,134½	26,719½
Number of schools reporting	184	223	118	83	68	91	102	869

Number of units of—	Enrollment.						
	1-100	101-200	201-300	301-500	501-1,000	1,001 and over.	Total.
English	347	1,330½	697	595½	306½	211½	3,488
Latin	293	1,158½	634	544	265½	166	3,061
History	238	940½	520½	447	234½	149½	2,530
Commercial course	129	675	551½	508	336	193½	2,443
German	215	783½	438	413½	243½	157½	2,251
Algebra	146½	524	271½	235½	121½	88	1,386
Geometry	129½	489	250½	218½	109½	75½	1,272½
Manual training	59½	320½	242	270	176	193½	1,261½
Physics	74	336	175	149	81½	56½	872
Domestic science	48½	258½	165	163½	103	65½	804
Chemistry	62	208½	140½	134½	81	54	686½
Cooking	45	207	136	138	87	66	679
Drawing	44	129	95	121	127	166	682
Sewing	49½	179½	120½	131	97	69	646½
Normal subjects	24½	284½	182½	123	25	21	640½
Agriculture	39½	237½	130½	94	15	7½	524
Botany	44	199½	107	100½	54½	37½	537
French	73	73½	32	75	88½	108	450
Physical geography	32	168	90½	81	48	37½	457
Music	32½	128	63	81½	66	45	416
Civics	36	152½	81½	65	39	23	397
Physiology	24½	105	54	56	35	35½	310
Zoology	14½	73	41½	51	33	27	240
Education	16½	108½	44	34½	9½	6½	219½
Other subjects	32½	124½	49	65	47	57½	375½
Total	2,249	9,174½	5,312½	4,955½	2,830	2,108	26,629½
Number of schools reporting	93	345	173	145	69	41	866

Table L, derived from Table XLIX, is a table of percentages and is consequently superior for purposes of comparison. We shall therefore pass to it. It is read as follows: 13.3 per cent of the units of

work given in the 122 schools reporting from Illinois are English, 10.7 per cent Latin, 9.1 per cent history, and so on.

TABLE L.

Per cent of units of—	State.						
	Illinois.	Indiana.	Iowa.	Kansas.	Michigan.	Minnesota.	Missouri.
English	13.2	12.8	12.6	11.1	13.4	11.6	12.6
Latin	10.7	11.1	12.1	10.6	10.9	10.1	11.6
History	9.1	9.8	8.6	9.4	10.6	7.6	10.5
Commercial course	9.6	8.0	7.1	9.1	11.7	7.2	5.8
German	8.0	10.4	7.2	7.4	8.4	6.4	8.4
Algebra	5.0	5.0	5.3	4.9	5.6	4.3	5.7
Geometry	4.6	4.8	4.7	4.7	4.8	4.2	4.9
Manual training	5.8	4.6	5.2	4.3	4.0	7.6	3.6
Physics	3.1	3.1	3.3	3.3	3.3	2.8	3.0
Domestic science	2.7	3.5	4.0	3.1	2.2	4.0	2.9
Chemistry	2.8	2.7	1.4	1.5	3.4	2.8	2.5
Cooking	2.4	3.2	3.6	2.8	1.9	3.6	2.3
Drawing	4.4	3.6	1.2	1.8	2.5	2.4	3.6
Sewing	2.5	3.2	2.6	2.8	2.1	3.5	3.1
Normal subjects	.6	.2	7.0	7.4	.8	6.3	1.2
Agriculture	.8	1.2	2.2	2.9	2.0	4.6	1.7
Botany	1.8	2.5	1.9	2.7	2.2	1.8	1.3
French	2.4	1.4	.4	.5	2.5	1.1	3.8
Physical geography	1.6	1.2	1.6	1.4	2.4	1.4	1.4
Music	2.0	3.1	1.1	1.9	1.4	1.0	2.0
Civics	1.5	1.5	1.6	1.7	1.1	1.5	1.0
Physiology	1.7	.7	1.5	1.7	.7	1.1	.8
Zoology	1.7	.7	1.1	.6	1.1	1.0	.8
Education	.4	.1	1.9	1.3	.1	.1	3.3
Other subjects	1.5	1.6	.8	1.1	.9	2.0	2.2

Per cent of units of—	State.					
	Nebraska.	North Dakota.	Ohio.	Oklahoma.	South Dakota.	Wisconsin.
English	13.2	13.7	14.3	13.4	15.5	13.4
Latin	12.3	10.0	13.9	12.7	12.3	11.0
History	9.7	8.2	9.4	11.3	9.7	10.1
Commercial course	7.5	11.0	9.7	9.6	7.9	11.1
German	9.2	7.2	10.3	7.0	9.4	8.5
Algebra	6.0	4.7	6.0	5.3	5.4	4.5
Geometry	5.7	4.7	5.5	4.7	5.6	4.1
Manual training	3.0	5.6	3.0	4.8	5.0	5.5
Physics	3.8	3.2	3.7	3.1	3.3	3.4
Domestic science	2.2	3.1	1.7	4.1	3.7	4.9
Chemistry	3.1	2.4	3.2	2.2	2.7	1.9
Cooking	2.0	3.5	1.3	4.0	1.9	2.9
Drawing	.9	2.2	2.8	2.0	1.2	1.0
Sewing	1.1	3.7	1.2	3.4	2.0	2.6
Normal subjects	4.9	1.4	.4	.5	.9	1.4
Agriculture	3.0	2.2	1.4	1.5	1.6	2.0
Botany	2.1	2.4	1.6	1.6	2.3	2.4
French	.5	.4	2.6	.2	.8	.9
Physical geography	1.8	1.6	1.8	2.1	2.1	2.1
Music	1.6	1.5	1.2	2.0	1.3	.7
Civics	1.8	1.8	1.8	1.5	1.6	1.5
Physiology	1.0	1.2	.9	.6	1.5	1.4
Zoology	.4	1.1	.5	.9	.9	.4
Education	2.1	2.0	.1	.4	.3	1.1
Other subjects	1.1	1.2	1.7	1.1	1.1	1.2

TABLE L—Continued.

Per cent of units of—	Population.						
	Under 2,500	2,501-5,000	5,001-7,500	7,501-10,000	10,001-15,000	15,001-50,000	50,001 and over.
English	14.3	14.2	13.6	12.8	12.1	12.0	11.1
Latin	11.8	12.7	12.6	11.7	11.4	10.5	9.1
History	9.8	10.0	10.1	10.0	9.2	9.1	8.0
Commercial course	6.8	8.1	10.0	10.3	10.4	13.8	7.2
German	8.0	8.4	8.5	8.9	8.2	8.0	9.2
Algebra	5.6	5.6	5.5	5.1	4.7	4.6	4.7
Geometry	5.2	5.2	5.1	4.8	4.5	4.2	3.9
Manual training	3.5	3.9	3.8	4.4	5.1	6.2	7.0
Physics	3.6	3.6	3.4	3.1	3.0	2.9	3.0
Domestic science	2.7	3.1	2.8	3.0	3.6	3.6	2.7
Chemistry	2.3	2.4	2.9	2.8	2.8	2.8	2.7
Cooking	2.6	2.3	2.1	2.8	3.1	2.8	2.6
Drawing	1.2	1.5	1.5	2.4	2.8	2.3	6.9
Sewing	2.2	2.2	2.1	2.4	3.0	2.8	3.1
Normal subjects	4.4	2.9	2.2	1.9	2.4	1.0	.9
Agriculture	3.6	2.6	2.2	1.5	1.8	.9	.3
Botany	2.2	2.0	2.0	2.1	1.9	2.0	1.7
French	.6	.6	.8	1.1	1.8	2.2	5.6
Physical geography	1.7	1.9	1.8	1.5	1.9	1.6	1.6
Music	1.4	1.3	1.3	2.0	1.4	1.4	2.4
Civics	1.8	1.5	1.6	1.4	1.3	1.3	1.3
Physiology	1.3	1.1	1.0	1.1	1.1	1.1	1.5
Zoology	.6	.8	.9	1.0	1.0	1.2	1.0
Education	1.3	1.2	.9	.7	.6	.4	.3
Other subjects	1.5	.9	1.3	1.2	1.5	1.6	2.2

