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# THE REORGANIZATION OF SECONDARY EDUCATION



*BULLETIN, 1932, No. 17*

*MONOGRAPH No. 6*

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UNITED STATES DEPARTMENT OF THE INTERIOR  
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COMMISSIONER

# THE REORGANIZATION OF SECONDARY EDUCATION

IN THREE PARTS

BY

FRANCIS T. SPAULDING, O. I. FREDERICK  
AND LEONARD V. KOOS

*BULLETIN, 1932, NO. 17*

NATIONAL SURVEY OF SECONDARY EDUCATION

MONOGRAPH NO. 5



UNITED STATES  
GOVERNMENT PRINTING OFFICE  
WASHINGTON : 1933

For sale by the Superintendent of Documents, Washington, D. C. - - - Price 50 cents

## NOTE

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## LETTER OF TRANSMITTAL

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

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

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

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earlier periods; its extracurriculum, which is almost entirely new in the past 30 years; the pupil population; and administrative and supervisory problems, personnel, and activities.

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

This manuscript constitutes one of the larger monographs of the Survey. It was written by Francis T. Spaulding of Harvard, a part-time expert, O. I. Frederick, a full-time specialist, and Leonard V. Koos, the associate director. It contains three parts, namely, the reorganized secondary school, recent growth and present status of public junior colleges, and special reorganizations of school systems.

Attention is called to the fact that reorganized schools practically did not exist in 1910 but that they had a rapid growth after that date. It is assumed that "a school's organization comprises all the arrangements which the school makes to furnish a form of work for effective education." These arrangements are for the purposes of this study classified under the following nine major features of organization: (1) The admission and promotion of pupils; (2) the arrangement of instruction in terms of departmentalization, size of classes, the length of school sessions, the use of standardized tests, and the adoption of special schemes designed to care for individual differences of pupils; (3) the scope and arrangement (but not the detailed content) of the program of studies; (4) the scope and arrangement of the extracurriculum; (5) guidance of pupils; (6) articulation of the school with other school units; (7) composition of the teaching staff; (8) supervision of instruction; (9) housing and equipment.

Schools were scored on the comprehensiveness and consistency of their organization. As described in Chapter I, comprehensiveness consists in the number of arrangements made in these respects. Consistency is the balance maintained among the nine major features. For example, a school which provides both individual and group guidance for entering pupils is considered superior to a school which provides group guidance alone. Likewise the school which provides for standardized achievement test scores in addition

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to the teachers' examinations in subjects is superior in organization to the school which provides only one of these. And the school which has elective courses in twelfth-grade English in addition to required courses is considered better organized than the school which offers required work only. Such scoring in the various nine provisions gives us the comprehensiveness of the organization. On the other hand, one school may have elaborate arrangements for the extracurriculum and very mediocre arrangements for the curriculum program. Or one or two of the features mentioned may be very highly developed and several other features practically ignored. The extent to which any school makes adequate provision for all of its major features at one time is considered a measure of its consistency of organization. These two standards statistically applied constitute the first and major portion of this bulletin.

Schools of various organizations and various sizes and types are measured by these two standards. In general it is found that the 3-3 junior-senior high school organization is to be preferred to any other type although in the smaller schools the 6-year undivided school is a little the better. However, so much variation was discovered that in many cases the old organization is found superior to the reorganized schools. Exceptions occur in almost every classification.

The second part, consisting of two chapters, has to do with the rather recent development of the junior college. It is found that California, in 1931 had 33 public junior colleges; Iowa, 27; and Texas, 17. These colleges exist, however, in some 17 States, 136 of them having been found exclusive of those for Negroes. Of the 39 State junior colleges, 11 are found in Mississippi and 7 in Oklahoma. The private junior colleges are more numerous than the public and State junior colleges combined, but typically they have fewer pupils enrolled.

The third part of this Survey gives attention to special types of organization deviating in significant ways not only from conventional systems but also from reorganized plans. The reorganizations effected at Kansas City, Joliet, Salt Lake City, Concord, Tulsa, Baltimore, and the laboratory schools of The University of Chicago are treated from the

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standpoint of their purpose to save time. Reorganizations aiming principally at integration are those at Pasadena, Ventura, and Compton, Calif.; Moberly, Mo.; Hillsboro, Tex.; John Tarleton Agricultural College, Stephenville, Tex.; Stephens College, Columbia, Mo.; and the recently planned 4-year college at The University of Chicago.

This monograph is most suggestive and I respectfully recommend that it be printed as a publication of the National Survey of Secondary Education.

Respectfully submitted.

WM. JOHN COOPER,  
*Commissioner.*

The SECRETARY OF THE INTERIOR.

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# THE REORGANIZATION OF SECONDARY EDUCATION

## *PART I : THE REORGANIZED SECONDARY SCHOOL*

BY FRANCIS T. SPAULDING AND O. I. FREDERICK

### CHAPTER I : FUNDAMENTAL ASSUMPTIONS AND PROCEDURES

#### 1. BASIC ASSUMPTIONS

*The purpose of this study.*—The chief purpose of this study has been to determine what existing forms of American secondary-school organization are of greatest promise. The study has sought, in particular, to discover the effects of the junior high school movement upon practice in school organization, to secure objective evidence as to the comparative merits of reorganized and conventionally organized secondary schools, and to provide a basis for estimating the relative promise of various types of junior and senior high schools.

No generally accepted standards have thus far been formulated by which the worth of various types of school organization may be measured. The most commonly recognized standards are those of the North Central Association of Colleges and Secondary Schools. The regulations of this association embody criteria on the basis of which member schools are accredited. The criteria deal, however, only with minimum essentials of organization. Like the standards proposed by other accrediting agencies and by individual specialists in secondary education, they afford small basis for distinguishing among schools which are well above a merely minimum level.

*Need for clarifying basic assumptions.*—In view of its basic purpose, the present study has been faced with the necessity of devising methods by which promising forms of organization might be distinguished from forms of less promise. It has had to adopt certain standards—necessarily subjectively

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determined, so far as basic assumptions were concerned—as to superiority and inferiority in school organization. In so doing it has passed beyond the bounds of survey procedure, narrowly conceived, and has entered to some extent into the field of educational theory. Hence there is particular need for describing at the outset the major assumptions and definitions which the study has involved, and for indicating its fundamental procedures.

The most important assumptions which the study has made are those underlying the definition of the term "organization," the classification of the major features of secondary-school organization, and the means used for judging the effectiveness of school organization.

*Definition of "organization."*—The study has assumed that a school's organization comprises all the arrangements which the school makes to furnish a framework for effective education. The study has avoided a definition of organization in terms of the subject matter or the process or the results of teaching. It has assumed that organization does not in and of itself offer a complete guaranty of effective education. It has assumed further, however, that there is likely to be a positive relationship between quality of organization and quality of instruction, so that organization—defined in terms of the arrangements which provide opportunity for effective instruction—is a matter of immediate educational concern.

*Major features of school organization.*—Adopting this general conception, the study has recognized nine major features of school practice which should be taken into account in describing the organization of any single school. These features are, respectively: (1) The admission and promotion of pupils; (2) the arrangement of instruction, in terms of departmentalization, the size of classes, the length of school sessions, the use of standardized tests, and the adoption of special schemes which make possible direct attention to individual differences; (3) the scope and arrangement (but not the detailed content) of the program of studies; (4) the scope and arrangement (but not the detailed content) of the program of extracurriculum activities; (5) the school's provisions for the educational and vocational guidance of its pupils; (6) provisions for the articulation of the school with other school units; (7) the composition of the teaching

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staff; (8) arrangements for the supervision of instruction; and (9) the school's housing and equipment.

In thus classifying the component features of a school's organization, the study has tried not to prejudice in any way the answer to the question of what is a "good" organization. The various features of organization as here defined have had an important place in determining the standards of organization adopted in the study. In the main, however, the classification of the major features has been used merely for convenience in comparing data on individual schools, and for assurance that the study was leaving out of consideration no major part of the school's educational framework.

*Measures of the effectiveness of school organization.*— Though the study has conceived school organization as providing opportunity for effective education, rather than as furnishing a guaranty of effective education, it has recognized that the most valid measures of the quality of organization are probably to be found in certain direct outcomes of instruction. Comparative measures of pupils' school achievement, measures of pupils' general growth in interests, abilities, and attitudes, measures of pupils' tendencies to take advantage of what the school may have to offer—these represent the basis on which the effectiveness of school organization ought largely to be judged.

Any such presumably direct measures of the effectiveness of organization are, however, exceedingly difficult to obtain. The difficulty arises in part from the fact that the various elements involved are so complex as to hinder exact definition and analysis. In part also the difficulty is due to the present limitations of educational measurement. In even greater degree it is due to the practical impossibility of establishing a definite causal relationship between any given outcome and the organization with which that outcome is associated. As a result of all these factors, the few large-scale attempts which have been made to evaluate school organization in terms of pupils' measurable gains have thus far proved strikingly inconclusive.<sup>1</sup>

<sup>1</sup> The problems involved in making evaluations of this sort are discussed in detail by Bancroft Beatley in *Achievement in the Junior High School* (Harvard University Press, 1932). In Ch. II of this study Beatley presents a summary and critical analysis of earlier investigations in which the results of junior high school instruction have been directly compared with the results of instruction in conventionally organized schools.

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Indirect evaluations of effectiveness are fortunately less difficult to make than are direct evaluations. The most obvious basis for an indirect evaluation is to be found in the specific practices which schools include or fail to include in their organizations as means of bringing desired results to pass. The use of standardized tests in the guidance program, the holding of conferences to promote the integration of subject matter between the elementary school and the junior high school, the provision of a wide variety of opportunities for extracurriculum activities—these are examples of the practices in question. The presence or absence of features like these offers no exact measure of the effectiveness of a school's instruction. It does, however, afford a clue to the relative promise of the school's organization, in that actual effectiveness is probably correlated with possibilities for effectiveness.

For want of direct measures of effectiveness, this study has been forced to rely on indirect measures in terms of the practices which various types of organization commonly provide. Its conclusions are thus based on the assumption that performance is roughly measured by practice. Conclusions founded on such an assumption can obviously furnish only hints, and not proof, as to the direction in which progress lies. They may, however, furnish hints of substantial value.

*Means of comparing the effectiveness of various types of organization.*—The study has been faced with the necessity for making two further assumptions of major importance. Since it has undertaken to discover what forms of organization are in general most promising, it has had to adopt means for securing blanket measures of the value of any given type of organization. The further assumptions provide a basis for such measures.

The study has assumed, first, that the more arrangements a school makes in connection with any one of its major features the better organized that school is likely to be with respect to the feature in question. The school which, for example, provides both individual and group guidance for its entering pupils may be held to be better organized so far as guidance is concerned than the school which provides group guidance alone or which furnishes no systematic guidance at all. The school which has traditionally promoted

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its pupils on the basis of a single arrangement for seeing that they have passed teachers' examinations in all subjects may be considered to have improved its organization for promotion when it adds an arrangement for taking standardized achievement-test scores into account. The school which offers elective work as well as required work in twelfth-grade English may be held—other things being equal—to have a better organized program of studies than the school which offers required work only. Thus the total number of specific practices in effect in a school in connection with any single feature of organization offers a measure of the possible effectiveness of the school's organization in that feature. Measures of this sort may be thought of as referring to *comprehensiveness* of organization. The study has adopted such measures as the first means of estimating the value both of individual organizations and of general types of organization.

The study has assumed, second, that a school which does approximately equal justice to all of its major features is better organized as a whole than a school which builds up certain features at the expense of others. Of two hypothetical schools, one may provide comprehensive arrangements in connection with each of the nine major features of organization. The second may make highly elaborate arrangements for extracurriculum activities, but may give scant attention to securing comprehensiveness in its program of studies. Assuming that the two schools achieve equal comprehensiveness in all features except the extracurriculum and the program of studies, the first school may fairly be judged better organized than the second. Serious neglect of one or more major features can not be completely atoned for by expansion in other features; each one of a school's major features ought to be adequately provided for if the school is to be judged well organized as a whole. The extent to which a school makes adequate provision for all of its major features at once has accordingly been adopted as a second measure of the value of organization. This measure is hereafter referred to as a measure of *consistency* of organization.

*Justification of assumptions as to superiority of certain forms of organization.*—The schemes which have been used for securing objective ratings of comprehensiveness and consistency of organization will be described in connection with the

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general methods of investigation employed in the study. For the present the assumptions underlying these measures, rather than the means of putting the measures into effect, deserve attention.

It is obvious that the validity of these assumptions may be open to serious question. Comprehensiveness on the one hand and consistency on the other may not—at least as they are here defined—offer thoroughly acceptable measures of the quality of a school's organization. Both measures are clearly open to the criticism that they rest upon subjective judgment as to the value of the specific practices which are used as counters. The measure of consistency is open to the further criticism that it involves subjective judgment as to what the "major features" of organization are, among which consistency is to be achieved. Thus the proposed gage of superiority or inferiority is admittedly a thoroughly controversial one.

In defense of the use of this gage it should be said that the specific practices involved are commonly recognized as desirable in secondary-school organization. Books and articles on the major phases of organization have been thoroughly canvassed to determine the practices which might most appropriately be used for the purpose in hand. It has proved fruitless to try to evaluate particular practices in terms of frequency of mention, since few specific practices are mentioned often enough by any large number of writers to give a dependable clue to their importance. The measures of comprehensiveness and consistency may be assumed to be based, nevertheless, on practices which at least in theory have gained wide approval.

Furthermore, the value of the measures is to some extent attested by the fact that they actually work. When various types of schools are compared on the suggested basis notable differences appear among the forms of organization represented. Differences in general comprehensiveness and consistency, moreover, can be traced to statistically reliable differences in the extent to which the schools employ, or fail to employ, specific practices; so that the merits of the schools in question may in the last analysis be judged in terms of these practices.

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The complete soundness of the study's assumptions is, nevertheless, not to be taken wholly for granted. The conclusions of the study are therefore reported on a two-fold basis. Certain conclusions are expressed in terms of superiority and inferiority, defined on the basis of the amount of comprehensiveness and consistency possessed by a given type of organization. Conclusions are reported also in terms of specific practices. For those who are inclined to accept the basic assumptions the citing of practices will serve to illustrate and support in detail the more general conclusions. For those who are unwilling to accept these assumptions the citing of practices will allow the application of any other measures of superiority or inferiority that may seem justifiable, granting only that these measures, like the measures employed in the study, gage quality of organization in terms of definite arrangements for effective instruction.

*Summary of basic assumptions.*—Briefly summarized, the major assumptions which the study has been obliged to make consist in the definition of school organization as the whole body of arrangements through which the school provides a framework for its instruction, in the recognition of nine major features of practice as component parts of the organization of any single school, and in the assumption that comprehensiveness and consistency represent valid criteria for judging the possible effectiveness of school organization.

### 1. THE GENERAL PLAN OF THE STUDY

On the basis suggested by its fundamental assumptions, the study has undertaken to compare various forms of school organization. The comparisons have centered chiefly about common *types* of schools. The value of case studies of individual schools has been clearly recognized; such studies have, indeed, been given an important place in the investigation as a whole. Studies of *groups* of schools possessing significant features in common have seemed, however, to promise conclusions of wider significance than have studies merely of individual schools. Hence the methods of procedure adopted have been in large measure suggested by the necessary requirements and limitations of group investigation.

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The plan of the study has called for three major types of group comparisons. First, the study has sought to contrast reorganized schools in general with conventionally organized schools in general. Second, the study has undertaken a comparison of the most common existing types of reorganized schools with each other. Third, the study has attempted to compare various sizes of reorganized schools, irrespective of type. From these various comparisons, supplemented by detailed investigation of outstanding individual schools, the study has sought to draw conclusions as to the types of organization likely to be of greatest general promise.

Because of their bearing on these conclusions, certain characteristics of the data used in the study are of special importance. The means of securing information concerning the organization of individual schools, the probable reliability of the information obtained, the representativeness of the schools supplying this information, and the methods employed in interpreting the information need particularly to be commented on.

### 5. MEANS OF SECURING DATA ON SCHOOL ORGANIZATION

*Source of the data.*—The data which form the basis for the group comparisons were secured by means of an extended check list.<sup>2</sup> The check list was designed to call forth from the principal of any given school a fairly exact description of his school's internal and external workings. It was so arranged as to provide for at least a sampling of the school's activities under each of the nine major features of practice recognized as component parts of school organization. The check list did not call for information which would have required extensive research on the principal's part; to have done so might have resulted in so large a proportion of incomplete returns as to have invalidated the study's original data. Nor did the check list call always for mathematically exact information; estimates were frequently permitted, when estimates seemed to be reasonably indicative of the way in which the school functioned. The check list was definitely arranged, however, to emphasize things actually done in each school—as contrasted with things which might be “contem-

<sup>2</sup> Examples of the items included in the check list may be found in the various lists of practices presented in Ch. X.

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plated" or merely "provided for"—in such a way as to bring out the active elements of the school's organization.

To insure the adequacy of the check list the list as a whole or in certain of its parts was submitted for criticism to six members of the survey staff other than those who were responsible for formulating it, and to two outside specialists in secondary education. The list of items under each head was so arranged, moreover, as to provide space for the principal's insertion of significant items not explicitly mentioned. The fact that practically negligible use was made of most of these spaces suggests that principals, in general, found the list complete as it applied to their schools.

*Means for obtaining cooperation of school principals.*—The principal's active cooperation in filling out the check list was sought by sending the check list only to principals who, having been previously informed in detail both of the purposes of the study and of the nature of the information desired, had agreed to supply the necessary data. The fact that information was secured only from schools whose principals promised active cooperation had an undoubted effect on the representativeness of the schools finally included in the study. A certain amount of departure from random sampling was believed, nevertheless, to be preferable to more representative sampling gained under pressure, at the risk of ill-considered and inaccurate returns.

*Reliability of the data secured.*—Each check-list return as it was received was scrutinized for internal consistency. Items in various parts of the check list had been so arranged as to constitute checks upon each other. Inconsistencies could occasionally be corrected by reference to printed materials supplied by the school concerned; where this was possible the check list was edited to remove any obvious errors. Check lists which included errors so numerous or so flagrant as to throw suspicion on the reports as a whole were discarded.

As a gage upon the general accuracy of the reports, 25 schools of various types were visited and inspected at first hand after their check lists had been returned. Separate study of these schools showed that the check lists had depicted their organizations with remarkable exactness. Specific items had occasionally been misunderstood, but no extensive errors in reporting were anywhere apparent; the hon-

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esty with which individual principals had testified to weaknesses in their school organizations was a matter of particular notice. There was a little evidence that schools of relatively complex organization had tended to minimize somewhat the number of activities in which they were engaged. Schools of less elaborate organization apparently tended, by contrast, to give themselves the benefit of doubt with respect to the number of practices which were in active use. Tendencies of this sort seemed, however, not seriously to affect a ranking of the schools in terms of the practices reported.

In the light both of the measures taken in advance to insure accuracy of reporting and of the results of attempts to gage the trustworthiness of reports through visits to selected schools, it may probably be fairly assumed that the reports as a whole represent as accurate a return of the information for which they asked as could be gained by any method short of extended first-hand study of each individual school.

### 4. REPRESENTATIVENESS OF THE SCHOOLS REPORTING

*Attempt made to select representative schools.*—Whether the schools described in the check-list returns represent a fair sampling of the groups of schools to which they belong can not be altogether definitely established. The representativeness of the schools involved must inevitably have an important bearing on the interpretation of group comparisons. It will be well, therefore, to describe at least briefly both the methods used in selecting schools for study and the eventual composition of the groups of schools from which data were secured.

The study sought to obtain data from a random sampling both of reorganized schools and of conventionally organized schools. The method used in securing representatives of reorganized schools was somewhat different from that used in securing representatives of conventionally organized schools, so that the two methods need to be separately described.

*Method of selecting reorganized schools.*—The reorganized schools which were asked to make reports were selected in such a way as to provide a sampling from each of the most prominent types of grade organization (6-3-3, 6-2-4, 6-6, and the like), from each of five major-size groups of communities, and from all sections of the country. With two major exceptions, schools of each type of grade organization were chosen in

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mathematical proportion to the existing distribution of the various types among the several States and among the various population groups.

The first exception concerned types of schools of which fewer than 100 were to be found in the country as a whole. There was reason to believe that the percentage of replies would not be high enough to provide a sampling of these schools sufficiently large for use in group comparisons. As a result of this exception, approximately 7 per cent of the reorganized schools of which the Office of Education had record were not directly represented in the list of schools from which detailed information was sought. These schools were, however, included in a separate investigation in which a special inquiry was addressed to each school.<sup>3</sup>

The second exception concerned the selection of schools within any single population group. In general, at least 50 schools of each type to be studied were chosen from each population group. If fewer than 50 schools of a given type were to be found in any one population group, then all the schools of the type in question in that population group were included. Since reorganization has been more extensive in the large population groups than in the smaller, this exception affected chiefly the representation of the smaller centers. As a result of the method used, the original list of schools to be studied included a disproportionately large representation of schools in small communities.

Certain further exceptions were made to prevent overburdening individual schools with requests for cooperation in the survey. The major departures from completely impartial selection were, however, the two which have been cited. The plan of selection as a whole resulted in a preliminary list of 1,702 reorganized schools, representing eight different types of grade organization. The distribution of the selected schools by types was roughly proportionate to the actual distribution of the eight types included among all the schools of these types existing throughout the United States.

*Reorganized schools submitting data.*—To the schools selected, letters were addressed asking the cooperation of school principals in supplying the data needed in the study. Forty-five per cent of the principals promised cooperation.

<sup>3</sup> See Ch. IV, sec. 1.

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Sixty-five per cent of this number (30 per cent of the total) returned usable check lists. The 506 schools from which these check lists were received were distributed according to types of grade organization, sections of the United States, and sizes of communities, as shown in Table 1.

TABLE 1.—Distribution of reorganized schools supplying detailed data on organization

Types of organization and grades included (12-grade systems)	All schools		Percentages of schools in various sections of the United States					Percentages of schools in various sizes of communities				
	Number	Per cent	New England	Middle-Atlantic	Southern	Middle Western	Western	Fewer than 2,500 population	2,500-9,999	10,000-29,999	30,000-99,999	100,000 or more
1	2	3	4	5	6	7	8	9	10	11	12	13
7-9 junior.....	133	26	13	23	9	38	17	8	14	21	24	23
7-8 junior.....	47	9	26	6	13	32	23	9	40	26	19	6
7-10 junior.....	14	3	7	43	43	7	0	100	0	0	0	0
7-9, 10-12 junior-senior.....	73	15	8	25	15	38	14	25	37	12	8	18
7-8, 9-12 junior-senior.....	40	8	20	20	8	35	17	57	30	13	0	0
7-12 undivided.....	60	12	8	16	10	55	12	61	20	8	2	12
10-12 senior.....	97	19	13	20	8	44	15	4	14	27	30	25
9-12 senior.....	42	8	26	17	5	43	9	14	50	20	7	9
All types.....	506	100	14	20	11	40	15	23	24	18	16	19

Read as follows: Of the reorganized schools supplying data for the study, 133 (26 per cent of the total 506) were 3-year junior high schools containing grades 7 through 9. Thirteen per cent of these junior high schools were situated in New England, etc. Eight per cent of these junior high schools were situated in communities of fewer than 2,500 population, etc.

Analysis of their distribution shows that these schools are not proportionately representative of the various types of reorganized schools throughout the country as a whole. Each of the eight selected types of organization is represented among the schools which finally submitted reports, as is each major geographical division and each of the five size groups of communities. Undue weight is given, however, to the separate junior and senior organizations, especially in comparison with the undivided 6-year organization. Furthermore, the Western States have an exaggerated representation and the Southern States too small a representation. The less populous communities, in spite of the special effort to bolster the number of their returns, have fewer than their

\* Tables 4 and 6 in Ch. II present corresponding data for all secondary schools in the United States.

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due share of examples. Schools of exceptional types of organization—that is, schools with other than the eight common types of grade grouping—are of course not represented at all, as a result of the intentional omission of such schools from the original list.

*General characteristics of the reorganized schools.*—From the facts here given certain inferences may be drawn as to the relative superiority or inferiority of the schools included in the study, compared with reorganized schools in general.

The disproportionate representation of schools according to types of grade organization seems unduly to emphasize neither especially superior nor especially inferior types of organization, as superiority and inferiority have been defined in the study. The study's comparisons tend to suggest that 3-year and 6-year schools are in general more comprehensively organized, and more consistent in their organizations, than are the other types.<sup>6</sup> The presence of an undue number of 3-year schools in the group as a whole, however, seems to be approximately balanced by a dearth of 6-year schools and an overemphasis on certain less promising types of organization. That certain unusual types of organization are not included at all among the schools chosen for group study does not seriously affect the representativeness of the group. The exceptional organizations, whether superior or inferior, would in any case have been present in such small numbers as to have changed only slightly the level of the total group.

The effects of the disproportionate geographical distribution would seem to have favored superior schools. Such data as the study has gathered suggest that, in organization, schools in the West have in general progressed notably further than those in other sections of the country, and that southern schools have to some extent lagged behind. An unduly large representation of western schools, coupled with too small a representation of southern schools, would therefore tend to raise the group level.

A similar tendency is observable in connection with the exaggerated representation of the larger population groups. The drawing of a disproportionate number of schools from the larger centers has meant that the schools cooperating in the study have on the average somewhat greater enrollments

<sup>6</sup> See Ch. IX, sec. 2.

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than schools in general of the types to which these schools belong. It has probably meant also that the schools in the study are on the average more favored financially than schools of their types in general, since the relative amount of money available for school expenditures is likely to increase as the size of the community supporting the school increases. In the analyses made in the study, size of enrollment seems to have a direct positive effect on quality of organization. It is obvious that the relative amount of a school's financial resources may have a corresponding effect. For both these reasons one may fairly infer that schools in the larger communities are likely to be better organized than those in the smaller ones. The presence of an undue proportion of schools from the larger centers thus offers another reason for believing that the group of schools included in the study is on the whole a superior one.<sup>6</sup>

Geographical distribution and sizes of communities thus seem to have favored the inclusion of superior schools. It can not be assumed, however, that these factors have had mutually independent and hence cumulative effects. More probably the disproportionate representation in each respect is itself a product of a single fundamental factor—the type of principals who submitted reports on their schools' organization. Since no school was pressed for a check-list return unless its principal had promised cooperation in advance, it seems probable that the principals who made returns represented the more progressive and professionally interested of their group. The fact that the information sought came most often from notably progressive sections of the country and from the larger population centers may be, in other words, simply a reflection of the quality of leadership in the schools represented—a quality which in itself would favor superior schools.

In the light of these considerations two facts stand out fairly clearly—that the reorganized schools in the study have

<sup>6</sup> Evidence that superior schools were represented in large numbers in this group appears from a supplementary investigation. Returns were secured from 30 schools not included in the list of 1,702, which had been mentioned by writers in educational journals, State supervisors, specialists in secondary education, and others, as being outstanding schools. None of these schools proved to be superior in organization to the best of those represented in the study. Moreover, though nearly all these schools ranked high in terms of organization, few of them obtained ratings comparable to the ratings of the upper fifth of the schools in the group studied.

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a somewhat larger average enrollment than that of the typical reorganized school, and that the schools in the study in all probability represent the better schools of their types in greater proportion than the average or poorer schools. These facts need to be taken into definite account in interpreting the results of group comparisons.

*Method of selecting conventionally organized schools.*—The conventional schools which supplied data for the study, like the reorganized schools, comprise a group which is probably not so faithfully representative of its type as the original plans for the study sought to make it.

Conventional schools were selected in the beginning according to a scheme similar to that used with reorganized schools. The original list of conventionally organized schools comprised 253 4-year high schools and 361 elementary schools, chosen in proportion to the actual distribution of such schools among the various States and the major population groups. The ratio of number of schools chosen to number of schools existing was of course not so large as in the case of the reorganized schools. Among the conventional schools, however, no exceptions had to be made for special forms of organization or for small numbers of schools in certain population groups.

*Conventional schools submitting data.*—Of the principals of the 253 4-year high schools, 44 per cent promised cooperation with the study. Forty-seven per cent of those who agreed to cooperate (21 per cent of the total number) returned usable reports on the organization of their schools. Though the first response was thus practically the same as from the principals of reorganized schools (44 per cent in the one case as compared with 45 per cent in the other), the usable returns from principals of conventional schools were only two-third as frequent (21 per cent as compared with 30 per cent). The difference was due in part to a misunderstanding of instructions which made necessary the rejection of a number of returns. It may have been due in part also to a feeling by the principals of conventional schools that they were being placed on the defensive in being asked to supply data for a comparison of their schools with reorganized schools.

Returns from elementary-school principals proved even more difficult to secure than returns from 4-year high-school

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principals. Since the Office of Education maintains no directory of individual elementary schools, letters were addressed to school superintendents, asking that inclosures (similar in form to the letters sent to high-school principals) be brought to the attention of an elementary-school principal in each superintendent's district. Only 18 per cent of the principals approached in this manner offered reports from their schools. Of the number responding, only 46 per cent (8 per cent of the total number) supplied usable returns. From the standpoint of numbers the elementary schools are therefore the least adequately represented of the major types of schools included in the study.

The eventual returns from conventionally organized schools comprised reports from 52 high schools and from 30 elementary schools. The distribution of schools reporting, in terms of the sections of the country and the sizes of the communities in which they were found, is presented in Table 2.

TABLE 2.—Distribution of conventionally organized schools supplying detailed data on organization

Types of organization and grades included (12-grade systems)	All schools		Percentages of schools in various sections of the United States					Percentages of schools in various sizes of communities				
	Number	Per cent	New England	Middle Atlantic	Southern	Middle Western	Western	Fewer than 2,500 population	2,500-9,999	10,000-29,999	30,000-99,999	100,000 or more
Elementary school, grades 7-8.....	30	37	20	30	3	27	20	17	17	17	10	40
High school, grades 9-12.....	52	63	13	31	4	35	17	35	23	35	4	4
Both types.....	82	100	16	30	4	32	18	28	21	28	6	17

Read as follows: Of the conventionally organized schools supplying data for the study, 30 (37 per cent of the total 82) were elementary schools which reported on their seventh and eighth grades. Twenty per cent of these elementary schools were situated in New England, etc. Seventeen per cent of these elementary schools were situated in communities of fewer than 2,500 population, etc.

*General characteristics of the conventional schools.*—Because of their small numbers, it is more difficult to determine for the conventional schools than for the reorganized schools how representative they are of the general types from which

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they are drawn.<sup>7</sup> The fact that the proportionate return from these schools was relatively low in itself suggests a considerable measure of selection.

The average enrollment of the 4-year high schools, like that of the reorganized schools, is somewhat above the enrollment of the average school of their type. Hence the high schools included in the study probably possess organizations which are at least slightly superior to those of high schools in general. Neither superiority nor inferiority can fairly be inferred from the geographical distribution of the selected high schools, in view of the small number of schools reporting. Superiority may again be inferred, however, from the fact that the high-school principals who submitted data on their schools are presumably, like the principals of reorganized schools, an especially interested and active group. It is probably safe to conclude that on the whole the high schools follow the general pattern of the reorganized schools in comprising a somewhat better than average body.

The elementary schools would seem also to be schools of relatively superior organization. The general level of their organization is indeed probably higher, as compared with that of elementary schools in general, than is the level of the high schools as compared with that of high schools in general. The elementary schools have the same characteristics of relatively large enrollment and of presumably superior leadership, and they have in addition one characteristic not foreseen when they were asked to submit reports—the fact that 13 of their number are in systems in which certain school units have already been reorganized. The inclusion of these latter schools undoubtedly affects the general level of organization represented in the group as a whole, since 11 of the 13 schools in question surpass all the remaining 19 schools in the comprehensiveness and consistency of their individual organizations. It is probable, therefore, that the 30 elementary schools together represent an especially outstanding group.

Whether the selection of the high schools and elementary schools is equivalent to that of the reorganized schools is not clear. Enrollment in the conventional schools is on the whole somewhat smaller than that in the corresponding

<sup>7</sup> Data on the numbers and distribution of conventional high schools in general (no such data are available for individual elementary schools) are presented in Tables 4 and 6 in Ch. II.

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grades of the reorganized schools. This is as it should be, however, if conventional schools in general are to be compared with reorganized schools in general, since reorganization has thus far taken place predominantly among the larger schools. There is no reliable basis for comparing qualities of leadership in the two types of schools; though the fact that the conventional schools may have felt themselves on the defensive has perhaps brought about a greater selection of superior schools from this group than from the reorganized group. The only clearly distinguishing factor is to be found in the indirect influence of reorganization upon nearly half the conventional elementary schools. In general, it is perhaps safe to assume that the conventional schools as a group are no *less* superior representatives of their type than are the reorganized schools of their type. Comparisons between the two groups are, indeed, likely to give the benefit of any doubt which may arise to the older type of organization rather than to the newer.

*Effects of disproportionate representation on interpretation of group comparisons.*—The effects of disproportionate representation which need most definitely to be taken into account are two—the possible influence of an especially high degree of selection among the conventional elementary schools and the effect of insufficient representation of small schools. The first of these effects is explicitly recognized in the comparison which the study has undertaken between conventional and reorganized schools. To assure fair comparisons between schools of various sizes, the factor of size has been at least roughly equated by a method which is explained in detail in a later chapter.<sup>8</sup> Thus the major discrepancies in sampling are dealt with directly in the comparisons which they affect.

Except in the matter of these two discrepancies, the results of comparisons between the various types of schools can probably be accepted at approximately their face value. The fact that the schools represented in the study are apparently a better-than-average group means, of course, that the description of any one type of organization as represented by these schools can not be strictly interpreted as a description of usual practice. Comparisons of the schools of various types may possibly give a somewhat inexact notion of the ways in which usual schools differ from each other.

<sup>8</sup> Ch. IV, sec. 4.

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In the main, nevertheless, it seems safe to assume that the differences between the schools included in the study furnish a reasonably reliable index of at least the more important distinctions in general practice.

### 5. METHODS EMPLOYED IN INTERPRETING DATA

*Need for a scoring plan.*—There remains to discuss one further point in connection with the basic procedure of the study—the method used in interpreting the detailed information supplied by individual schools.

To put into active effect the study's assumptions as to what constitutes superiority and inferiority in school organization a plan had to be evolved for computing summary scores for individual schools. The plan finally adopted had two parts: First, a scheme for evaluating the total number of arrangements which made up a given school's organization, and, second, a system for taking into account the way in which the arrangements were distributed among the major features of organization. These two parts represented means for providing the measures of comprehensiveness and of consistency, respectively, which were implied in the study's assumptions. Because of the possible bearing of the plan upon other investigations of school organization, the procedures which it involved are here described in some detail.

*Measurement of comprehensiveness of organization.*—The method of securing a measure of the comprehensiveness of any given organization consisted essentially in a scheme of scoring by which credit was granted for each single arrangement reported in the check-list return for the organization in question. Under each of the nine major features of organization represented in the check list, the scheme provided, in the main, for equal credit for each item checked. Scores under the separate features were not totaled, since the gross score for a given school was believed to be less significant than a series of scores relating to the major phases of the school's work. Thus the plan in skeleton form consisted simply in counting the number of arrangements checked under each major head, and reording total scores for each of the nine major features.

As is likely to be the case in any attempt to obtain summary scores for highly complex arrangements, the plan as

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outlined could not always be strictly adhered to. Certain items, for example, seemed enough more important or more significant than other items to warrant the use of appropriate weightings. Thus the provision of guidance classes or classes in occupations was given a score of 5, as compared with a score of 1 for the use of self-ratings by pupils as a part of the guidance program. Arrangements reported to be in active use, moreover, seemed more valuable than arrangements which were reported to be only occasionally used; the former were commonly scored 2, as compared with a score of 1 for the latter. According to a like scheme, scores for "activities" and "agencies," which were separately classified under certain heads (supervision, for instance), were so arranged as approximately to balance each other, so that a school might not gain more credit for the form of organization than for its substance. Again, the extent to which specific arrangements were used by pupils or teachers seemed worth taking into account. Where principals had been asked to indicate extent of use, scores were given in proportion to whether the use was by "some" pupils or classes, or by "many," or by "a large majority." A plan of weighting was used also in scoring the program of studies; 5 points were given for a basic offering in a given grade in any given subject, and only 1 point for each additional offering in the same grade and subject. Under various of the major heads, finally, a scheme was used by which certain subheads were appropriately balanced against each other in obtaining the total score. Thus, under the heading "Organization of instruction" appeared subordinate headings referring to practices in the departmentalization of teaching, the use of standardized tests, and the like, each of which was to play a part in the summary rating. In this instance and in others like it the total possible scores for the subheads were so weighted as to do what seemed to be reasonable justice to their relative importance. Thus the plan in detail, while holding to the principal of a simple totaling of separate practices, involved of necessity various exceptions to the general rule.