Per cent of units of—	Enrollment.						
	1-100	101-200	201-300	301-500	501-1,000	1,001 and over.	Total.
English	15.3	14.5	13.1	12.0	10.7	10.0	13.1
Latin	13.0	12.6	11.9	11.0	9.4	7.9	11.5
History	10.6	10.3	9.8	9.0	8.2	7.1	9.5
Commercial course	5.6	7.4	10.4	11.4	11.9	8.7	9.2
German	9.6	8.5	8.3	8.3	8.6	7.4	8.5
Algebra	6.4	5.7	5.1	4.8	4.3	4.2	5.2
Geometry	5.8	5.3	4.7	4.4	3.9	3.6	4.8
Manual training	2.7	3.5	4.6	5.5	6.2	9.1	4.7
Physics	3.3	3.7	3.3	3.0	2.9	2.7	3.3
Domestic science	2.2	2.8	3.1	3.3	3.7	3.1	3.0
Chemistry	2.7	2.3	2.8	2.7	2.8	2.6	2.6
Cooking	2.0	2.3	2.6	2.8	3.1	3.2	2.5
Drawing	2.0	1.4	1.8	2.5	4.5	7.8	2.5
Sewing	2.2	1.9	2.3	2.7	3.4	3.3	2.4
Normal subjects	1.1	2.9	3.4	2.5	.9	1.0	2.4
Agriculture	1.8	2.6	2.4	1.9	.5	.4	2.0
Botany	2.0	2.2	1.9	2.0	1.9	1.8	2.0
French	3.2	.8	.6	1.5	3.1	5.1	1.7
Physical geography	1.4	1.8	1.7	1.6	1.7	1.8	1.7
Music	1.5	1.4	1.2	1.7	2.3	2.1	1.6
Civics	1.6	1.7	1.5	1.3	1.4	1.4	1.5
Physiology	1.1	1.1	1.0	1.1	1.3	1.7	1.2
Zoology	.7	.8	.8	1.0	1.2	1.3	.9
Education	.7	1.2	.8	.7	.4	.3	.8
Other subjects	1.5	1.3	.9	1.3	1.7	2.7	1.4

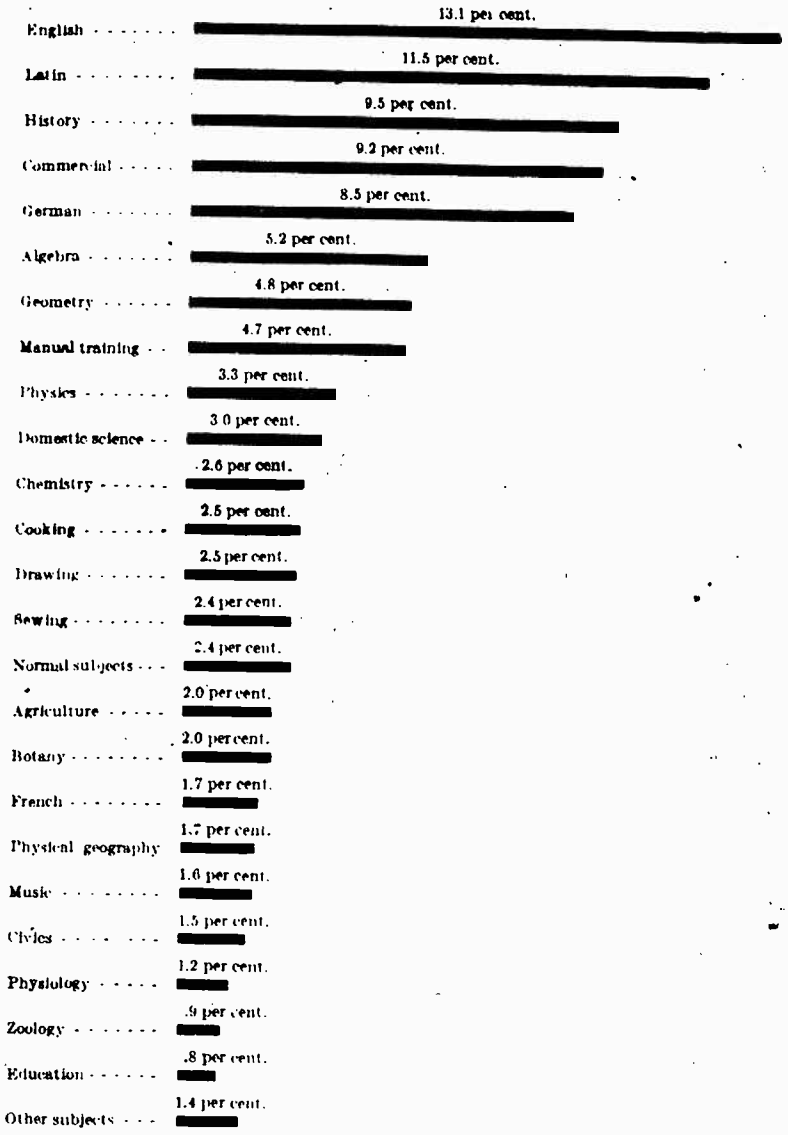

FIG. 16—Per cent of units given in each subject in 1913–14.

Since the number of comparisons to be made is almost unlimited, it must suffice to point out only the most significant. For the whole association, it is seen that English leads all other subjects with 13.1 per cent; that is, 13.1 per cent of all the units of work given in the schools of the association are English. Latin is second with 11.5 per cent, history third with 9.5 per cent, etc. This comparison is shown

graphically in figure 16 much more clearly than is possible by the use of words.

A few of the significant variations from the order for the whole association as shown by figure 16 should be noted. English leads all the other subjects in every State without exception, in cities of all sizes except in those having populations ranging from 15,001 to 50,000, where it is surpassed by commercial subjects, and in schools of all sizes except in those having from 501 to 1,000 students, in which commercial subjects also rank first. It is interesting to note that, while Latin is holding its own in many schools, there is slightly more German given in the cities of the largest size than Latin. In every other case, however, Latin still leads German. Another interesting variation is found in manual training. While for the entire association this subject ranks eighth, in schools of the largest size it ranks second.

As just remarked, English is uniformly high in practically every group of schools. There is, however, considerable variation in the percentage from State to State, and the percentage steadily decreases as the size of city and size of school increases. About the same statement holds for Latin, history, algebra, geometry, and physics. The percentage for commercial subjects varies greatly from State to State, from as low as 5.8 per cent in Missouri to 11.7 per cent in Michigan, and it increases with the size of city up to the group of cities of the largest size, where it drops from 13.8 per cent to 7.2 per cent. This is probably due to the presence in the large cities of numerous business colleges and private schools which take over this feature of the work of the high school. The percentage of manual training, drawing, domestic science, sewing, zoology, and French show considerable variation from State to State, and increase with the size of city and size of school. There is, however, an interesting exception in the case of French which seems to be given quite frequently in schools of the smallest size. The amount of agriculture given ranges among the States from 0.8 per cent in Illinois to 4.6 per cent in Minnesota, decreases with the increase of the size of the group of cities from 3.6 per cent to 0.3 per cent, and is greater in the schools of medium size than in either the very smallest or the larger schools. This shows a tendency on the part of the school to meet the needs of the community. The case of normal subjects is very similar to that of agriculture, and is explained in the same way. The teachers of the rural schools come largely from the high schools of the smaller cities, and not from the larger cities. The percentage of educational subjects varies a great deal from State to State, and decreases more or less regularly with the increase of the size of the city and the size of the school. The remaining subjects—German, cooking, physical

geography, physiology, civics, chemistry, botany, and music—while varying to some degree in the various groups of schools are on the whole fairly uniform. German is to a slight degree an exception to this statement, for its percentage decreases with the increase in the size of school.

In Table LI, English, Latin, and modern foreign languages are compared. The percentages are taken from the previous table. The table is read thus: 13.3 per cent of the units of work given in the schools reporting from Illinois are English, 10.7 per cent Latin, and 10.4 per cent modern languages, and the total language group represents 34.4 per cent. English still ranks first in every State, but Latin does not rank second in every State. In Missouri and Illinois there are more units of modern languages given than there are of Latin, while in Michigan the percentages are equal. In the largest cities the modern languages easily lead both English and Latin, as is also true in the group composed of schools of the next size smaller. The interesting point brought out by the table is the increase of the percentage of units of modern languages with the increase in population and enrollment.

TABLE LI

Per cent of units of—	State.						
	Illinois.	Indiana.	Iowa.	Kansas.	Michigan.	Minnesota.	Missouri.
English	13.3	12.8	12.6	11.1	13.4	11.6	12.6
Latin	10.7	11.1	12.1	10.6	10.9	10.1	11.6
Modern languages	10.4	11.8	7.6	7.9	10.9	7.5	12.2
Total languages	34.4	35.7	32.3	29.6	35.2	29.2	36.4

Per cent of units of—	State.					
	Nebraska.	North Dakota.	Ohio.	Oklahoma.	South Dakota.	Wisconsin.
English	13.2	13.7	14.3	13.4	15.5	13.4
Latin	12.3	10.0	13.9	12.7	12.3	11.0
Modern languages	9.7	7.6	12.9	7.2	10.2	9.4
Total languages	35.2	31.3	41.1	34.3	38.0	33.8

Per cent of units of	Population.						
	Under 2,500.	2,501–5,000.	5,001–7,500.	7,501–10,000.	10,001–15,000.	15,001–50,000.	50,001 and over.
English	14.3	14.2	13.6	12.8	12.1	12.0	11.1
Latin	11.8	12.7	12.6	11.7	11.4	10.5	9.1
Modern languages	8.6	9.0	9.3	10.0	9.7	10.2	14.8
Total languages	34.7	35.9	35.5	34.5	33.2	32.7	35.0

TABLE LI—Continued.

Per cent of units of—	Enrollment.						Total.
	1-100	101-200	201-300	301-500	501-1,000	1,001 and over	
English	15.3	14.5	13.1	12.0	10.7	10.0	13.1
Latin	13.0	12.6	11.9	11.0	9.4	7.9	11.5
Modern languages	12.8	9.3	8.9	9.8	11.7	12.5	10.2
Total languages	41.1	36.4	33.9	32.8	31.8	30.4	34.8

Table LII gives a comparison of total science and total mathematics, the percentages being taken from Table L. It should be read as follows: 12.7 per cent of the total number of units of work given in the schools reporting from Illinois are science, 9.6 per cent are mathematics, and science and mathematics combined give 22.3 per cent. The table shows that the amount of science given is comparatively uniform from State to State and changes but little with the increase of either population or enrollment. Mathematics, on the other hand, decreases with the increase of either population or enrollment, and seems to be most affected by the latter.

TABLE LII

Per cent of units of	State.						
	Illinois.	Indiana.	Iowa.	Kansas.	Michigan.	Minnesota.	Missouri.
Science	12.7	10.9	10.8	11.2	13.1	10.9	9.8
Mathematics	9.6	9.8	10.0	9.6	10.4	8.5	10.6
Total science and mathematics	22.3	20.7	20.8	20.8	23.5	19.4	20.4

Per cent of units of—	State.					
	Nebraska.	North Dakota.	Ohio.	Oklahoma.	South Dakota.	Wisconsin.
Science	12.2	11.9	11.7	10.5	12.8	11.6
Mathematics	11.7	9.4	11.5	10.0	11.0	8.6
Total science and mathematics	23.9	21.3	23.2	20.5	23.8	20.2

Per cent of units of—	Population.						
	Under 2,500.	2,501-5,000	5,001-7,500	7,501-10,000	10,001-15,000	15,001-50,000	50,001 and over.
Science	11.7	11.8	12.0	11.5	11.7	11.6	11.5
Mathematics	10.8	10.8	10.6	9.9	9.2	8.8	8.6
Total science and mathematics	22.5	22.6	22.6	21.5	20.9	20.4	20.1

TABLE LII—Continued.

Per cent of units of—	Enrollment						Total.
	1-100	101-200	201-300	301-500	501-1,000	1,001 and over.	
Science	11.2	11.9	11.5	11.4	11.8	11.9	11.7
Mathematics	12.2	11.0	9.8	9.2	8.2	7.8	10.0
Total science and mathematics	23.4	22.9	21.3	20.6	20.0	19.7	21.7

In Table LIII the technical subjects for boys—manual training, drawing, and agriculture; the technical subjects for girls—cooking, domestic science, and sewing; and commercial subjects are compared. Since it is identical in form with the immediately preceding tables, it need not be explained. It will be noticed that in some States the subjects for boys seem to have the best foothold, while in others it is exactly the other way around, and there seems to be but little relation between them. Yet, in those parts of the table based upon population and enrollment, with but one exception, the percentage favors the subjects for boys; and both the subjects for boys and the subjects for girls increase with the population and the enrollment.

TABLE LIII

Per cent of units of	State						
	Illinois.	Indiana.	Iowa.	Kansas.	Michigan.	Minnesota.	Missouri.
Technical subjects:							
For boys	11.0	9.4	8.6	9.0	8.5	14.6	8.9
For girls	7.6	9.9	10.2	8.7	6.2	11.1	8.3
Commercial course	9.6	8.0	7.1	9.1	11.7	7.2	5.8
Total technical subjects	28.2	27.3	25.9	26.8	26.4	32.9	23.0

Per cent of units of—	State					
	Nebraska.	North Dakota.	Ohio.	Oklahoma.	South Dakota.	Wisconsin.
Technical subjects:						
For boys	6.9	10.0	7.2	8.3	7.8	8.5
For girls	5.3	10.3	4.2	11.5	7.6	10.4
Commercial course	7.5	11.0	9.7	9.6	7.9	11.1
Total technical subjects	19.7	31.3	21.1	29.4	23.3	30.0

Per cent of units of—	Population.						
	Under 2,500.	2,501-5,000	5,001-7,500	7,501-10,000	10,001-15,000	15,001-50,000	50,001 and over.
Technical subjects:							
For boys	8.4	8.0	7.5	8.3	9.4	9.4	14.2
For girls	7.5	7.6	7.0	8.2	9.7	8.9	8.4
Commercial course	6.8	8.1	10.0	10.3	10.4	13.8	7.2
Total technical subjects	22.6	23.7	24.5	26.8	29.5	32.1	29.8

TABLE LIII—Continued.