*Validation of the scoring system.*—To test the effectiveness of the scoring system in distinguishing various degrees of

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excellence of organization three separate methods of validation were employed.

The first of these methods was used in the construction of the scoring system. A test group of 20 schools was selected, representing various sizes and types of organization and including a number of schools with which the investigators were more or less intimately acquainted. As soon as a plan of scoring had been devised for a major feature of organization, the plan was tried out on the reports from this test group of schools. Modifications were then made, in weightings or in methods of scoring individual items, until the scores obtained by the schools were such as to rank the schools in a way which seemed to the investigators to be in keeping with the relative comprehensiveness and flexibility of each school's organization under the major feature in question. The assignment of values to individual items or groups of items was thus not purely arbitrary, but was made in terms of a pragmatic test of results.

A second method of validation was employed after large numbers of schools had been scored according to the plan finally adopted. Twenty-two of the twenty-five schools which were visited as a means of gaging the accuracy of check-list returns were used also for testing the trustworthiness of the scoring system. Each school, after it had been visited for one or two days, was assigned a rank in relation to the other schools visited by the same investigator, on the basis of what the investigator had learned about the school's organization and what he had been able to judge of its general effectiveness. When the schedule of visits had been completed the rankings obtained were compared with rankings established on the basis of the scoring system. That a large amount of agreement should have been found between the two sets of rankings was probably to be expected, since the persons who did the visiting were those who had been responsible for developing the scoring system. More important than the fact of extensive agreement was the fact that careful analysis of the few cases of disagreement revealed no grounds for any basic change in the scoring system. The discrepancies between the two sets of rankings brought to light certain minor instances in which different methods of scoring would undoubtedly have produced more accurate measures; but

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the general plan of scoring seemed sound enough to warrant a considerable measure of reliance upon it.

These two methods of validation were, of course, highly subjective in nature. The third method rested on a more objective basis. It consisted in selecting a group of 25 schools which ranked high in organization in terms of the scoring system used, a second group of 25 schools which obtained average scores, and a third group of 25 schools which scored among the lowest of those studied. The first group was compared with the second and the second with the third, to determine whether the schools in the successive groups reported specific practices to significantly different extents. Because of limitations on the resources of the study, the statistical computations which this method of validation required could not be carried through to completion.<sup>9</sup> Computations were carried far enough, however, to show that schools ranked high by the scoring system differed indisputably from schools ranked average in a large number of the specific practices which they reported, and that the average schools differed similarly from the schools ranked low. The objective method of validation thus agreed with the more subjective methods in indicating that the scoring system did in fact distinguish among at least certain major groups of schools on the basis of reliable differences.

The fact that these three methods of validation all tended to support the system of scoring used in the study does not mean, of course, that the system is to be accepted as entirely satisfactory. As has already been suggested, careful analysis of the results of the scoring system indicated a number of specific points at which the method of scoring might profitably have been modified. The use of weightings, in particular, seems to have been carried farther than was necessary to indicate significant differences among individual schools; stricter adherence to the plan of simple counting would apparently have produced quite as reliable results. A considerable number of items have proved, moreover, to be not especially indicative of quality of organization. Though

<sup>9</sup> These computations, and others bearing on the validity and reliability of the scoring system used, have subsequently been completed independently of the Survey. They are published in connection with a revised form of the original check list and scoring system in Frederick, O. I.: *Two Standardized Check Lists for the Organization of Secondary Schools* (Ann Arbor Press, Ann Arbor, Michigan, 1933).

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many of these items need to be included in any comprehensive description of the organization of an individual school, they serve no important purpose in distinguishing the better from the poorer organizations. Given further opportunity for experimentation than the scope of the present study allowed, these defects, and no doubt others as well, might be largely removed.

The fact that the various methods of validation in the main support the system which was used means that the results of this system, in spite of its defects, are likely to have a considerable degree of significance. Particularly when detailed analyses of practice support the general ratings, the summary scores for major features of organization are worthy of careful attention.

*Establishment of norms for comprehensiveness of organization.*—To aid in the interpretation of the summary scores, the study has derived two sets of tentative norms. One set presents upper-quartile, median, and lower-quartile scores for the 506 reorganized schools which have been used in group comparisons, classified in six size groups regardless of type. The other set presents corresponding scores for the 588 schools of all types, classified according to type groups regardless of size. In both sets of norms scores for the organization of the junior high school grades are presented separately from scores for the organization of the senior high school grades. In both sets of norms, likewise, the scores are presented in terms of each of the nine major features of organization, rather than as single scores for school organization as a whole.

These norms have not been checked for the statistical reliability of the differences among the scores for various sizes of schools and types of organization. That figures are not given for the reliability of differences is due to no overconfidence in the validity or dependability of the norms. The norms have been used in the study merely as indications of possible differences deserving investigation. The question of whether the differences are "real" in a statistical sense has been dealt with in terms of the specific practices reported for the various types and sizes of schools. Critical ratios have been calculated on the basis of the frequency of these practices, and the differences suggested by the norms have been checked against the results of the detailed calculations. The norms alone, in other

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words, are not to be regarded as wholly reliable standards for school organization. They offer merely certain approximate indications of the extent of comprehensiveness of organization found in the schools of the study—schools which, it should be recalled, are probably a somewhat selected group.

*Measurement of consistency of organization.*—The scoring methods thus far described yield measures only of the total number of arrangements provided by any given school in connection with the major features of its organization. Measures of consistency of organization have been separately arrived at.

The study has made no attempt to devise a system of scores for consistency which can be applied to individual schools. Since the study has been concerned primarily with good organization rather than with mediocre or poor organization, a system has seemed adequate which would indicate how many schools of a given group were "good" in the sense that they achieved reasonable consistency combined with better-than-average comprehensiveness.

The singling out of schools of this sort has been accomplished by selecting those schools which stood at or above the median scores indicated by the norms in each of their nine features of organization. The norms used for the purpose have been the norms for the various sizes of schools irrespective of type. Each school has been judged, that is to say, in relation to all other schools of its own size included in the study. The underlying assumption has been that a school may fairly be regarded as consistent in its organization when it does at least as much justice to each of its major features as is commonly done by other schools with equal capacity for effective organization. Though the selected schools include a number of schools which have provided much more comprehensively than the average for some features, they include no schools which have seriously neglected any one of their features.

Surprisingly enough, this criterion for consistency has proved very difficult for certain types of schools to meet. In order to provide sufficient numerical representation to allow the comparison of all types of schools, the study has therefore relaxed the criterion to include two additional groups of schools. It has selected, first, the schools which fell

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below the median, but at or above the lower quartile, in not more than one of their features; and, second, the schools which similarly departed from the standard in not more than two of their features. Each succeeding group thus selected includes all the schools in the preceding group, plus the schools added by lowering the standard. The number of schools in each group is separately reported to allow comparison of the degrees of consistency attained by the various types of schools.

*Interpretation of measures of comprehensiveness as related to measures of consistency.*—The measures of comprehensiveness and the measures of consistency are obviously related to each other, in that both are dependent on the basic scoring system. Because of this dependence, the conclusions suggested by the latter measures, like those suggested by the former, must ultimately stand or fall in terms of the trustworthiness with which the scoring system indicates reliable differences in schools' specific practices.

The measures of comprehensiveness and of consistency serve to reveal, however, somewhat different characteristics of the groups of schools to which they are applied. The extent to which a given group of schools reaches or surpasses, *as a group*, the norms for the various features of organization indicates the degree of probability that a given school of that group will stand at or above the median in any single feature. But a given school may attain high standing in one feature at the expense of its standing in others; so that the scores for a group of schools may often be achieved by exceedingly "spotty" attainments on the part of the individual schools composing the group. The measures of consistency of organization indicate the extent to which the attainments of individual schools are not "spotty." They thus provide an important complement to the measures of group attainment—an indication of the proportion of each group which is composed of individual schools well organized *as wholes*.

Each of these measures is important in suggesting the possibilities of various forms of organization. The measure of consistency is, however, the more dependable of the two as a gage of the extent to which "good" organization is likely to be attained by an individual school of any given type. For this reason the study has given particular atten-

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tion to this measure. Though with improvement in the scoring system the measure of consistency would undoubtedly be more valuable than it now is, it seems sufficiently reliable even in its present form to support a number of significant conclusions.

### 6. THE PLAN OF THIS REPORT

For convenience in reference the report of the conclusions to which the study as a whole has led has been divided into three major divisions.

Division I comprises two chapters in which are presented data on the status of the movement for secondary-school reorganization. Facts as to status are set forth only in sufficient detail to make the outlines of the present situation clear. No attempt has been made to analyze the data in all possible particulars, since the major concern of the study, like that of most other projects of the survey, has been not with present status as such, but with promising departures from usual practice.

Division II consists of a number of chapters in which are presented the results of an analysis of various forms of school organization. Comparisons of organization in various types of schools constitute the phase of the study to which chief attention has been given. The data used in the comparisons have therefore been reproduced in as much detail as the scope of this report permits. The principal conclusions drawn from the data are summarized in the final chapter of this division.

In Division III are described certain procedures in secondary-school organization which seem to be especially promising. To afford illustrations of outstanding practice, Division III includes a chapter devoted to descriptions of a number of exceptionally well organized schools.

The three divisions of the report contain no extensive restatements of the fundamental assumptions of the study. In order that the data and the conclusions of the study may be presented as compactly as possible the detailed discussion of basic assumptions and procedures is confined to this introductory section. The report should be read, therefore, with due recognition of the points of view presented in the preceding pages.

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DIVISION I : THE PRESENT STATUS OF SECONDARY-SCHOOL  
REORGANIZATION

CHAPTER II : THE SPREAD OF THE MOVEMENT  
FOR REORGANIZATION

1. THE EFFECT OF REORGANIZATION ON THE  
CLASSIFICATION OF PUPILS

*The background of reorganization.*—The reorganized secondary school has thus far played a relatively brief part in American educational history. Proposals for drastic modification of the conventional 4-year high-school organization were made as early as 1893 through the medium of the famed Committee of Ten. The recommendations of this committee and the proposals of later official and semiofficial groups began to bear tangible fruit, however, only a little more than two decades ago. In 1910 some few reorganized schools had been established in scattered cities and towns throughout the United States. Twelve years later the number of such schools had grown to nearly 1,600, and school systems which had been reorganized or partly reorganized were to be found in every section of the country. In 1930 the United States Office of Education received reports from 5,619<sup>1</sup> reorganized schools, representing all 48 States and the District of Columbia. Despite the brevity of its existence, the movement for reorganization has thus shown a growth hardly less phenomenal than that of the original movement for the establishment of public secondary schools.

*The purpose of this chapter.*—It is the purpose of this chapter to describe the present status of reorganization and the present trends of the movement as a whole. The discussion treats only of schools for white pupils; the reorganization of secondary schools for colored pupils has been dealt with separately in another project of the survey.<sup>2</sup> To allow a description of present status within relatively brief compass,

<sup>1</sup> The final check revealed that 5,777 reorganized high schools sent reports to the Office of Education for 1930; this number is included in the Biennial Survey of Education, 1928-1930.

<sup>2</sup> See Monograph No. 7.

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no attempt has been made to set forth all the aspects of the movement as it has affected the separate States. The geographical spread of reorganized schools is considered in some detail, but the distribution of such schools according to their enrollments and to the sizes of the communities in which they are found has been analyzed only for the country as a whole. The omission of a large amount of detail will, it is hoped, result in a somewhat clearer presentation of outstanding features in the immediate situation.

*Types of reorganized schools.*—From the beginning the movement for reorganization has had the effect of producing a variety of special types of grade grouping. The abandonment of the 8-4 system has usually meant a downward extension of the secondary-school grades to include what were originally the seventh and eighth grades of the elementary school. The reorganized system has thus ordinarily included two divisions of six grades each. Under this scheme the secondary division has comprised sometimes a single unit and sometimes two units of varying numbers of grades.

The variety of grade groupings has been increased by the fact that a large number of school systems have found themselves unable to establish a 6-year secondary division, or have been unconvinced of its desirability. Such systems have frequently set up 5-year secondary divisions, which again have been administered sometimes as single units and sometimes in two separate units, including varying numbers of grades. In other instances school systems have recognized either more than six grades or fewer than five grades as representing their secondary divisions, and have undertaken a reorganization on the basis of one or more school units within these divisions.

All these variations are to be found within 12-grade systems. Corresponding readjustments have taken place within 11-grade and 13-grade systems, thus increasing still more the number of different types of schools which alike are termed "reorganized."

In spite of the diversity of special grade groupings, reorganized secondary schools can be classified in general according to three main types. The first of these types comprises schools in which the secondary grades are administered in separate junior and senior units. Within this type fall *separate*

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*junior and senior high schools* organized as 1-, 2-, 3-, or 4-year units. Within 5- and 6-year secondary divisions the separate junior and senior units together ordinarily include the secondary school grades without overlapping, though 4-year junior high schools in systems not offering work beyond the tenth grade frequently rely on the 3-year senior high schools in neighboring systems for the completion of the secondary-school program. A second type consists of *undivided 5- or 6-year secondary schools*, in which all the work of the secondary division is organized within a single school unit. The third type comprises *5- or 6-year junior-senior high schools*—a form of organization representing a compromise between separate junior and senior high schools and undivided schools. The junior-senior schools combine both junior and senior high school grades in a single organization under which these grades use the same school plant and are administered by the same principal. Junior-senior schools tend, however, to preserve a clear distinction between the junior and senior units, assigning certain teachers especially to the separate units, frequently arranging for separate programs of extra-curriculum activities, and often allocating certain parts of the school building exclusively to one unit or the other.<sup>3</sup>

*The present extent of reorganization in terms of the school grades affected.*—One result of the variety of grade groupings adopted by reorganized schools has been to make exceedingly difficult any attempt to generalize about secondary schools or secondary-school pupils. With 4-, 5-, and 6-year secondary systems operating side by side, pupils even in neighboring communities may begin their secondary education at very different periods. While the seventh grade represents the first high-school grade in most reorganized systems, pupils in many such systems do not enter the secondary school until the eighth grade, and pupils in conventional systems are not classified as high-school pupils until they enter the ninth grade.

<sup>3</sup> For a description of the junior-senior high school organization as distinguished from the undivided 6-year organization, see Bristow, W. H., *Reorganization of Secondary Education under State Supervision*, *School Life*, 14 : 173-175, May, 1929. A description of a junior-senior organization which provides for more marked separation of junior and senior units than is suggested by Bristow may be found in Brown, W. W., *The Possibilities of Administrative Organization of the Junior High School under a Six-Year Organization*, *Educational Administration and Supervision*, 10 : 409-412, October, 1924.

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The effect of these differences in classification on the school population for the country as a whole is shown in Table 3. This table is so arranged that the six grades ordinarily considered secondary-school grades in reorganized schools are included under the same headings whether the schools reported are in 11-, 12-, or 13-grade systems. Thus the last grade of high schools in either 11- or 13-grade systems is reported as grade 12, and the lower grades are correspondingly moved up or down.

Three major facts are apparent from this table: First, reorganized schools accounted in 1929-30 for a larger proportion of the pupils enrolled in grades 9 through 12 than of the pupils enrolled in the preceding grades; second, there was wide variation in the proportions of pupils enrolled in the various types of reorganized schools; third, in spite of the phenomenal growth of the newer organizations, the pupils enrolled in conventional elementary schools and 4-year high schools still outnumbered the pupils enrolled in the corresponding grades of reorganized schools by more than 2 to 1. These facts deserve brief comment.

*The effect of transfers of pupils from conventional to reorganized schools.*—The fact that reorganized schools account for a larger proportion of the pupils enrolled in the upper grades than in the lower is clearly evident in the percentages shown at the head of Table 3. All types of reorganized schools together enroll more than a third of the secondary-school pupils in the four upper grades, whereas such schools enroll only a little more than a fourth of the pupils in grades 7 and 8. In each of the major types of reorganized schools there is similarly a greater proportionate number of pupils in the upper grades.

This fact may be variously explained. In most instances the relative gain in enrollment in the reorganized schools is no doubt chiefly due to transfers of pupils from conventional schools. Such transfers obviously take place between the seventh and eighth grades of systems which do not begin secondary-school work before grade 8. Transfers take place also—particularly between grades 8 and 9—from small school systems supporting no high-school grades to larger systems which have been reorganized. Within single systems which have been only partially reorganized, moreover, there may

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TABLE 3.—Percentages of white pupils, by grades, in various types of schools, 1929-30

Type of school	Grades <sup>1</sup>						
	7 to 12	7	8	9	10	11	12
1	2	3	4	5	6	7	8
All types (number).....	7,724,566	1,929,385	1,787,652	1,409,489	1,102,284	829,061	666,095
All elementary, all regular high.....	67.9	72.9	71.4	62.2	64.9	65.0	64.8
All reorganized.....	32.1	27.1	28.6	37.8	35.1	35.0	35.2
<i>Reorganized</i>							
All junior, all senior.....	20.0	18.4	19.4	23.6	20.0	19.4	19.5
7-9 junior, 10-12 senior.....	16.1	15.2	15.6	19.4	15.6	15.2	15.2
7-8 junior, 9-12 senior.....	2.1	1.8	1.9	2.1	2.2	2.3	2.4
6-8 junior, 9-11 senior.....	1.1	.7	.8	1.0	1.6	1.6	1.6
Other junior, other senior.....	.7	.7	1.1	1.1	.6	.3	.3
All 5-year and 6-year.....	12.1	8.7	9.2	14.2	15.1	15.6	15.7
7-12 undivided 6-year.....	4.8	3.7	3.8	5.5	5.8	6.0	6.1
8-12 undivided 5-year.....	.2		.2	.4	.4	.4	.4
7-9; 10-12 junior-senior.....	4.4	3.2	3.2	5.0	5.6	5.6	5.6
7-8; 9-12 junior-senior.....	2.2	1.6	1.6	2.7	2.7	2.9	3.0
Other 5-year and 6-year.....	.5	.2	.4	.6	.6	.7	.6

<sup>1</sup> Grades in 11-grade systems are moved up 1 grade and grades in 13-grade systems are moved down 1 grade to conform with this classification.

Read as follows: Of the 1,929,385 white pupils in grade 7, 72.9 per cent are in elementary schools and 27.1 per cent are in reorganized high schools. This 27.1 per cent is the sum of the 18.4 and 8.7 per cent, etc.

be transfers from a conventional elementary school to a reorganized ninth grade, or from a junior high school to the tenth grade in a conventional high school.<sup>4</sup> Analysis of the detailed data from many individual school systems suggests that the effect of transfers may be so great as to account for nearly, if not quite, all the relative gains which the reorganized schools show.

*The holding power of reorganized and conventional schools.*— It is possible, however, that a greater holding power on the part of the reorganized schools has something to do with their relative gains in enrollment. The data available for study has not allowed rigorous investigation of this possibility. The absence of gain in the three upper grades of the reorganized schools nevertheless throws some light on the

<sup>4</sup> Transfers of the latter sort probably account for the decrease of relative enrollment in reorganized schools between grades 9 and 10. For the purposes of Table 3, 4-year high schools in partially reorganized 6-3-3 systems have been classified as conventional schools even though many of the pupils in the three upper grades of such schools have been promoted from grade 9 of a junior high school.

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matter. Transfers of pupils from one type of school to another are infrequent in these grades, and the transfers which occur are quite as likely to take place from reorganized schools to conventional schools as in the opposite direction. The fact that the proportionate enrollment of the reorganized schools remains constant at about 35 per cent in the three upper grades, and that it remains fairly constant also in each of the separate types of reorganized schools, suggests that reorganized and conventional schools exert about the same degree of retention in these grades. What is true for the three upper grades may, of course, not hold true for the lower grades as well. But in view of the fact that shifts of enrollment can very largely be explained in terms of transfers, the figures here presented give no substantial support to the assumption that reorganized schools have extraordinary virtues in the matter of retention.

*Relative enrollments in various types of reorganized schools.*—The second fact illustrated by Table 3—that wide variations exist in the proportions of pupils enrolled in the various types of reorganized schools—is significant in the present connection chiefly because it emphasizes the small place now occupied in the total educational system by any one type of reorganization. Of the newer schools only the separate 3-year junior and senior high schools have become widely enough established to deal with any large proportion of the secondary-school enrollment. No other single type of reorganized school enrolls more than 1 in 20 of the total number of pupils in the grades which it includes, and certain types of schools enroll fewer than 1 in 100.

Among the reorganized schools themselves Table 3 clearly indicates the predominance of the separate junior and senior high schools. The various schools of these types account for approximately two-thirds of the reorganized school enrollments in the three lower grades and for well over half the enrollments in the upper grades. The enrollments of the various types of schools as compared with each other will be considered in more detail in the following section.

*Proportionate enrollments in reorganized and conventional schools.*—Table 3 is chiefly significant for the light that it throws on proportionate enrollments in reorganized and conventional schools.

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Comparisons which have been made in the past between enrollments in various types of secondary schools have for the most part used figures contained in the reports of the successive biennial surveys of the United States Office of Education. It has been found impracticable in the biennial surveys to obtain data from individual elementary schools. Hence grade-by-grade statistics have usually been given only for high schools. These have been of two kinds. In the first place, the enrollments in the last four years of reorganized systems have been compared with the enrollments in 4-year conventional high schools. In the second place, comparisons have been instituted between the total enrollments in reorganized schools and the total enrollments in 4-year conventional schools. On the latter basis in particular, the reorganized schools have displayed a much larger proportionate enrollment than would have been shown if they had been compared with 4-year high schools and the seventh and eighth grades in elementary schools together.

The disparity between the results of the two methods of comparison may be readily illustrated. Table 3 shows that of the total school population of the six upper grades in 1930, 67.9 per cent were enrolled in conventional elementary schools and 4-year high schools, and only 32.1 per cent in reorganized schools. Figure 1 in the following section shows that of the total high-school population in 1930, 49 per cent were enrolled in reorganized schools. The latter comparison suggests a reorganized school enrollment half again as large as that indicated by the former.

Both types of comparison, of course, have meaning. Because of the difficulty of obtaining accurately classified returns from elementary schools, the remaining comparisons presented in this chapter are of the second type—they indicate the ratios between reorganized school enrollment and the total *high-school* enrollments. The difference between the two types of comparisons needs to be kept clearly in mind. It is to be noted, on the one hand, that practically half the present high-school population is found in reorganized schools. It is also to be noted, on the other hand, that slightly less than one-third the population of the six upper grades is as yet in these schools.

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That no larger proportion of the school population has been directly affected by reorganization is hardly a cause for discouragement. On the contrary, the fact that within the space of approximately 20 years the movement for reorganization has touched as many as one-third of the pupils whom it was intended to reach is indeed remarkable. The figures here presented give some evidence, nevertheless, of how far the movement has yet to go before reorganized schools will have supplanted the traditional form of organization.

### 2. THE GEOGRAPHICAL SPREAD OF THE MOVEMENT

*The extent of reorganization in the various States.*—In Figure 1 are shown the percentages of all secondary-school pupils enrolled in reorganized schools in 1929-30 for each of the five principal sections of the United States and for each of the States, and the corresponding percentages of reorganized schools compared with the total numbers of secondary schools.<sup>5</sup> Sections and States are listed in descending order according to the proportions of pupils enrolled in reorganized schools.

It is apparent that all the States have been touched to some extent by the movement for reorganization, though in widely varying degrees. Sections of the United States have been affected unequally also, but the range of variations is less extreme than in the case of the individual States. New England leads in both the proportion of pupils affected and the proportion of schools reorganized. The Western States rank second as a group in the proportion of high-school pupils enrolled in reorganized schools, but are third in the proportion of schools affected. The middle western and middle Atlantic sections occupy the third and fourth positions, respectively, in terms of the percentages of their pupils in reorganized schools. The Southern States, which rank last in both measures, are noteworthy for their variations in extent of reorganization. Of the total list of States, the three States most affected and the three States least affected are found in the southern group.

<sup>5</sup> It should be noted that Fig. 1 does not show the number of school systems in which either partial or complete reorganization has taken place. Since reorganization commonly involves the establishment of separate junior high schools, a school system is likely to have more secondary schools after reorganization than before. The proportion of communities affected by reorganization in each State is therefore smaller than the proportion of reorganized schools.

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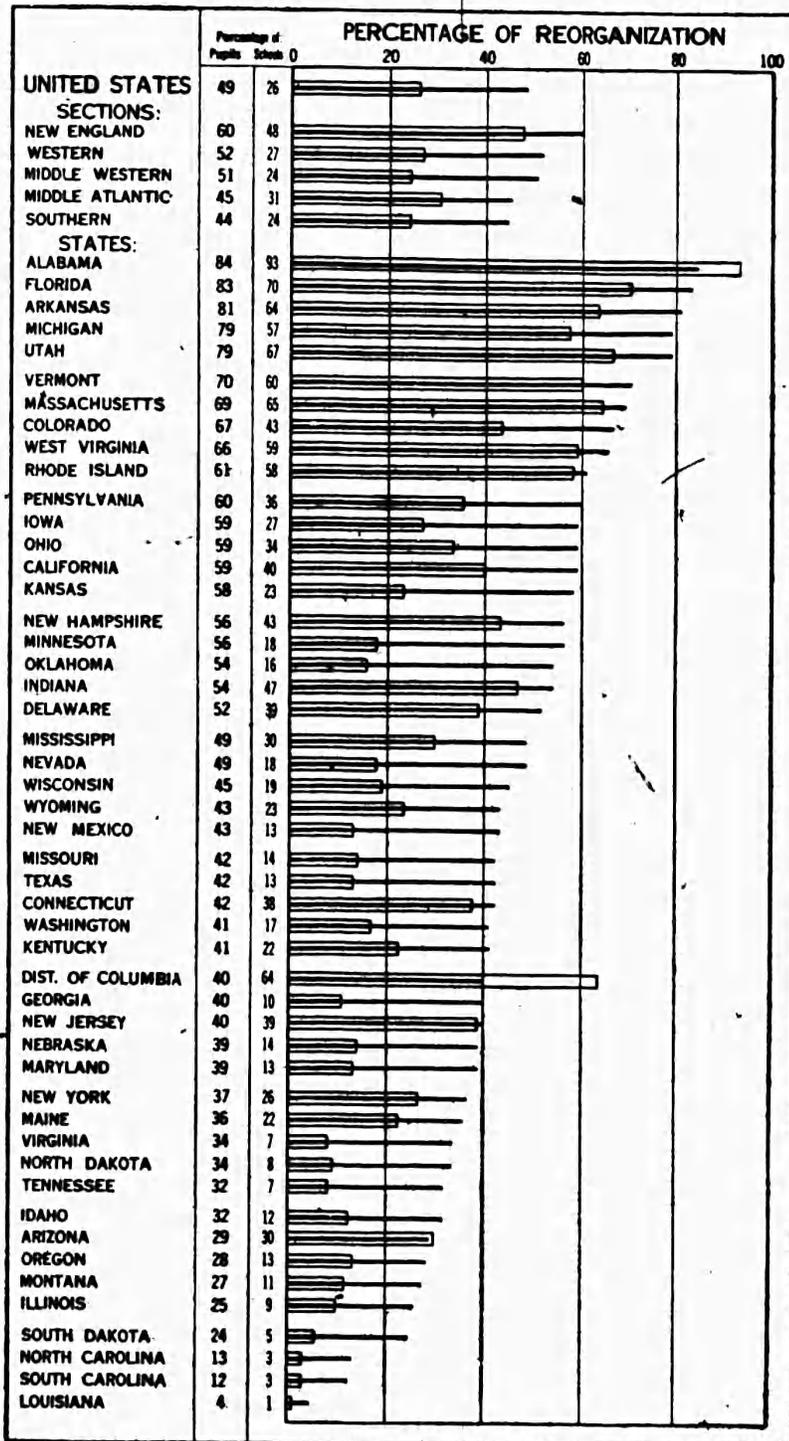


FIGURE 1.—Extent of reorganization of schools for white pupils in the various States, 1929-30. (Rectangle, the percentage of secondary schools which are reorganized; line, the percentage of secondary-school pupils who are in reorganized schools.)

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TABLE 4.—Numbers of various types of secondary schools for white pupils, by States, 1929-30

States classified by sections	Types of schools													
	Total	All regular	All re-organized	12-grade systems			Other junior	12-grade systems			Other junior and undivided	12-grade systems		
				Junior 7-9	Junior 7-8	Junior 7-10		Junior senior 2-4	Undivided 6-year	Senior 10-12		Senior 9-12	Other senior	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
United States.....	21,522	15,908	5,619	1,288	204	196	99	936	637	1,446	170	454	142	47
New England.....	919	476	443	189	41	9	4	17	42	76	6	57	30	2
Connecticut.....	108	67	41	20	3	4	4	2	2	0	0	6	4	1
Maine.....	217	170	47	10	3	3	3	4	4	8	8	8	3	3
Massachusetts.....	371	181	124	116	126	1	1	6	14	18	4	136	17	1
New Hampshire.....	105	60	45	3	10	3	3	1	1	19	19	2	2	1
Rhode Island.....	33	14	10	10	2	2	2	2	1	48	2	6	6	1
Vermont.....	85	54	51	22	2	2	2	2	21	20	2	2	2	2
Middle Atlantic.....	2,533	1,745	788	273	15	37	5	139	62	169	8	76	4	4
Delaware.....	28	17	11	1	1	1	4	4	2	3	1	1	1	1
District of Columbia.....	14	6	9	9	9	9	9	9	9	9	9	9	9	9
Maryland.....	167	145	22	13	4	6	6	6	1	1	1	1	1	1
New Jersey.....	214	131	83	46	4	1	4	4	2	10	1	15	1	1
New York.....	1,943	1,686	1,247	198	4	2	3	36	145	34	5	119	1	1
Pennsylvania.....	1,167	751	416	106	5	134	2	89	13	121	2	41	3	3
Southern.....	6,394	4,862	1,522	232	13	115	81	311	76	493	105	49	8	39
Alabama.....	347	25	132	35	4	6	1	154	9	114	1	7	1	1
Arkansas.....	348	127	121	18	2	16	1	55	5	122	1	5	1	1
Florida.....	238	72	166	37	2	32	1	37	6	45	1	8	1	1
Georgia.....	414	373	41	13	3	3	1	27	19	71	1	6	1	1
Kentucky.....	623	494	130	11	3	3	1	19	19	71	1	3	1	1
Louisiana.....	335	332	3	14	1	1	1	9	133	71	12	3	1	1
Mississippi.....	609	426	183	3	1	188	6	2	8	1	8	1	1	1
North Carolina.....	1,758	1,734	24	3	1	1	3	2	1	1	3	1	1	1
South Carolina.....	304	265	39	1	1	1	1	1	1	1	1	1	1	1
Tennessee.....	545	506	39	22	1	1	1	4	6	1	4	4	4	4

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Ohio	1,080	1,943	146	6	106	2	18	4	7	1	60	2	2	3	406	3	20	1	1	64	2	2	189	80	1	33
Virginia	436	407	29	177	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3
West Virginia	338	138	200	1	2	18	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3
Middle Western	9,564	7,261	2,303	426	106	18	4	406	378	654	41	189	80	1	3											
Illinois	1,989	1,868	91	34	116	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3
Indiana	1,812	430	1,382	24	112	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3
Iowa	1,069	1,200	20	20	15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3
Kansas	1,724	1,659	165	37	16	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3
Michigan	1,701	304	1,397	160	14	6	2	186	162	105	117	11	11	11	11	11	11	11	11	11	11	11	11	11	11	3
Minnesota	563	499	104	35	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3
Missouri	1,974	1,841	133	22	8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3
Nebraska	598	1,516	82	11	5	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3
North Dakota	408	374	34	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3
Ohio	1,1,228	1,818	1,420	198	13	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3
Oklahoma	1,780	1,656	124	26	1	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3
South Dakota	334	316	18	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3
Wisconsin	494	391	93	35	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3
Western	2,122	1,559	563	198	30	17	5	64	79	54	10	83	20	1	3											3
Arizona	57	40	17	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3
California	474	283	191	196	2	9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3
Colorado	228	130	96	20	5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3
Idaho	172	152	20	5	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3
Montana	300	179	21	2	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3
Nevada	34	28	6	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3
New Mexico	120	104	16	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3
Oregon	284	248	36	14	6	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3
Utah	113	37	76	28	9	8	2	7	4	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3
Washington	346	286	60	22	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3
Wyoming	94	72	22	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3
Number of States	48	48	48	45	33	25	18	41	40	40	31	43	33	1	1	1	1	1	1	1	1	1	1	1	1	1
Smallest number of States containing one-half the schools	12	11	9	7	7	3	1	6	6	5	3	8	6	1	1	1	1	1	1	1	1	1	1	1	1	1

For each type of school, footnote indicates the States having the greatest numbers of schools of that type. Enough States are indicated to account for half the schools of each type. The last horizontal column shows the numbers of States footnoted. And the District of Columbia.

NOTE.—The final count of high schools reporting to the Office of Education during the school year 1929-30 was 22,237.

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Besides showing the varying degrees to which reorganization has been adopted in the various States, Figure 1 suggests the extent to which reorganization has affected large schools as compared with small. With few exceptions, the proportions of pupils enrolled in reorganized schools are greater than the proportions of schools reorganized. The ratio of percentage of pupils to percentage of schools does not accurately indicate the relative size of reorganized and conventional schools. The difference between the sizes of the schools is in each case, however, in the direction suggested by this ratio. As the graphs in Figure 1 indicate, and as will be shown later with more exactness, the movement for reorganization has thus far affected primarily the larger schools.

*Types of reorganization most frequently adopted.*—In Table 4 are listed the numbers of reorganized schools of various types reported to the United States Office of Education in 1929-30. Each type of reorganized school, which included 100 or more representatives in the United States as a whole is separately listed. The table shows the distribution of these schools by States and sections of the country, not in terms of the numbers of pupils enrolled in the various types of schools, but in terms of the numbers of individual schools reported.

For purposes of comparison the total numbers of conventional high schools are also shown. In the United States as a whole two-thirds of the conventional schools included grades 9 through 12; one-sixth included grades 8 through 11. Of the remaining schools three-fourths were schools which, though nominally parts of 12-grade systems, included only three grades or fewer; the rest were schools of either more or less than four grades, forming parts of 11- or 13-grade systems. The vast majority of the conventional schools were thus 4-year schools preceded by either a 7- or an 8-grade elementary school.

The total number of different types of grade grouping represented among the reorganized schools is extensive.<sup>6</sup> Only 8 types of schools, however, are represented by as many as 100 separate organizations. In the order of their frequency for the country as a whole, these 8 are undivided 6-year schools, 3-year separate junior high schools, 6-3-3

<sup>6</sup> For a list of the types of schools classified under "Other" organizations in Table 4 see Table 8, Ch. IV.

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and 6-2-4 plan junior-senior schools, 3-year separate senior high schools, 2-year and 4-year separate junior high schools, and 4-year separate senior high schools. All other types of reorganized schools together include fewer schools than any one of these types except the 2-year and 4-year junior high schools and the 4-year senior high schools.