Per cent of units of—	Enrollment.						Total.
	1-100	101-200	201-300	301-500	501-1,000	1,001 and over.	
Technical subjects:							
For boys	6.5	7.5	8.8	9.9	11.2	17.3	9.2
For girls	6.4	7.0	8.0	8.8	10.2	9.6	7.9
Commercial course	5.6	7.4	10.4	11.4	11.9	8.7	9.2
Total technical subjects	18.5	21.9	27.2	30.1	33.3	35.6	26.3

In Table LIV the four groups of subjects are compared—total languages, total science and mathematics, total history and civics, and total technical subjects. The total "other subjects" is also given. The table is read in the same way as the previous tables.

TABLE LIV.

Per cent of units of—	State.						
	Illinois.	Indiana.	Iowa.	Kansas.	Michigan.	Minnesota.	Missouri.
Total languages	34.4	35.7	32.3	29.6	35.2	29.2	36.4
Total technical subjects	28.2	27.3	25.9	26.8	26.4	32.9	23.0
Total science and mathematics	22.3	20.7	20.8	20.8	23.5	19.4	20.4
Total history and civics	10.6	11.3	10.2	11.1	11.7	9.1	11.5
Total other subjects	4.5	5.0	10.8	11.7	3.2	9.4	8.7

Per cent of units of—	State.					
	Nebraska.	North Dakota.	Ohio.	Oklahoma.	South Dakota.	Wisconsin.
Total languages	35.2	31.3	41.1	33.3	38.0	33.8
Total technical subjects	19.7	31.3	21.1	29.4	23.3	30.0
Total science and mathematics	23.9	21.3	23.2	20.5	23.8	20.2
Total history and civics	11.5	10.0	11.2	12.8	11.3	11.6
Total other subjects	9.7	6.1	3.4	4.0	3.6	4.4

Per cent of units of—	Population.						
	Under 2,500.	2,501-5,000	5,001-7,500	7,501-10,000	10,001-15,000	15,001-50,000	50,001 and over.
Total languages	34.7	35.9	35.5	34.5	33.2	32.7	35.0
Total technical subjects	22.6	23.7	24.5	26.8	29.5	32.1	29.8
Total science and mathematics	22.5	22.6	22.6	21.5	20.9	20.4	20.1
Total history and civics	11.6	11.5	11.7	11.4	10.5	10.4	9.3
Total other subjects	8.6	6.3	5.7	5.8	5.9	4.4	5.8

Per cent of units of—	Enrollment.						Total.
	1-100	101-200	201-300	301-500	501-1,000	1,001 and over.	
Total languages	41.1	36.4	33.9	32.8	31.8	30.4	34.8
Total technical subjects	18.5	21.9	27.2	30.1	33.3	35.6	26.3
Total science and mathematics	23.4	22.9	21.3	20.6	20.0	19.7	21.7
Total history and civics	12.2	12.0	11.3	10.3	9.6	8.2	11.0
Total other subjects	4.8	6.8	6.3	6.2	5.3	6.1	6.2

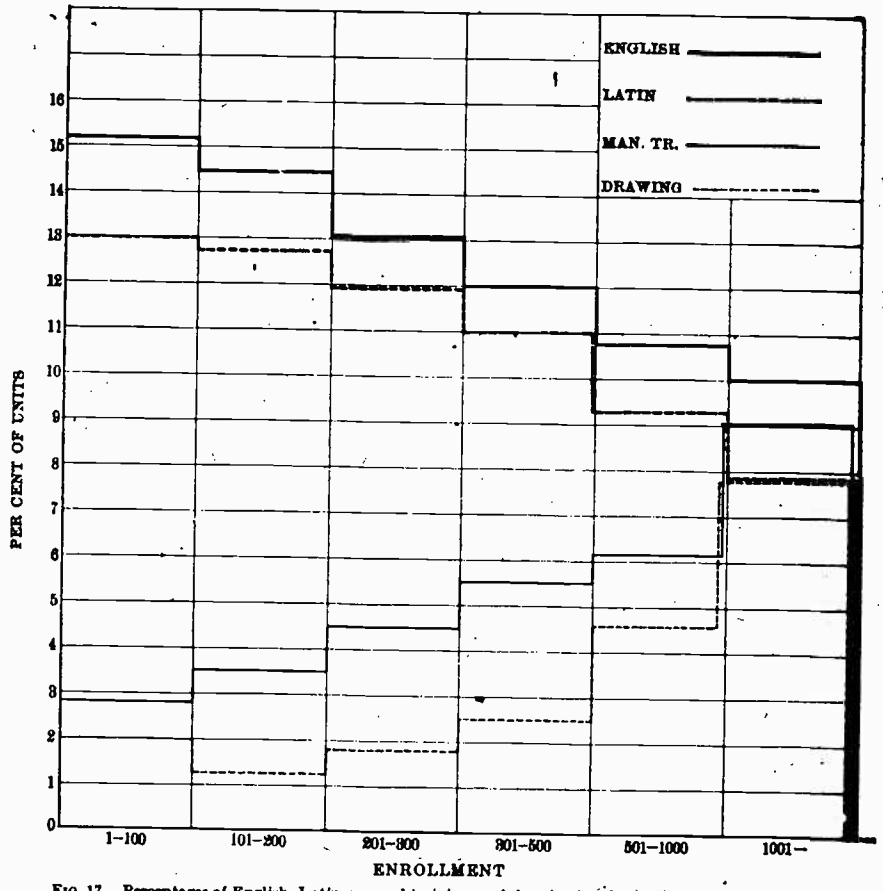

FIG. 17.—Percentages of English, Latin, manual training, and drawing in schools of different enrollments.

The table shows that science and mathematics and history and civics vary but little from one group of schools to another. The great differences occur in the language group and in the technical subjects. The percentage of units of language ranges from 29.2 per cent in Minnesota to 41.1 per cent in Ohio, a rather wide range; while for the technical subjects it ranges from 19.7 per cent in Nebraska to 32.9 per cent in Minnesota. In a general way, those States which exhibit weakness in the one group show strength in the other. The languages show but little change with an increase in population, while their percentage decreases considerably with the increase in the size of the school. The opposite holds true for the technical subjects, except that in this case the percentage does not remain unchanged with the increase in the size of the city, but increases more or less constantly with it.

The relation between enrollment and the percentage of units offered in the various subjects is brought out very clearly in figures 17 and 18. The four curves in figure 17 represent the percentages of English, Latin, manual training, and drawing given in the six groups of schools when they are grouped according to enrollment. The distance above the horizontal line indicates the percentage of units offered, while the distance along the horizontal line has been divided into six divisions corresponding to the six groups of schools. Figure 18 is of a similar character, differing in that the four curves here represent the percentages of units given in total languages, total science and mathematics, total technical subjects, and total history and civics.