In the United States as a whole undivided 5- and 6-year schools and junior-senior high schools together outrank all other types of reorganized schools by more than 6 to 5. In the Middle Atlantic, Southern, and Middle Western States the proportionate numbers of combined schools are even greater than this. Only in New England and the Western States are separate junior and senior organizations the more numerous.<sup>7</sup>

The degree to which the various types of schools are distributed among the States corresponds in general to the relative total numbers of the schools of each type. Undivided 6-year schools, 6-3-3 and 6-2-4 plan junior-senior high schools, and separate 3-year junior and senior high schools are reported by five-sixths or more of the 48 States. Two-year junior high schools and 4-year senior high schools are found in two-thirds of the States. The least widely represented of the eight principal types are the 4-year junior high schools. These are reported by 25 States in all, but 3 States—Pennsylvania, Florida, and Mississippi—account for more than half that number. Because of its extensive reorganization within an 11-grade system, Texas is more largely represented than any other State by unclassified types of schools, though one or more such schools are reported by three-fourths of the States.

As between the 6-3-3 and the 6-2-4 plans of organization, the 6-3-3 plan is clearly the more favored throughout the country as a whole, even when the undivided 6-year schools are disregarded. If undivided schools are considered parts of a 6-3-3 system, this system appears as the predominant scheme of organization in each of the five principal sections of the country as well. Thirty-three of the 48 States have adopted either the 6-3-3 or the 6-6 organization in the

<sup>7</sup> These statements refer again to numbers of reorganized schools and not to numbers of school systems affected. Were school systems rather than individual schools to be considered, the numerical advantage of the combined organizations would be still greater than is here indicated.

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TABLE 5.—Percentages of white pupils in various types of secondary schools, by States, 1929-30

States classified by sections	Total number of pupils in high schools	Percentage of high-school pupils in different types of high schools												
		All regular	All re-organized	12-grade systems			Other junior	12-grade systems			Other junior-senior undivided	12-grade systems		Other senior
				Junior 7-9	Junior 7-8	Junior 7-10		Junior-senior 3-3	Junior-senior 2-4	Undivided 6-year		Senior 10-12	Senior 9-12	
1	3	4	5	6	7	8	9	10	11	12	13	14	15	
United States.....	5,054,664	51	49	1	1	1	7	3	7	1	8	2	1	
New England.....	368,559	40	60	3	(1)	(1)	2	3	5	2	12	6	(1)	
Connecticut.....	61,707	58	42	22	3	1	3	1	6	2	10	1		
Maine.....	30,640	64	36	6	3	4	4	2	6	6	5	7		
Massachusetts.....	208,207	31	69	34	4	(1)	1	4	2	2	15	7	(1)	
New Hampshire.....	18,946	43	57	2	13	1	18	1	2	2	1	18	4	
Rhode Island.....	28,511	39	61	42	5	1	2	2	3	2	14	7		
Vermont.....	12,543	30	70	5	6	1	2	21	33	1	14	7		
Middle Atlantic.....	1,185,523	55	45	21	1	1	7	2	7	(1)	5	(1)		
Delaware.....	8,396	53	47	15	4		14	8	11					
District of Columbia.....	16,475	60	40	40										
Maryland.....	51,201	61	39	25			10	2	2	1	1	1		
New Jersey.....	142,392	60	40	21	1	(1)	2	1	4	4	10	1		
New York.....	570,763	63	37	20	1	(1)	5	3	3	(1)	4	1		
Pennsylvania.....	395,206	40	60	22	(1)	2	10	1	14	1	8	1		
Southern.....	959,925	56	44	8	(1)	1	5	2	8	4	4	1	4	
Alabama.....	67,006	16	84	5	1	(1)	39	6	29	(1)	8	1		
Arkansas.....	57,209	19	81	12	1		23	3	31	(1)	8	1		
Florida.....	54,237	16	84	20	(1)		17	3	18		14	1		
Georgia.....	59,901	60	40	18		1	7	4	16	(1)	10	1		
Kentucky.....	69,488	59	41	8	2	(1)	7	4	16	(1)	3	1		

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Louisiana.....	43, 620	96	4	3	(1)	3	2	8	13	17	2	2	1	2	(1)	2
Mississippi.....	50, 600	51	40	2	(1)	1	2	1	1	17	3	2	1	1	1	1
North Carolina.....	104, 326	87	13	(1)	(1)	2	3	3	3	3	(1)	3	4	2	3	3
South Carolina.....	41, 863	88	12	(1)	(1)	18	(1)	3	3	(1)	11	7	7	13	7	7
Tennessee.....	69, 267	68	32	18	(1)	18	12	4	1	2	1	2	9	4	4	4
Texas.....	205, 045	58	42	6	2	2	(1)	8	1	21	8	9	9	2	2	2
Virginia.....	68, 869	66	34	19	2	2	(1)	8	1	8	8	8	8	8	8	8
West Virginia.....	67, 951	34	66	15	2	2	(1)	8	6	8	8	8	8	8	8	8
Middle Western.....	1, 868, 653	49	51	12	2	2	(1)	8	6	8	8	8	8	8	8	8
Illinois.....	284, 804	75	25	12	2	2	(1)	8	3	1	1	1	1	1	1	1
Indiana.....	167, 263	46	54	6	3	3	(1)	8	6	28	1	3	4	3	3	3
Iowa.....	142, 091	41	59	12	2	2	(1)	6	17	4	(1)	2	4	4	4	4
Kansas.....	110, 059	42	58	19	2	2	(1)	9	6	6	2	2	4	4	4	4
Michigan.....	224, 660	21	79	27	2	2	(1)	13	7	11	2	2	14	14	14	14
Minnesota.....	125, 705	43	57	20	(1)	4	1	18	(1)	6	6	11	11	11	11	11
Missouri.....	131, 648	58	42	10	4	4	(1)	8	4	6	6	6	6	6	6	6
Nebraska.....	74, 248	61	39	8	1	1	(1)	8	6	3	3	3	3	3	3	3
North Dakota.....	31, 650	66	34	2	1	1	(1)	18	8	1	2	4	4	4	4	4
Ohio.....	323, 517	66	59	20	1	1	(1)	7	3	17	(1)	10	10	10	10	10
Oklahoma.....	117, 934	46	54	16	(1)	1	1	10	7	7	(1)	12	12	12	12	12
South Dakota.....	32, 495	76	24	7	1	1	(1)	7	1	2	(1)	7	7	7	7	7
Wisconsin.....	125, 849	55	45	14	1	1	(1)	16	1	2	(1)	9	9	9	9	9
Western.....	656, 704	48	52	20	1	1	1	4	3	6	1	13	13	13	13	13
Arizona.....	15, 974	71	29	3	(1)	2	2	3	8	10	(1)	3	3	3	3	3
California.....	306, 670	41	59	27	5	5	(1)	5	(1)	7	(1)	17	17	17	17	17
Colorado.....	57, 971	33	67	28	3	3	(1)	5	11	3	1	13	13	13	13	13
Idaho.....	28, 138	68	32	9	3	3	(1)	3	9	4	(1)	2	2	2	2	2
Montana.....	27, 869	73	27	4	4	4	(1)	4	4	4	(1)	2	2	2	2	2
Nevada.....	4, 766	51	49	3	2	2	(1)	2	1	1	18	18	18	18	18	18
New Mexico.....	14, 157	57	43	14	2	2	(1)	4	13	1	11	11	11	11	11	11
Oregon.....	52, 454	72	28	11	2	2	(1)	1	1	1	1	7	7	7	7	7
Utah.....	38, 009	21	79	24	5	5	(1)	6	5	2	4	5	5	5	5	5
Washington.....	94, 824	59	41	16	(1)	2	(1)	8	3	1	1	21	21	21	21	21
Wyoming.....	12, 872	57	43	9	1	1	(1)	1	13	14	6	6	6	6	6	6

1 Indicates less than 0.5 per cent.  
 Based as follows: Of the 5,054,064 high-school pupils in the United States, 51 per cent are in conventional high schools and 49 per cent are in reorganized high schools. Of the 5,054,064 pupils, 17 per cent are in junior high schools (in 12-grade systems) containing grades 7-9, etc.

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majority of their reorganized schools. Four of the 15 States which do not clearly favor reorganization on this basis (Louisiana, South Carolina, Arizona, and New Mexico) each report totals of fewer than a score of reorganized schools, so that their variance from the normal practice is not in itself highly significant. North Carolina, Texas, and Virginia report modifications of the 3-year and 6-year organizations within 11-grade systems. Mississippi combines these types of organization with a relatively large number of 4-year junior high schools. New Hampshire, Vermont, Illinois, Iowa, North Dakota, Colorado, and Montana, though reporting numerous 3- and 6-year schools, tend strongly toward the 6-2-4 plan of organization.

The small number of different types of reorganized schools in extensive use, the numerical predominance of combined schools over separate junior and senior high schools, the widespread adoption of nearly all the principal types of schools among the various States, and the overwhelming preference for the 6-3-3 as contrasted with the 6-2-4 plan of organization—these constitute the most striking characteristics of the movement for reorganization as the movement is depicted in Table 4.

*Distribution of pupils among various types of reorganized schools.*—In Table 5 are shown the percentages of secondary-school pupils enrolled in various types of schools in each State and in the five principal sections of the United States. The preceding table allowed an estimate of the relative importance of the various types of organization in terms of the numbers of individual schools affected. Table 5 indicates the proportionate numbers of pupils subject to each form of organization, irrespective of the numbers of separate schools involved.

As judged by the numbers of their pupils, the eight types of organization listed earlier again stand out as the most important. Their order of importance changes, however. On the basis of relative enrollments separate 3-year junior and senior high schools occupy first and second places, respectively; 6-3-3 plan junior-senior high schools and undivided 6-year schools are tied for third place; 6-2-4 plan junior-senior high schools and 4-year senior high schools

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rank fourth and fifth; and 2- and 4-year junior high schools fall at the end of the list.

The large enrollments of the separate schools are especially striking. Despite the fact that individual junior-senior high schools and undivided schools together outnumber all others, the combined enrollment of these schools for the country as a whole hardly more than equals the enrollment of the 3-year junior high schools alone. The junior-senior and undivided schools attain their largest proportionate enrollments in the Southern and Middle Western States. Even in these States, however, the combined schools account for fewer pupils than do the various forms of separate organizations. Separate schools, and particularly 3-year junior and senior high schools, unquestionably occupy a predominant place as far as enrollments are concerned.

The fact that the 6-3-3 plan is the generally accepted scheme of organization stands out even more clearly when enrollment is used as an index than when numbers of individual schools are thus used. For the United States as a whole, 32 per cent of the secondary-school population are enrolled in 6-3-3 plan schools, with an additional 7 per cent in undivided 6-year schools. Only 6 per cent are in schools organized on a 6-2-4 basis. Each of the principal sections of the country likewise enrolls a greater number of pupils in 6-3-3 than in 6-2-4 organizations. Of the separate States, only four—New Hampshire, Vermont, Mississippi, and Montana—represent clear exceptions to the general rule; though in one other State—Arizona—enrollments are about equally divided between 6-3-3 and 6-2-4 plan schools.

On the basis of total enrollments the 4-year junior high schools and the various types of "other" organizations occupy much less important positions than when they are judged in terms of numbers of schools involved. Four-year junior high schools account for only 1 per cent of the secondary-school population of the United States as a whole. Even in the States in which these schools are most numerous—Pennsylvania, Florida, and Mississippi—they enroll not more than 3 per cent of all secondary-school pupils. "Other" organizations likewise have to their credit only 1 per cent of the total high-school group. The largest proportionate enrollments in such organizations are found in Texas, where,

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as has been previously noted, the 3-year and 6-year grade groupings have been widely adopted within an 11-grade system.

*The geographical spread of reorganization described in summary.*—To describe the geographical spread of reorganization in summary terms is not an easy task, because of the differing ways and differing degrees in which the movement has affected various parts of the country. Variation in the extent of spread is in itself an element which demands recognition. In spite of this variation the movement for reorganization has attained at least three present characteristics which are sufficiently widespread to lend themselves to a general statement.

First, the movement has been attended thus far by the more frequent adoption of combined junior and senior schools than of separate schools as the units of reorganization. More individual schools have been reorganized on the junior-senior or undivided 6-year basis, and more school systems have adopted one of these forms of organization, than have adopted all other types of organization together.

Second, the greatest numbers of pupils attending reorganized schools are found at present in separate junior and senior high schools. Three-year junior and senior high schools alone account for more than half the total reorganized school population.

Finally, the 6-3-3 and the 6-6 organizations represent unmistakably the most popular types of grade groupings. More than two-thirds of the reorganized schools of the country are organized on one or the other of these plans, and four-fifths of the total number of reorganized school pupils attend such schools.

### 3. THE SIZE OF REORGANIZED SCHOOLS

*The size of communities supporting various types of schools.*—Conventional (4-year) high schools, in spite of the fact that they are found in large numbers within city school systems, are typically small-town schools. Eighty-six per cent of all the conventional schools in operation in the United States in 1929-30 were to be found in communities of fewer than 2,500 inhabitants, whereas only two conventional schools of every 100 were in cities of 100,000 or more.

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Reorganized schools, by contrast, are more largely city schools. Though 49 per cent of the reorganized schools in existence in 1929-30 were in rural and village communities, one-eighth of the total number were in cities of 100,000 population or more, and nearly one-third were in towns or cities of more than 10,000.

TABLE 6.—*Distribution of various types of secondary schools for white pupils according to size of community, 1929-30*

Type of high school	Number of schools	Percentage of schools in 5 population groups				
		Fewer than 2,500	2,500 to 9,999	10,000 to 29,999	30,000 to 99,999	100,000 or more
1	2	3	4	5	6	7
All types.....	21,522	76.5	11.1	4.7	3.0	4.7
All regular.....	15,908	86.3	8.6	2.3	.7	2.1
All reorganized.....	5,619	48.6	18.3	11.5	9.3	12.3
<i>Reorganized</i>						
All junior.....	1,792	23.9	11.9	16.6	19.9	27.7
12-grade systems:						
7-9 junior.....	1,288	17.8	9.2	16.3	22.3	34.4
7-8 junior.....	204	12.8	33.8	29.4	15.7	8.3
7-10 junior.....	196	82.7	6.1	3.6	6.1	1.5
11-grade systems:						
6-8 junior.....	60	5.0	20.0	20.0	8.3	46.7
Other junior.....	44	15.9	4.6	20.4	47.7	11.4
All 5-year and 6-year.....	3,179	71.0	20.5	4.5	1.1	2.9
13-grade systems:						
3-3 junior-senior.....	936	62.5	26.0	6.8	1.5	3.2
2-4 junior-senior.....	637	73.0	21.8	3.3	.3	1.6
6-year undivided.....	1,446	76.1	16.6	3.3	.8	3.2
6-year undivided.....	65	78.9	7.7	6.1	6.2	3.1
Other junior-senior and undivided.....	95	57.9	26.3	8.4	3.2	4.2
All senior.....	648	6.9	25.3	30.9	20.7	16.3
10-12 senior.....	454	6.0	20.0	30.6	24.2	19.2
9-12 senior.....	142	10.6	43.6	34.5	8.6	2.8
9-11 senior.....	42	2.4	23.8	19.1	21.4	33.3
Other senior.....	10	20.0	10.0	40.0	30.0	.....

<sup>1</sup> A slight discrepancy appears between the numbers of "other" schools of various types as recorded in Tables 6 and 7 and in Figure 2, and the numbers of such schools as recorded in Table 4. The difference is due to the fact that certain schools possessing unusual grade groupings, which are classified in Table 4 as separate junior and senior high schools are later classified as combined schools. Analysis of the data has shown that reclassification would produce no change in the essential conclusions to be drawn from the tables. In view of the time and expense which a recalculation of the tables would have involved, the discrepancy has therefore been allowed to stand.

Read as follows: Of the 21,522 high schools of all types, 76.5 per cent are in communities with a population of fewer than 2,500; 11.1 per cent are in communities with 2,500 to 9,999 inhabitants; etc.

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The distribution of the principal types of schools among communities of varying sizes is shown in Table 6. The major conclusions to be drawn from this table in addition to those already set forth may be summarized as follows:

Separate 3-year junior and senior high schools are found predominantly in communities of at least moderate size. Approximately three-fourths of their number are in towns and cities of 10,000 population or more.

Separate junior and senior high schools organized on a 6-2-4 basis are relatively widely distributed among communities of all the major size groups. They tend to be found in smaller proportion than the 3-year schools in very large communities, and they tend to be found in greater proportion in towns of fewer than 10,000 population.

Approximately nine-tenths of the junior-senior high schools are in communities of fewer than 10,000. A larger percentage of the 6-2-4 system junior-senior schools than of the 6-3-3 system schools are in rural and village communities.

Undivided 6-year schools are, with relatively few exceptions, supported by towns of less than 10,000 population. Three-fourths of their number are in communities of fewer than 2,500 inhabitants. Though a few 6-year schools are found even in the larger cities, only 4 such schools of every 100 are in cities of more than 30,000 population.

Four-year junior high schools even more extensively than the 6-year schools are village schools. Eighty-three per cent of their number are in communities of fewer than 2,500 inhabitants.

Finally, the schools classified as "other" organizations tend in general to be distributed in the same way as the common types of organization which they most closely parallel. Thus, the unclassified junior and senior high schools are largely found in the more populous communities, while the unclassified 5-year and 6-year schools tend to be represented predominantly in the smaller communities.

This summary of the distribution of various types of reorganized schools throw further light on the relation between reorganized schools in general and conventional schools. The reorganized schools which tend to be city schools are for the most part separate junior and senior high schools. Separate 3-year schools in particular account for a major proportion

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of the reorganized schools found in large communities. Though the remaining types of schools tend to have a larger proportion of their number in populous communities than do the conventional schools; the 5 and 6 year reorganized schools, like the conventional schools, are predominantly small-town and village schools.

TABLE 7.—*Distribution of various types of secondary schools for white pupils according to size of school, 1929-30*

Type of high school	Number of schools	Percentage of schools in 6 enrollment groups					
		10-49	50-99	100-199	200-499	500-999	1,000 or more
1	2	3	4	5	6	7	8
All types.....	21,522	26.2	27.4	20.8	14.1	6.5	5.0
All regular.....	15,903	33.7	32.3	19.7	9.2	2.5	2.6
All reorganized.....	5,619	5.1	13.6	23.7	28.0	17.7	11.9
<i>Reorganized</i>							
All junior.....	1,792	11.1	9.3	9.5	24.4	27.2	18.5
<i>12-grade systems:</i>							
7-9 junior.....	1,288	7.0	7.5	7.2	23.5	31.7	23.1
7-8 junior.....	204	4.9	7.9	24.0	44.6	14.2	4.4
7-10 junior.....	196	43.5	26.5	11.2	5.1	5.1	3.6
<i>11-grade systems:</i>							
6-8 junior.....	60	1.7	1.7	5.0	31.7	36.6	23.3
Other junior.....	44	9.1	2.3	6.8	31.8	40.9	9.1
All 5-year and 6-year.....	3,179	2.6	18.3	35.4	29.4	9.5	4.8
<i>12-grade systems:</i>							
3-3 junior-senior.....	996	1.2	13.9	30.8	33.8	13.2	7.1
2-4 junior-senior.....	637	3.1	18.2	32.2	36.0	8.3	2.2
6-year undivided.....	1,446	3.0	20.5	41.4	24.1	6.9	4.1
5-year undivided.....	65	10.8	32.3	27.7	9.2	12.3	7.7
Other junior-senior and undivided.....	95	2.1	20.0	17.9	36.8	17.9	5.3
All senior.....	648	.3	2.0	5.6	31.2	31.9	29.0
10-12 senior.....	454	.2	2.2	5.7	28.2	31.5	32.2
9-12 senior.....	142	.7	2.2	3.5	42.2	35.2	16.2
9-11 senior.....	42	-----	-----	7.1	28.6	23.8	40.5
Other senior.....	10	-----	-----	20.0	20.0	40.0	20.0

Read as follows: Of the 21,522 high schools of all types, 26.2 per cent enroll 10 to 49 pupils; 27.4 per cent enroll 50 to 99 pupils, etc.

*Enrollments in reorganized and conventional schools.*— Especially in communities of fewer than 10,000 inhabitants the size of the communities in which schools are located may be expected to bear a direct causal relationship to the size of the schools themselves. That the sizes of the various types of schools tend to parallel closely the sizes of the communities in which they are found will be evident from an inspection of Table 7. In this table are listed the proportions of the total

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numbers of individual schools of each major type which fall in various enrollment groups.

Of all the conventionally organized high schools in the United States, two of every three in 1929-30 enrolled fewer than 100 pupils. Of the total number of reorganized schools, fewer than one in five had enrollments of less than 100, and nearly three in every five enrolled more than 200 pupils. Almost seven times as large a proportion of "regular" high schools as of reorganized schools enrolled fewer than 50 pupils; nearly five times as large a proportion of reorganized schools as of "regular" schools enrolled more than 1,000 pupils. The typical conventional school is clearly a small school. The typical reorganized school, by contrast, is a large school.

*The sizes of various types of reorganized schools compared.*— Among the reorganized schools themselves, the largest tend to be the 3-year senior high schools and the 3-year junior high schools.<sup>8</sup> Nearly two-thirds of the 3-year senior high schools in 12-grade systems enroll 500 pupils or more; fewer than 1 in 12 have enrollments of less than 200. The junior high schools are smaller than the senior high schools, presumably because one senior unit is frequently served by two or more junior units. More than half the 3-year junior high schools, nevertheless, enroll more than 500 pupils, and only one in seven enrolls fewer than 100 pupils.

Next in order of size come 4-year senior high schools and 2-year junior high schools. Approximately half the former have enrollments of more than 500, and nearly all the remainder enroll at least 200 pupils. Since the lower schools enroll only two grades to the upper schools' four, the differences in enrollment between the junior and senior units in this group are considerably greater than among the separate 3-year schools. Yet three of five among the 2-year junior high schools enroll 200 pupils or more, and only one in eight enrolls fewer than 100 pupils.

<sup>8</sup> Three-year junior and senior high schools in 11-grade systems tend to be even larger than those in 12-grade systems. In 1929-30 the average enrollments in the 60 junior high schools comprising grades 6 through 8, and in the 42 senior high schools comprising grades 9 through 11, were 669 pupils and 1,007 pupils, respectively. The corresponding averages for 3-year schools in 12-grade systems (shown in Fig. 2) were 658 pupils and 883 pupils. The numerous large 3-year schools in 11-grade systems are reflected in the high percentages of unclassified schools in the upper enrollment groups.

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Junior-senior high schools tend to cover the whole range of enrollment groups, though, like the separate schools, these types of schools are more frequently represented in the upper groups than in the lower. As between 6-3-3 plan and 6-2-4 plan junior-senior schools, the former are more frequently large schools. One in five of their number, as compared with one in ten of the 6-2-4 plan schools, enroll 500 pupils or more; and only 15 per cent of the former, as compared with 21 per cent of the latter, enroll fewer than 100 pupils.

Like the junior-senior high schools, the undivided 6-year schools tend to cover all the size groups. Undivided schools are more frequently small schools than are junior-senior schools of either type. Nearly two-thirds of their number enroll fewer than 200 pupils, and less than one in nine has an enrollment of 500 or more.

The smallest schools among the classified types are in general the 4-year junior high schools. Though a few such schools are reported with enrollments of more than 1,000 pupils, nearly half have enrollments of fewer than 50.

Among the schools grouped as "other" organizations, the tendencies are in the main similar to those noted for the principal types of separate and combined schools. The majority of the separate junior and senior high schools in the unclassified group enroll 500 pupils or more. The combined schools include numerous representatives in all the six size groups, with approximately as many schools enrolling fewer than 200 pupils as enroll more than that number.

Just as the reorganized schools which tend to be city schools were identified as separate junior and senior high schools, so the greatest number of large schools are found to belong to these types. Combined junior and senior organizations were shown to be primarily associated with small communities. In spite of their inclusion of more grades than the separate schools, these schools tend in general to be schools of no more than moderate size.

*Range in size among schools of various types.*—The relative sizes of the various types of schools are somewhat differently presented in Figure 2. This figure shows, first, the range in size of the middle 50 per cent of the individual schools of each type, and second, the range in size of the schools in which the middle 50 per cent of the pupils attending each

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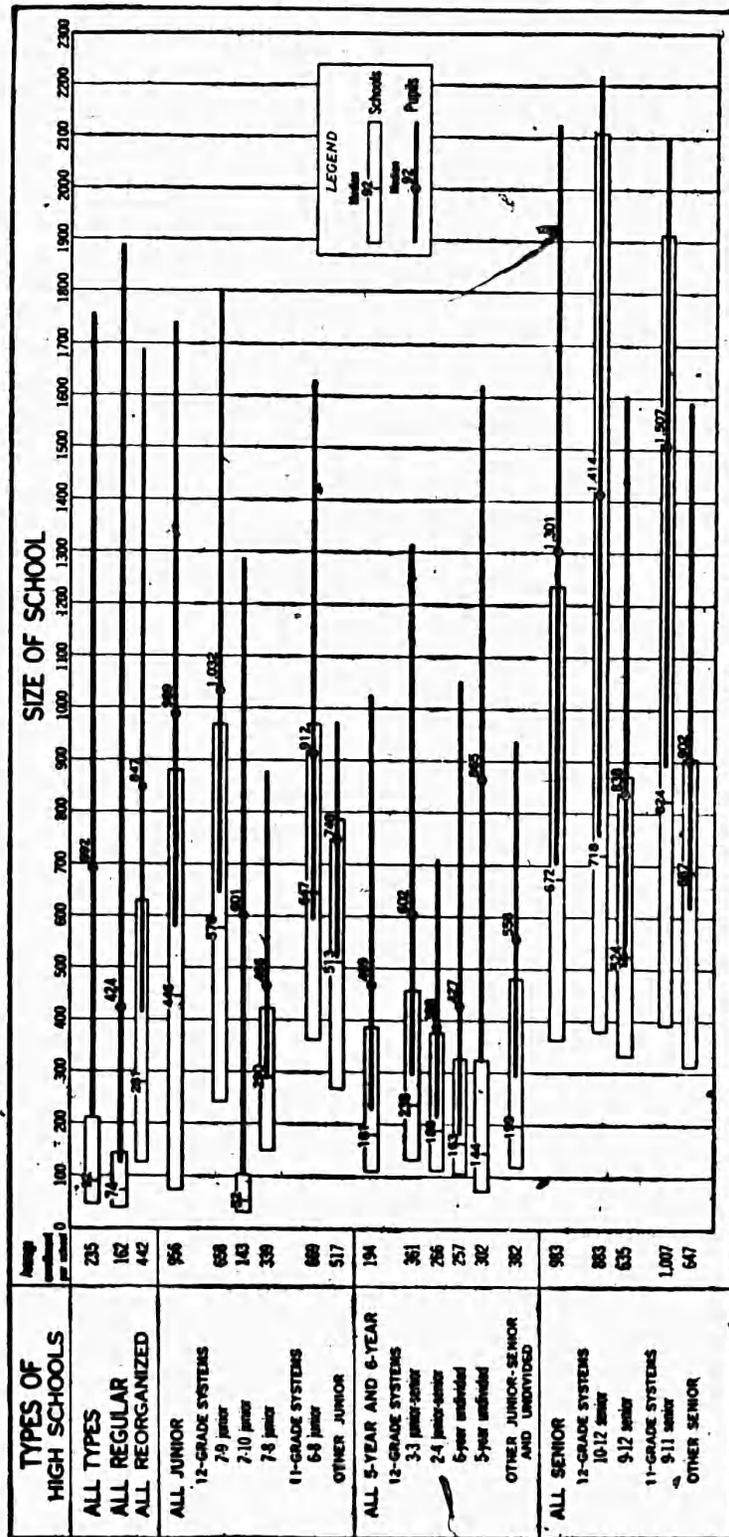


FIGURE 2.—Sizes of secondary schools, by type, accounting for (a) the middle 50 per cent of the schools and (b) the middle 50 per cent of the pupils, 1929-30. (Based as follows: For all types of schools considered together the average enrollment is 235 pupils. The enrollment of the median school is 92 pupils; the enrollment of the middle 50 per cent of the schools ranges from 47 pupils to 212 pupils. The median pupil is to be found in a school enrolling 692 pupils; the middle 50 per cent of the pupils are in schools enrolling from 214 pupils to 1,755 pupils.)



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type of school are enrolled. The one measure may be thought of as indicating the sizes of schools most common for each type; the other, as showing the sizes of schools to which pupils in any one of the types are most likely to be exposed.

Figure 2 brings out clearly a fact not directly shown in the preceding table—that the median school of each one of the major types is very much smaller than the school which the median pupil attends. One-half of the “regular” high schools in the United States, for example, enrolled fewer than 75 pupils each in 1929–30, whereas half the pupils enrolled in such schools attended schools of 424 pupils or more. Similarly, half the reorganized schools were schools of fewer than 281 pupils, but the schools attended by a majority of the reorganized-school pupils were at least three times as large as this. A corresponding difference may be observed in the case of each separate type of reorganized school.

The explanation of these differences is to be found, of course, in the fact that each type of school includes certain relatively large schools which, though few in number, account for more pupils than many small schools together. How effective a few large schools may be in determining the size of school which the majority of pupils attend is shown especially clearly in the case of the 4-year junior high schools. Nearly half these schools, as already noted, enroll fewer than 50 pupils. Seven of the schools, however, enroll more than 1,000 pupils each. These seven, together with others which have enrollments above the median, care for so large a proportion of the total enrollment of the 4-year schools that the median pupil is to be found in a school of more than 600. To a less extreme degree the same influence is at work among the other types.

*Summary.*—As a result of the various influences which affect the size of individual school units, the present system of American secondary schools may be somewhat paradoxically interpreted. The system is one in which the majority of schools are small schools, situated in small communities. At the same time the system is one in which the majority of pupils are educated in large schools.

Reorganized schools as a group provide an exception to the paradox, in that most reorganized schools are at present relatively large schools. Even among the reorganized

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schools, however, there is at present a vast difference between the size of the average school and the size of school in which the average pupil is educated.

### 4. TRENDS IN REORGANIZATION OVER A 4-YEAR PERIOD

*Sources of information.*—Comparison of the status of reorganization as revealed by the Biennial Survey of 1929–30 and its status as shown by the Survey of 1925–26 points to certain definite trends in the movement for reorganization which are of significance in any attempt to forecast probable developments in this field.<sup>9</sup> Changes in the numbers of various types of schools, in their relative total enrollments and in the average size of the individual school units, are of particular importance.

*Growth in numbers of schools.*—In Figure 3 are shown the total numbers of schools of each of the various major types reported to the United States Office of Education in 1925–26, 1927–28, and 1929–30. Schools are classified as in the preceding figures, except that certain relatively uncommon types of schools have been separately listed in order to allow their change in numbers to be accurately traced.

It is apparent that there has been a steady increase in the total numbers of nearly every major type of school over the 4-year period represented. The sole decrease of importance occurs in the case of the 5-year undivided schools in 12-grade systems, which fell from a total of 100 in 1925–26 and 118 in 1927–28 to a total of 65 in 1929–30.<sup>10</sup>

Increase in numbers has been accompanied, however, by a noteworthy change in the ranking of the schools. Through-

<sup>9</sup> The development of the movement is here traced only for a 4-year period because its earlier stages have already been fully described in educational literature. In the order in which they are listed the following references provide successive descriptions of the status of reorganization at various stages:

Bunker, F. F. *Reorganization of the Public-School System*. U. S. Bureau of Education Bulletin, 1916, No. 8.

Douglass, A. A. *The Junior High School*. National Society for the Study of Education. Fifteenth Yearbook (1916), Pt. III.

Smith, W. A. *Junior High School Practices in Sixty-four Cities*, Educational, Administration and Supervision, 6: 129–149, March, 1920.

*Biennial Survey of Education, 1925–26*. U. S. Bureau of Education Bulletin, 1926, No. 25.

Matthews, C. O. *Progress in Junior High School Education, 1929–30*, Educational Administration and Supervision, 16: 561–574, November, 1930.

<sup>10</sup> Whether this decrease was due to the abandonment of 5-year schools in favor of other types of reorganization or to the reversion of certain 5-year schools to the conventional 4-year organization can not be determined on the basis of available data. (See the further discussion of 5-year schools in Ch. III, sec. 1.)

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out the period for which data are presented, the 5- and 6-year schools together were more numerous than the separate schools. But whereas no single type of school outranked the separate 3-year junior high schools either in 1925-26 or in 1927-28, these schools were exceeded in number in 1929-30 by the undivided 6-year schools. The growth in the total number of undivided schools has been so great as to raise this type of organization from fourth place to first within the 4-year period.

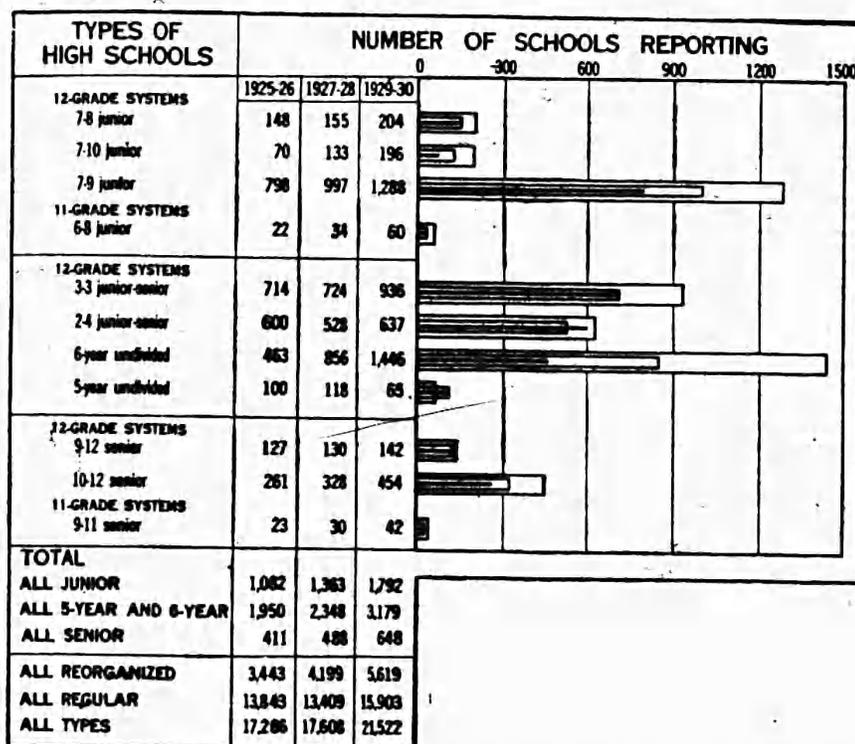


FIGURE 3.—For 11 major types of reorganized high schools the number of schools reporting to the United States Office of Education for the three bienniums 1925-26, 1927-28, and 1929-30. (Heavy line 1925-26; narrow rectangle, 1927-28; wide rectangle, 1929-30)

The increase of the numbers of schools of various types is shown on a percentage basis in Figure 4. The relative growth in the numbers of 4-year junior high schools in 12-grade systems, and of 3-year junior high schools in 11-grade systems, as well as of the 6-year undivided schools, is particularly striking. There were two and three-fourths times as many 4-year junior high schools and junior high schools organized under a 5-3-3 plan in 1929-30 as in 1925-26. There were more than three times as many undivided 6-year schools.

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It should be noted that the types of reorganized schools which have increased least rapidly in numbers are those organized on a 6-2-4 basis—the schools, that is, which have adopted a scheme of organization departing only in slight degree from the conventional 8-4 plan.

*Growth in numbers of pupils attending various types of schools.*—Figure 4 shows also the percentages of increase in

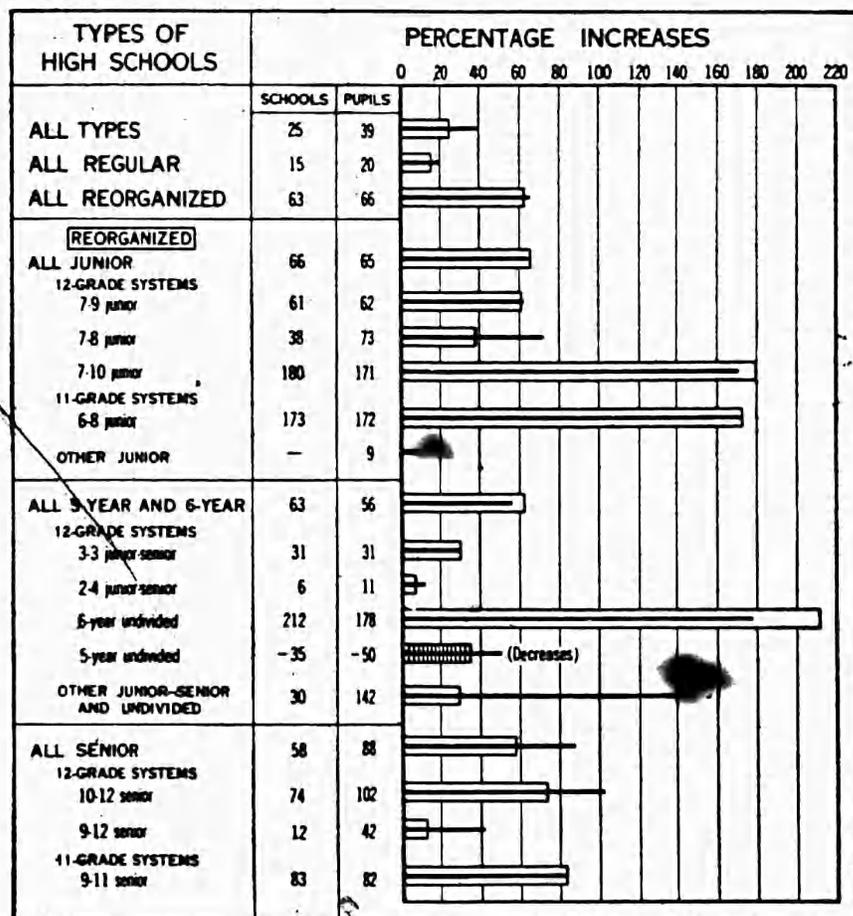


FIGURE 4.—For 12 major types of reorganized and regular high schools the percentage increase in number of schools and in number of pupils from 1925-26 to 1929-30. (Rectangle, schools; heavy line, pupils)

the numbers of pupils attending the various types of schools. As might be expected, the types of schools which show the greatest increases in total enrollment are the types which have increased most in numbers. Increase in enrollment is not always in due relation to increase in numbers, however. Within the 12-grade systems the 2-year junior high schools

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and the 3- and 4-year senior high schools have added proportionately more pupils than schools. The 4-year junior high schools and the undivided 6-year schools have tended in the opposite direction, increasing in numbers of schools more rapidly than in total enrollments. Though among both reorganized and conventional schools enrollments have in general grown faster than the numbers of school units, certain types of schools present significant exceptions to the usual trend.

• *Changes in size of schools of various types.*—Differences between growth in numbers of schools and growth in enrollments obviously point to changes in the size of school units. The extent of such changes is shown in Figure 5.

In spite of the large increase in the number of secondary schools of all types between 1925-26 and 1929-30, the average size of high schools has increased appreciably during the 4-year period. The increase in size is unquestionably due in part to the addition of school grades previously classified as parts of elementary schools. It seems to be due also, however, to an almost universal increase during this period in the numbers of pupils of secondary-school age attending school. Because of the latter factor an increase in size might fairly have been expected of every type of secondary school if the number and distribution of such schools had remained unchanged.

But various types of schools have shown greater increases in average size than can be explained on the basis merely of general growth in the high-school population. This would seem to be especially the case with the 3-year senior high schools and the separate junior and senior high schools organized on the 6-2-4 plan.

Certain other types of schools have either decreased in average size or have failed to show the increases that might normally be expected. The greatest decreases occur among the 5-year and 6-year undivided schools and the 4-year junior high schools. Three-year junior high schools in both 11-grade and 12-grade systems, and 3-year senior high schools in 11-grade systems, have remained practically stationary in size. Junior-senior high schools organized on a 6-2-4 basis have increased in average enrollment, but the

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increase is probably no more than is to be expected from the general growth in the high-school population.<sup>11</sup>

The changes in size have been accompanied by increases in numbers, it will be recalled, among all the major types of schools except the 5-year high schools. The changes may fairly be assumed, therefore, to have resulted in part from the addition of new schools varying somewhat consistently

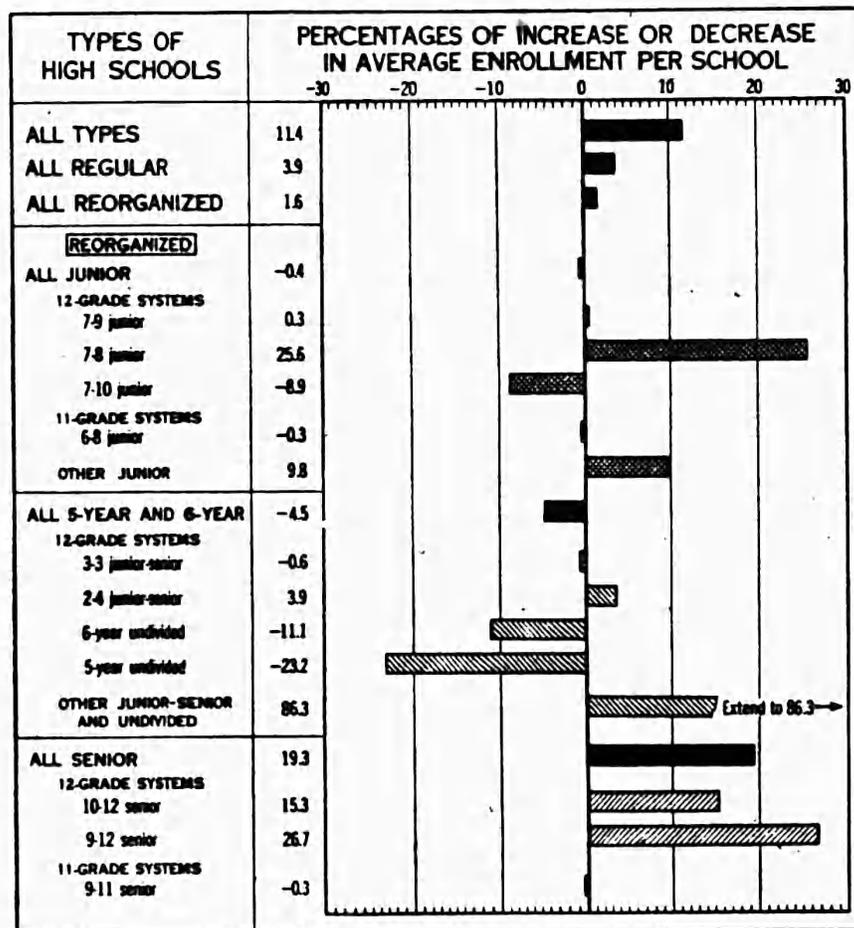


FIGURE 5A—For 13 major types of high schools the percentage increase or decrease in average size of school from 1925-26 to 1929-30

in enrollment from the schools of the original groups. Hence, it seems evident that the 2-year junior high schools and the 3-year and 4-year senior high schools within 12-grade systems have been tending to become to an increasing extent large

<sup>11</sup> Exactly how great this general growth has been can not be determined for the secondary-school population as a whole because of the absence of comparable data on elementary-school and reorganized high-school enrollments.

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city schools. Undivided 5-year and 6-year schools and 6-3-3 plan junior-senior high schools have apparently grown in number through the addition of small schools in the less populous communities. Three-year junior high schools in 12-grade systems, and both junior and senior high schools in 11-grade systems, would seem likewise to have spread largely in the smaller communities, though to a less extent than the combined schools. Among the 6-2-4 plan junior-senior high schools and the conventional 4-year high schools there is no clear evidence of any important change in relative distribution.

The changes in average enrollment thus indicate a marked downward extension of the reorganization movement in terms of both the size of schools and the size of communities which the movement affects. It should be recalled that in spite of this trend reorganized schools are still predominantly large schools located in towns and cities of at least moderate size. Assuming no untoward interference with the tendencies of recent years, however, there is reason to expect that the next decade may witness the widespread development of reorganized schools in much smaller communities.

### 5. SUMMARY

The present status of the movement for secondary-school reorganization and the recent trends in the movement may be briefly summarized as follows:

The movement for secondary-school reorganization among schools for white pupils has produced a wide variety of special types of grade grouping. The great majority of reorganized school systems have adopted either a 6-3-3 or a 6-6 plan of organization, with occasional use of the 6-2-4 plan. Present tendencies increasingly favor the 6-3-3 and 6-6 plans. The grade combinations under these plans have resulted in three major types of reorganized schools: Separate junior and senior high schools, undivided 6-year schools, and combined junior-senior high schools. The latter represent a compromise between the first two types, providing for a distinction between junior and senior units, yet allowing the administration of both units within a single school.

Reorganized schools for white pupils enrolled in 1929-30 approximated one-third of all such pupils enrolled in grades

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6 through 12. Elementary schools and conventionally organized high schools accounted for the remaining two-thirds. Of the total number of individual secondary schools, reorganized schools constituted one-fourth. The pupils attending reorganized schools comprised nearly half the total secondary-school enrollment. Both the total number of reorganized schools and the relative numbers of pupils enrolled in such schools have increased markedly since 1925-26.

In the proportion of its secondary-school pupils enrolled in reorganized schools New England ranked first in 1929-30; the Western, Middle Western, and Middle Atlantic States fell next in order; the Southern States were last. Among the major types of reorganized schools in existence throughout the United States, junior-senior and undivided 6-year schools were more numerous than separate junior and senior high schools. Recent tendencies have been in the direction of an appreciable increase in the number and total enrollments of each of the principal types of schools. There have been especially marked increases in the case of undivided 6-year schools. In spite of the numerical importance of combined schools and the striking increase in the number of 6-year schools the majority of reorganized school pupils in 1929-30 were enrolled in separate junior and senior high schools.

Data gathered in 1930 show that most reorganized schools are relatively large schools as compared with conventionally organized high schools. With the exception of 4-year junior high schools, separate junior and senior high schools tend in the main to be city schools. Junior-senior high schools are found predominantly in small communities and communities of moderate size. Undivided 6-year schools and 4-year junior high schools are typically rural and village schools. Changes in the average sizes of the combined schools and the 4-year junior high schools between 1925-26 and 1929-30 indicate a growing downward extension of the movement for reorganization. As judged by the growth in the numbers of small reorganized schools, rural and village communities are tending in increasing measure to abandon the conventional high-school organization.

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## CHAPTER III : THE RESULTS OF REORGANIZATION IN THE TYPICAL SECONDARY SCHOOL

### 1. PRACTICE IN THE TYPICAL JUNIOR HIGH SCHOOL

*Significance of practice in the "average" reorganized school.*—The effects of the junior high school movement can not be completely gaged without some analysis of the influence of the movement on the details of practice in individual schools. Two questions in particular deserve attention in this connection. First, what types of practice have accompanied reorganization in the average school? Second, how does the organization of the average junior and senior high school compare with that of the corresponding grades of conventional elementary schools and 4-year high schools? <sup>1</sup>

*Basis for descriptions of typical practice.*—For reasons already pointed out the reports from individual schools which form the basis for the present study do not allow a description of practice in either the "average" reorganized school or the "average" conventional school. The schools which supplied data for the study seem on the whole to be somewhat better-than-average representatives of their types. Descriptions of prevailing practice even in better-than-average schools may, however, give some indication of what the average school is like.

The descriptions which follow are based on check-list reports from 506 reorganized schools, from 30 elementary schools, and from 52 conventionally organized high schools. In the case of the reorganized schools, practice in the junior high school grades is described separately from practice in the senior high school grades. The descriptions of junior high school practice are drawn from the reports of 367 individual schools; those of senior high school practice from the reports of 312 individual schools.

To obtain these descriptions the practices reported by the schools of each group were tabulated to show their relative

<sup>1</sup> The results of the most important previous studies of these questions are summarized in Reavis, W. C. Evaluation of the Various Units of the Public-School System. Review of Educational Research, 1:172-179, June, 1931.

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frequencies. The practices listed as typical of the schools of each group are those which were reported by at least half the schools in question. Where no specific practice was agreed upon by half the schools, but where it was clear, nevertheless, that one of a group of related practices had been adopted in most of the schools, the practice reported by the largest number was selected as typical. Each description thus includes the practices *most likely to be found* in the type of school to which it refers as these schools are represented in the study.

*Size, grade organization, and equipment.*—The typical junior high school, as it is revealed in the check-list replies from schools including junior high school grades, is a school comprising grades 7, 8, and 9, and enrolling slightly less than 400 pupils. It has a staff of approximately 17 teachers. The school has been in existence since 1926; before that year the system of which it is now a part was organized on the 8-4 basis. The junior high school is housed in a building erected specifically for its use. Senior high school grades are sometimes housed in the same building, but the junior and senior high school grades are under separate administrations. In the opinion of the junior high school principal the school equipment as a whole is reasonably adequate for junior high school purposes. The principal finds that the provisions for health and physical education are not entirely satisfactory, however, and usually certain other features of the plant have, in his judgment, not been well cared for.

*Admission and promotion.*—The typical junior high school admits to its seventh-grade pupils promoted from the sixth grade of the elementary school, on the understanding that these pupils have satisfactorily completed all their sixth-grade work. In exceptional cases the junior high school grants admission to overage pupils who are recommended by elementary-school teachers as capable of profiting by junior high school work, even though such pupils may not have completed the required courses of the elementary grades. The typical junior high school makes no systematic use either of standardized achievement tests or of intelligence tests as a basis for admission.

Promotion in the typical junior high school is annual. The school employs some form of promotion by subject, but there is no agreement as to whether promotion by subject

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shall apply to all subjects, to "major" subjects only, to "minor" subjects only, or merely to such subjects as the schedule of classes may allow in individual cases. Promotion is ordinarily contingent upon a passing mark in the subject in which advancement is sought, together with the teacher's judgment that the pupil who is to be promoted possesses the ability to do the work of the succeeding grade. Industry and application are occasionally taken into account in individual cases, and a pupil's chronological age is sometimes a deciding factor. As in the case of admission, achievement tests and tests of intelligence are not employed.

*Organization of instruction.*—The typical school provides a schedule of classes under which each pupil works with six different teachers in the seventh grade, with six in the eighth grade, and with five in the ninth grade—the reverse of a gradual introduction of departmentalization. Each junior high school teacher is responsible, usually, for only a single subject, though the average teacher must present that subject in all three grades.

Classes in the typical school enroll ordinarily about 30 pupils. The smallest class usually enrolls 14, and the largest (a class in a nonacademic subject) enrolls 49. Seven class periods, each approximately 45 minutes in length, make up the usual school day.

Tests both of achievement and of intelligence are used for sectioning pupils in certain classes, and occasionally for the diagnosis of difficulties in learning. The school does not employ such tests for assigning pupils to specialized subjects or curriculums, for prognosis or guidance, or for research.

The typical school employs individual instruction techniques in some of its classes. In some of its classes, likewise, it pays special attention to so-called "socialized" methods of teaching. It has adopted some form of ability grouping in a considerable number of classes. Provisions for individual coaching of slow pupils in certain subjects represent its only additional arrangement (so far as its general organization is concerned) for meeting individual needs. Bright pupils receive no special attention, except as they are provided for in ability groups; no make-up or opportunity classes are offered for slow pupils or for pupils who have failed; and no credit is given for out-of-school projects or studies.

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*Program of studies.*—The typical school's program of studies is of either the constants-and-variables type or the multiple-curriculum type—more commonly the latter. Except for an elective in music, all seventh-grade subjects are required; the list of subject-fields includes English, social studies, mathematics, science, art, required as well as elective work in music, home economics for the girls and industrial arts for the boys, and physical training. Foreign language is added as an elective in the eighth grade, and art is offered in this grade for a half year only; the other eighth-grade subjects are continuations of those offered in the seventh grade. In the ninth grade English, social studies, mathematics, science, and physical training are required; foreign language continues as an elective; art disappears from the program; music, home economics, and industrial arts are placed entirely on an elective basis. The list of separate subjects which are elective thus consists of one subject in the seventh grade, two in the eighth grade, and four in the ninth grade. Agriculture is not commonly offered, either as a required subject or as an elective; nor is business training, though when the program of studies is of the multiple-curriculum type a commercial curriculum appears among the basic curriculums, as well as college-preparatory, general, industrial arts, and home economics curriculums.

*Articulation in subject matter and methods of teaching.*—The break between the seventh grade of the typical junior high school and the sixth grade of the elementary school is not a sharp one so far as concerns the number of different subjects which appear in each pupil's program, or the opportunity for election of subjects. Promotion by subject, however, is suddenly introduced; and the difference in the extent to which teaching is departmentalized in the two grades is a notable one. The junior high school sometimes modifies the subject matter offered in its seventh-grade classes to meet the special needs of pupils admitted from the elementary school. Its general supervisors and certain of its subject supervisors give occasional attention to the integration of subject matter and methods of teaching between the sixth and seventh grades. Otherwise, the typical junior high school pays no direct attention to articulation with the elementary school in the matter of its formal curriculum. No conferences are

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held between the teachers of the two school units, nor is the curriculum in either unit a product of committee deliberation in which teachers of the other unit have had a share.

Articulation with the senior high school is somewhat more directly cared for. The number of subjects in each pupils' schedule, the opportunity for promotion by subject, and the extent of departmentalization, tend to be approximately the same in the tenth grade as in the ninth. The opportunity for election of courses is considerably greater in the tenth grade. Provision is frequently made by which pupils promoted to the senior high school may take certain junior high school subjects to meet their special needs, though junior high school pupils can not anticipate senior high school work. The articulation of subject matter and teaching methods is presumably advanced by the fact that certain teachers are engaged in teaching in both the junior high school and the senior high school, that senior high school teachers are appointed as members of committees on the subject matter of junior high school courses, that conferences are held between the teachers of the two school units, and that the junior and senior high school grades have in common both general supervisors and subject supervisors who give at least occasional attention to the integration of subject matter and methods. It is to be noted, however, that articulation between the schools seems ordinarily to take place from the top down; senior high school teachers commonly have a voice in the formulation of junior high school courses, but junior high school teachers tend to have no corresponding influence upon senior high school work.

*Extracurriculum program.*—The typical school's program of extracurriculum activities is an extensive one. Practically all the pupils are enrolled in home-room organizations; a considerable number engage in club activities, extracurriculum athletics, and pupil-conducted assemblies; and at least some pupils are active in a general school government, in musical organizations, school publications, and school social affairs, and in school exhibitions and graduations. Pupil activity is encouraged by the fact that pupils are either required to take part in some form of activity or are given to understand that if they do not choose to participate they must devote their extracurriculum periods to study or to

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other assigned tasks. Participation in extracurriculum activities does not, however, carry credit toward promotion or graduation, nor is it required for promotion or graduation. Three half-hour periods per week are regularly set aside for extracurriculum activities, of which one is devoted to home-room activities, one to clubs, and one to pupil assemblies. Other activities are conducted outside of school hours. Financial support for the extracurriculum is obtained from dues, sales of tickets to entertainments, subscriptions to school publications, the sale of advertising, and the like. From the financial standpoint, both the extracurriculum program as a whole and the separate activities of which it is composed lead a largely catch-as-catch-can existence.

Between the extracurriculum of the typical junior high school and extracurriculum activities in the elementary school there is no apparent connection whatever, except that some of the activities offered in the junior high school are offered also in the elementary school. The gap between junior and senior high schools is, by contrast, not a marked one. The program of extracurriculum activities of the tenth grade closely parallels that of the ninth. But the only definite provision made to articulate the extracurriculums of the junior and senior high schools consists in an arrangement by which certain teachers act as sponsors of extracurriculum activities in both schools.

*Guidance activities.*—The guidance program of the typical junior high school includes a slight attention—but only slight attention—to the guidance of elementary-school pupils before they enter the junior high school. Sixth-grade pupils have the work of the junior high school explained to them by their elementary-school principal or teachers, and occasionally such pupils are given assistance in choosing specific subjects which will be open to them when they enter the junior high school. Elementary-school pupils do not visit the junior high school prior to their admission to the school, and no measures are taken to acquaint any considerable number of their parents with the nature of the junior high school program.

Once enrolled in the typical junior high school, pupils are given group guidance by their home-room teachers both during the first two or three weeks of school and more or less con-

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tinuously thereafter throughout the junior high school period. They receive no systematic individual guidance when they first enter the school; nor, indeed, can the majority of pupils count on receiving individual guidance during the junior high school period. When such guidance is given, it comes, as in the case of group guidance, from the home-room teachers. Major emphasis in guidance is placed on the choice of specific subjects of study, but some attention is devoted also to participation in extracurriculum activities, to vocational choices, to ethical conduct and etiquette or "manners," to health, to methods of study, and to use of leisure time. Though the parents of practically all the pupils are kept informed concerning their children's special problems, the use of printed reports furnishes the chief means of communication with the home; parents are not reached in any large number of cases either through individual interviews or through group meetings..

The guidance of junior high school pupils with respect to their future activities in the senior high school is less extensive than their guidance in strictly junior high school matters. Ninth-grade pupils have the work of the senior high school explained to them by their junior high school principal or teachers; occasionally they visit the senior high school. Their introduction to senior high school problems consists almost exclusively of assistance in the choice of the specific subjects or curriculums which they are to pursue in the tenth grade. Their parents receive printed or mimeographed materials describing the senior high school requirements and program of studies. Except in these ways, the junior high school does not directly concern itself with its pupils' senior high school plans.

*Agencies of guidance.*—The provision of a comprehensive program of guidance is no doubt handicapped, in the typical junior high school, by the fact that the school has no special guidance staff; whatever guidance is offered must be provided by the principal and the regular classroom teachers, with no outside assistance. The school keeps detailed cumulative records concerning individual pupils, on which appear (in certain cases, at least) scores from standardized tests of achievement and ability, reports of physical examinations, and teachers' ratings of pupils' achievement and general

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scholastic ability. Conferences are occasionally held with individual pupils and their parents; the conferences are supplemented with formal notices and reports and occasional personal letters to parents. Group guidance is offered through home-room periods, assembly talks by the principal or members of the faculty and by laymen, excursions to observe workers in specific vocations, and the school's program of extracurriculum activities. The school offers no systematic guidance classes or classes in occupations; it makes no direct use of exploratory or try-out courses in its guidance program; it maintains no contact with parents through visits to pupils' homes; it has no arrangements for following up pupils who have left the school.

The typical junior high school makes no provision whatever for the articulation of its guidance program with the program of the elementary school. A degree of continuity is achieved between the programs of the junior and senior high schools, in that certain of the teachers who take part in the junior high school program take part in the senior high school program as well. Furthermore, occasional conferences are held between junior and senior high school teachers concerning the guidance of individual pupils in the senior high school grades. Otherwise, the junior high school guidance program is formulated without direct reference to its integration with that of the senior high school.

*Teaching staff.*—It has been noted that senior high school teachers have more direct voice in the formulation of junior high school courses than have junior high school teachers in the formulation of senior high school courses. This fact is perhaps in part explained by the composition of the junior high school teaching staff. No junior high school teacher in the typical school is paid a salary as high as that of the best-paid senior high school teacher in the same system, and the lowest junior high school salary is lower than the salary of the most poorly paid senior high school teacher in the system. The difference between junior and senior high school standards is reflected within the junior high school itself, in that teachers appointed to ninth-grade positions must hold college degrees, whereas seventh-grade and eighth-grade teachers need not be college graduates. Prior teaching experience is not insisted on in the case of junior high school appointments.

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All teachers must, however, have had at least 15 semester-hours of professional training. As a result of these requirements (some of them only recently put into effect), only 1 out of every 5 of the junior high school teachers fails to hold a college degree, only 1 in 17 has had no professional training, and only 1 in 17 again has had no previous teaching experience. Five teachers of every six have previously taught in this same school. One-third of the teaching staff are men.

*Supervision.*—Finally, the general supervision of the work of the typical junior high school is carried on by the superintendent of schools, the junior high school principal, and certain special-subject supervisors. There is no assistant principal. The principal is the only supervisory officer who devotes his attention primarily to the junior high school. The superintendent of schools has obviously a diversified responsibility, and the special-subject supervisors are ordinarily as much concerned with either the elementary school or the senior high school as with the junior high school. All the supervisory officers engage in classroom visitation and in conference with individual teachers. Both general faculty meetings and departmental meetings play a part in the school's supervisory program. Curriculum revision, the systematic examination of new textbooks, and the use of school "visiting days" are commonly employed as means for the improvement of teaching during the school year; summer study is emphasized as a further means of increasing efficiency.

*Summary of practice in the typical junior high school.*—This, then, is the organization of the typical junior high school, in so far as prevailing practice among the schools included in the study may be considered typical. Of course no single school actually exists which is exactly like the school that has just been described. The data gathered in the study offer abundant evidence that one of the most notable characteristics of present junior high schools is the extreme variety of their internal organizations—a variety so great that few of the practices reported by the schools of the study failed to be reported by at least as many as one-tenth of all the schools. The description here given is a description merely of the usual features of organization in the junior high schools of the study; the features noted as absent are those which a majority of the schools failed to report.

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It is apparent that the arrangements that are commonly provided are not all that might be desired. The typical junior high school affords opportunity for a surprising variety of extracurriculum activities, it is true; classroom groups are, on the whole, not unduly large; slow pupils and overage pupils are provided for in a measure through certain schemes for the adjustment of teaching to their individual needs; the program of studies allows some degree of differentiation; the teaching staff has for the most part been professionally trained. But the curriculum as a whole still retains a predominantly academic cast; the extracurriculum seems to be maintained quite as much by administrative mandate as by its own inherent appeal to pupils' interests; provisions for individual differences largely neglect the brighter pupils; the school makes small use of potentially valuable instruments of measurement and diagnosis; arrangements for articulation with the elementary school below and the senior high school above are in almost no particulars highly developed, and in important phases of the school's work are entirely lacking; and provision for the guidance of pupils—a major function of the junior high school—has gone little beyond a rudimentary stage. All this is true, it must be remembered, of the organization typical of a group of junior high schools which are presumably somewhat better organized than the average. In the light of that fact, more impressive evidence than this could hardly be found in support of the thesis that no mere formal adoption of a junior high school pattern will produce reorganization worthy of the name.

### 2. PRACTICE IN THE TYPICAL SENIOR HIGH SCHOOL

*Appraisal of senior high school necessary.*—Facts as to the organization of the typical junior high school present, of course, only a partial view of the results of reorganization. Though the junior high school grades have been the focal point for reorganization, the movement for change has been expected to affect the senior high school grades as well. Practice in the senior high school deserves no less attention than practice in the junior high school, in any serious effort to appraise the reorganized school.

*Size, grade-organization, and equipment.*—The typical senior high school, as depicted in the check-list reports from

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schools including senior high school grades, is a school comprising grades 10, 11, and 12, and enrolling approximately 320 pupils. It is thus a smaller school than the junior high school, but it employs a staff of equal size—17 teachers in all. Like the junior high school, it was established in 1926 as a result of a change from the 8-4 system. It is housed in a building erected specifically for senior high school purposes. Occasionally it shares the building with the junior high school, but the two schools are under separate administrations. The senior high school principal reports a school plant which on the whole is reasonably adequate, although (as in the case of the junior high school plant) there are noteworthy defects in the provisions for health and physical education.

*Admission and promotion.*—Admission to the typical senior high school is ordinarily based on pupils' completion of a major part of their ninth-grade work. In exceptional cases pupils' chronological age is taken into account. The typical senior high school, like the junior high school, makes no systematic use of standardized achievement or intelligence tests in selecting pupils for admission.

Promotion in the senior high school is more commonly annual than semiannual or oftener, though there is less agreement among senior high schools than among junior high schools as to the frequency of promotion. The typical senior high school employs promotion by subject in all its subjects. The standard for promotion is ordinarily subject completion as indicated by teachers' marks; but teachers' estimates of pupils' ability to do the work of the succeeding grade, and pupils' industry and application, are occasionally recognized as determining factors in individual cases. Unlike the junior high school, the senior high school takes no account of chronological age in granting promotion from grade to grade. The senior high school follows typical junior high school practice, however, in making no use of standardized intelligence tests or tests of achievement as a basis for its promotions.

*Organization of instruction.*—The schedule of classes in the typical senior high school requires each pupil to work ordinarily with four different teachers—one less than the number usually assigned to ninth-grade pupils. Senior high school teachers, like junior high school teachers, are commonly

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called on to teach only a single subject, though the average teacher is assigned classes from all three grades.

Classes in the typical senior high school are notably smaller than classes in the junior high school. The usual senior high school class enrolls approximately 25 pupils, as compared with 30 pupils in the usual junior high school class. The smallest senior high school class ordinarily contains only 9. The largest class (one in physical training or music) usually enrolls 47. Class periods are approximately 45 minutes in length. As in the junior high school, 7 such periods make up the school day.

In the organization of its instruction the typical senior high school rarely makes use of standardized tests of intelligence. When it does use such tests it employs them for diagnosis of difficulties in learning and occasionally for prognosis and guidance. It uses standardized tests of achievement somewhat more frequently, chiefly in studying pupils' difficulties in learning in connection with certain classes, and sometimes as a means for the evaluation of teaching efficiency. It does not employ tests of either type for arranging class sections, for assigning pupils to specialized subjects or curriculums, or for research or experimentation. Its reliance on standardized tests is on the whole less extensive than that of the junior high school.

In its provision for individual differences the typical senior high school provides homogeneous grouping in fewer classes than does the junior high school. This is presumably due to the fact that the greater extent of elective work in the senior high school, and the division of the work into specialized curriculums increase the difficulty of sectioning pupils according to ability. Otherwise the procedures are the same in the two schools—use of individual instruction techniques in some classes, occasional use of "socialized" methods of teaching, individual coaching of slow pupils in certain subjects. The procedures not used are also the same. There is no special provision for the brighter pupils; make-up or opportunity classes are lacking; no credit is given for out-of-school projects.

*Program of studies.*—The program of studies in the typical senior high school is of the multiple-curriculum type. The basic curriculums are only three in number: College-preparatory, general, and commercial. Though the school provides

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courses in home economics and industrial arts, it does not treat these courses as cores for specialized curriculums. The opportunities which it offers for curriculum specialization are therefore less numerous than are those of the average junior high school which has adopted a multiple-curriculum arrangement.

Except in English, the social studies, and physical training, all courses in the typical senior high school are elective. English is required in all three grades; a course in the social studies is required in grade 11, followed by a further required course in grade 12; physical training is required in grades 10 and 11, and is not offered at all in grade 12.

The elective courses comprise twelfth-grade English (in addition to the required work in this subject), social studies in all three grades (likewise in addition to the required work), and three years of work each in mathematics, science, foreign language, fine arts, music, business training, home economics, and industrial arts. The elective courses in English, the social studies, science, fine arts, home economics, and industrial arts consist in each case of a single course in each of the grades in which these subjects are offered. The school is likely to provide two or more courses in each grade in music and foreign language. It provides two or more courses also in twelfth-grade mathematics and in eleventh-grade and twelfth-grade business training. As in the junior high school, courses in agriculture are not represented in the program.

The senior high school program thus parallels the program of the typical junior high school in its primary emphasis on academic subjects. Except in physical training, the senior high school provides opportunity for election each year of all the subjects included in the junior high school program. The senior high school gives only minimum attention, however, to the newer fields of study.

*Articulation.*—The arrangements made for articulation of the work of the junior and senior high schools have already been described in the account of the lower school's organization.<sup>2</sup>

<sup>2</sup> The articulation of the senior high school with higher institutions has not been dealt with in this project of the survey. For a discussion of articulation between high school and college see Monograph No. 10 in this series.

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*Extracurriculum.*—The extracurriculum of the typical senior high school is almost exactly equivalent in scope to that of the junior high school. Home-room organizations, general school government, clubs, musical organizations, school publications, extracurriculum athletics, school exhibitions, and graduation exercises all claim a share of participation from the senior high school pupils, to approximately the same extent in each case as from junior high school pupils. The only notable differences between the programs of the two schools consist in somewhat greater participation by upper-school pupils in school social affairs (parties, dances, and the like), and their somewhat smaller participation in school assemblies.

In the senior high school as in the junior high school, pupils are either required to take part in some form of activity or are given a choice between participation and study. The senior high school follows the practice of the junior high school in giving no credit for extracurriculum activities toward promotion or graduation, and in not requiring such activities for promotion or graduation.

The senior high school differs from the junior high school in providing only two half-hour periods each week for its in-school program of extracurriculum activities as contrasted with three in the lower school. Of the two senior high school periods, one is devoted to assemblies and the other to miscellaneous activities.

Financial support for the extracurriculum is derived in the senior high school, as in the junior high school, from a somewhat haphazard variety of sources.

*Guidance activities.*—The guidance of junior high school pupils in preparation for their senior high school work has already been described.

Once enrolled in the typical senior high school, pupils receive guidance during the first two or three weeks of school both from the principal and from their home-room teachers. Guidance thereafter is given by the principal alone. Guidance is for the most part on a group basis, though systematic individual guidance is occasionally given. Major emphasis is placed on choice of subjects and curriculums, participation in extracurriculum activities, further education following upon senior high school work, vocational choices, health, and

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methods of study. The parents of pupils are reached, as in the junior high school, chiefly through printed reports, though interviews with individual parents occasionally form a part of the systematic guidance program.

The outstanding difference between the guidance activities of the typical junior and senior high schools concerns the parts played by the principal and the home-room teachers. In the junior high school the teachers are immediately responsible for most of the guidance work; in the senior high school the responsibility is borne chiefly by the principal. This difference probably means that somewhat less time per pupil is devoted to guidance in the senior high school than in the lower school.

*Agencies of guidance.*—The teachers' relative lack of responsibility for the senior high school guidance program is reflected in the fact that the typical senior high school provides no guidance or home-room periods. In nearly all other respects its arrangements are identical with those of the junior high school. It keeps cumulative records of the work of individual pupils; it makes at least some use of pupils' scores on standardized tests of achievement and mental ability; it takes account of the results of physical examinations; it uses teachers' ratings of school achievement and general scholastic aptitude; it arranges for occasional conferences with individual pupils and their parents; it offers extracurriculum activities which may contribute to guidance; it provides assembly talks by the principal or members of the faculty and by laymen; it conducts excursions to observe workers in various vocations; it sends out formal notices and reports and occasional personal letters to parents. In addition, the senior high school uses newspaper publicity and articles in school publications—two agencies not employed in the lower school—as a part of its guidance program. It follows the junior high school, however, in making no systematic use of guidance classes, exploratory courses, visits to pupils' homes, or follow-up procedure.

*Teaching staff.*—The teaching staff of the typical senior high school is selected in terms of the same standards as those used for the appointment of ninth-grade teachers in the junior high school: newly appointed teachers must be college graduates and must have had 15 semester-hours or

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more of professional training, but need not have had prior teaching experience. The number of teachers who have been reappointed to positions in the school (five of every six) is the same in the senior high school as in the junior high school. One teacher in six in the senior high school, as compared with one in five in the lower school, does not hold a college degree. One in twenty of the senior high school teachers has had no professional training, as compared with 1 in 17 in the junior high school staff. More of the senior high school teachers than of those in the lower school lack previous teaching experience: the numbers are 1 in 11 and 1 in 17, respectively. The senior high school has, however, a staff of whom three-eighths are men, as contrasted with a staff of whom only one-third are men in the junior high school. In training, the staffs of the two schools are thus roughly equivalent; in experience the junior high school staff would seem to have an advantage; in its proportion of men teachers the senior high school is in the lead.

*Supervision.*—In supervision—the last of the major features of organization to be considered—the organization of the typical senior high school likewise closely parallels that of the junior high school. The chief difference between the provisions for supervision in the two schools consists in the fact that the senior high school appoints department heads for academic subjects (no department heads are recognized in the typical junior high school) and that special supervisors take a less active part in supervision in the upper school than in the lower. Classroom visitation and conferences with teachers are conducted in the senior high school by the principal and the superintendent of schools. Like the junior high school, the typical senior high school has no assistant principal. The various supervisory officers are frequently as much concerned with the junior high school grades as with the senior high school grades. General faculty meetings, departmental meetings, curriculum revision, the systematic examination of new textbooks, school “visiting days,” and summer study by teachers play a part, as with the junior high school, in the school’s supervisory program.