From the foregoing it is evident that in the smaller schools there is a tendency to cling to the more or less traditional subjects; that is, those subjects which have come to be generally accepted as the proper subjects for a high-school course of study. The innovations occur in the large schools. They are the progressive schools. Consequently from these schools it may be possible to get some idea of the trend of the times. It should not be inferred from what has been said, however, that the larger schools introduce new subjects at the expense of the older subjects, for such is not the case. The large school practically always offers as large, and frequently a larger, number of units of the older subjects than does the small school, but it offers the other subjects also. This causes the percentage of units of the older subjects to drop. The large school offers all that the small school offers and then offers some additional subjects.

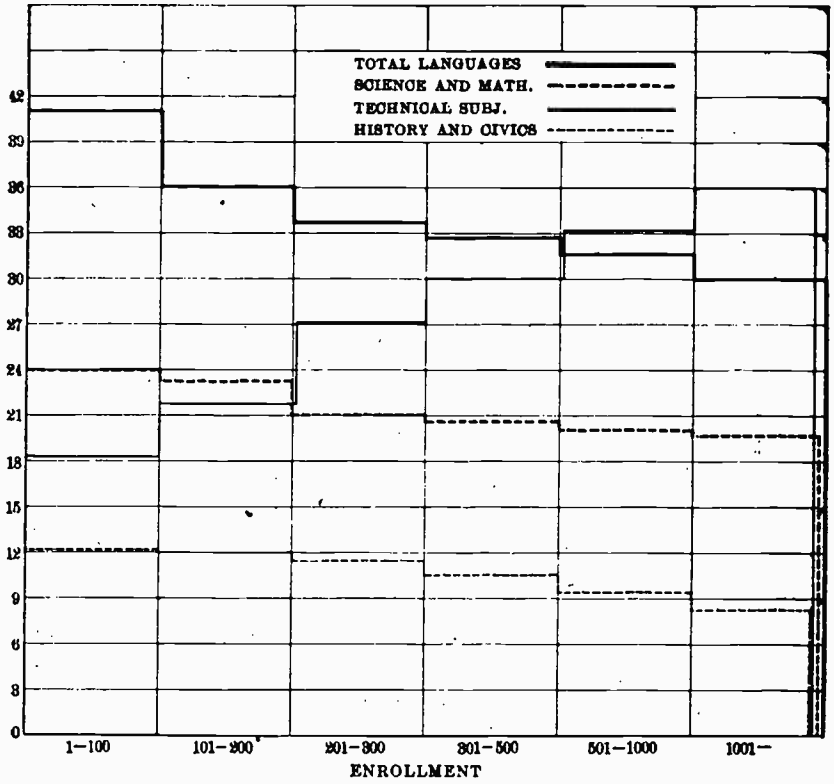

FIG. 18.—Percentage of units given in total languages, total science and mathematics, etc., in schools of different enrollments.

TABLE LV.—*Table of medians.*

Median.	State.							
	Colorado.	Illinois.	Indiana.	Iowa.	Kansas.	Michigan.	Minnesota.	Missouri.
Enrollment	.....	220	243	216	190	217	195	277
Number of students per class	.....	21.5	18.5	20	26	19	20	21
Number of students per teacher	.....	20	19	19	20	20	17	20
Number of periods taught by superintendent	.....	0	0	1	0	0	0	0
Number of periods taught by principal	.....	2	3	3	4	3	4	3
Number of periods taught by teacher	.....	5	5	5	5	5	5	5
Number of periods supervised	6	6	3	4	6	3	3	2
Number of weeks of 5 days each in school year	.....	38	36	36	36	39	38	36
Number of recitation periods in daily program	.....	7	7	7	8	7	7	7
Number of minutes in recitation period	.....	43	40	43	40	42	40	43
Number of daily recitations per school	.....	66	68	54	54	57	66	73
Salary of teachers	$1,032	$1,103	$906	$768	$797	$874	$960	$1,120
Salary of principal	$1,550	$1,825	$1,400	$1,142	$1,283	$1,325	$1,183	$1,263
Salary of superintendent	$1,950	$1,983	$1,825	$1,650	$1,694	$1,867	$1,893	$1,550
Value of equipment for physics, commercial course, chemistry, cooking, botany, sewing, zoology, agriculture	$3,250	$3,470	$2,695	$2,255	$2,240	$2,890	$2,885	$2,950
Number of recitation, laboratory, manual training, domestic science, and assembly rooms	13	17	15	15	13	15	16	12
Number of volumes in high school library exclusive of Government reports and encyclopedias	807	797	606	531	557	820	919	708

Median.	State.						
	Montana.	Nebraska.	North Dakota.	Ohio.	Oklahoma.	South Dakota.	Wisconsin.
Enrollment	.....	148	106	235	192	156	188
Number of students per class	.....	19	15.5	22	19	19	20.5
Number of students per teacher	.....	20	12	23	21	16	19
Number of periods taught by superintendent	.....	1	1	0	0	1	0
Number of periods taught by principal	.....	4	4	3	3	3	2
Number of periods taught by teacher	.....	5	5	5	5	5	5
Number of periods supervised	6	6	5	4	6	6	6
Number of weeks of 5 days each in school year	36	36	36	36	36	36	36
Number of recitation periods in daily program	7	7	7	7	7	8	7
Number of minutes in recitation period	40	40	42	43	42	43	41
Number of daily recitations per school	.....	36	37	63	49	46	46
Salary of teachers	$1,238	$752	$853	$1,008	$797	$868	$828
Salary of principal	$2,050	$1,020	$1,228	$1,306	$1,375	$1,266	$1,722
Salary of superintendent	$2,250	$1,663	$1,775	$1,725	$2,700	$1,750	$1,863
Value of equipment for physics, commercial course, chemistry, cooking, botany, sewing, zoology, agricultural	$5,595	$1,705	$2,500	$3,070	$2,715	$2,555	$2,870
Number of recitation, laboratory, manual training, domestic science, and assembly rooms	18	10	9	12	13	11	15
Number of volumes in high school library exclusive of Government reports and encyclopedias	811	313	781	512	506	1,018	769

Median.	Population.						
	Under 2,500	2,501–5,000	5,001–7,500	7,501–10,000	10,001–15,000	15,001–50,000	50,001 and over.
Enrollment	126	176	210	273	335	459	742
Number of students per teacher	17	19	20	20	21	21	23
Number of periods taught by superintendent	2	1	0	0	0	0	0
Number of periods taught by principal	4	4	3	3	2	1	0
Salary of teachers	$723	$765	$793	$861	$906	$970	$1,389
Salary of principal	$1,058	$1,140	$1,292	$1,445	$1,587	$2,006	$3,014
Salary of superintendent	$1,628	$1,750	$1,950	$2,000	$2,290	$2,700	.....

TABLE LV.—*Table of medians*—Continued.