*Summary of practice in the typical senior high school.*—It should perhaps be said again that individual reorganized schools follow no such pattern as that which is here described.

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Practice among the schools submitting data for the study proved to be so varied that no existing school could be singled out as a fair example of reorganized schools in general. The description of the typical senior high school, like that of the typical junior high school, represents no more than a listing of the practices which prevail among the group of schools included in the study.

Yet practices in senior high schools in general may be roughly surmised from this description. The points to be especially noted in the senior high school organization are strikingly similar to those which attract attention in the junior high school. On the one hand, senior high school classes in general are apparently not overlarge; efforts are obviously being made to adapt methods of teaching and the organization of classwork to pupils' individual needs; the senior high school program of studies tends to permit a high degree of differentiation, even though it seems still to be overloaded in favor of the student with purely academic interests; the school provides an extensive and varied extracurriculum program; and the teaching staff is predominantly college trained and professionally trained as well. On the other hand, the school neglects guidance, provisions for the brighter pupils, the use of standardized tests, attention to the nonacademic elements of its program of studies, the development of purely voluntary extracurriculum activities, and the articulation of its work with that of lower school units, to no less an extent than is characteristic of the junior high school.

### *3. THE TYPICAL JUNIOR HIGH SCHOOL AND THE TYPICAL SENIOR HIGH SCHOOL COMPARED*

The fact that practice in the senior high school corresponds closely to practice in the junior high school is of interest for the light which it throws on the results of the movement for reorganization. In spite of its having been centered chiefly on the lower secondary-school grades, the movement has borne fruit in the upper grades as well. That the senior high school in some respects falls behind the junior high school is, of course, not to be overlooked. The upper school makes more limited use of standardized tests than does the junior high school; it often fails to provide the fields of specialization foreshadowed in the junior high school's introductory courses;

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it affords somewhat less time for extracurriculum activities than does the lower school; and it seems to offer, in the main, a less flexible guidance program. Yet the senior high school has certain advantages which ought also not to be overlooked. It has a more flexible system of promotion than the junior high school; its classes are notably smaller; its teaching staff consists more largely of men. The relative merits and defects of the schools' organization may, of course, not be directly reflected in the results of their instruction. From the standpoint of organization in and of itself, however, there would seem to be less ground than has sometimes been assumed for comparing the junior and senior high schools to the disadvantage of the latter. The two school units are apparently more alike in organization than they are different, and they share their major merits and defects in common.

### 4. PRACTICE IN THE TYPICAL REORGANIZED SCHOOL COMPARED WITH PRACTICE IN CONVENTIONAL SCHOOLS

*The data from conventional schools.*—The original plans for the present study called for check-list reports from a group of 8-year elementary schools and 4-year high schools which could fairly be compared with the reports from reorganized schools. The data actually secured from conventional schools, however, possessed certain serious limitations.<sup>3</sup> For this reason comparison of the conventional schools and the reorganized schools in minute detail will probably serve no very useful purpose. Even so, a statement of the major respects in which the two groups of schools differ may be of some value. The statement which follows is based on a tabulation of practice in conventional schools similar to the tabulation for junior and senior high schools.

*Articulation.*—The most striking difference between reorganized schools and conventional schools as the two are here represented appears in connection with articulation. Meager though the provisions for articulation appear to be between the ninth and tenth grades in the typical reorganized system, they are notably more extensive than the usual provisions for articulation between the eighth and ninth grades of the conventional systems. Arrangements for integrating subject matter and teaching methods in the conventional schools ordinarily consist only in the appointment of general super-

<sup>3</sup> See Ch. I, sec. 4.

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visors, or special-subject supervisors, for the elementary school and high school in common. There is an abrupt break in the number of subjects included in pupils' schedules, in the opportunity for promotion by subject, and frequently in the extent of departmentalization—matters in which the typical reorganized school provides a gradual transition at this point. There is a similar break in the organization of the extracurriculum in the conventional schools. Pupils devote considerably more time to extracurriculum activities, and are given notably greater freedom in their choice of such activities, in the ninth grade than in the eighth; the only tie between lower-school and upper-school extracurriculum programs consists (as with the reorganized school) in the fact that certain teachers occasionally serve as sponsors in both schools. The integration of the guidance program alone seems ordinarily to be no more poorly provided for in the conventional schools than in the reorganized schools; but the fact that the two types of schools are on a par in this respect is not so much a matter of the merits of either type of organization as of the defects of both.

Articulation is commonly better provided for, however, between the sixth and seventh grades of the conventional schools than between the sixth and seventh grades in the reorganized systems. The differences here consist chiefly in the fact that the elementary schools report frequent conferences on subject matter and teaching method between teachers in the two grades, in addition to the contacts maintained through supervision, and that certain elementary-school teachers act as sponsors for extracurriculum activities in both grades. So far as articulation directly affects the pupils' programs, the transition in the curriculum at this point seems to be of the same general nature in both types of schools; the transition in the extracurriculum appears to involve a less sudden break in the conventional schools than in the reorganized schools. Arrangements for the articulation of the guidance programs are lacking in both types of schools, though the programs themselves correspond closely in the seventh and eighth grades.

To balance the gain in articulation which reorganization has apparently brought about at the top, against the loss in articulation which it seems to have produced at the bottom,

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is a task that must be undertaken with caution. In so far as the data here presented give a reliable indication of present conditions, they would suggest a net gain rather than a loss. The data do not reveal the extent to which reorganized schools have achieved effective articulation *within* the upper and lower units. The tradition of separation between the eighth and ninth grades in particular no doubt still affects reorganized-school practice, as is shown by the common difference in requirements for appointment to teaching positions in these grades. Moreover, the establishment of the junior high school has, in a sense, produced two gaps where only one existed before. Yet in the main there is reason for believing that the arrangements which the typical reorganized school provides promise on the whole a more effective integration of school work than that which exists under the conventional school organization.

*Guidance.*—Less striking than the differences in articulation, but of some importance, nevertheless, are certain differences between reorganized and conventional schools in the organization of their guidance programs.

In the seventh and eighth grades of the elementary schools the usual arrangements for guidance are in general parallel to those of the typical junior high school. Only three noteworthy differences appear. To the credit of the elementary schools is the fact that they provide more frequently than do the junior high schools for interviews with parents and for visits to pupils' homes, and that, unlike the typical junior high school, the elementary schools tend to use standardized tests of both achievement and intelligence in their guidance programs. To the disadvantage of the elementary schools is the fact that they tend to make no systematic use of guidance periods in their programs.

Differences in the guidance programs of the two types of schools from the ninth grade on are more numerous than in the lower grades, and tend on the whole to favor the reorganized rather than the conventional schools. In the 4-year high schools the home-room teachers take no part at all in the guidance program, and no home-room periods are set aside for systematic guidance. The guidance which is offered is provided by the principal, with occasional assistance from class advisers. The difference between the two types of

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schools with respect to the teachers' responsibility for guidance is more marked in the ninth grade, however, than in the upper grades, since the typical senior high school also makes no systematic use of home-room periods, though it does occasionally arrange for guidance by home-room teachers. Throughout all the upper grades a further difference appears in that the problems dealt with as subjects for guidance tend to be somewhat fewer in number in the conventional schools than in the typical reorganized school. Other noteworthy differences consist in the fact that cumulative records are not ordinarily used in connection with the guidance program in the 4-year high schools, and that standardized tests and ratings of pupils' general scholastic ability are not reported as elements in the program.

It is doubtless unsafe to regard these detailed differences as characteristic of reorganized and conventional schools in general. The data may not unreasonably be interpreted, however, as pointing to general differences in the attention paid to guidance in the two types of schools. Except in the place given to guidance periods in the schools' schedules, the differences are not marked in the seventh and eighth grades; but from the ninth grade on it seems fair to conclude that reorganized schools are likely to make notably more extensive provisions for guidance than are conventional schools.

*Program of studies.*—A further important difference between the two types of schools is to be found in the programs of studies. Here again the contrast is chiefly in the upper-grade organizations.

In the seventh and eighth grades the conventional-school program ordinarily provides no opportunity whatever for election, and does not include foreign language among the offerings. The program of the typical reorganized school, in contrast, furnishes a gradually increasing opportunity for election, and introduces foreign language in the eighth grade. The subject fields represented in the required courses under the two programs are identical, though in all probability differences in content exist within the fields.<sup>4</sup>

From the ninth grade on increasing differences appear in the types of subject matter especially emphasized. In their four upper grades the conventional schools tend to offer more

<sup>4</sup> For an analysis of curriculum content see Monographs No. 20-25 in this series.

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work in the social studies, in science, and in mathematics than is found in the corresponding grades of the typical reorganized school. But the conventional schools frequently do not present at all certain courses commonly offered in reorganized schools; they tend to give less attention to business training in grades 11 and 12; they provide no elective English and no home economics in grade 12; they omit physical training not merely in the twelfth grade, where it is lacking in the typical senior high school, but in the eleventh grade as well; and they offer no courses whatever in fine arts. Their attention is on the whole even more narrowly devoted to the purely academic elements of the program than is that of the reorganized schools.

In general terms it may be said of the two types of schools that the program of studies in the typical reorganized school tends to be increasingly broader than that of the conventional school as the grade level rises. In the lower grades the reorganized school offers an opportunity for election of subjects which is notably absent in the conventional school; in the upper grades it provides more extensively than the conventional school for elections in nonacademic fields, though at a sacrifice of some opportunity for academic specialization.

*Extracurriculum program.*—The elementary schools and 4-year high schools furnish somewhat less extensive opportunity for extracurriculum activities than do the reorganized schools. The elementary schools tend to allow no pupil participation in school government, and to offer only two 25-minute activities periods each week, as contrasted with three 30-minute periods in the typical junior high school. The 4-year high schools commonly have no home-room organizations, and tend to provide shorter activities periods than the reorganized schools. Except in the matter of pupil participation and home-room activities, the types of activities reported in the conventional and reorganized schools are essentially the same.

*Teaching staff.*—In the composition of their teaching staffs the conventional high schools seem to have a slight advantage over the reorganized upper schools. Ninety per cent of the 4-year high-school teachers commonly hold college degrees, as compared with only 83 per cent of the teachers in the typical senior high school. Only 6 per cent of the average

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conventional high-school staff have not taught before, as compared with 9 per cent of the senior high school staff. The proportions of men teachers and of teachers who have had professional training are the same in the upper schools for both types of schools.

At the junior high school level, however, the reorganized school seems to hold the advantage. One-third of the junior high school teachers are men, as compared with only one-seventh of the teachers in the elementary schools. Moreover, four-fifths of the junior high school teachers hold college degrees, as compared with fewer than one-fifth of the elementary-school teachers. Against these advantages is to be set only the fact that 16 per cent of the junior high school teachers, as compared with 9 per cent of the elementary-school teachers, have served less than a year in their present positions.

The balance of advantage would seem to favor the reorganized schools. The smaller proportion of college-trained teachers in the senior high school grades of these schools may be due in part to the fact that the reorganized-school program of studies calls for a larger number of teachers who have had other than a formal liberal arts training—a possibility which minimizes the apparent advantage of the 4-year high school over the senior high school. Even leaving this possibility out of account, however, the net gain in the quality of the junior high school staff may fairly be judged greater than the apparent loss in training and experience among the senior high school teachers.

*Miscellaneous differences.*—In addition to these major differences between the two groups of schools, there appear differences in certain small items of practice which are of sufficient interest to be reported, but which affect major features of organization only somewhat incidentally.

Seventh-grade and eighth-grade classes in the conventional schools tend to be larger and ninth-grade classes to be smaller than junior high school classes in the corresponding grades. Classes in grades 10 to 12 are of approximately the same size in reorganized and conventional schools.

Though class schedules for grades 9 to 12 are essentially the same in both types of schools, schedules in elementary schools tend to include seven periods of only 40 minutes each,

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as compared with seven 45-minute periods in the typical junior high school schedule.

The elementary schools commonly offer promotion in the seventh and eighth grades by grade only, instead of by subject; but they tend to atone for this disadvantage by allowing semiannual promotions, and by using achievement tests (which the typical junior high school does not employ for this purpose) as a partial basis both for promotion and for admission to the seventh grade.

The conventional schools provide for somewhat less extensive departmentalization than does the typical junior high school. Unlike the staff of the junior high school, the staff of the conventional elementary school is not ordinarily engaged in any systematic revision of the curriculum. The staffs of most of the 4-year high schools and of the typical senior high school are both reported to be definitely concerned with curriculum problems.

Finally, the principals of the conventional schools (both elementary and high) commonly report buildings in which the shop equipment is seriously inadequate. Most of the reorganized-school principals seem not to be dissatisfied with this feature in their school plants. Surprisingly enough, the conventional-school principals ordinarily express no dissatisfaction with their equipment for health and physical education, though this equipment is a source of common complaint on the part of the reorganized-school principals. The apparent inconsistency of the reports on equipment makes extremely hazardous any attempt to estimate the real differences between the two types of schools on this point.

*Is the typical reorganized school superior to the conventional school?*—To balance these various differences—some of them apparently to the advantage of the reorganized school and others to its disadvantage—is no easy task. The task is complicated in the present instance by the fact that neither the conventional schools nor the reorganized schools used to determine the differences are wholly representative of their types. Any conclusions which can fairly be drawn as to the relative merits and defects of the contrasting organizations in general must be less clear-cut than might be desired, because of the nature of the basic data. Yet certain general conclusions are perhaps reasonably defensible.

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With due allowance for the limitations of the present study, it seems fair to conclude that reorganization has been attended in most schools by at least some increase in the provisions for articulation between the upper high school unit and the preceding school unit, in the arrangements for systematic educational and vocational guidance, in the flexibility and perhaps also the comprehensiveness of the program of studies, in systematic attention to the development of extracurriculum activities, and in the qualifications of teachers in the lower secondary-school grades. Reorganization seems also to have resulted in smaller class enrollments and somewhat longer class periods in the seventh and eighth grades, and in more systematic attention to the improvement of the curriculum by teachers of these grades.

Against these presumable gains is to be set an apparent loss in the usual provisions for articulation between the sixth and seventh grades, and in the qualifications of teachers in the upper grades. There may have been a slight loss also in the flexibility of admission requirements to the seventh grade.

The data at hand show no clear differences between reorganized and conventional schools in the matter of their equipment, their provisions for individual differences through various methods of class organization, or their general arrangements for supervision.

Considered as a whole, the differences seem definitely to favor the reorganized school. Though, in the typical school, reorganization has not accomplished all that has been hoped from it, it has in all probability resulted in numerous changes likely to contribute to more effective instruction.

*Progress in junior and senior high school reorganization compared.*—In concluding this analysis of the differences between reorganized and conventional schools, two further points need to be briefly dealt with. One has to do with the relative amounts of change in organization in the junior and senior high school grades, respectively. The other concerns the possibility of introducing the specific practices employed by reorganized schools within the conventional form of organization.

In connection with the descriptions of practice in the typical junior and senior high schools, it was pointed out that though the senior high school appears on the whole to offer a

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less comprehensive and flexible organization than the lower school, the differences between the schools are not so marked as is sometimes assumed. It now becomes apparent that both junior and senior high schools are commonly better organized than the conventional schools included in the study. The difference between the typical junior high school organization and the organization of the elementary schools is, however, notably less than the difference between the organization of the senior high schools and that of the 4-year high schools. The senior high schools, that is to say, would seem in general to have accomplished relatively more than the junior high schools.

The apparent contrast between the gains of the two types of schools can not be taken quite at its face value. The elementary schools included in the study are probably a more highly selected group than the conventional high schools, so that the junior high schools may have been placed at a disadvantage in a measurement of relative gain. Yet the disparity in the apparent gains of the junior and senior high schools is great enough to deserve at least passing notice. In view of the nature of the groups of schools used in the comparisons, perhaps this much can fairly be said that the relative gain in organization at the senior high school level has been probably no less than the gain in organization at the junior high school level.

*Improvement of practice in conventional schools.*—In connection with the possibility of introducing reorganized-school practices within the conventional form of organization, certain further facts are of interest.

By definition the conventional schools could not, of course, avail themselves of the forms of grade grouping adopted by the reorganized schools. Except in the matter of grade combinations, every one of the practices reported by reorganized schools was reported by one or more of the conventional schools. No feature of internal organization was discovered, in other words, which had not been put into active use in some conventionally organized system.

Moreover, a considerable number of conventional schools reported all the practices reported in the typical reorganized school, and other practices as well. Though no conventional schools were superior to the best reorganized schools, numer-

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ous conventional schools had more comprehensive organizations than the average reorganized school.

One conclusion is clearly suggested by these facts—that reorganization in the sense of changed grade grouping is in itself no guaranty of superiority. But more important than this conclusion is a fundamental question which the facts suggest. If conventional schools can provide, and in certain cases do provide, each of the specific practices which are supposed to be characteristic of reorganized schools, why should not conventional and reorganized schools in general be equally well organized?

It is possible, of course, that the apparent superiority of the reorganized schools is a result merely of a high degree of willingness on the part of the communities supporting these schools to provide a comprehensive and flexible scheme of education. Yet the form of organization in itself probably has something to do with this superiority. Though the conventional organization does not prevent desirable practice, reorganization may quite conceivably make such practice easier to achieve. If this is the case, the more comprehensive organization of the reorganized schools is readily explained.

The assumption that reorganization facilitates desirable practice is obviously in keeping with the arguments used by the proponents of the junior high school movement. The validity of this assumption can not be definitely established by the data which this study has gathered. There is value in noting, however, that the facts here reported do not conflict with the assumption. They are indeed entirely consistent with the theory that the junior and senior high school arrangement is likely to prove definitely more serviceable than the conventional form of organization.<sup>5</sup>

<sup>5</sup> Further evidence as to the relative comprehensiveness of the junior and senior high school organization appears in a comparison of the organization of public schools with that of private secondary schools. Reports on their organization were received from a total of 708 private schools, distributed through all the principal sections of the United States and representing nonsectarian, Roman Catholic, and other denominational schools. Data from these reports are not here presented in detail, since the reports revealed no outstanding practices in organization which can not be duplicated in numerous public schools. The reports have been analyzed, however, on the same basis as the reports from public schools. The major conclusions supported by this analysis are as follows: (1) The individual private school tends to be much smaller, as measured in terms of both enrollment and number of teachers, than the average public school included in this study. (2) Though a few private schools have adopted forms of grade grouping corresponding to those of reorganized public schools, the majority of private secondary schools are organized on a 4-year high-school basis. (3) Even the private schools which have adopted some other than a 4-year grade grouping give scant evidence of systematic reorganization as reorganization is interpreted in public-school systems. (4) The internal organization of most private schools (including those which have departed from the traditional organization) is in certain major respects less flexible and comprehensive than that of even the average conventional public school included in this study; and in no major respects is it equivalent in comprehensiveness and flexibility to that of the typical reorganized public school.

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### I. THE RESULTS OF THE MOVEMENT FOR REORGANIZATION

*Conclusions which the data do not support.*—The data reported in this chapter represent an attempt to provide a very general estimate of the results of the movement for secondary-school reorganization. The fact that this estimate is a general one perhaps needs emphasis, since the temptation is ever present to interpret broad conclusions as if they held true in every particular instance. The conclusions here advanced are not intended to be applied to particular instances. That the conclusions may be fairly interpreted, it seems appropriate to indicate first certain things which the data do not show, before setting down in summary terms the things which they do seem to show.

The data do not show that every school of a given form of organization has the characteristics ascribed to the "typical" school of that form of organization. No single school has been discovered which is exactly like any one of the various "typical" schools here described. Individual junior and senior high schools provide sometimes more arrangements, sometimes fewer arrangements, than those which are listed for the typical reorganized school; and in every case they provide at least slightly different arrangements. Individual elementary schools and unreorganized high schools likewise differ in particulars from their type patterns. The differences are especially marked in the case of schools much larger or much smaller than the "typical" school; but even among schools of average size local circumstances may enter to produce extensive variations.

The data do not show that a majority of the pupils attending a given type of school are subject to the arrangements described as usual in that type of school. Since the unit of organization is necessarily the school, and not the pupil, the typical school has been determined by reference to the number of individual schools included in the study, and not by reference to the number of individual pupils affected by these schools. If the typical school were to be defined as the school which the average pupil attends, the forms of grade grouping here described would still be the same, but the sizes of the typical schools, and hence their internal organizations, might be notably different.

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The data do not show that any individual school of a supposedly superior type is necessarily better organized than any individual school of a supposedly inferior type. An individual elementary school, for example, may provide a much more flexible and comprehensive organization than the great majority of existing junior high schools, or an individual senior high school may be notably inferior in organization to a great many "traditional" high schools. The margin of difference between the average schools of the various types is so small as to permit very wide overlapping.

Finally, the data do not show whether the particular practices commonly associated with any type of school are desirable or undesirable. The fact that a certain practice has been adopted by most junior high schools, for example, does not in itself mean that the practice in question ought to be adopted by all junior high schools or by other types of schools. Nor does the fact that another practice is not usually found in junior high schools mean that the latter practice is of small value. The question of what should be done and what should not be done in any school can not be soundly answered merely by reference to what schools in general do.

*Conclusions suggested by the data.*—What the data do suggest is that certain results have tended, more often than not, to accompany the movement for reorganization as the movement has affected individual schools throughout the United States. These results appear, first, in the practices commonly adopted in reorganized schools, and, second, in certain differences in practice which are likely to distinguish most reorganized schools from most conventional schools.

As gaged by the specific practices which reorganized schools have put into effect, most reorganized schools seem to have adopted only a limited number of the varied adjustments to pupils' needs urged by active proponents of reorganization. In the majority of junior and senior high schools, emphasis has apparently been more directly placed on the development of the extracurriculum than on any other major feature of the schools' organization. The adoption of a comprehensive guidance program, the use of reliable measures of ability and achievement, and the provision in the school organization for the special needs of the brighter pupils seem in par-

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ticular to have received less than their due share of attention. Though junior high schools have commonly adopted a somewhat more comprehensive and flexible organization than that of most senior high schools, the major points of emphasis and lack of emphasis in both school units seem to be approximately the same.

The organization of most junior and senior high schools probably compares favorably, in spite of its weaknesses, with that of most conventionally organized schools. No one of the practices characteristic of reorganized schools has failed to be adopted in some conventional school. The adoption of various desirable practices seems, nevertheless, to be more common in reorganized schools than in conventional schools. In no major features are reorganized schools usually less well organized than most conventional schools; in articulation, provisions for guidance, the program of studies, the extra-curriculum, and the composition of the teaching staff the reorganized schools tend to provide a more promising organization than that offered by most conventional schools.

*Significance of these conclusions.*—These conclusions are in part encouraging, in part discouraging, in their revelation of the effects of the general movement for reorganization. In so far as the movement has produced the changes in organization that were hoped for from it, there are obvious grounds for satisfaction. But the description of the typical reorganized school has shown all too clearly that many of the hoped-for changes have not yet been commonly made, even in schools which have professed definite allegiance to the movement. The failure of such schools to incorporate supposedly desirable features may not in all cases point to any fundamental weakness in their organizations. It may mean simply that features desirable in theory have not in all cases been found desirable in practice. To what source the absence of special features should be attributed can be determined only by careful analysis of practice in outstanding schools—an analysis which is attempted in a later section of this report.<sup>6</sup>

As a background for such analysis, the descriptions of typical practice serve a valuable purpose. They indicate, in effect, the place which reorganized schools in general have

<sup>6</sup> See Ch. X.

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reached in their effort to incorporate desirable practice. Granting a reasonably clear perception of the direction which further reorganization should take, the descriptions of practice may thus help to suggest the definite things which ought next to be done.

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## DIVISION II : THE COMPARATIVE PROMISE OF VARIOUS TYPES OF ORGANIZATION

### CHAPTER IV : THE RESULTS OF REORGANIZATION IN SCHOOLS OF VARIOUS SIZES AND TYPES

#### 1. DEVIATIONS FROM COMMON FORMS OF GRADE GROUPING

*Need for distinguishing among various types of reorganized schools.*—Though a description of practice in reorganized schools in general may suggest certain widespread results of the movement for reorganization, such a description has obvious limitations. In particular, it fails to discriminate among the numerous types of schools which have professed to be reorganized.

The present chapter sets forth the results of comparisons between various special types of organization. The comparisons deal with summary ratings of the various types of organization, and not with detailed practices in individual schools. In succeeding chapters will be found analyses of the ways in which certain types of schools differ in detail. This chapter is intended to provide only a general view of such differences, in order to suggest the types of organization which may most profitably be subjected to special analysis.

*Frequency of deviations from usual grade groupings.*—The data presented in Chapter II have shown that the predominant forms of grade grouping among reorganized schools are the 3-year and 6-year groupings comprising grades 7 to 9, 10 to 12, and 7 to 12. Of the 5,619 reorganized schools included in the Biennial Survey for 1928-1930, more than 7 in every 10 (73.5 per cent of the total number) represented one or another of these forms of grouping. Not quite 2 in every 10 (17.4 per cent) were parts of 6-2-4 systems of organization. Approximately 1 in 10 (512 schools of the 5,619) had adopted a scheme of grade grouping which departed in some noteworthy degree from either the 6-2-4 organization or a modification of the 6-3-3.

Deviations from usual practice may offer a fertile field for the development of especially promising procedures. It has

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seemed worth while, therefore, to attempt to find out why certain schools have adopted unusual forms of organization, and whether these forms possess features which are of particular value.

*Distribution of exceptional forms of organization.*—At the time at which data were secured from exceptional schools the tabulation of returns from the Biennial Survey of 1928-1930 had not been completed. Exceptional organizations had to be identified, therefore, on the basis of returns from the preceding biennial survey. The available data made it possible to list a total of 476 schools possessing unusual forms of organization. One hundred and thirty-five of these were 4-year junior high schools comprising grades 7 to 10, inclusive. The 4-year schools represented a sufficiently large group to warrant an effort to include them in group comparisons; their form of organization will be discussed later, in comparison with more usual forms of organization adopted by schools of equivalent sizes.<sup>1</sup> The remaining 341 exceptional schools provided a great variety of grade combinations, with no form of organization represented in large enough numbers to allow a judgment of its merits by means of group comparisons.

To each of these 341 schools there was mailed a special letter asking for a brief report as to the exact form of external organization which had been adopted, the reasons for its adoption, and any special advantages which the organization seemed to offer. One hundred and fifty-one of the schools (44.3 per cent of those addressed) responded to the letter of inquiry. The forms of grade grouping represented by the schools which returned usable reports were distributed as shown in Table 8.

Thirty-one of the 151 respondent schools are not represented in the table. Of the schools not listed, 23 were found to have changed from the exceptional organizations previously reported to some more usual type of organization, and 8 schools, earlier reported as 5-year schools comprising grades 8 through 12, now reported themselves as including the four upper grades only.

<sup>1</sup> See the norms later presented in this chapter, and the general conclusions presented in Ch. IX.

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TABLE 8.—Distribution of exceptional forms of organization

(Read as follows: Of 120 schools reporting exceptional forms of organization, 1 was a junior high school comprising grades 6 and 7 and forming part of an 11-grade system, etc.; 6 were junior high schools in 12-grade systems, 28 were junior high schools in 11-grade systems, 1 was a junior high school in a 13-grade system, making a total of 35 junior high schools, which represented 29 per cent of the total number of schools reporting, etc.)

Types of grade combinations	Schools in—			All schools	
	12-grade systems	11-grade systems	13-grade systems	Number	Per cent
1	3	3	4	5	6
<i>Junior</i>					
6-7.....		* 1		1	
7-8.....		2		2	
8-9 **.....					
6-7-8 **.....	4			4	
7; 8-9 **.....		* 25		25	
6-7-8-9 **.....	2			2	
			1	1	
All junior.....	6	28	1	35	29
<i>Senior</i>					
9-10-11 **.....		* 23		23	
8-9-10-11 **.....		* 13		13	
9-10-11-12.....		2		2	
10-11-12-13 **.....			1	1	
All senior.....	0	38	1	39	33
<i>Junior-senior</i>					
6-7-8; 9-10.....		1		1	
7-8; 9-10-11 **.....		4		4	
7-8-9; 10-11.....		1		1	
8; 9-10-11-12.....					
8-9; 10-11-12.....	3			3	
8-9-10; 11-12 **.....	2			2	
6-7; 8-9-10-11 **.....	1			1	
6-8-9; 9-10-11 **.....		* 3		3	
		* 4		4	
All junior-senior.....	6	13	0	19	16
<i>Undivided</i>					
7-8-9-10-11.....	1	3		4	
8-9-10-11-12 **.....	16	1		17	
9-10-11-12-13.....			1	1	
6-7-8-9-10-11.....	1	* 3		4	
1 through 12.....		1		1	
All undivided.....	18	8	1	27	22
<i>All schools:</i>					
Number.....	30	87	3	120	
Per cent.....	25	72	3		100

\* The single-starred figures indicate schools whose organizations parallel within 11-grade systems the 6-3-3, 6-6, and 6-2-4 groupings commonly found in 12-grade systems.

\*\* Types of organization double starred include schools whose principals claimed special advantages for their forms of grade grouping.

Junior-college grades are not included in the grade combinations here presented.<sup>1</sup> Except in the case of one school

<sup>1</sup> For a discussion of junior-college organization, see the report in later portions of this monograph, entitled "The Status and Recent Growth of the Public Junior College." The final portion of the monograph, Special Reorganizations of School Systems, deals primarily with systems in which the reorganization of secondary schools included or at some time contemplated the inclusion of junior-college years.

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reporting an undivided 11-grade organization, the grade combinations listed include only the strictly secondary-school grades. Three schools including a twelfth grade and one school including but 10 grades are listed as belonging to 11-grade systems. One school providing 11 grades is listed as belonging to a 12-grade system. These are schools which have departed from the systems nominally in effect in their States or sections.

Though reports were received from fewer than half the total number of schools applied to, at least one school is included in the table for each variant form of organization of which the Office of Education had definite record; the range of variations is therefore presumably complete.

*Tendencies among variant schools.*—Three tendencies suggested by the data in this table are of particular interest.

First, the number of actual variations from established practice is surprisingly small. Eleven-grade systems account for nearly three-fourths the variations represented. In a large number of instances the forms of organization adopted in these systems are based on obvious attempts to parallel the usual 6-3-3, 6-6, or 6-2-4 systems. This is true, for example, in the case of the junior high schools including grades 6 through 8, the senior high schools including grades 9 through 11, and the 6-year schools including grades 6 through 11.<sup>3</sup> In not more than 15 of the 87 schools in 11-grade systems do the variations represent clear departures from established practice. Thus the table presents in one sense not 120 variants, but only 48.

Second, the majority of the significant variations are toward a 5-year secondary school. If the 72 nonvariant 11-grade schools are subtracted from the total number, the remaining 48 schools distribute themselves as follows: Separate junior high schools, 9; separate senior high schools, 3; junior-senior high schools, 12; undivided schools, 24. Six of the nine junior high schools, all the 12 junior-senior high schools, and 22 of the 27 undivided schools are so organized as to provide for five years of secondary education above the elementary-school level. Only 8 of the total 48 variant schools are based on some other than a 5-year pattern.

<sup>3</sup> The forms of organization which parallel more usual arrangements are indicated by the single stars in Table 8.

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Third, the significant variations center about some form of combined junior-senior school, rather than about separate junior and senior units. With the nonvariant 11-grade schools omitted, 38 of the 48 exceptional organizations are either junior-senior high schools or undivided schools. Whether the trend which is thus suggested represents a conscious criticism of separate junior and senior units or is due simply to the sizes of the schools involved, the data do not make clear.

All three of these tendencies are apparent when the total number of exceptional schools—the 190 which did not report, as well as the 151 which did—are classified according to their various grade groupings. Approximately two-thirds of the whole list represent attempts to apply the 6-3-3, the 6-6, or the 6-2-4 system within 11-grade organizations, largely in the South. Among the remaining schools some grouping of the five upper grades represents the predominant form of organization. These grades are organized sometimes in two separate units, but more commonly in a combined junior and senior school.

*Permanence of the exceptional forms of organization.*—The reports from the principals of the 120 exceptional schools listed in Table 8 indicate that the organization of approximately 85 per cent of these schools is not likely to be changed within the next five years. As might be expected, a larger proportion of the 11-grade organizations than of those in 12-grade systems are looked upon as relatively permanent; the figures are approximately 90 per cent and 70 per cent, respectively. All three of the 13-grade organizations are regarded as permanent.

Of the 15 per cent of schools which expect shortly to modify their organizations, approximately three-fifths plan to change to one of the more usual forms of organization. The remaining two-fifths contemplate a change to some other exceptional type of organization. The tendency to change is least marked among the 11-grade schools which already approximate widely recognized forms of grade grouping; otherwise it seems to affect no one type of organization to a significantly greater degree than the others.

The relative permanence of most of these organizations can not in itself be taken as a sign of their general value,

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since many of the schemes of grade grouping may have arisen out of the purely local needs of the communities in which they are found. The principals' reports on the presumable advantages of their organizations throw direct light on this point.

*Are the variant organizations of general value?*—Nearly two-thirds of the principals reporting (63 per cent) make no claim whatever for any advantage in their organizations over the more usual forms of grade grouping. They describe their organizations as compromise attempts to parallel more usual grade combinations. The compromises are reported as dictated for the most part by the local financial situation, by local building problems, or by local difficulties in transportation. The principals of variant schools which are included in 12-grade systems are the most united in their agreement that their organizations have no general value; 22 of the 30 principals involved so indicate in their reports. The principals in 11-grade systems are less of one mind, apparently because many of them feel that the 11-grade arrangement in itself has special merit; yet three-fifths of their number (53 of 87) claim no general importance for their organizations. In the case of a large majority of the variant organizations it is clear that no widely significant issues are believed to be at stake.

The reports from most of the 44 principals who felt that their organizations were worthy of widespread adoption unfortunately did not bear directly on the point at issue.\* Claims of special advantage were made by the principals of eight 12-grade-system schools, thirty-four 11-grade-system schools, and two 13-grade-system schools. The majority of these claims resolved themselves, however, into an exposition of the general merits of reorganization, without reference to the particular form of grade grouping adopted. The statements from 11-grade systems frequently contained, in addition, some defense of the omission of one grade from the usual 12, with an explanation that this omission accounted for grade combinations which were in effect the same as those commonly found in 12-grade systems. The only reports which dealt directly with an exceptional grade combination

\* Forms of organizations for which special advantages were claimed are indicated by double stars in Table 8.

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and which offered clear explanations of its advantages came from two principals of small undivided 5-year high schools in 12-grade systems. One of these schools was situated in Belleville, N. Y., and the other in Maple Valley, Wash. The statements from their principals were nevertheless identical in substance. The 5-year high school, so the statements indicated, offers a valuable compromise for certain rural communities between the 4-year traditional school and the completely reorganized school. A school of this type is particularly advantageous where local finances do not permit thoroughgoing reorganization at once, or where the local community is unwilling to allow younger pupils to be transported long distances to school. Under these conditions the addition of the eighth grade to the high-school unit may give pupils a foretaste of secondary-school work before the attendance law permits them to leave school, and may at the same time provide an opening wedge for later reorganization on a more extensive scale.

*Significance of the reports from variant organizations.*—The probable significance of the reports from the 151 variant organizations can be summed up in a single sentence. In spite of the current impression that reorganized secondary schools provide a fertile ground for experimentation of every sort, one important aspect of reorganization—the grouping of grades—has apparently ceased to receive any widespread attention on an experimental basis.

Promising departures from standard practice often go unrecognized. Failure on the part of the principals of variant organizations to show that these organizations are important can not be taken wholly at its face value. It may be evidence simply that the potential advantages of certain unusual grade combinations have not become apparent. The principals' replies clearly suggest, however, that, so far as the administrators themselves are concerned, current issues in grade grouping have become distinctly limited. The issues seem to center about two questions, and two questions only. First, shall reorganization be carried all the way to some form of 3-year or 6-year grouping, or shall it stop at some halfway stage—adoption of the 6-2-4 organization, for example, or establishment of a 5-year high school? Second, of the three possible forms of 3-year or 6-year group-

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ing—separate junior and senior high schools, junior-senior high schools, and undivided 6-year schools—which one shall be adopted? Of active experimentation with other forms of external organization, there is so little that the experimentation now going on makes almost a negligible showing in current practice. The 3-year and 6-year schools are the dominant figures—dominant to such an extent that their value seems hardly to be questioned.