Median.	Enrollment.						
	1-100	101-200	201-300	301-500	501-1,000	1,001 and over.	Total.
Enrollment							200
Number of students per class	12.5	17	19.5	21	22	24	20
Number of students per teacher	11	18	21	22	22	26	20
Number of periods taught by superintendent	1	1	0	0	0	0	0
Number of periods taught by principal	4	4	3	2	0	0	3
Number of periods taught by teacher	4	5	5	5	5	5	5
Number of periods supervised	0	4	5	6	8	13	5
Number of weeks of 5 days each in school year							36
Number of recitation periods in daily program							7
Number of minutes in recitation period							42
Number of daily recitations per school	27	34	50	72	122	227	59
Salary of teachers							919
Salary of principal							$1,358
Salary of superintendent							$1,831
Value of equipment for physics, commercial course, chemistry, cooking, botany, sewing, zoology, agricultural	$2,085	$1,985	$2,600	$3,875	$6,565	$10,755	$2,759
Number of recitation, laboratory, manual training domestic science, and assembly rooms	8	11	14	20	30	50	13
Number of volumes in high school library exclusive of Government reports, and encyclopedias	550	535	658	818	1,288	2,241	668

SUMMARY.

Although it is impossible to construct a table that would give anything like a complete summary of the facts brought out in the investigation, Table LV does represent a partial summary. The table is based upon medians. Consequently, since many of the features of the investigation can not be satisfactorily represented by medians without greatly increasing the bulk of the table, they are not found in this table. Furthermore, it should be borne in mind that the median gives only the central tendency of a series of variants, and its value, when completely isolated from the series for which it stands, is partly diminished. The fact that the median concerning a certain item is low for some particular group of schools does not mean that all the schools in the group are weak in that feature. It means that the majority of the schools are weak, but nothing more.

The table is read as follows: Beginning with the second column instead of the first, since Colorado is not consistently represented, we read that for the schools reporting from Illinois, the median enrollment is 220, the median number of students per class 21.5, the median number of students per teacher 20, etc.

In general it may be said that in matters of material equipment, library facilities, and salary of teachers, the large schools are superior to the small schools; while the small schools adhere more closely to the standards set up by the association regarding the number of students per teacher and size of classes. Owing to the larger salaries paid in the large cities, the instructorial staff here is found to be

composed of more experienced teachers and is more stable so far as tenure is concerned. In experimenting along educational lines, in trying out new ideas, the large schools take the lead. As a general rule, they are the progressive schools.

For the purpose of making a comparison among the States concerning salaries, material equipment, and library facilities, Table LVI has been prepared. It is based upon medians taken from the preceding table. The method adopted was to rank the 15 States from highest to lowest for each of the six items represented in the table. It is understood when read thus: The schools of Montana rank first in the median salary paid to teachers, that is, the median salary of teachers is higher in Montana than in any other State; they rank first in median salary paid to principals, second in salary of superintendents, etc.

TABLE LVI.

The States are ranked from highest to lowest according to median—	Montana.	Illinois.	Colorado.	Minnesota.	Michigan.	Wisconsin.	Indiana.	Oklahoma.
Salary of teachers	1	3	4	6	8	11	7	12
Salary of principal	1	2	4	13	7	3	5	6
Salary of superintendent	2	3	4	5	7	6	8	1
Value of material equipment	1	2	3	7	6	8	10	9
Number of recitation rooms, laboratory rooms, etc.	1	2	9	3	5½	5½	5½	9
Number of volumes in high-school library	4	6	5	2	3	8	10	14
Total	10	18	29	36	36½	41½	45½	51

The States are ranked from highest to lowest according to median—	Ohio.	Missouri.	South Dakota.	North Dakota.	Kansas.	Iowa.	Nebraska.
Salary of teachers	5	2	9	10	13	14	15
Salary of principal	8	11	10	12	9	14	15
Salary of superintendent	11	15	10	9	12	14	13
Value of material equipment	4	5	11	12	14	13	15
Number of recitation rooms, laboratory rooms, etc.	11½	11½	13	15	9	5½	14
Number of volumes in high-school library	13	9	1	7	11	12	15
Total	52½	53½	54	65	68	72½	87

By adding the figures representing the rankings of each State for the six items we get a final ranking in which Montana is first, Illinois second, Colorado third, etc. This final ranking, however, should not be taken too seriously, because the figures do not tell all of the truth. In the first place, the schools in one State may have much smaller enrollments than those in another. The former group of schools would consequently not require so much equipment per school as the latter to be equally well equipped. In the second place, the number of schools reporting from Montana, Colorado, Oklahoma, South Dakota, and North Dakota is comparatively small in each case. These States are therefore represented in the association by only a small proportion of their schools and they are the best. This is espe-

cially true concerning Montana, which is represented by only 16 schools. In the third place, the rank for the schools of a State may be disproportionately raised by the presence of a large city within its borders which has a large number of schools, all of which are of a high order. This is brought out in the case of Illinois and also of Missouri. In Illinois the Chicago schools make the school system of Illinois appear better than it really is. In the fourth place, the ranking is based upon medians, and medians are only partly satisfactory.

In conclusion it should be said that the requirements of the association are not being met by all the schools of the association. It might be argued that nothing else should be expected, that no system of standards could be drawn up which would be met by so large a body of schools representing so large a section of the country and such varied conditions. However, the association sets up certain standards and is supposed to admit only those schools which can and do meet these standards. If the association took schools into its membership indiscriminately and then attempted by some method of persuasion to get them to conform to certain ideals to which it holds, it would be quite a different matter. But that is not the method adopted. Furthermore, the standards are not of such a character as to prevent the individual public high school from carrying out its peculiar mission to its community. It would seem therefore that the standards of the association should either be met by the schools of the association or revised.

The final conclusion which is justified by these considerations is that the association ought at regular intervals to make an exhaustive study of the practices of schools. There would doubtless be great advantage in including in such studies all the secondary schools in the territory of the association. Standards could then be set up on the basis of the known facts with regard to school practices, and the methods of admission to the association could be determined on a strictly empirical basis.

INDEX.

BULLETIN OF THE BUREAU OF EDUCATION.

[NOTE.—With the exceptions indicated, the documents named below will be sent free of charge upon application to the Commissioner of Education, Washington, D. C. Those marked with an asterisk (*) are no longer available for free distribution, but may be had of the Superintendent of Documents, Government Printing Office, Washington, D. C., upon payment of the price stated. Remittances should be made in coin, currency, or money order. Stamps are not accepted. Documents marked with a dagger (†) are out of print.]

1906.

†No. 1. Education bill of 1906 for England and Wales as it passed the House of Commons. A. T. Smith.
†No. 2. German views of American education, with particular reference to industrial development. William N. Hallmann.
*No. 3. State school systems: Legislation and judicial decisions relating to public education, Oct. 1, 1904, to Oct. 1, 1906. Edward C. Elliott. 15 cts.

1907.

†No. 1. The continuation school in the United States. Arthur J. Jones.
†No. 2 Agricultural education, including nature study and school gardens. James R. Jewell.
†No. 3. The auxiliary schools of Germany. Six lectures by B. Maennel.
†No. 4. The elimination of pupils from school. Edward L. Thorndike.

1908.

†No. 1. On the training of persons to teach agriculture in the public schools. Liberty H. Bailey.
*No. 2. List of publications of the United States Bureau of Education, 1867-1907. 10 cts.
*No. 3. Bibliography of education for 1907. James Ingersoll Wyer, jr., and Martha L. Phelps. 10 cts.
†No. 4. Music education in the United States; schools and departments of music. Arthur L. Manchester
*No. 5. Education in Formosa. Julean H. Arnold. 10 cts.
*No. 6. The apprenticeship system in its relation to industrial education. Carroll D. Wright. 15 cts.
*No. 7. State school systems: II. Legislation and judicial decisions relating to public education, Oct. 1, 1906, to Oct. 1, 1908. Edward C. Elliott. 30 cts.
*No. 8. Statistics of State universities and other institutions of higher education partially supported by the State, 1907-8. 5 cts.

1909.

*No. 1. Facilities for study and research in the offices of the United States Government in Washington. Arthur T. Hadley. 10 cts.
*No. 2. Admission of Chinese students to American colleges. John Fryer. 25 cts.
*No. 3. Daily meals of school children. Caroline L. Hunt. 10 cts.
†No. 4. The teaching staff of secondary schools in the United States; amount of education, length of experience, salaries. Edward L. Thorndike.
No. 5. Statistics of public, society, and school libraries in 1908.
*No. 6. Instruction in the fine and manual arts in the United States. A statistical monograph. Henry T. Bailey. 15 cts.
No. 7. Index to the Reports of the Commissioner of Education, 1867-1907.
*No. 8. A teacher's professional library. Classified list of 100 titles. 5 cts.
*No. 9. Bibliography of education for 1908-9. 10 cts.
No. 10. Education for efficiency in railroad service. J. Shirley Eaton.
*No. 11. Statistics of State universities and other institutions of higher education partially supported by the State 1908-9. 5 cts.

1910.

*No. 1. The movement for reform in the teaching of religion in the public schools of Saxony. Arley B. Show. 5 cts.
No. 2. State school systems: III. Legislation and judicial decisions relating to public education Oct. 1, 1908, to Oct. 1. 1909. Edward C. Elliott.
†No. 3. List of publications of the United States Bureau of Education, 1867-1910.
*No. 4. The biological stations of Europe. Charles A. Kofoid. 50 cts.
*No. 5. American schoolhouses. Fletcher B. Dressler. 75 cts.
†No. 6. Statistics of State universities and other institutions of higher education partially supported by the State, 1909-10.

1911.

*No. 1. Bibliography of science teaching. 5 cts.
*No. 2. Opportunities for graduate study in agriculture in the United States. A. C. Monahan. 5 cts.
*No. 3. Agencies for the improvement of teachers in service. William C. Ruediger. 15 cts.
*No. 4. Report of the commission appointed to study the system of education in the public schools of Baltimore. 10 cts.
*No. 5. Age and grade census of schools and colleges. George D. Strayer. 10 cts.
*No. 6. Graduate work in mathematics in universities and in other institutions of like grade in the United States. 5 cts.
†No. 7. Undergraduate work in mathematics in colleges and universities.
†No. 8. Examinations in mathematics, other than those set by the teacher for his own classes.
No. 9. Mathematics in the technological schools of collegiate grade in the United States.
†No. 10. Bibliography of education for 1909-10.
†No. 11. Bibliography of child study for the years 1908-9.
†No. 12. Training of teachers of elementary and secondary mathematics.
*No. 13. Mathematics in the elementary schools of the United States. 15 cts.
*No. 14. Provision for exceptional children in the public schools. J. H. Van Sickle, Lightner Witmer and Leonard P. Ayres. 10 cts.
*No. 15. Educational system of China as recently reconstructed. Harry E. King. 10 cts.
†No. 16. Mathematics in the public and private secondary schools of the United States.
†No. 17. List of publications of the United States Bureau of Education, October, 1911.
*No. 18. Teachers' certificates issued under general State laws and regulations. Harlan Updegraff. 20 cts.
No. 19. Statistics of State universities and other institutions of higher education partially supported by the State, 1910-11.

1912.

*No. 1. A course of study for the preparation of rural-school teachers. F. Mutchler and W. J. Craig. 5 cts.
†No. 2. Mathematics at West Point and Annapolis.
*No. 3. Report of committee on uniform records and reports. 5 cts.
*No. 4. Mathematics in technical secondary schools in the United States. 5 cts.
*No. 5. A study of expenses of city school systems. Harlan Updegraff. 10 cts.
*No. 6. Agricultural education in secondary schools. 10 cts.
*No. 7. Educational status of nursing. M. Adelaide Nutting. 10 cts.
*No. 8. Peace day. Fannie Fern Andrews. 5 cts. [Later publication, 1913, No. 12. 10 cts.]
*No. 9. Country schools for city boys. William S. Myers. 10 cts.
†No. 10. Bibliography of education in agriculture and home economics.
†No. 11. Current educational topics, No. I.
†No. 12. Dutch schools of New Netherland and colonial New York. William H. Kilpatrick.
*No. 13. Influences tending to improve the work of the teacher of mathematics. 5 cts.
*No. 14. Report of the American commissioners of the international commission on the teaching of mathematics. 10 cts.
†No. 15. Current educational topics, No. II.
†No. 16. The reorganized school playground. Henry S. Curtis.
*No. 17. The Montessori system of education. Anna T. Smith. 5 cts.
*No. 18. Teaching language through agriculture and domestic science. M. A. Leiper. 5 cts.
*No. 19. Professional distribution of college and university graduates. Bailey B. Burritt. 10 cts.
†No. 20. Readjustment of a rural high school to the needs of the community. H. A. Brown.
†No. 21. Urban and rural common-school statistics. Harlan Updegraff and William R. Hood.
No. 22. Public and private high schools.
*No. 23. Special collections in libraries in the United States. W. D. Johnston and I. G. Mudge. 10 cts.
†No. 24. Current educational topics, No. III.
†No. 25. List of publications of the United States Bureau of Education, 1912.
†No. 26. Bibliography of child study for the years 1910-11.
No. 27. History of public-school education in Arkansas. Stephen B. Weeks.
*No. 28. Cultivating school grounds in Wake County, N. C. Zebulon Judd. 5 cts.
No. 29. Bibliography of the teaching of mathematics, 1900-1912. D. E. Smith and Chas. Goldziher.
No. 30. Latin-American universities and special schools. Edgar E. Brandon.
*No. 31. Educational directory, 1912. 10 cts.
*No. 32. Bibliography of exceptional children and their education. Arthur MacDonald. 5 cts.
†No. 33. Statistics of State universities and other institutions of higher education partially supported by the State, 1912.

1913.

No. 1. Monthly record of current educational publications, January, 1913.
*No. 2. Training courses for rural teachers. A. C. Monahan and R. H. Wright. 5 cts.
*No. 3. The teaching of modern languages in the United States. Charles H. Handschin. 15 cts.
*No. 4. Present standards of higher education in the United States. George E. MacLean. 20 cts.
†No. 5. Monthly record of current educational publications, February, 1913.