*Implications as to further reorganization.*—This pre-eminence of the 3-year and 6-year organizations is open to various interpretations. It may be regarded by some observers as merely additional evidence in support of a fact which has already been well established—the fact that any new movement tends to build up in time a set of forms of its own, and to make those forms just as “traditional”—just as uncritically accepted—as the older forms which the new movement has sought to displace. Other observers may interpret present tendencies in the light of the majority opinion which they represent—a clearly expressed opinion that the 6-6 or the 6-3-3 form of organization is the best and the ultimate form of organization, and hence is the form to be sought whenever an option is permitted. Still other observers may find the present situation a cause for alarm because of the lack of progressive development which it suggests. All these interpretations and others may be advanced. There is little in the facts alone which points to any single interpretation as being the most tenable.

Yet, at least one inference the facts do obviously allow—that any serious attempt to re-form the external organization of American secondary schools is likely to be attended with tremendous difficulty. Reorganization has added to the forms which secondary schools may take. The new forms are in a fair way, however, to become as conventionally established as the old. Advocates of changed grade combinations which will further the spread of junior colleges—the 6-4-4 system in particular—must reckon with this fact. The 3-year and 6-year junior and senior high school organizations may not be here to stay; they may, indeed, be in nearly as much need of modification as was the 4-year high-school organization which preceded them; but to substitute some other organization in their place will in all probability

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be no less difficult a task than was the original task of reshaping the traditional 8-4 system.

*Need for further study of variant organizations.*—Unfortunately the scope of the present study has not allowed detailed analysis of any large number of variant organizations. A group of 4-year junior high schools are later compared with 2-year and 3-year junior high schools. Detailed information was sought from certain other exceptional schools which seemed worthy of investigation, but so small a number of replies were received, and the data contained in the replies proved to throw so little light on the matter of relative superiority or inferiority of organization, that the attempt at special analysis was largely fruitless.

This report can offer, therefore, no definite judgments as to the value of exceptional forms of organization. There is obvious need for further study of variant organizations. Further investigation might prove fruitful both in discovering the special conditions for which such organizations may provide an appropriate remedy and in determining whether particular forms of variant organization are in general more effective or less effective than the usual grade combinations. The fact that the present study dismisses such organizations without further analysis implies no lack of recognition of their possible worth.

### 1. COMPREHENSIVENESS OF ORGANIZATION IN SCHOOLS OF VARIOUS TYPES

*Method of summarizing practice.*—The tenacity with which certain grade groupings have established themselves in professional thinking makes all the more necessary a critical evaluation of the forms of organization which these grade combinations involve.

Some method of summarizing practice is desirable if any one form of organization is to be compared in general with any other. To provide such a method, the study has employed a system of scoring by which summary ratings have been given to schools for each of their major features of organization.<sup>5</sup> These ratings indicate the number of arrangements provided by a school to insure the effectiveness of its instruction. When the ratings characteristic of one group

<sup>5</sup> For the assumptions underlying the scoring system and for an account of the methods of scoring used, see Ch. I.

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of schools are compared with those characteristic of another, they allow at least a tentative estimate of the relative comprehensiveness of organization of each group in connection with each major feature.

*Groupings of schools adopted for comparisons.*—The schools studied have been grouped, for purposes of comparison, according to two major classifications—first, type of organization, and, second, size of enrollment.

Other factors than size and type unquestionably affect the organization of an individual school. Some of these other factors have already been mentioned or implied in relation to the differences among schools revealed in the preceding chapter. The attitude of the community supporting a given school, the degree and quality of leadership exercised by administrative officers, the local building situation, the available taxable wealth—any one of such matters as these may have no less to do with school practice than may the type of external organization or the size of the school enrollment.

But type of organization and size of enrollment represent factors which are probably more uniform in their effects than are most other matters. The importance of other factors is likely to be variable enough from school to school so that in group comparisons their special influence may be expected to be largely equated. Hence type and size alone have been used in the present study as the bases for classification. Other factors have been given all the recognition that has been feasible in the interpretation of results. They have not, however, been taken into immediate account in the major comparisons.

*Forms for various types of organization.*—Classified according to type of organization, without respect to size of enrollment, the schools of the study gain ratings for their major features of organization as shown in Figure 6. This figure presents the ranges of scores for the middle 50 per cent of schools of each of the most common types. The scores are separately recorded for junior and senior high school grades. Scores for the unreorganized 4-year high schools have been computed in terms of the ninth grade considered by itself, and in terms of the tenth, eleventh, and twelfth grades as a unit analogous to the senior high school, in order

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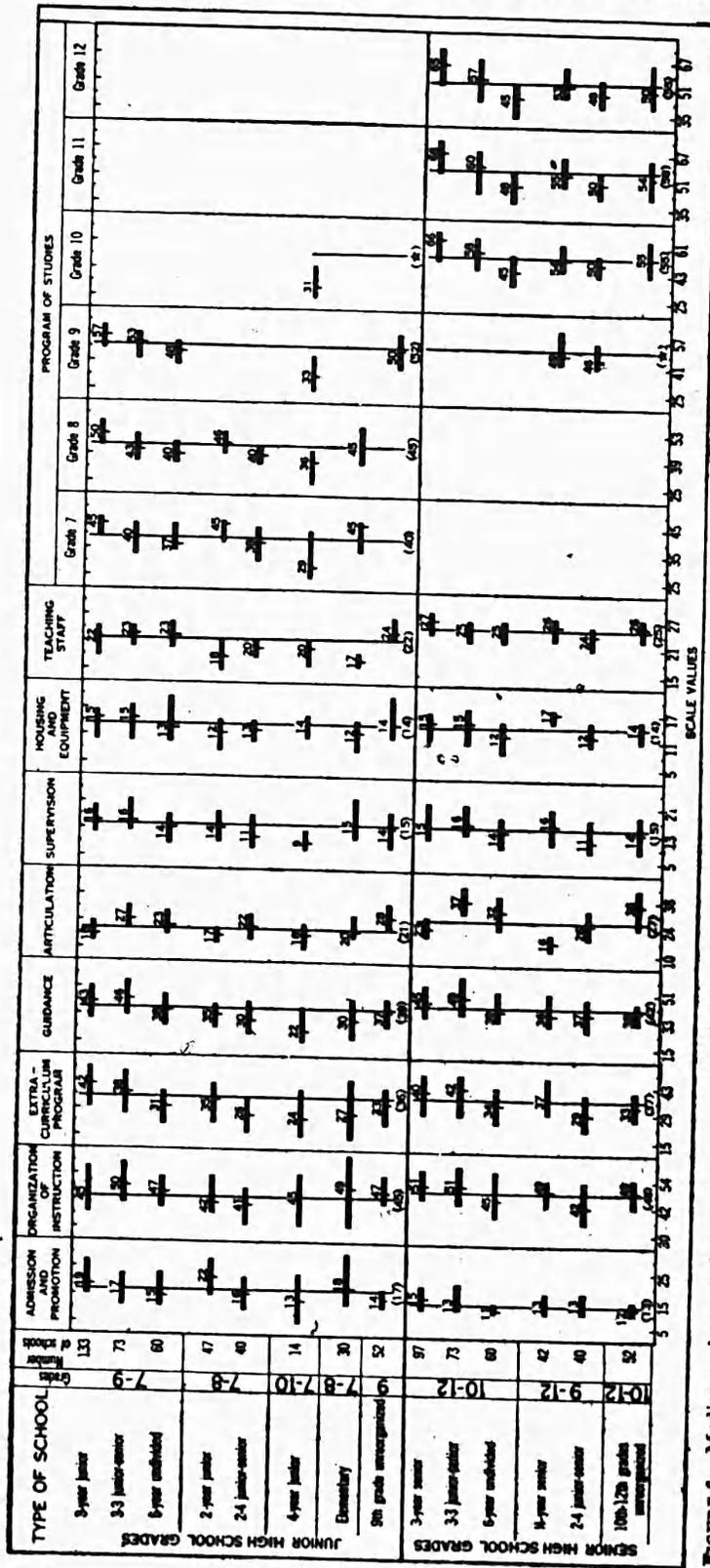


FIGURE 6.—Median and range of scores for the middle 50 per cent of each of various types of schools on major features of school organization. (\* These two lines marking the median score are extended merely for reference.)



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to allow a readier comparison of conventionally organized schools with the 3-year and 6-year reorganized schools.

The scores alone provide, of course, only an indication of *relative* comprehensiveness. To allow an estimate of what the various schools actually do in their organizations, the figure shows the scores gained by the typical junior and senior high schools described in the preceding chapter. The scores for the typical schools are indicated by vertical lines under each of the major features of organization. Schools represented at the right of one of these lines make more arrangements under the head in question than does the typical school. Schools represented at the left of the line provide less comprehensively than does the typical school for the phase of organization under consideration.<sup>6</sup>

*Relative comprehensiveness of organization in junior and senior high schools.*—Perhaps the most obvious inference to be drawn from this figure is one which has already been discussed in the preceding chapter—that senior high school organization is in general not essentially inferior to junior high school organization in its range and flexibility. The figure offers a graphic presentation of certain differences already pointed out in the description of the typical junior and senior high schools. The only matter which requires special attention in this connection is the apparent difference in articulation between the two school units. As presented in the figure, junior high school scores for articulation represent a composite of the scores for articulation between grades 6 and 7 and between junior and senior high schools. Senior high school scores represent articulation only between junior and senior high schools. Since the two school units attain the latter articulation in common, their scores for purposes of comparison are identical on this feature. In matters other than articulation, the differences between the units as shown in the figure correspond to the summary statement of such differences given in Chapter III.

*Relative comprehensiveness of various types of organization.*—Of more immediate interest are the differences in scores among the various types of school organization. In the

<sup>6</sup> As noted at the beginning of this chapter, succeeding chapters (V to VIII) discuss the differences among various types of schools in terms of detailed practices. In Ch. X will be found an analysis of practice in a group of outstanding schools.

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scores for two of the major features no differences occur which seem in themselves to be characteristic of different types of organization. These features are the provisions for admission and promotion, and the organization of instruction. In connection with each of the seven remaining features there are noteworthy contrasts among the various groups of schools.

The differences suggest, first, that 3-year separate schools and 3-3 junior-senior high schools tend in the main to be more comprehensively organized than other types of schools. The median 3-year school falls below the typical reorganized school only in articulation. The median junior-senior school is inferior to the typical school only in the scope of its ninth-grade program of studies. In the scores for their programs of extracurriculum activities, their provisions for guidance, the composition of their teaching staffs, and the comprehensiveness of their programs of studies, the superiority of the 3-year and junior-senior schools is particularly noticeable.

The data suggest, second, that 3-3 junior-senior high schools are superior to separate 3-year junior and senior schools in their provisions for articulation. The junior-senior schools are apparently less comprehensively organized than the separate schools in their programs of studies.<sup>7</sup>

Third, the data indicate that 6-year undivided schools maintain in their junior high school grades a position generally approximating that of the typical reorganized school. In their senior high school grades these schools fall in general definitely below the typical school. Six-year schools show noteworthy superiority only in articulation; and even in this phase of organization they rank below the 3-3 junior-senior schools.

Fourth, the scores suggest that schools adopting a 2-4 or 8-4 system of organization, whether reorganized or unreorganized, are difficult to distinguish from each other on the basis of their internal arrangements. The 2-4 reorganized schools and the conventional schools take varying ranks on separate features of organization. Except, however, that the

<sup>7</sup> The analysis presented in Ch. V suggests that the apparent advantage of the 3-year schools in this feature of organization is due to their greater emphasis on required courses. The junior-senior schools provide greater flexibility through their more extensive provision of elective courses. The above statement holds true, however, if scope alone is used as the basis for comparison.

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elementary schools achieve a surprisingly wide range of scores on certain features, there seem to be no consistent major differences by which one of the types is distinguished from the others.<sup>8</sup>

Finally, the scores indicate that 4-year junior high schools rank in most features among the least comprehensively organized of the various types. The scores for these schools are especially low in connection with the program of extra-curriculum activities, guidance, supervision, and the program of studies.

*Significance of differences among types of organization.*—It should be emphasized that the scores here presented refer to differences among schools of various types without regard to other factors than type itself. The neglect of size of enrollment is especially important. Schools of the types considered differ greatly in average size, and apparent differences among the types may be due less to type as such than to the sizes characteristic of the schools involved. Hence the data given do not permit the inference that type of organization is in itself a principal cause of differences in practice.

The data do permit the inference, however, that reorganization has made notably greater headway among certain types of schools than among others. The apparent superiority of the separate 3-year schools and the 3-3 junior-senior high schools is particularly worthy of attention. Whether the differences which distinguish these schools from the others are due to type of organization or to some other matter, the fact that the differences exist is in itself significant.

### 3. COMPREHENSIVENESS OF ORGANIZATION IN SCHOOLS OF VARIOUS SIZES

*Norms for organization in schools of various sizes.*—The extent to which a school's organization may be affected by the size of its enrollment, as distinct from its type of organization, is suggested by the data presented in Figure 7. This figure gives the ranges of scores for the middle 50 per cent of each of six different size groups of schools. Reorganized

<sup>8</sup> The high scores in articulation gained by the three upper grades in conventionally organized high schools are due to the fact that these scores represent only the articulation between grades 9 and 10. The score for grade 9 alone is a composite of the scores for articulation between grades 8 and 9, and 9 and 10. The fairest measure of articulation between the separate units in the conventional system is to be found in the scores for the elementary grades.



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and conventionally organized schools alike are included, except that to avoid certain relatively profitless difficulties in calculation the separate scores for the ninth grades of the conventional schools have not been taken into account.

*Size groups used as a basis for classification.*—The size groups used in this figure require a brief explanation.

Schools have been grouped not on the usual basis of total enrollments, but in terms of average enrollments per grade. Averages have been determined for junior and senior high school grades separately. Average enrollments have been adopted as a basis for classification in order to allow as fair a comparison as possible between types of schools including different numbers of grades; e. g., 2-year and 4-year junior high schools. Though certain differences are later analyzed in terms of total enrollments as well as average enrollments, the groupings according to average enrollments have seemed to provide the most generally useful type of classification.

In determining the size intervals for the six enrollment groups used, an effort has been made to distinguish sizes of schools in terms of more than a purely arbitrary classification. Thus, Group I, which includes schools with an average of 30 pupils or fewer in each grade, comprises schools which have not more than one fair-sized class per grade. Group II, including schools averaging 31 to 60 pupils per grade, comprises schools which are likely to have two recitation classes in each grade. Group III—schools enrolling 61 to 100 pupils per grade—represents schools having in general three or four such classes per grade. For the groups with average enrollments of more than 100 pupils an arbitrary classification has been adopted: Group IV includes schools of 101–200 pupils; Group V, schools of 201–333 pupils; and Group VI, schools of 334 pupils or more. Except among small schools, there is little reason to presuppose marked effect from the adoption of any particular interval, so that for the larger schools the classification used has been determined chiefly by convenience.

*Features of organization showing characteristic differences.*—The size norms reveal steady increase in scores from group to group in provisions for supervision, housing and equipment, the organization of the teaching staff, and the program of studies. Among both junior and senior high schools in-

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crease in comprehensiveness of organization seems in these matters to bear a direct and positive relation to increase in size of school.

In provisions for admission and promotion there is a general increase in scores in the junior high school grades. Among the senior high schools the changes with respect to this feature are on the whole in favor of the larger schools. The changes among the senior high schools are not extensive, however, and tend to be notably irregular from group to group.

Scores for the organization of instruction rise on the whole from small schools to large, but the differences from group to group are in this case also somewhat irregular.

With certain possibly significant exceptions, there is an increase in scores for the extracurriculum and for guidance. Under these features the increase appears uncertain in the senior high school grades of the larger schools. The summary scores alone provide no sure basis for judging the significance of the apparent falling off in the rate of increase. The scores suggest a question, however, as to whether increase in size of school beyond a certain point results in any important gains in extracurriculum activities or in guidance.

Under the remaining head—that of articulation—the scores show a definite and fairly steady decrease as average grade enrollments increase. In connection with this feature the evidence points overwhelmingly to a lessening comprehensiveness of organization with increase in school enrollment.

*Scores for schools of various sizes grouped according to total enrollments.*—Norms have been calculated in terms of total enrollments as well as of average grade enrollments. The scores for total-enrollment groups are not listed in this report, since they do not add any significant evidence to that already presented. It will suffice to note that except in certain respects in which the different bases for classification produce differences between the two sets of scores, the scores for total enrollments substantiate the conclusions drawn from the scores for average enrollments.

It should be borne in mind that these conclusions are based on data from various sizes of schools without respect to types of organization. The conclusions suggest what is likely to

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be true of the average school of each size group. They do not take into account possible advantages or defects which may be characteristic of special types of schools.

### 4. COMPREHENSIVENESS OF ORGANIZATION IN SCHOOLS OF EQUIVALENT SIZE

*Method of equating influence of size.*—The possibility that type of organization and size of enrollment affect school practice somewhat independently of each other suggests the need for taking account of both these factors at once. The effects of one factor need to be equated or eliminated in order to allow a wholly just estimate of the effects of the other.

To equate the influence of enrollment in comparing the various types of organization, schools of approximately equivalent sizes have been compared with each other. These comparisons have been accomplished by segregating the schools of each type under the six major size groups based on average enrollments per grade. Separate groupings have been made according to junior and senior high school enrollments. For each type of school within each group the number of schools has then been determined, which reach or surpass the median scores<sup>o</sup> for all schools of that size. The resultant figures, translated into percentages for each type of school, indicate the proportions of schools of any given type which have at least as comprehensive an organization as is usually to be found among schools of their size.

*Comprehensiveness of organization in schools of equivalent average grade enrollment.*—The summary figures for each type are presented in Figure 8. The most striking feature of this figure is the high ranking which it gives to the 3-3 junior-senior high schools. In both junior and senior units this type of school stands out in general above all the others, with an average of 63 per cent of its schools reaching or surpassing the median scores for the separate features of organization. The junior-senior schools are not particularly successful in meeting the norms for three phases of their programs—provisions for junior high school admissions and promotions, the junior high school program of studies, and the senior high school teaching staff. But in the organization of instruction, the senior high school program of studies, the

<sup>o</sup> That is, the norms given in Fig. 7.



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extracurriculum, guidance, articulation, and senior high school supervision, more of the 3-3 junior-senior schools than of any other type attain median or better than median scores.

Scarcely less striking is the place which this figure gives to the undivided 6-year schools. Rated without respect to size, these schools occupied only an average position. With size taken into account they surpass all other types of schools except the 3-3 junior-senior high schools in the proportionate number of their schools reaching the median scores. Their standing in guidance, articulation, the composition of their teaching staffs, and their arrangements for supervision is particularly high.

Grouping the schools according to size alters the place of certain other types of schools. Though their average position is not greatly changed, the 2-4 junior-senior schools gain in certain features of organization a somewhat higher rating than that suggested by the scores for type alone. The 2-year junior high schools and the 4-year senior high schools stand notably low—definitely lower, in fact, than the conventionally organized schools, from which they were difficult to distinguish when size was not taken into account. The 4-year junior high schools rise from the lowest position to about a median rank. Most surprising of all, the 3-year separate schools show to lesser advantage than on the original basis. They still maintain a better-than-average position, but they are surpassed in general by both the 3-3 junior-senior schools and the undivided schools, and in their senior units they are no more than even with the conventional 4-year high schools.<sup>10</sup>

The scores given in Figure 8 refer, as has been said, to the numbers of schools attaining a normal rating, and not to the average ratings which the schools of the various types secure. For comparative purposes, however, these scores may safely be taken as showing the schools' relative standings in comprehensiveness of organization. They indicate that noteworthy differences exist among various types of organization, even when the factor of size is discounted. External organization, quite apart from size, apparently bears a significant relationship to the comprehensiveness of a school's internal arrangements.

<sup>10</sup> The average standing of the latter schools is somewhat increased by the method of rating their provisions for articulation. See the earlier note on this point.

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*Comprehensiveness of organization in schools of equivalent total enrollments.*—The plan of grouping schools according to average grade enrollments does not afford a completely satisfactory basis for comparing certain types of schools. The defects of this plan may be shown most readily through an illustration. A hypothetical community has 2,000 pupils to provide for in the secondary-school grades. The community plans to establish two secondary schools, organized on a 6-3-3 or 6-6 basis. It finds itself faced with three alternatives. It may set up two undivided 6-year schools, each enrolling approximately 1,000 pupils; or it may establish two junior-senior high schools of similar size; or it may erect a separate junior high school to accommodate slightly more than 1,000 pupils and a separate senior high school to provide for something under that number. As between the undivided 6-year schools and the junior-senior schools, the latter are likely to have the more comprehensive organization if the schools follow the tendencies characteristic of the schools of this study. But as between the separate junior and senior high schools and the junior-senior schools the comparisons thus far presented do not show which will tend to be better organized. The separate junior and senior high schools will be twice as large as the junior and senior divisions of the two combined schools. The comparisons have assumed approximately equal size in the units being compared. To throw light on the situation described, comparisons need to be made between separate and combined schools not with equally large junior and senior units, but with approximately equal total enrollments.

Figure 9 presents data for such comparisons among the three types of schools mentioned.<sup>11</sup> The figures given show the percentage of schools of each type which reach or surpass the median scores for all schools of their total enrollments. In computing the medians, five size groups of schools have been used. Group I has included schools of fewer than 151 pupils in their total enrollment; Group II, schools of 151-300 pupils; Group III, schools of 301-500 pupils; Group IV, schools of 501-1,000 pupils; and Group V, schools of more

<sup>11</sup> Data are not presented for the separate and combined 2-4 organizations because the problem described is unlikely to arise as between these types of organization.

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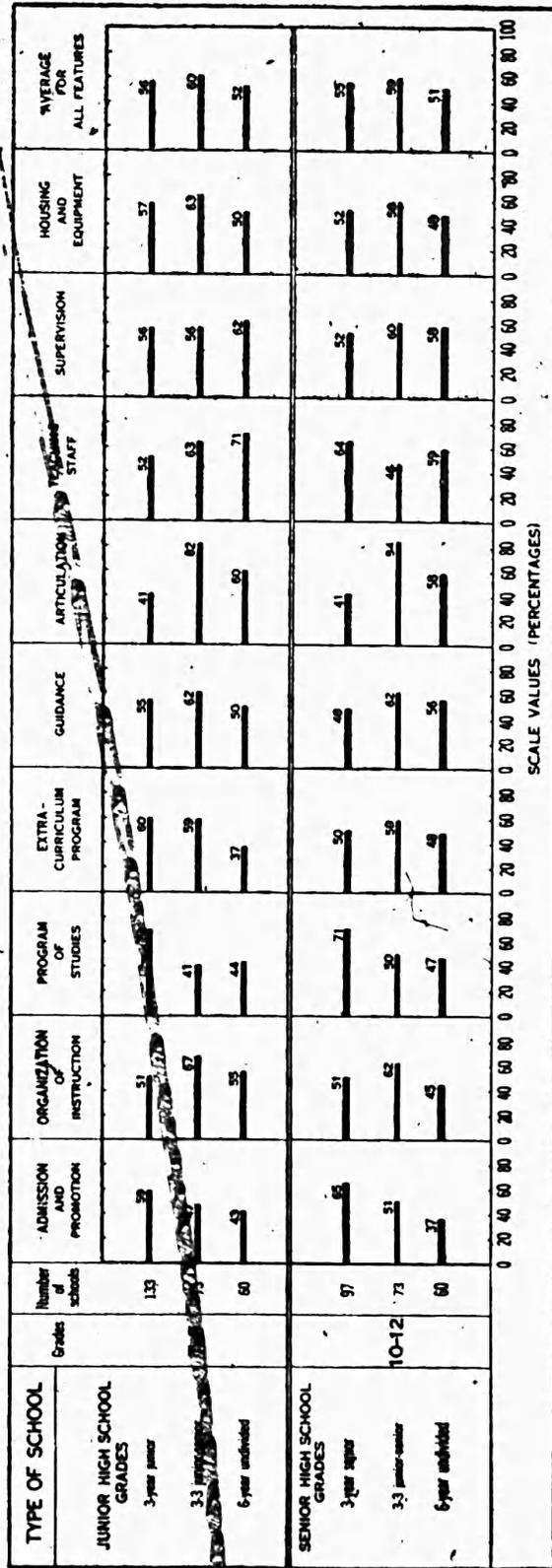


FIGURE 9.—Percentages of certain types of school reaching or surpassing the median scores for their enrollment groups on major features of organization. (Comparisons on the basis of total enrollment.)

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than 1,000 pupils. The procedure in computing percentages has been identical with that already described.

The differences between the separate schools and the junior-senior and combined schools are less marked in this comparison than in the preceding one. The advantage of greater size in the junior and senior units of the separate schools makes up in part for whatever disadvantage may attach to the separate form of organization. It enables the separate schools, indeed, to take a higher rank than the undivided 6-year schools. Moreover, it increases the lead of the separate schools over both the combined organizations in the comprehensiveness of the program of studies.

But if the average percentages shown at the right of Figure 9 provide a fair index of comprehensiveness in general, the separate schools still lag behind the junior-senior high schools. In the organization of instruction, provision for the senior high school extracurriculum, guidance, articulation, the composition of the junior high school teaching staff, arrangements for senior high school supervision, and housing and equipment, the junior-senior schools maintain a noteworthy advantage. They attain at least median comprehensiveness of organization, in other words, not merely oftener than separate schools of equivalent enrollments in junior or senior units, but oftener than separate schools which have practically twice the combined school enrollment in these units.

*General conclusions as to comprehensiveness of organization.*—The several comparisons which have been presented offer summary views of the relative comprehensiveness of organization of various types and sizes of schools. The comparisons do not show in what detailed items of practice the schools differ from each other; that is a matter which will receive attention in later chapters. Nor do they show how great the likelihood is that any single school of a given type will achieve high standing in *all* its phases of organization. They clearly indicate, however, that when groups of schools are considered, widely different degrees of comprehensiveness in the major features of organization are to be expected from schools of different types.

More specifically, the comparisons point to a definite superiority on the part of the 6-3-3 and 6-6 organizations as

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contrasted with other types. The factor of size is of so much importance, however, that its influence considerably obscures the effect of form of external organization.

Whether or not size is taken into account, the 3-3 junior-senior high schools stand out. Their advantage over the other types of schools distinctly increases when they are compared with schools of equivalent enrollments in the junior and senior units. Even when they are compared with separate junior and senior high schools of equivalent *total* enrollments, they show superior comprehensiveness of organization in most of their major features.

The separate 3-year junior and senior high schools attain their highest rank in comparisons in which size is not taken into account. Contrasted with other schools of equivalent sizes, these schools appear to less advantage. Their comprehensiveness of organization is apparently due more largely to size of enrollment than is the case with the junior-senior schools.

The undivided 6-year schools achieve only average comprehensiveness of organization as compared with other schools without respect to size. When their size is considered the comparisons are distinctly to their advantage; they then rank close to the junior-senior schools.

The remaining types of schools—4-year junior high schools, 2-4 reorganized schools, and unreorganized 8-4 system schools—occupy varying positions, depending upon the basis governing the comparison. In general these schools do not rise above a median rank. With size of enrollment taken into account, the 4-year junior high schools and the conventionally organized schools tend to stand above the 2-4 system reorganized schools.

### 5. CONSISTENCY OF ORGANIZATION IN SCHOOLS OF VARIOUS TYPES

*Method of measuring consistency of organization.*—Comprehensiveness represents only one of the two criteria by which it has been assumed that school organization may properly be judged. The other criterion is that of consistency.<sup>12</sup> For the organization of a given school to be regarded as reasonably consistent, the study has assumed that

<sup>12</sup> For a discussion of this criterion, and of the methods used in computing relative consistency, see Ch. I.

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no one of the school's major features of organization should have been emphasized to the neglect of others—or, to put the definition more positively, that each feature of organization should have been developed to an acceptable minimum standard.

Consistency of organization can not be measured by the scores on separate features of organization obtained by a *group* of schools. It refers to the performance of *individual schools as wholes*—not to the composite attainments of a group. In each group of schools certain individual schools, however high their standing on one or more features of organization, have proved to have a relatively low standing on other features. These schools have been regarded as inconsistently organized. Other schools have attained at least minimum standards in all their major features. The relative number of the latter schools found in each group furnishes an index of the consistency of organization characteristic of the various groups.

In measuring consistency of organization the study has been handicapped by the lack of any generally accepted standard of minimum achievement in the separate features of organization. It has been obliged, therefore, to derive its own standards from the norms for various sizes of schools. The median scores on the separate features of organization for schools of a given size have been arbitrarily taken as representing acceptable minimum achievement for schools of that size.<sup>13</sup> Schools have been classed as thoroughly consistent in their organization if in each of their major features they have reached or surpassed the median-score for the size group to which they belong.

The measures of consistency, like those of comprehensiveness, have been based on two different size classifications. The measures derived from the use of norms for schools of certain average grade enrollments, and those based on norms for schools of certain total enrollments, need to be separately presented.

*Consistency of organization among schools of equivalent average grade enrollments.*—In the right-hand column of

<sup>13</sup> These scores are given in Fig. 7. In judging consistency of organization, composite scores have been used for the program of studies as a whole—the composite scores taking into account the grades represented in various types of schools—instead of the grade-by-grade scores presented in the figure.

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Figure 10 are shown the percentages of the schools of various types which meet the standard for consistency of organization in terms of norms based on average grade enrollments. That the standard is a difficult one to attain is clear. Among the conventional elementary schools and 4-year high schools no individual schools whatever reach median standing in all their features. The 2-4 junior-senior high schools are represented

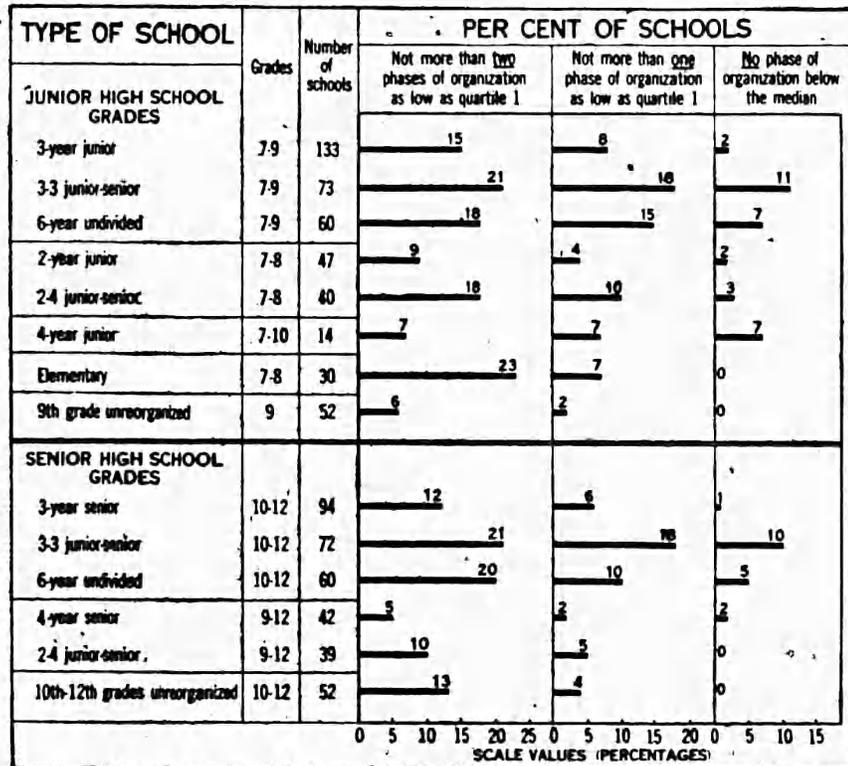


FIGURE 10.—Percentages of schools of various types attaining various standards for consistency of organization. (Comparisons on the basis of average enrollment per grade.)

by a single school consistently organized in its junior high school grades, and by no schools which achieve consistency in the organization of their senior high school grades. The 4-year junior high schools, though their proportionate representation is relatively large, have only one school in the consistently organized group. The separate 2- and 3-year junior high schools, and the 3- and 4-year senior high schools, are about as sparsely represented. Only the 3-3 junior-senior schools and the 6-year undivided schools muster any considerable number of representatives. Of the junior-

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senior high schools, at least four or five times as large a proportion are consistently organized as of any other type except the 4-year junior high schools and the 6-year schools. Of the 6-year schools, at least twice as large proportion meet the standards as of the other types.

To permit further analysis of the differences among the various schools, percentages are also given in Figure 10 for the schools of each type which attain certain less severe standards. In the second column from the right are shown the percentages of schools which reach the median scores for their sizes in at least eight of their major features, but which in some cases have scores falling between the first quartile and the median in one feature. Such schools include those represented in the right-hand column. In the next column are listed the percentages of schools which have not more than two scores between the first quartile and the median, the remaining seven or more scores falling at or above the median.

With a single noteworthy exception, increasing relaxation of the standard results in no important change in the relative positions of the various types of schools. The exception is found in the group of elementary schools. Allowed to fall below the median in two phases of organization, these schools are represented by nearly a fourth of their number with scores at or above the median in the remaining features. This fact lends strong support to a theory already discussed—that conventionally organized schools suffer in comparison with reorganized schools not because of their inability to adopt any one of the major features of reorganization, but because of difficulties which they encounter in attempting to do justice to all these features at once. The elementary schools included in the present study afford graphic illustration of organizations ~~at~~ above average in particular phases, but unsuccessful in achieving a consistently high standing.

*Consistency of organization among schools of equivalent total enrollments.*—For the reasons set forth in discussing comprehensiveness of organization, the schools organized on a 6-3-3 and 6-6 basis need to be compared in terms of total enrollments as well as of average grade enrollments. The percentages of consistently organized schools among the schools of these types, selected through the use of the norms for

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schools of various total enrollments, are presented in Figure 11.

Here again the junior-senior schools and the undivided schools lead. The advantage of the junior-senior schools over the separate schools is, indeed, noticeably greater than their advantage when comprehensiveness alone is considered.<sup>14</sup> The undivided schools tend to be less clearly superior to the separate schools in the organization of their senior units, but in the junior units their scores are almost identical with those of the junior-senior high schools. As with comprehensiveness of organization, even the greater size

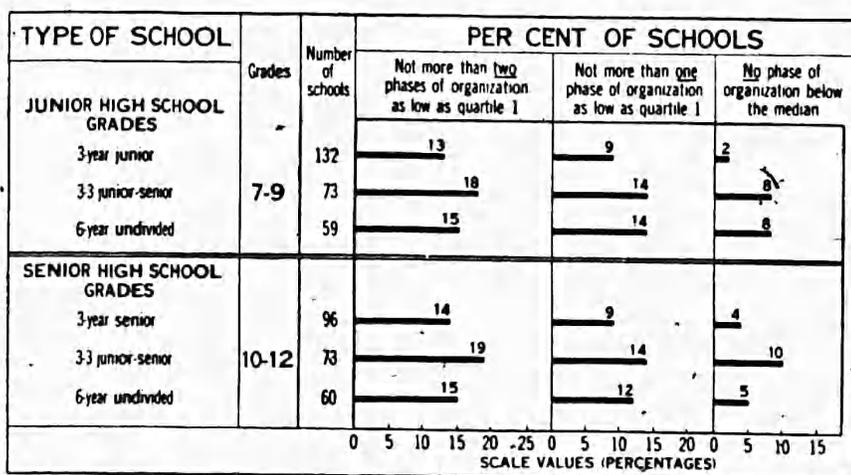


FIGURE 11.—Percentages of certain types of schools attaining various standards for consistency of organization. (Comparisons on the basis of total enrollment.)

of the separate schools, unit for unit, does not allow the separate schools to attain the standards reached by the combined organizations.

*Defects in organization which prevent schools from achieving consistency.*—The phases of organization which are most likely to keep any given type of school from attaining consistency are, of course, those phases in which the type of school in question tends least frequently to reach a median score. What these phases are for each type of school can be readily determined by referring again to Figures 8 and 9. The 3-3 junior-senior schools are most likely to be handicapped in junior high school admission and promotion, the junior high school program of studies, and the senior high

<sup>14</sup> Cf. Fig. 9.

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school teaching staff. Undivided 6-year schools are at a disadvantage in admission and promotion, the program of studies, the extracurriculum, and housing and equipment. The separate 3-year schools are most likely to be weak in articulation, but they are handicapped also in the junior high school teaching staff and in senior high school extracurriculum activities, guidance, and supervision.

It is apparent that no one feature of organization represents the sole stumbling-block for any of these types of schools. The separate junior and senior high schools, for example, are not kept from attaining consistency merely because they tend to have low scores in articulation; other phases of organization also enter in. Nor, from the opposite point of view, does any one type of school seem to achieve consistency merely because its schools as a group have relatively high scores in separate features. The undivided 6-year schools, for instance, fall definitely below the 3-year schools when both types are scored for comprehensiveness on the basis of total enrollments; yet on this same basis the rating of the 6-year schools for consistency is higher than that of the 3-year schools.

It seems safe to assume, therefore, that the scores for consistency represent a measure which is at least in part distinct from the measure of comprehensiveness. Schools of a given type may—and do—attain higher ratings by one of these measures than by the other. The fact that the junior-senior high schools achieve outstanding rank through both measures is therefore a matter of no small significance.

*General conclusions as to consistency of organization.*—Analysis of consistency of organization thus tends to reinforce in a number of respects the tentative conclusions already reached. The analysis indicates that schools well organized as wholes are more likely to be found among the 3-3 junior-senior high schools than among any other group. It suggests further that the undivided 6-year schools, when their size is taken into account, tend individually to be better organized than any other type except the junior-senior schools. The separate 3-year schools find a place not greatly above the level of the 2-year and 4-year reorganized types. The conventional schools rank lowest of all when the individual schools are considered as wholes.

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### 6. SIGNIFICANCE OF THE DATA PRESENTED

*Summary of major conclusions.*—This chapter has offered an analysis in somewhat general terms of the results of reorganization in schools of various types and sizes. To summarize the conclusions of the chapter in detail is probably unnecessary, in view of the summaries provided in connection with each of the major topics discussed. The conclusions need to be briefly reviewed, however, in order to indicate their bearing on certain questions to be dealt with in succeeding chapters.

Study of the distribution of schools according to form of organization has shown the 6-3-3, 6-6, and 6-2-4 organizations to be the dominant types. Other forms of organization are relatively rare. School administrators are apparently committed in general to the 3-year and 6-year organizations as the most promising forms of grade grouping. The 6-2-4 forms of grouping, and the various exceptional forms, serve as compromise arrangements when the more widely used grade combinations can not be employed, or as half-way steps in a process of more extensive reorganization.

When schools of the various common types are rated in terms of the comprehensiveness and consistency of their internal organizations, the undivided 6-year schools and the junior-senior high schools organized on a 6-3-3 basis stand out above all the other types. The separate 3-year junior and senior high schools seem to owe whatever advantage they obtain largely, though not entirely, to the size of their enrollments. Unreorganized schools prove superior in comprehensiveness of organization to the 2-year and 4-year reorganized schools; they are unsuccessful, however, in achieving a consistency of organization comparable to that of the reorganized schools.

*The plan of the following chapters.*—Conclusions expressed in terms of comprehensiveness of organization and of consistency of organization, though significant of general trends among groups of schools, inevitably conceal important details of practice. Conclusions as to comprehensiveness and consistency of organization, moreover, must perforce be derived from more or less subjective interpretations of school practice. For both these reasons it is desirable that the specific school practices on which these conclusions are

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based should be subjected to further analysis. The following chapters present such an analysis, in the form of detailed lists of the practices in which schools of various types and various sizes differ from each other.

Comparisons of detailed procedure have had to be limited in certain important respects. To study in detail all the individual schools which have submitted reports on their organization has been found impracticable. Chief attention has been given, therefore, to those types of schools having enough representatives to supply adequate data for group comparisons, and to the types most prominent in the movement for reorganization. To list all the ways in which the various groups of schools differ from one another has likewise proved impracticable. Hence the differences presented are for the most part only those large enough to be statistically substantial. Finally, a thorough analysis of the effect of size, as distinct from type, has proved out of the question. Comparisons of schools of different sizes have therefore had to be based on size groups regardless of type. The comparisons of various types of organization have, however, taken size of enrollment into account, so that important inferences have been possible as to the effect of size as a separate factor.

Though the need for restricting the comparisons in these ways has meant greater attention to certain types of schools than to others, the comparisons afford an important supplement to the general conclusions with respect to all types of schools. They should serve a threefold purpose: First, to give concreteness to the conclusions which have been arrived at in the present chapter; second, to bring evidence to bear on the validity of the conclusions as to comprehensiveness and consistency of organization; and third, to provide a basis for reasonable conjecture as to *why*, as well as *how*, the various types of schools differ in their organization.

CHAPTER V : SEPARATE 3-YEAR JUNIOR AND SENIOR  
HIGH SCHOOLS COMPARED WITH JUNIOR-SENIOR  
HIGH SCHOOLS

I. COMPARISONS OF SCHOOLS HAVING EQUIVALENT ENROLLMENTS IN  
JUNIOR AND SENIOR UNITS

1. SCHOOLS REPRESENTED IN THE COMPARISONS

One hundred and thirty-three 3-year junior high schools, 97 three-year senior high schools, and 73 junior-senior high schools organized on a 3-3 basis submitted detailed reports on their organization for use in this study. Grouped according to average enrollment per grade in the junior and senior units separately, these schools were distributed as shown in Table 9.

TABLE 9.—*Distribution of 3-year junior and senior high schools and 3-3 junior-senior high schools, in terms of average enrollment per grade in junior and senior units*

Grade and type of organization	Average enrollment per grade						All groups
	Group 1, 30 or fewer	Group 2, 31-60	Group 3, 61-100	Group 4, 101-200	Group 5, 201-333	Group 6, 334 or more	
1	2	3	4	5	6	7	8
<i>Junior high school grades</i>							
Junior high schools .....	6	4	18	33	34	38	133
Junior-senior schools .....	7	10	15	20	18	3	73
<i>Senior high school grades</i>							
Senior high schools .....	2	4	6	25	22	38	97
Junior-senior schools .....	14	13	12	21	12	1	73

The comparisons presented in the preceding chapter have involved the scores for organization obtained by all these schools. The schools included in certain size groups have obviously been few in number. Through the use of summary scores, however, interpreted in relation to the norms for each size group, it has been possible to take each school into account in the general comparisons, no matter how few the other schools in its group.

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In comparing specific practices in these schools the same procedure can hardly be followed. The effects of size of enrollment must as far as possible be equated, if the effects of different types of organization are to be clearly apparent. This means that practices in the different types of schools must be compared group by group. Where few schools of either one of the types are represented in any one size group, chance variations among the schools included may have so much weight as to render the comparisons of slight significance. Comparisons can profitably be made, therefore, only within size groups in which the representation of each type of school is reasonably large.

Hence the comparisons of specific practices among separate junior and senior high schools have had to be limited to comparisons of the schools falling in groups 3, 4, and 5 in their junior high school enrollments, and of the schools falling in groups 4 and 5 in their senior high school enrollments. The results of the comparisons are separately presented for the junior and senior units.

### 2. DIFFERENCES IN THE ORGANIZATION OF THE JUNIOR HIGH SCHOOL GRADES

*Interpretation of critical ratios in connection with specific practices.*—In Table 10 are shown the major differences in the specific practices of the two types of schools in their junior high school grades. The "types of practice" listed in this table are drawn from the check-list reports received from the individual schools. Items checked in the returns were tabulated for each type of school within each size group, and the percentage of schools of each type checking each item was calculated for the separate groups. The items included in the table are those in which the differences in the returns for the two types of schools were large enough to be especially significant.

The figures given at the right of the table indicate the critical ratios of the differences on the specific items. The standard errors of differences between the percentages of response for the two types of schools have been computed by the use of Yule's formula for the standard error of differences in simple samplings of attributes.<sup>1</sup> The ratio between a given

<sup>1</sup> Yule, G. U. An introduction to the theory of statistics (Lippincott, 1924), p. 269.

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difference and the standard error of that difference provides a measure of the reliability of the difference—of the probability, that is to say, that a corresponding difference would be found again if comparisons were to be made between other schools similar to those used in the study. A ratio as high as 3 to 1 (indicated as 3.0 in the table) implies that the chances are 99.9 in 100 that further comparisons would reveal a difference in the same direction—though not necessarily of the same size—in the practice to which the ratio refers. Higher ratios imply even closer approaches to certainty. Ratios of less than 3 to 1 may indicate a degree of probability large enough to be worth taking into account, but lack of space has prevented the inclusion in the table of ratios below 3.

TABLE 10.—Differences between 3-year separate junior high schools and junior high school grades in 3-3 junior-senior high schools. (Data are for schools enrolling averages of 61-100, 101-200, and 201-333 pupils per grade)

Types of practice showing substantial differences	Critical ratios favoring—					
	Junior high schools			Junior-senior high schools		
	61-100 pupils per grade (18 schools)	101-200 pupils per grade (33 schools)	201-333 pupils per grade (34 schools)	61-100 pupils per grade (15 schools)	101-200 pupils per grade (20 schools)	201-333 pupils per grade (18 schools)
1	2	3	4	5	6	7
<i>Admission and promotion:</i>						
Number of factors taken into account in determining admissions.....			4.9			
Admission is based in part on estimate of teachers of the preceding grade as to the pupil's ability to do the work of the grade to which he is to be admitted.....			3.6			
Number of factors taken into account in determining promotions.....			4.0			
Promotion is based in part on teachers' estimates of pupils' ability to do the work of the next grade.....			4.0			
<i>Organization of instruction:</i>						
Number of grades in which the average teacher offers instruction.....	†			10.2	3.0	
Number of different instructional problems in connection with which standardized tests of achievement are used.....						5.0
Standardized tests of achievement are used for.....						3.8
Diagnosis of difficulties in learning.....						3.1
Evaluation of teaching efficiency.....						3.1

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TABLE 10.—Differences between 3-year separate junior high schools and junior high school grades in 3-3 junior-senior high schools. (Data are for schools enrolling averages of 61-100, 101-200, and 201-333 pupils per grade)—Continued

Types of practice showing substantial differences	Critical ratios favoring—					
	Junior high schools			Junior-senior high schools		
	61-100 pupils per grade (18 schools)	101-200 pupils per grade (33 schools)	201-333 pupils per grade (34 schools)	61-100 pupils per grade (15 schools)	101-200 pupils per grade (20 schools)	201-333 pupils per grade (18 schools)
1	2	3	4	5	6	7
<b>Program of studies:</b>						
The program of studies is organized on a constants-and-variables basis.....			*3.0			
Required courses—						
Number of required courses included in ninth-grade offering.....			4.5			
Foreign language is required in grade 8.....			*3.0			
Mathematics is required in grade 9.....			4.8			
Elective courses—						
Number of elective courses included in eighth-grade offering.....						3.0
Number of elective courses included in ninth-grade offering.....						3.1
A course in physical training is elective in grade 7.....						*3.0
A course in mathematics is elective in grade 9.....						5.2
<b>Extracurriculum program:</b>						
The administration of funds for the extracurriculum program is on a budget basis.....					3.1	
The form of the pupil organization is adapted to meet special local conditions.....					**3.9	
Number of types of activities in which the pupil organization is engaged.....						4.1
The pupil organization is engaged in promoting—						
Clubs and similar activities.....					**4.0	3.4
School social affairs.....						
Club activities have been initiated by—						
An interested group of pupils.....					**3.9	
An interested teacher.....						**3.0
<b>Guidance:</b>						
Number of provisions for offering guidance to junior high school pupils with respect to senior high school activities.....						3.1
Junior high school pupils are given guidance with respect to ethical conduct in the senior high school.....				*4.1		3.3
Class advisors take part in the guidance program.....					*4.7	
Home-room advisors take part in the guidance program.....		3.1				
Number of different methods and materials used in guidance.....						4.5
Assembly talks are given by the principal or members of the faculty.....	4.1					

\*A single star indicates that a given practice is reported by less than 10 per cent of the group of schools reporting that practice least often.

\*\*Practices marked by double stars are reported by more than 90 per cent of the junior-senior high schools. None of the practices listed is reported by as many as 90 per cent of the separate junior high schools.

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TABLE 10.—Differences between 3-year separate junior high schools and junior high school grades in 3-3 junior-senior high schools. (Data are for schools enrolling averages of 61-100, 101-200, and 201-333 pupils per grade)—Continued

Types of practice showing substantial differences	Critical ratios favoring—					
	Junior high schools			Junior-senior high schools		
	61-100 pupils per grade (18 schools)	101-200 pupils per grade (33 schools)	201-333 pupils per grade (34 schools)	61-100 pupils per grade (15 schools)	101-200 pupils per grade (20 schools)	201-333 pupils per grade (18 schools)
1	2	3	4	5	6	7
<i>Articulation:</i>						
Number of arrangements for articulation of subject matter and methods—						
Between junior high school and elementary grades.....	* 3.7	3.0				
Junior high school teachers are members of elementary-school curriculum committees.....	3.1					
Between junior and senior high school grades.....					4.9	5.1
The senior high school regularly employs teachers who are at the same time teaching in the junior high school.....				**3.7	**6.4	6.0
The senior high school employs teachers drawn for temporary service from the junior high school.....					3.8	
The junior high school employs teachers drawn for temporary service from the senior high school.....					3.7	
Junior high school teachers are members of senior high school curriculum committees.....						3.3
Conferences on articulation are held between junior and senior high school teachers.....					*5.0	
Number of arrangements for articulation of extracurriculum activities between junior and senior high schools.....				4.0	5.8	7.4
Ninth-grade and tenth-grade pupils—Engage in about the same number of different extracurriculum activities each week.....						*3.1
Devote about the same time to extracurriculum activities each week.....					**3.1	**3.6
Certain sponsors for senior high school activities serve as sponsors for junior high school activities.....					*4.3	4.5
Junior high school teachers are members of committees on senior high school activities.....						*4.3
Senior high school teachers are members of committees on junior high school activities.....						*4.3
Conferences of the extracurriculum are held between junior and senior high school teachers.....					3.7	3.0
Certain supervisors give attention to the integration of junior and senior high school activities.....					3.6	3.9

\*A single star indicates that a given practice is reported by less than 10 per cent of the group of schools reporting that practice least often.

\*\*Practices marked by double stars are reported by more than 90 per cent of the junior-senior high schools. None of the practices listed is reported by as many as 90 per cent of the separate junior high schools.

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TABLE 10.—Differences between 3-year separate junior high schools and junior high school grades in 3-3 junior-senior high schools. (Data are for schools enrolling averages of 61-200, 101-200, and 201-333 pupils per grade)—Continued

Types of practice showing substantial differences	Critical ratios favoring—					
	Junior high schools			Junior-senior high schools		
	61-100 pupils per grade (18 schools)	101-200 pupils per grade (33 schools)	201-333 pupils per grade (34 schools)	61-100 pupils per grade (45 schools)	101-200 pupils per grade (20 schools)	201-333 pupils per grade (18 schools)
1	2	3	4	5	6	7
<i>Articulation—Continued.</i>						
Number of arrangements for articulation of guidance between junior and senior high schools.....				4.5	7.7	14.4
Certain counselors or advisers serve in both junior and senior high schools.....					*4.7	*6.4
Both junior and senior high school teachers are members of committees—						
On senior high school guidance.....						*4.8
On junior high school guidance.....						*3.3
Conferences are held between junior and senior high school teachers—						
On the senior high school guidance program.....					4.5	6.2
On the junior high school guidance program.....					3.7	5.3
On the guidance of individual senior high school pupils.....						5.3
On the guidance of individual junior high school pupils.....						*7.9
Certain supervisors give attention to the integration of junior and senior high school guidance.....					4.6	6.1
<i>Teaching staff:</i>						
Number of teachers holding college degrees.....						3.3
Less than college graduation is accepted as a qualification for appointment to ninth-grade positions.....			3.5			
Less than 15 semester hours of professional training are required for appointment to seventh-grade and eighth-grade positions.....		*3.2				
Certain teachers employed in the junior high school receive salaries as high as the highest in the senior high school.....					3.5	
<i>Supervision:</i>						
The school employs an assistant principal.....						4.1
The program of supervision involves curriculum revision throughout the school.....	*3.0					
General supervisors are concerned equally with the junior and senior high school grades.....				*4.9	*3.9	
<i>Housing and equipment:</i>						
The school is housed in a building containing only its own grades.....					**3.1	

\*A single star indicates that a given practice is reported by less than 10 per cent of the group of schools reporting that practice least often.

\*\*Practices marked by double stars are reported by more than 90 per cent of the junior-senior high schools. None of the practices listed is reported by as many as 90 per cent of the separate junior high schools.

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It should perhaps be emphasized that the critical ratios do not indicate extent of practice in the items to which they refer. Differences between returns of 10 per cent and 40 per cent and between returns of 90 per cent and 60 per cent, for example, may be reflected by the same ratio. The ratios show only that practices differ between the two types of schools, and that the differences are large enough to be attributed to something more than chance.

*Extent of differences in specific practices.*—In order to show the extent to which the various practices are employed by the schools in question, certain of the figures indicating differences in practice have been starred.

A single star in connection with a given practice indicates that that practice is rarely reported by one of the two groups of schools being compared. The fact that it is reported often enough by the other group to form the basis for a substantial difference means that it is not rare in the schools of the latter group. Thus, the guidance of junior high school pupils with respect to ethical conduct in the senior high school (to use as an example the first starred difference found among the smallest schools) is reported by 6 per cent of the junior high schools and 34 per cent of the junior-senior schools. Differences starred in this way are worthy of special notice in that they point to things done by one group of schools which are almost never done by the other group.

Double stars have been used to indicate practices reported by almost all the schools in one of the groups. Though such practices are not likely to be rare among the schools of the other group, they tend to represent arrangements which have not become thoroughly established. The regular employment in the senior high school of teachers who are at the same time teaching in the junior high school, for example (choosing an illustration again from the smallest schools), is reported by 94 per cent of the junior-senior schools and by 38 per cent of the separate schools. Differences of this type indicate advantages or disadvantages based on well-established practice in one of the two groups.

The unstarred figures indicate differences in practices which are neither rare on the one hand, nor almost universal on the other hand, in the schools of either group. Practices of this sort represent matters with which both groups are

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commonly concerned, but with respect to which one group takes more frequent action than the other.

*Differences among schools enrolling 60-100 pupils per grade in their junior units.*—Substantial differences among the smallest of the schools are found only in the organization of instruction, guidance, articulation, and supervision.

In the organization of instruction the sole difference of importance consists in the fact that the average teacher in the separate schools offers instruction in two different grades, whereas the average teacher in the combined schools is responsible for teaching in three different grades. The distinction is presumably a reflection of the greater latitude in teaching assignments which the junior-senior organization makes possible.

In guidance the differences are based on such minor items of practice as to favor clearly neither type of school. In the separate junior high schools more often than in the junior-senior schools, the guidance program includes assembly talks by members of the faculty; but this procedure is commonly reported by both types of school. The guidance of junior high school pupils with respect to ethical conduct in the senior high school, though reported frequently by the junior-senior schools and rarely by the separate schools, offers in itself no very important basis for distinction.

The differences in articulation are more noteworthy. The separate schools surpass the junior-senior high schools both in the number of arrangements which they make for articulation with the elementary school, and in the specific fact that their teachers sometimes take an active part in formulating the elementary-school program—a procedure rarely reported by the junior-senior schools. The latter, however, tend to make distinctly more numerous provisions for articulation between junior and senior high schools. In almost all cases certain of their junior high school teachers maintain a contact with the senior high school through teaching assignments in the senior high school grades. Differences in other specific practices are not great enough to afford a distinction between the two types of schools. The number of practices employed by the junior-senior schools in the articulation of extracurriculum activities and guidance is, however, appreciably to their advantage.

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In supervision the most notable difference is in favor of the separate schools. Reports from these schools indicate frequent attention to curriculum revision throughout the school, as contrasted with very rare employment of this procedure among the junior-senior high schools. That general supervisors are more often concerned equally with the junior and senior high schools grades in the combined schools than in the separate junior high schools is a natural consequence of the junior-senior form of organization.

The fact that few differences are found which are large enough to be listed may be due in part to the small numbers of schools available for comparison. Inspection of the detailed returns reveals certain further differences which, though less extensive than those reported in Table 10, may be significant.<sup>2</sup> The junior-senior high schools tend in general to provide annual promotions, whereas the junior high schools tend to promote semiannually. Twenty-two per cent of the junior high schools employ the single-curriculum type of program of studies; more than half the junior-senior schools have established a multiple-curriculum or constants-and-variables organization, and the remainder use a combination type. The activities of the pupil organization and of the extracurriculum clubs in the junior-senior schools are noticeably more extensive than in the separate schools. But even when these smaller differences are added to the differences which are more reliable, the contrast between the two types of schools is by no means great.

It may fairly be concluded, therefore, that among small junior high schools and junior-senior schools the organization of the junior units is much alike. The junior high schools have the advantage of more arrangements for articulation with the elementary school, of more frequent use of curriculum revision, and perhaps of somewhat greater flexibility in providing for individual differences through the use of semi-annual promotions. The junior-senior high schools seem to be superior in their provisions for articulation with the senior high school, and possibly also in the flexibility of their pro-

<sup>2</sup> In this comparison and in the comparisons presented in succeeding chapters, differences reported in the text but not in the tables have a critical ratio of 2 to 1 or more. This means that the chances are at least 98 in 100 that such differences would reappear in similar comparisons of the same types of schools.

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grams of studies and in the range of certain of their extra-curriculum activities.

*Differences among schools enrolling 101-200 pupils per grade in their junior units.*—Substantial differences in the next larger group of schools appear in connection with all the major features of organization except provisions for admission and promotion and the program of studies. The differences are so numerous that it will no doubt be sufficient to call attention to their general nature instead of taking them up in detail. For the specific items the reader is referred to Table 10.

In the organization of instruction there appears the difference already noted between the smaller schools of the two types, in the number of grades in which the average teacher offers instruction:

The differences in the extracurriculum are clearly to the advantage of the junior-senior high schools. In three of the four items in which these differences occur, the combined schools report almost universal use of practices which are found by no means universally in the separate junior high schools.

In guidance the differences consist less in the relative comprehensiveness of the guidance programs, than in the methods of administering guidance. The junior high schools tend more frequently than the combined schools to use home-room advisers; the junior-senior schools often employ class advisers who are rarely found in the separate schools.

In articulation the junior high schools repeat the tendency, discovered among the smaller schools of their type, to provide more comprehensively than the junior-senior high schools for articulation with the elementary school. The difference is, however, less marked in this larger group. In contrast, the differences in articulation between the junior and senior high schools are more clearly marked. The junior-senior schools provide more numerous arrangements than the separate schools, and report various specific practices more frequently. Among these practices are to be found several which are nearly universal in the combined schools, together with others which are common in the combined schools and very rare in the separate schools.

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The differences in the composition of the teaching staff, though in one case they appear in the junior high school column in Table 10, all favor the junior-senior schools. Standards for appointment to junior high school teaching positions tend to be higher in these schools, and the opportunity to receive a salary equivalent to that of senior high school teachers is apparently greater. The nature of these differences suggests that the separate schools are subject more often than the junior-senior high schools to the traditional differences in standards between the elementary and secondary grades.

In supervision the sole difference is one already noted in connection with the smaller schools—that general supervisors in the junior-senior high schools are more frequently concerned equally with the junior and senior high school grades. There is particular significance in the fact that this difference is starred. It does not appear among the largest schools, and it is prominent among the schools in the present group chiefly because the practice to which it refers is rare among separate schools of this size. This would seem to mean that the junior-senior high schools of 101-200 pupils per grade are the largest schools of their type in which general supervisors are commonly expected to deal on the same terms with both school units.

The difference in housing and equipment indicates that the junior-senior schools are almost universally located in buildings of their own, whereas the junior high schools, though separate in organization, must frequently share their buildings with other grades.

As among the smaller schools, there are certain differences not large enough to be reported in Table 10 which are nevertheless worth noting. In the organization of the program of studies, 47 per cent of the junior-senior schools, as compared with 13 per cent of the junior high schools, are committed to the multiple-curriculum arrangement. Among these larger schools the junior high schools tend to abandon the single-curriculum organization in favor of a constants-and-variables or combination type. The difference in standards for the appointment of teachers in the combined and separate schools extends to the ninth grade as well as the seventh and eighth grades, though it is less pronounced in the upper

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grade. Approximately a third of the combined-school teachers are men, as contrasted with only a fourth of the teachers in the separate schools. These represent the principal contrasts not noted in the table.

Considered in terms of the advantage which they give to each type of school, the differences in this size group chiefly favor the junior-senior schools. The separate junior high schools again provide more extensively for articulation with the elementary grades. But in their programs of extra-curriculum activities, in articulation with the senior high school, and in the composition of their teaching staffs the combined schools offer more extensive arrangements than the separate schools. In a number of important matters, moreover, the combined schools almost universally report procedures which are not fully established in the separate schools.

*Differences among schools enrolling 201-643 pupils per grade in their junior units.*—Among the largest schools the differences are still more extensive than in the middle group. Differences are found in every major feature except housing and equipment.

In admission and promotion the separate junior high schools take more factors into account than do the combined schools. The separate schools employ no practices, however, which are not extensively found in the combined schools, nor are the separate schools universally committed to any distinctive practice.

In the organization of instruction the junior-senior high schools make notably more extensive use of standardized tests of achievement, particularly in connection with the diagnosis of difficulties in learning and the evaluation of teachers' efficiency.

Differences in the program of studies center chiefly about the attention paid to required and elective work. The separate schools, adopting the constants-and-variables plan of organization more frequently than the combined schools, tend to require more courses in the ninth grade. Their specific requirements show a tendency to emphasize formal academic work. The junior-senior high schools commonly provide for a greater amount of election in the eighth and ninth grades, though their programs are not essentially broader than those of the separate schools.

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In the extracurriculum the advantage rests with the combined schools, both in the number of certain types of activities which they offer and in their apparent provision for pupil-initiated activities.

The advantage in arrangements for guidance rests also with the combined schools. The distinction in the methods of providing guidance which appeared among the smaller schools is no longer apparent. There are, moreover, no highly significant individual practices in which the combined and separate schools differ. Both the number of provisions for offering guidance, however, and the number of different methods and materials used favor the junior-senior schools.

In articulation the differences between the schools are so numerous as to make detailed comment unnecessary. Among these largest schools the junior high schools no longer hold any noteworthy advantage in arrangements for articulation with the elementary school; though inspection of the checklist returns suggests that their equality with the combined schools in this matter is due to the relative absence of provisions by either, rather than to an improvement in the organization of the junior-senior schools. In practically all phases of articulation with the senior high school the combined schools report more arrangements than do the separate schools. Almost universally they list certain arrangements which have not become well established in the separate schools, and in a number of instances they report arrangements which are generally lacking in the separate schools.

The difference with respect to the requirement of college graduation for appointment to ninth-grade teaching positions suggests, as in the case of the smaller schools, a handicap imposed on the separate schools by their inability to overthrow tradition. This difference is clearly reflected in the composition of the teaching staffs in the two types of schools: 85 per cent of the combined-school teachers, as compared with only two-thirds of the teachers in the separate schools, are college graduates.

In supervision the only substantial difference consists in the more frequent employment of an assistant principal in the combined schools—a natural consequence of the greater total enrollment of these schools.

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Three other possibly noteworthy differences are not suggested by the figures given in Table 10. The junior-senior high schools make greater use of standardized tests of mental ability than do the separate schools, thus increasing the advantage of the former schools in the organization of instruction. The number of different persons taking part in the guidance program, as well as the number of different methods and materials used, tends to be greater in the combined schools than in the junior high schools. The number of different types of supervisory officers tends likewise to be greater in the combined schools.

In summary, the separate junior high schools would seem to be superior to the combined schools in this group only in their provisions for admission and promotion. There are no substantial differences in the housing and equipment of the two types of schools. The junior-senior high schools offer noteworthy advantages in the organization of instruction, the provision of elective courses in the program of studies, the extracurriculum, guidance, articulation, the composition of the teaching staff, and supervision.

*Differences persisting throughout the comparisons.*—The fact has been noted that the differences between the two types of schools tend to increase both in number and in variety as the sizes of the schools increase. The arrangement of Table 10 allows the development of these differences from group to group to be readily traced.

In two major features of organization—their programs of extracurriculum activities and their provisions for articulation with the senior high school—the junior-senior high schools maintain an advantage in all three size-groups. Their superiority in articulation grows from group to group. In the flexibility of the program of studies they seem also to have a persistent advantage, though differences in this feature are less apparent in the middle group of schools than among the smallest and the largest schools.

Beginning with the middle group, the composition of the teaching staffs tends likewise to favor the junior-senior schools. The major differences in this feature persist among the largest schools.

In the largest group the advantages of more comprehensive arrangements for the organization of instruction, for guid-

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ance, and for supervision are added to the advantages already noted. Taking on these new advantages, the larger junior-senior schools do not relinquish any major advantages possessed by the smaller schools.

While the differences which favor the junior-senior high schools tend to increase from group to group, differences favoring the separate junior high schools run an opposite course. Among the smallest schools the junior high schools lead in their arrangements for articulation with the elementary school, for curriculum revision, and for flexible promotions. They maintain their advantage in articulation among the schools of the second size group, but the other advantages disappear. The advantage in articulation disappears among the largest schools. In this group the separate schools stand out only in their arrangements for admission and promotion.

It should be noted that the schools compared in no case exceed an enrollment of 1,000 pupils in the junior high school grades. As between schools enrolling fewer than 1,000 pupils in these grades, it may be concluded, in summary, that junior-senior schools provide an organization which becomes increasingly more comprehensive than that of separate junior high schools as the size of the schools increases. Among the smallest schools studied, each type of school possesses certain advantages not offered by the other. With increasing size the separate schools tend to lose their advantages, until among the largest schools the differences are almost entirely in favor of the junior-senior organizations.

### 3. DIFFERENCES IN THE ORGANIZATION OF THE SENIOR HIGH SCHOOL GRADES

*Groups of schools included.*—The numbers of schools available for study allow comparisons to be made between senior high school units in only two size groups—group 4, containing schools averaging 101–200 pupils in each of their senior high school grades, and group 5, containing schools averaging 201–333 pupils in these grades. Table 11 shows the major differences in practice between the separate senior high schools and the senior units of the junior-senior high schools included in each group.

*Differences among schools enrolling 101–200 pupils per grade in their senior units.*—Substantial differences among the

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smaller schools are found in all features of organization except provisions for admission and promotion and the program of studies. Except for one item in connection with articulation, the differences are in every case to the advantage of the junior-senior high schools.

In the organization of instruction the junior-senior schools make more use of standardized tests both of achievement and of mental ability than do the separate senior high schools. A number of the combined schools, moreover, report the use of achievement tests for research or experimentation—a use to which such tests seem to be rarely put among the separate schools.

In the extracurriculum activities of the two types of schools the differences large enough to be listed are not extensive. The junior-senior schools have an advantage over the separate schools chiefly in the number of types of activities in which their pupil organizations are engaged.

TABLE 11.—Differences between 3-year separate senior high schools and senior high school grades in 3-3 junior-senior high schools. (Data are for schools enrolling averages of 101-200 and 201-333 pupils per grade)

Types of practice showing substantial differences	Critical ratios favoring—			
	Senior high schools		Junior-senior high schools	
	101-200 pupils per grade (25 schools)	201-333 pupils per grade (22 schools)	101-200 pupils per grade (21 schools)	201-333 pupils per grade (12 schools)
1	2	3	4	5
<i>Admission and promotion:</i> [No differences showing critical ratios as high as 3.0]				
<i>Organization of instruction:</i> Number of different instructional problems in connection with which systematic use is made of—				
Standardized tests of mental ability.....			4.8	3.7
Standardized tests of achievement.....			5.0	.....
Standardized tests of achievement are used for—				
Diagnosis of difficulties in learning.....				4.8
Research and experimentation.....			*3.6	.....
<i>Program of studies:</i> [No differences showing critical ratios as high as 3.0]				
<i>Extracurriculum:</i> Number of major types of activities included in the extracurriculum.....				3.4
Number of types of activities in which the pupil organization is engaged.....			3.1	.....

\* Practices marked by a single star are reported by less than 10 per cent of the separate senior high schools.

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TABLE 11.—Differences between 3-year separate senior high schools and senior high school grades in 3-3 junior-senior high schools. (Data are for schools enrolling averages of 101-200 and 201-333 pupils per grade)—Continued

Types of practice showing substantial differences	Critical ratios favoring—			
	Senior high schools		Junior-senior high schools	
	101-200 pupils per grade (25 schools)	201-333 pupils per grade (22 schools)	101-200 pupils per grade (21 schools)	201-333 pupils per grade (12 schools)
1	2	3	4	5
<i>Guidance:</i>				
Junior high school pupils are given guidance with respect to ethical conduct in the senior high school.....				*4.6
Number of provisions for offering guidance to senior high school pupils.....			7.8	3.9
Pupils receive group guidance during the first few weeks of school from home-room teachers.....				**4.1
Pupils receive group guidance throughout the senior high school period from a special counselor.....			*3.5	
Pupils receive individual guidance throughout the senior high school period from—				
A special counselor.....			3.2	
Home-room teachers.....				3.1
Pupils receive guidance in—				
Vocational choices.....				**5.0
Ethical conduct.....				**3.1
Health.....				**3.2
Use of leisure time.....				3.0
The school employs a special counselor.....			*3.9	
Home-room advisers take part in the guidance program.....				**3.
Number of different methods and materials used in guidance.....			4.1	5.6
<i>Articulation:</i>				
Number of arrangements for articulation of subject matter and methods between junior and senior high schools.....			5.8	6.7
The senior high school regularly employs teachers who are at the same time teaching in the junior high school.....			**4.6	**6.1
The senior high school employs teachers drawn for temporary service from the junior high school.....			3.2	*3.6
Junior high school teachers are members of senior high school curriculum committees.....			*3.3	
Conferences on articulation are held between junior and senior high school teachers.....			**3.6	
Number of arrangements for articulation of extracurriculum activities between junior and senior high schools.....			8.8	4.8
Certain sponsors for senior high school activities serve as sponsors for junior high school activities.....			5.9	3.1
Both junior and senior high school teachers are members of committees on—				
Senior high school activities.....			*3.8	
Junior high school activities.....			4.5	
Conferences on the extracurriculum are held between junior and senior high school teachers.....			*7.3	
Certain supervisors give attention to the integration of junior and senior high school activities.....			8.1	

\* Practices marked by a single star are reported by less than 10 per cent of the separate senior high schools.

\*\* Double stars indicate that a given practice is reported by more than 90 per cent of the group of schools reporting that practice most often.

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TABLE 11.—Differences between 3-year separate senior high schools and senior high school grades in 3-5 junior-senior high schools. (Data are for schools enrolling averages of 101-200 and 201-333 pupils per grade)—Continued

Types of practice showing substantial differences	Critical ratios favoring—			
	Senior high schools		Junior-senior high schools	
	101-200 pupils per grade (25 schools)	201-333 pupils per grade (22 schools)	101-200 pupils per grade (21 schools)	201-333 pupils per grade (12 schools)
1	2	3	4	5
<i>Articulation—Continued.</i>				
Number of arrangements for articulation of guidance between junior and senior high schools.....			10.5	8.5
Certain counselors or advisers serve in both junior and senior high schools.....			3.6	3.7
Both junior and senior high school teachers are members of committees on—				
The senior high school guidance program.....			*3.8	
The junior high school guidance program.....			*3.8	
Conferences are held between junior and senior high school teachers on—				
The senior high school guidance program.....			5.1	4.6
The junior high school guidance program.....			5.0	5.3
Conferences are held between junior and senior high school teachers on—				
Guidance of individual senior high school pupils.....			3.5	
Guidance of individual junior high school pupils.....			5.1	3.5
Certain supervisors give attention to the integration of junior and senior high school guidance.....			4.5	4.6
<i>Teaching staff:</i>				
Certain teachers employed in the junior high school receive salaries as high as the highest in the senior high school.....			3.5	
<i>Supervision:</i>				
Number of different types of supervisory officers.....			4.1	3.9
The school employs an assistant principal.....			5.9	
The supervisory staff includes a school council composed of department heads.....				*3.0
<i>Housing and equipment:</i>				
The principal reports serious inadequacies in—				
Rooms for general purposes.....	3.1			
Rooms for home economics.....	3.8			
Provisions for health and physical education.....	3.6			

\* Practices marked by a single star are reported by less than 10 per cent of the separate senior high schools.