*No. 6. Agricultural instruction in high schools. C. H. Robison and F. B. Jenks. 10 cts.
*No. 7. College entrance requirements. Clarence D. Kingsley. 15 cts.
*No. 8. The status of rural education in the United States. A. C. Monahan. 15 cts.
†No. 9. Consular reports on continuation schools in Prussia.
†No. 10. Monthly record of current educational publications. March, 1913.
†No. 11. Monthly record of current educational publications. April, 1913.
*No. 12. The promotion of peace. Fannie Fern Andrews. 10 cts.
*No. 13. Standards and tests for measuring the efficiency of schools or systems of schools. 5 cts.
*No. 14. Agricultural instruction in secondary schools. 10 cts.
†No. 15. Monthly record of current educational publications, May, 1913.
*No. 16. Bibliography of medical inspection and health supervision. 15 cts.
*No. 17. A trade school for girls. A preliminary investigation in a typical manufacturing city, Worcester, Mass. 10 cts.
*No. 18. The fifteenth international congress on hygiene and demography. Fletcher B. Dresslar. 10 cts.
*No. 19. German industrial education and its lessons for the United States. Holmes Beckwith. 15 cts.
*No. 20. Illiteracy in the United States. 10 cts.
†No. 21. Monthly record of current educational publications. June, 1913.
*No. 22. Bibliography of industrial, vocational and trade education. 10 cts.
*No. 23. The Georgia club at the State Normal School, Athens, Ga., for the study of rural sociology. E. C. Branson. 10 cts.
*No. 24. A comparison of public education in Germany and in the United States. Georg Kerschensteiner. 5 cts.
*No. 25. Industrial education in Columbus, Ga. Roland B. Daniel. 5 cts.
†No. 26. Good roads arbor day. Susan B. Sipe.
†No. 27. Prison schools. A. C. Hill.
*No. 28. Expressions on education by American statesmen and publicists. 5 cts.
*No. 29. Accredited secondary schools in the United States. Kendric C. Babcock. 10 cts.
*No. 30. Education in the South. 10 cts.
*No. 31. Special features in city school systems. 10 cts.
No. 32. Educational survey of Montgomery County, Md.
†No. 33. Monthly record of current educational publications, September, 1913.
*No. 34. Pension systems in Great Britain. Raymond W. Sies. 10 cts.
*No. 35. A list of books suited to a high-school library. 15 cts.
*No. 36. Report on the work of the Bureau of Education for the natives of Alaska, 1911-12. 10 cts.
No. 37. Monthly record of current educational publications, October, 1913.
*No. 38. Economy of time in education. 10 cts.
No. 39. Elementary industrial school of Cleveland, Ohio. W. N. Hailmann.
*No. 40. The reorganized school playground. Henry S. Curtis. 10 cts.
*No. 41. The reorganization of secondary education. 10 cts.
No. 42. An experimental rural school at Winthrop College. H. S. Browne.
*No. 43. Agriculture and rural-life day; material for its observance. Eugene C. Brooks. 10 cts.
*No. 44. Organized health work in schools. E. B. Hoag. 10 cts.
No. 45. Monthly record of current educational publications, November, 1913.
*No. 46. Educational directory, 1913. 15 cts.
*No. 47. Teaching material in Government publications. F. K. Noyes. 10 cts.
*No. 48. School hygiene. W. Carson Ryan, jr. 15 cts.
No. 49. The Farragut School a Tennessee country-life high school. A. C. Monahan and Adams Phillips.
No. 50. The Fitchburg plan of cooperative industrial education. M. R. McCann.
*No. 51. Education of the immigrant. 10 cts.
*No. 52. Sanitary schoolhouses. Legal requirements in Indiana and Ohio. 5 cts.
No. 53. Monthly record of current educational publications, December, 1913.
No. 54. Consular reports on industrial education in Germany.
No. 55. Legislation and judicial decisions relating to education, October 1, 1909, to October 1, 1912. James C. Boykin and William R. Hood.
†No. 56. Some suggestive features of the Swiss school system. William Knox Tate.
*No. 57. Elementary education in England, with special reference to London, Liverpool, and Manchester. I. L. Kandel. 15 cts.
No. 58. Educational system of rural Denmark. Harold W. Foght.
No. 59. Bibliography of education for 1910-11.
No. 60. Statistics of State universities and other institutions of higher education partially supported by the State. 1912-13.

1914.

*No. 1. Monthly record of current educational publications, January, 1914. 5 cts.
No. 2. Compulsory school attendance.
*No. 3. Monthly record of current educational publications, February, 1914. 5 cts.
No. 4. The school and the start in life. Mayer Bloomfield.

No. 5. The folk high schools of Denmark. L. L. Friend.
No. 6. Kindergartens in the United States.
No. 7. Monthly record of current educational publications, March, 1914.
No. 8. The Massachusetts home-project plan of vocational agricultural education. R. W. Stimson.
No. 9. Monthly record of current educational publications, April, 1914.
*No. 10. Physical growth and school progress. B. T. Baldwin. 25 cts.
No. 11. Monthly record of current educational publications, May, 1914.
*No. 12. Rural schoolhouses and grounds. F. B. Dresslar. 50 cts.
No. 13. Present status of drawing and art in the elementary and secondary schools of the United States. Royal B. Farnum.
No. 14. Vocational guidance.
No. 15. Monthly record of current educational publications. Index.
*No. 16. The tangible rewards of teaching. James C. Boykin and Roberta King. 50 cts.
No. 17. Sanitary survey of the schools of Orange County, Va. Roy K. Flannagan.
No. 18. The public school system of Gary, Ind. William P. Burris.
No. 19. University extension in the United States. Louis E. Reber.
No 20. The rural school and hookworm disease. J. A. Ferrell.
No. 21. Monthly record of current educational publications, September, 1914.
No. 22. The Danish folk high schools. H. W Foght.
No. 23. Some trade schools in Europe. Frank L. Glynn.
No. 24. Danish elementary rural schools. H. W. Foght.
No. 25. Important features in rural school improvement. W. T. Hodges.
No. 26. Monthly record of current educational publications, October, 1914.
No. 27. Agricultural teaching.
No. 28. The Montessori method and the kindergarten. Elizabeth Harrison.
No. 29. The kindergarten in benevolent institutions.
No. 30. Consolidation of rural schools and transportation of pupils at public expense. A. C. Monahan.
No. 31. Report on the work of the Bureau of Education for the natives of Alaska.
No. 32. Bibliography of the relation of secondary schools to higher education. R. L. Walkley.
No. 33. Music in the public schools. Will Earhart.
No. 34. Library instruction in universities, colleges, and normal schools. Henry R. Evans.
No. 35. The training of teachers in England, Scotland, and Germany. Charles H. Judd.
No. 36. Education for the home—Part I. General statement. B. R. Andrews.
No. 37. Education for the home—Part II. State action, schools, agencies. B. R. Andrews.
No. 38. Education for the home—Part III. Colleges and universities. B. R. Andrews.
No. 39. Education for the home—Part IV. Bibliography, list of schools. B. R. Andrews.
No. 40. Care of the health of boys in Girard College, Philadelphia, Pa.
No. 41. Monthly record of current educational publications, November, 1914.
No. 42. Monthly record of current educational publications, December, 1914.
No. 43. Educational directory, 1914–15.
No. 44. County-unit organization for the administration of rural schools. A. C. Monahan.
No. 45. Curricula in mathematics. J. C. Brown.
No. 46. School savings banks. Mrs. Sara L. Oberholtzer.
No. 47. City training schools for teachers. Frank A. Manny.
No. 48. The educational museum of the St. Louis public schools. C. G. Rathman.
No. 49. Efficiency and preparation of rural-school teachers. H. W. Foght.
No. 50. Statistics of State universities and State colleges.

1915.

No. 1. Cooking in the vocational school. Iris P. O'Leary.
No. 2. Monthly record of current educational publications, January, 1915.
No. 3. Monthly record of current educational publications, February, 1915.
No. 4. The health of school children. W. H. Heck.
No. 5. Organization of State departments of education. A. C. Monahan.