Differences in the guidance programs relate to the number of provisions for offering guidance, the number of different methods and materials employed, and certain specific practices in guidance. The fact that the junior-senior high schools frequently employ a special counselor, whereas the separate schools only rarely do so, is worthy of attention.

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In articulation with the junior high school the combined schools repeat the advantages which were apparent in the reports on the organization of their junior units. The senior high schools here represented are not drawn in all cases from the same systems as the junior high schools previously studied. This fact accounts for certain variations in the specific practices reported. In the main the differences are of the same general nature as those earlier presented.

Differences in the composition of the teaching staff reflect again the greater tendency to set up different standards for teaching in the junior and senior units of the separate schools.

In their supervisory organization, the junior-senior high schools are commonly at an advantage through having a larger number of different types of supervisory officers.

Finally, the junior-senior schools less frequently than the separate senior high schools report serious inadequacies in particular features of the school plant.

To these differences may be added certain others not large enough to find a place in the table. The junior-senior high schools make notably more comprehensive arrangements for admission and promotion than do the separate schools. The junior-senior programs provide more extensively for elective courses, particularly in the tenth grade, than do the senior high school programs. The methods of supervision reported by the combined schools tend to be more numerous than those reported by the separate schools. These further differences obviously support those presented in tabular form in favoring the junior-senior organization.

*Differences among schools enrolling 201-333 pupils per grade in their senior units.*—Among the larger schools, though no substantial differences appear in connection with four of the major features of organization, the differences which are large enough to be listed in Table 11 are without exception to the advantage of the combined schools.

In the organization of instruction, the extracurriculum, and supervision, the differences are similar to those which characterize the smaller schools. The differences in guidance are more extensive than among the smaller schools; they include differences in a number of procedures which are practically universal in the junior-senior high schools but much less common in the separate senior high schools.

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The differences in articulation are notably less extensive than among the schools of smaller enrollment, and consist less often of differences in specific practice. In the composition of the teaching staff and in housing and equipment no major differences are apparent.

Noteworthy differences not listed in Table 11 include a generally more extensive use by junior-senior schools of standardized tests of achievement, and more frequent employment of special features of organization designed to provide for individual differences. The combined schools again tend to offer more elective work than the separate schools, particularly in grade 10. Furthermore, the combined schools again report a greater number of different methods of supervision. Fifty-five per cent of the senior high schools, however, as compared with only 17 per cent of the junior-senior schools, require two years or more of experience as a qualification for appointment to senior high school teaching positions; and a somewhat larger proportion of the senior high school teachers than of the teachers in combined schools are college graduates. Among these larger schools the majority of the less extensive differences thus still support the junior-senior organization, though the difference in requirements for appointment to teaching positions suggests that the combined schools may be at a disadvantage in the composition of their staffs.

*Differences persisting throughout the comparisons.*—With only two size groups of schools available for study there can be no dependable analysis of the persistence of differences among senior units of various sizes. The lack of schools having relatively small senior units is a particular handicap; it prevents the examination of differences among schools corresponding to the smallest of the junior high schools studied. The most that can be said, therefore, is that the junior-senior high schools seem to maintain no less an advantage over the separate schools in their senior units than in their junior units. In the organization of instruction in the senior high school, in the extracurriculum, and in guidance, articulation, and supervision the advantage of the junior-senior schools appears to be well established. It is less assured in the matter of housing and equipment, though here also the differences seem to favor the combined

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schools. The only important feature of organization in which these schools are likely to be at a disadvantage is in the relative experience and academic training of the teaching staffs in the larger schools.

### 4. THE COMPARATIVE MERITS OF THE SEPARATE AND COMBINED ORGANIZATIONS

*Conclusions expressed in terms of total enrollments.*—Comparisons of separate reorganized schools and of the junior and senior units of combined schools have been restricted, as has already been noted, to schools enrolling fewer than 1,000 pupils in each of the units in question. The total enrollment of a junior-senior high school is not likely to be exactly twice that of either its junior or its senior unit. There is little risk, however, in interpreting the results of the comparisons in terms of junior-senior high schools enrolling a total of approximately 2,000 pupils or fewer.<sup>3</sup> A summary of results in these terms may prove more serviceable than a summary on the basis of average grade enrollments. In terms of total enrollments, the comparisons indicate that when junior-senior high schools of enrollments up to at least 2,000 pupils are compared with separate schools of the same size as the junior and senior units in the combined schools, the junior-senior high schools are likely to exhibit a generally greater comprehensiveness of organization.

*Comparison of detailed differences with differences suggested by summary scores.*—In Chapter IV the separate 3-year junior and senior high schools and 3-3 junior-senior high schools were compared on the basis of summary scores for their major features of organization. The conclusions reached in that chapter correspond exactly with the general conclusions set forth in the present chapter, except in the matter of the program of studies. The summary scores for schools of equivalent average enrollments indicated that the junior high school program of studies was less comprehensive in the combined schools than in the separate schools, and that the senior high school program of studies was more comprehensive in the combined schools. Critical ratios for differences in specific practice do not support this distinction.

<sup>3</sup> The largest junior-senior high schools included in this study report total enrollments ranging to a maximum of approximately 2,000. Cf. Sec. II-1 of this chapter.

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The variance in the two sets of conclusions may be due, of course, to the fact that they are drawn from somewhat different groups. The conclusions of Chapter IV are based on scores for all the separate and combined schools included in the study, whereas the conclusions of the present chapter apply only to the schools of certain size groups. Differences among other groups of schools, could they be analyzed in detail, might offset the differences here found.

In all probability, however, the differences are due in part to the method of scoring employed. The scoring system seems not to have given wholly adequate recognition to emphasis upon elective courses as contrasted with required courses. It is in their greater attention to required work that the separate-school programs of studies stand out above the programs of the combined schools, whereas the junior-senior high schools tend to excel in their greater provision for electives. This qualification applies strictly, of course, only to the groups of schools which have here been analyzed in detail. There is nevertheless some probability that it applies to differences in the programs of studies of the schools in other size groups as well.

*Possible explanations of the differences between the two types of schools.*—Lists of the practices employed by contrasting types of schools, however detailed those lists may be, supply in themselves only an explanation of *how* the schools differ. They do not show in any conclusive way *why* the schools differ. Yet the occurrence of specific differences may allow at least plausible conjectures as to their causes. In the case of the junior-senior high schools and the separate junior and senior schools, the apparent superiority of organization in the junior-senior schools may not unreasonably be attributed to a number of such causes.

First, it is probable that the combination of junior and senior units in one organization serves to stimulate the reorganization of both units. Organized as a separate unit, the junior high school may introduce desirable features without their being recognized—to say nothing of being adopted—by the senior high school. This is likely to be especially true of features in the development of which the junior high school has taken a leading part—the use of standardized tests, the provision of various types of elective

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work in the program of studies, the emphasis upon educational and vocational guidance. It applies most obviously, of course, to the development of articulation between the two school units. The senior high school, likewise organized by itself, may retain desirable features which have grown up in the traditional 4-year high school organization, without communicating them to the newer secondary-school unit. A well-coordinated system of supervision, and an insistence on high standards in the appointment of teachers, are features of this sort. With the two school units thrown into close contact, examples of progressive practice found in either are more likely to be communicated to the other.

Second, the combination of the junior and senior units probably facilitates certain arrangements which are not impossible, but which are usually difficult to make within separate organizations. Putting the units together obviously allows provisions for articulation seldom found in separate junior and senior high schools. Combining the staffs of the schools may permit both units to obtain services which neither would get if they were separately organized—the use of a special counselor, for example; a more extensive supervisory staff; a broader program for the use of standardized tests; perhaps more elaborate physical equipment, even among relatively large schools. Finally, combining the staffs may allow more effective use of teachers' varied interests and abilities in the development of the extracurriculum.

Third, the adoption of the combined organization is likely to free the junior high school grades from certain hampering effects of tradition which still cling to the separate schools. This is especially the case in the composition of the junior high school teaching staff; but it may also have a bearing on the development of many of the newer features of organization.

These are possible explanations of the more comprehensive organization of the junior-senior high schools.<sup>4</sup> The superiority of the separate-school organization in certain respects should not be lost sight of.

<sup>4</sup> For a further discussion of the advantages and disadvantages of the junior-senior organization see Bristow, W. H. *Reorganization of Secondary Education under State Supervision*. *School Life*, 14:173-175, May 1926; Whitney, F. P. *The 6-Year High School in Cleveland*. *School Review*, 37:267-271, April 1929; and Grace, A. G. *Choosing an Organization Plan*. *The Nation's Schools*, 9:29-32, May 1932.

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It is probable that the combination of junior and senior units, focusing attention as it does on the strictly secondary-school grades, tends to draw attention away from the problem of securing continuity between the elementary school and the secondary school. The better provisions for articulation between the sixth and seventh grades under the separate junior high school organization offer pointed evidence of such a tendency.

It is probable also that combination of the junior and senior units, while making possible the raising of standards for junior high school teaching appointments, tends to lower somewhat the standards for the upper school. The effect on the actual quality of teaching may be more apparent than real, yet the possibility of lessened effectiveness in the senior high school grades deserves attention.

### II. COMPARISONS OF SCHOOLS HAVING EQUIVALENT TOTAL ENROLLMENTS

#### 1. SCHOOLS REPRESENTED IN THE COMPARISONS

*Need for comparisons on the basis of total enrollments.*—Comparisons on the basis of equivalent average grade enrollments do not provide a wholly adequate measure of the relative merits of 3-year and 6-year organizations. The need for further comparisons in terms of equivalent total enrollments was pointed out in Chapter IV. In the following pages are presented data on the differences between separate 3-year junior and senior high schools and 3-3 junior-senior schools of equivalent total size.

*Numbers of schools in the various size groups.*—Grouped according to total enrollments in the grades which they include, the schools available for study are distributed as shown in Table 12. In group 1 there are too few schools to warrant detailed comparisons. Though the numbers of junior-senior high schools in groups 2 and 3 are undesirably small, comparisons have been made between the junior and junior-senior schools in groups 2, 3, 4, and 5, and between the senior and junior-senior schools in groups 3, 4, and 5.

*Maximum sizes of schools compared.*—Except for a single school enrolling 2,500 pupils, the junior-senior high schools included in group 5 are well distributed in size from 1,000 to 2,000 pupils. The separate junior high schools cover a range

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in enrollment of from 1,000 to approximately 2,500. The upper limit among the separate senior high schools (except for one school enrolling more than 3,600) is approximately 3,000 pupils. General conclusions drawn from comparisons of the largest schools of each type are thus to be interpreted as applying to schools within these limits.

TABLE 12.—Distribution of 3-year junior and senior high schools and 3-3 junior-senior high schools, in terms of total enrollments

Type of school	Total enrollment					
	Group 1, 150 or fewer	Group 2, 151-300	Group 3, 301-500	Group 4, 501-1,000	Group 5, 1,001 or more	All groups
1	2	3	4	5	6	7
Junior high schools.....	7	21	21	45	39	133
Junior-senior high schools.....	7	11	12	20	23	73
Senior high schools.....	4	8	18	29	38	97

2. DIFFERENCES IN THE ORGANIZATION OF THE JUNIOR HIGH SCHOOL GRADES

*Tabular presentation of differences.*—In Table 13 are shown the major differences in the specific practices of the separate and combined schools in their junior high school grades. This table should be interpreted in the same manner as those already presented.

TABLE 13.—Differences between 3-year separate junior high schools and junior high school grades in junior-senior high schools. (Data are for schools having total enrollments of 151-300, 301-500, 501-1,000, and more than 1,000)

Types of practice showing substantial differences	Critical ratios favoring—								
	Junior high schools				Junior-senior high schools				
	151-300 pupils (21 schools)	301-500 pupils (21 schools)	501-1,000 pupils (45 schools)	Over 1,000 pupils (39 schools)	151-300 pupils (11 schools)	301-500 pupils (12 schools)	501-1,000 pupils (20 schools)	More than 1,000 pupils (23 schools)	
1	2	3	4	5	6	7	8	9	
<i>Admission and promotion:</i> Admission is based in part on estimate of teachers of the preceding grade as to the pupil's ability to do the work of the grade to which he is to be admitted.....				3.5					

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TABLE 13.—Differences between 3-year separate junior high schools and junior high school grades in junior-senior high schools. (Data are for schools having total enrollments of 151-300, 301-500, 501-1,000, and more than 1,000)—Continued

Types of practice showing substantial differences	Critical ratios favoring—							
	Junior high schools				Junior-senior high schools			
	151-300 pupils (21 schools)	301-500 pupils (21 schools)	501-1,000 pupils (45 schools)	Over 1,000 pupils (39 schools)	151-300 pupils (11 schools)	301-500 pupils (12 schools)	501-1,000 pupils (20 schools)	More than 1,000 pupils (23 schools)
1	2	3	4	5	6	7	8	9
<b>Admission and promotion—Continued.</b>								
The school employs—								
Annual promotions								
Semiannual promotions								
Promotions when justified, regardless of fixed periods	*4.7	3.0			**4.7	3.0	3.5	
The school employs promotion by subject in major subjects only		*3.3	3.0					
Promotion is based in part on teachers' estimates of pupils' ability to do the work of the next grade				3.4				
<b>Organization of instruction:</b>								
Number of teachers under whom each pupil studies				3.4				
Number of grades in which the average teacher offers instruction					6.5	4.0		
Number of pupils enrolled in the usual class in recitation subjects		5.6		3.1				
Number of different instructional problems in connection with which standardized tests of mental ability are used								4.3
Tests of mental ability are used for research and experimentation								3.0
Number of different instructional problems in connection with which standardized tests of achievement are used								4.3
Standardized tests of achievement are used for diagnosis of difficulties in learning								3.1
Pupils are grouped according to specialized curriculums	*3.1							
<b>Program of studies:</b>								
The program of studies represents a combination of the multiple-curriculum and constants-and-variables types								
Required courses—								
Number of required courses included in seventh-grade offering				3.3				
Science is required in grade 7				3.7				
Fine arts is required in grade 7	*4.4							
Music is required in grade 7		3.9						
Physical training is required in grade 7								
Foreign language is required in grade 8				**3.1				
				*3.0				

\*A single star indicates that a given practice is reported by less than 10 per cent of the group of schools reporting that practice least often.  
 \*\*Double stars indicate that a given practice is reported by more than 90 per cent of the group of schools reporting that practice most often.

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TABLE 13.—Differences between 8-year separate junior high schools and junior high school grades in junior-senior high schools. (Data are for schools having total enrollments of 151-300, 301-500, 501-1,000, and more than 1,000)—Continued

Types of practice showing substantial differences	Critical ratios favoring—							
	Junior high schools				Junior-senior high schools			
	151-300 pupils (21 schools)	301-500 pupils (21 schools)	501-1,000 pupils (45 schools)	Over 1,000 pupils (39 schools)	151-300 pupils (11 schools)	301-500 pupils (12 schools)	501-1,000 pupils (20 schools)	More than 1,000 pupils (23 schools)
1	2	3	4	5	6	7	8	9
<i>Program of studies—Continued.</i>								
<i>Required courses—Continued.</i>								
Mathematics is required in grade 9.....	*6.7							
Business training is required in grade 9.....				*3.0				
<i>Elective courses—</i>								
Number of elective courses included in seventh-grade offering.....	3.1							
A course in foreign language is elective in grade 8.....				*3.1				
A course in music is elective in grade 9.....								3.8
<i>Extracurriculum:</i>								
Usual length of activity periods.....				3.9				
The extracurriculum includes provision for home-room organizations.....							**3.2	
The form of the pupil organization has been changed within the past year.....							3.0	
The form of the present pupil organization has been adopted to meet special conditions in the local school situation.....							**6.2	
<i>The pupil organization is engaged in promoting—</i>								
Beauty of school building or grounds.....						**3.1		
Clubs and similar activities.....						**3.5		
Club activities have been initiated by an interested group of pupils.....							**4.0	
<i>Guidance:</i>								
Number of provisions for offering guidance to junior high school pupils with respect to senior high school activities.....								3.9
Junior high school pupils are given guidance with respect to—								
Participation in extracurriculum activities in the senior high school.....								3.7
Vocational choices.....								3.0
Ethical conduct in the senior high school.....								3.7
Class advisers take part in the guidance program.....						*3.5	3.8	3.1
Number of different methods and materials used in guidance.....								5.5
The guidance program provides for—								
Assembly talks by laymen.....								8.5
Use of standardized tests of specialized vocational aptitude.....			*3.3					
Use of school manual or handbook.....								4.0

\*A single star indicates that a given practice is reported by less than 10 per cent of the group of schools reporting that practice least often.  
 \*\*Double stars indicate that a given practice is reported by more than 90 per cent of the group of schools reporting that practice most often.

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TABLE 13.—Differences between 3-year separate junior high schools and junior high school grades in junior-senior high schools. (Data are for schools having total enrollments of 151-300, 301-500, 501-1,000, and more than 1,000)—Continued

Types of practice showing substantial differences	Critical ratios favoring—							
	Junior high schools				Junior-senior high schools			
	151-300 pupils (21 schools)	301-500 pupils (21 schools)	501-1,000 pupils (45 schools)	Over 1,000 pupils (39 schools)	151-300 pupils (11 schools)	301-500 pupils (12 schools)	501-1,000 pupils (20 schools)	More than 1,000 pupils (23 schools)
1	2	3	4	5	6	7	8	9
<i>Articulation:</i>								
Number of arrangements for articulation of subject matter and methods—								
Between junior high school and elementary grades.....		4.1						
The junior high school grades offer special classes in elementary-grade subjects for pupils deficient in those subjects.....		*3.5						
Between junior and senior high school grades.....							4.7	7.4
Junior high school pupils may take certain senior high school subjects in the senior high school.....								4.3
The senior high school offers certain junior high school courses.....			3.1					
The senior high school regularly employs teachers who are at the same time teaching in the junior high school.....					**3.9	**6.8	**7.8	†12.1
The senior high school employs teachers drawn for temporary service from the junior high school.....							4.6	*4.2
The junior high school employs teachers drawn for temporary service from the senior high school.....							3.5	*3.7
Junior high school teachers are members of senior high school curriculum committees.....								3.1
Conferences on articulation are held between junior and senior high school teachers.....							**5.6	
Sixth-grade and seventh-grade pupils engage in about the same number of different extra curriculum activities each week.....							**3.8	
Number of arrangements for articulation of extracurriculum activities between junior and senior high schools.....					5.4	5.4	6.5	9.6
Ninth-grade and tenth-grade pupils—Engage in about the same number of different extracurriculum activities each week.....							**3.4	**3.8
Devote about the same time to extracurriculum activities each week.....							**3.8	**4.2
Are granted about the same freedom in their choice of extracurriculum activities.....								**3.0

\* A single star indicates that a given practice is reported by less than 10 per cent of the group of schools reporting that practice least often.

\*\* Double stars indicate that a given practice is reported by more than 90 per cent of the group of schools reporting that practice most often.

† This practice is reported by more than 90 per cent of the junior-senior schools and by less than 10 per cent of the junior high schools.

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TABLE 13.—Differences between 3-year separate junior high schools and junior high school grades in junior-senior high schools. (Data are for schools having total enrollments of 151-300, 301-500, 501-1000, and more than 1,000)—Continued

Types of practice showing substantial differences	Critical ratios favoring—							
	Junior high schools				Junior-senior high schools			
	151-300 pupils (21 schools)	301-500 pupils (21 schools)	501-1,000 pupils (45 schools)	Over 1,000 pupils (39 schools)	151-300 pupils (11 schools)	301-500 pupils (12 schools)	501-1,000 pupils (20 schools)	More than 1,000 pupils (23 schools)
1	2	3	4	5	6	7	8	9
<i>Articulation—Continued.</i>								
Certain sponsors for senior high school activities serve as sponsors for junior high school activities.....						5.0	3.1	6.0
Both junior and senior high school teachers are members of committees on—								
Senior high school activities.....								*4.2
Junior high school activities.....								*4.5
Conferences on the extracurriculum are held between junior and senior high school teachers.....							5.6	*4.4
Certain supervisors give attention to the integration of junior and senior high school activities.....					3.4		3.3	4.3
Number of arrangements for articulation of guidance between junior and senior high schools.....				0	6.3	6.6	9.8	15.4
Certain counselors or advisers serve in both junior and senior high schools.....					3.5	4.6	4.2	*8.2
Both junior and senior high school teachers are members of committees—								
On senior high school guidance program.....								*4.5
On junior high school guidance.....								*4.4
Conferences are held between junior and senior high school teachers—								
On the senior high school guidance program.....							4.1	6.9
On the junior high school guidance program.....							4.7	6.5
On the guidance of individual senior high school pupils.....							3.4	4.9
On the guidance of individual junior high school pupils.....							*4.3	5.4
Certain supervisors give attention to the integration of junior and senior high school guidance.....							3.9	6.0
<i>Teaching staff:</i>								
Relative number of men teachers.....							3.5	3.0
Relative number of teachers holding college degrees.....								4.5
Less than college graduation is accepted as a qualification for appointment to ninth-grade positions.....				*4.7				
Local residents are given preference in appointments to junior high school positions.....		*3.3						

\*A single star indicates that a given practice is reported by less than 10 per cent of the group of schools reporting that practice least often.  
 \*\*Double stars indicate that a given practice is reported by more than 90 per cent of the group of schools reporting that practice most often.

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TABLE 13.—Differences between 3-year separate junior high schools and junior high school grades in junior-senior high schools. (Data are for schools having total enrollments of 151-300, 301-500, 501-1,000, and more than 1,000)—Continued

Types of practice showing substantial differences	Critical ratios favoring—							
	Junior high schools				Junior-senior high schools			
	151-300 pupils (21 schools)	301-500 pupils (21 schools)	501-1,000 pupils (46 schools)	Over 1,000 pupils (39 schools)	151-300 pupils (11 schools)	301-500 pupils (12 schools)	501-1,000 pupils (20 schools)	More than 1,000 pupils (26 schools)
1	2	3	4	5	6	7	8	9
<b>Supervision:</b>								
The supervisory staff includes—								
Directors, supervisors, or assistant superintendents in general charge of special subjects.....		*3.3						
A school council or corresponding group composed of department heads.....								4.2
The program of supervision involves—								
Classroom visitation by the principal or assistant principal.....					*3.0			
Individual conferences between teachers and—								
Superintendent, director of secondary education, or assistant superintendent.....								**10.6
Principal or assistant principal.....		*3.0						
General supervisors are concerned—								
Equally with the elementary grades and the junior high school grades.....	*3.3							
Equally with the junior and senior high school grades.....					*6.9	*3.0	3.8	
Special supervisors are concerned—								
Primarily with the junior high school grades.....	*3.0							**3.0
<b>Housing and equipment:</b>								
[No differences showing critical ratios as high as 3.0.]								

\*A single star indicates that a given practice is reported by less than 10 per cent of the group of schools reporting that practice least often.

\*\*Double stars indicate that a given practice is reported by more than 90 per cent of the group of schools reporting that practice most often.

*Differences between the junior units of schools enrolling 151-300 pupils.*—Among the smallest schools as classified by total enrollment, differences in the program of studies appear to the advantage of the separate junior high schools. These schools tend to offer certain required courses which are less frequently found in combined schools and to include a greater number of elective courses in their seventh-grade programs.

In articulation the advantage rests with the junior-senior schools. Their practice differs from that of the separate schools not merely in the employment of certain specific

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procedures but in the greater number of procedures which they tend to use.

The differences in admission and promotion, in the organization of instruction, and in supervision represent distinctions which are worth noting, but which can not readily be translated into advantages or disadvantages. In promotion the combined schools almost universally employ annual promotions, whereas the separate schools use semiannual promotions. In the organization of instruction, the combined schools ordinarily require their teachers to offer instruction in four different grades, whereas the average junior high school teacher offers instruction in only three grades. The separate junior high schools, moreover, commonly group their pupils according to specialized curriculums—a practice rarely followed in the junior-senior schools. In supervision the practices of the two types of schools reflect a closer connection with the senior high school by the junior units of the combined schools, and with the elementary school by the separate junior high schools.

The remaining phases of organization show no differences large enough to be listed. Less extensive differences, not recorded in Table 13, suggest that the separate schools tend to make more extensive use of standardized tests than the combined schools; that they provide in more ways for pupils' individual needs; that they tend to offer a greater number of elective courses in the eighth and ninth grades as well as in the seventh grade; and that they more generally require previous experience for appointment to teaching positions. The junior-senior high schools, however, employ a somewhat greater variety of different methods and materials in their guidance programs than do the separate junior high schools, and their staffs include a somewhat larger proportion of men teachers.

Considering all these differences together, it may fairly be concluded that among these small schools the balance of advantage, though slight, inclines toward the separate junior high schools.

*Differences between the junior units of schools enrolling 301-500 pupils.*—Among the schools of 301-500 enrollment neither type of school appears to hold a decisive advantage.

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In the program of studies, in provisions for guidance, and in the composition of the teaching staff, the differences listed in Table 13 are hardly adequate to provide any important basis for distinction. Differences in the organization of instruction are somewhat equivocal. The separate schools show a noticeable tendency to report larger classes than the combined schools in physical training and music, and a very substantial tendency to report larger classes in recitation subjects; but whether these tendencies are to be interpreted as favoring the combined or the separate schools is difficult to judge.

The combined schools maintain a definite lead in provisions for articulation between junior and senior units. The combined schools show a slight advantage also in the comprehensiveness of their extracurriculums. Moreover, the combined schools report a somewhat larger number of men teachers than do the separate schools, though this difference is not substantial enough to be wholly reliable.

The separate schools exhibit a measure of superiority in the number of their arrangements for articulation with the elementary school and in their provisions for a general supervisory staff. On the basis of practices not listed in the table there is reason to believe that their programs of studies may be somewhat more comprehensive than those of the combined schools, though the differences are less noticeable than among the schools of smaller enrollment. Data not given in the table indicate also that the separate schools are likely to be slightly better organized with respect to their provisions for admission and promotion; they tend to take more factors into account in admitting pupils to the seventh grade, and they make somewhat more extensive use of promotion by subject.

Taken together, these comparisons suggest that though the two types of schools differ within this size group in their provisions for specific features, their organizations are on the whole about equally comprehensive.

*Differences between the junior units of schools enrolling 501-1,000 pupils.*—Among the schools in group 4 the junior-senior high schools seem to be superior in the scope and flexibility of their extracurriculum programs. In articulation also these schools lead, both in the total number of their arrangements

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and in various specific procedures, of which several are worthy of particular attention. In the composition of their teaching staffs the combined schools are at an advantage in having a substantially greater proportion of men teachers than the separate schools.

The separate junior high schools in this group possess no clearly evident advantages. The single difference listed in their favor in provisions for guidance is hardly of a sort to warrant any far-reaching judgment. Differences in arrangements for admission and promotion, in the organization of instruction, and in supervision provide no basis for fundamental distinctions between the two types of schools; and in the program of studies and the composition of teaching staff no substantial differences appear.

The only important differences not listed in the table consist in a greater tendency on the part of the junior-senior high schools to employ the multiple-curriculum as contrasted with the single-curriculum or constants-and-variables type of organization; in a somewhat more extensive provision of elective courses in the seventh grade of the junior-senior schools; in the employment of more numerous methods and materials of guidance in the separate schools; and in the fact that only one teacher in nine in the separate schools, as compared with one in five in the combined schools, is new to the school.

Within this size group the major advantage thus seems to belong to the combined organizations.

*Differences between the junior units of schools enrolling more than 1,000 pupils.*—Among the largest schools the advantage of the junior-senior schools in certain features of organization becomes more marked. These schools lead unmistakably in the organization of instruction, in which previously there has been little to choose between the separate and combined schools. In provisions for guidance likewise they definitely surpass the separate schools. In articulation they are farther in the lead than in any of the previous size groups. They surpass the separate schools also in the composition of their teaching staffs, and possibly in their supervisory programs as well, though the major differences in the latter feature relate more directly to differences in kind than to differences in degree.

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Differences favoring the separate schools are found in provisions for admission and promotion, in the time given to extracurriculum activities in the weekly schedule, and in the program of studies. The differences in the program of studies are the most important; they suggest a distinctly more comprehensive offering on the part of the junior high schools than on the part of the combined schools.

Differences not listed in the table confirm the leadership of the separate schools in their arrangements for admission and promotion and in the organization of the program of studies, though in the latter feature the combined schools appear to have a slight advantage in the provision of elective work. Certain other unlisted differences suggest that pupil organizations in the combined schools tend to engage in a somewhat greater number and variety of activities than do those in the separate schools, and that club activities are more carefully systematized. The combined schools show a tendency, moreover, to provide a greater variety of methods of supervision. The latter differences, like the more extensive ones presented in Table 13, are definitely to the advantage of the junior-senior schools.

*Differences persisting throughout the comparisons.*—If the differences between the two types of schools are traced through the four size groups, it will be discovered that certain differences more or less constantly favor either one type or the other. On the one hand the advantage in provisions for admission and promotion and in the comprehensiveness of the program of studies is fairly consistently on the side of the separate junior high schools. On the other hand the junior-senior high schools provide from group to group the more comprehensive arrangements for articulation (except that among the smallest schools the junior high schools afford better means of integration with the elementary school), for extracurriculum activities, and probably for guidance.

Tracing the differences from the lower to the upper groups also discloses the fact that where shifts of advantage occur they tend uniformly to favor the junior-senior schools. This is clearly apparent in certain phases of the organization of instruction, in the composition of the teaching staff, and in arrangements for supervision. Differences in these

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features tend to favor the separate junior high schools among the smallest schools; among the largest schools they favor the combined organizations. Shifts in the *amount* of advantage occur in connection with certain other features. No such shifts are discernible in the two features in which the separate schools hold a fairly constant lead. But in the features in which the combined schools tend to be the more comprehensively organized the extent of their superiority seems to increase with each increase in their size.

So far as the organization of their junior high school grades is concerned, the differences between the two types of schools may therefore be summed up as follows: When separate 3-year junior high schools are compared with junior-senior high schools of equivalent total enrollment, the smallest of the separate schools appear on the whole to be more comprehensively organized than the smallest junior-senior schools. Among schools of the two types enrolling from 300 to 500 pupils there is little ground for believing one of the types of organization to be more comprehensive as a whole than the other. Among schools of more than 500 pupils the junior-senior schools tend to be better organized, except in their provisions for admission and promotion and in the comprehensiveness of their programs of studies. Among the larger schools the general superiority of the junior-senior high schools to separate schools of equivalent size grows markedly with each major increase in enrollment.

These conclusions are necessarily restricted, as has been noted previously, to junior-senior high schools whose total enrollments do not exceed approximately 2,000 pupils. The growing advantage of these schools with each increase in size makes it seem probable that the junior-senior high schools maintain their superiority among schools of at least this maximum of enrollment.

### 3. DIFFERENCES IN THE ORGANIZATION OF THE SENIOR HIGH SCHOOL GRADES

*Tabular presentation of differences.*—Table 14 shows the major differences in practice in the senior high school grades of the two types of schools. The numbers of schools available for study permit comparisons only within the three largest size groups.

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TABLE 14.—Differences between 3-year separate senior high schools and senior high school grades in junior-senior high schools. (Data are for schools having total enrollments of 301-500, 501-1,000, and more than 1,000)

Types of practice showing substantial differences	Critical ratios favoring—					
	Senior high schools			Junior-senior high schools		
	301-500 pupils (18 schools)	501-1,000 pupils (29 schools)	More than 1,000 pupils (38 schools)	301-500 pupils (12 schools)	501-1,000 pupils (20 schools)	More than 1,000 pupils (23 schools)
1	2	3	4	5	6	7
<b>Admission and promotion:</b>						
The school employs—						
Annual promotions.....					3.2	
Semiannual promotions.....		3.0				
<b>Organization of instruction:</b>						
Number of teachers under whom each pupil studies.....					3.0	
Number of grades in which the average teacher gives instruction.....					4.2	
Number of different instructional problems in connection with which standardized tests of achievement are used.....				3.4		
Certain special techniques are used for the socialization of instruction.....					3.7	
<b>Program of studies:</b>						
The program of studies represents a combination of the multiple-curriculum and constants-and-variables types.....			*3.1			
<b>Required courses:</b>						
Physical training is required in grade 12.....					3.2	
<b>Elective courses—</b>						
A course in music is elective—						
In grade 10.....				**4.2		
In grade 12.....				**4.2		
A course in social studies is elective in grade 12.....	**4.1					
<b>Extracurriculum:</b>						
[No differences showing critical ratios as high as 3.0.]						
<b>Guidance:</b>						
Number of provisions for offering guidance to junior high school pupils with respect to senior high school activities.....				3.4		
Junior high school pupils visit the senior high school under the guidance of junior high school principal or teachers.....				3.3		
Senior high school pupils are given guidance with respect to—						
Vocational choices.....						**3.9
Etiquette or "manners".....					3.2	
Number of different methods and materials used in guidance.....						3.6
<b>The guidance program provides for—</b>						
Guidance classes or classes in occupations.....					4.3	
Guidance or home-room periods.....					3.2	
Exploratory and try-out courses.....					3.7	4.3

\* A single star indicates that a given practice is reported by less than 10 per cent of the group of schools reporting that practice least often.  
 \*\* Double stars indicate that a practice is reported by more than 90 per cent of the group of schools reporting that practice most often.

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TABLE 14.—Differences between 3-year separate senior high schools and senior high school grades in junior-senior high schools. (Data are for schools having total enrollments of 301-500, 501-1,000, and more than 1,000)—Continued

Types of practice showing substantial differences	Critical ratios favoring—					
	Senior high schools			Junior-senior high schools		
	301-500 pupils (18 schools)	501-1,000 pupils (29 schools)	More than 1,000 pupils (38 schools)	301-500 pupils (12 schools)	501-1,000 pupils (20 schools)	More than 1,000 pupils (23 schools)
1	2	3	4	5	6	7
<b>Articulation:</b>						
Number of arrangements for articulation of subject matter and methods between junior and senior high school grades.....					3.7	6.6
Junior high school pupils may take certain senior high school subjects in the senior high school.....						3.4
Senior high school pupils may take certain junior high school subjects in the junior high school.....						3.4
The senior high school regularly employs teachers who are at the same time teaching in the junior high school.....				**4.2	**8.2	†11.9
The senior high school employs teachers drawn for temporary service from the junior high school.....					*5.7	
The junior high school employs teachers drawn for temporary service from the senior high school.....					4.5	*3.3
Both junior and senior high school teachers are members of committees on—						
The senior high school curriculum.....						3.0
The junior high school curriculum.....						3.2
Conferences on articulation are held between junior and senior high school teachers.....					**4.3	
Certain general supervisors give attention to the integration of subject matter and teaching methods between junior and senior high schools.....					3.7	
Number of arrangements for articulation of extracurriculum activities between junior and senior high schools.....				7.1	6.9	9.6
<b>Ninth-grade and tenth-grade pupils—</b>						
Engage in about the same number of different extracurriculum activities each week.....					**3.3	**4.6
Devote about the same time to extracurriculum activities each week.....						**4.8
Certain sponsors for senior high school activities serve as sponsors for junior high school activities.....				4.8		*8.7
Both junior and senior high school teachers are members of committees on—						
Senior high school activities.....				*3.5		*4.2
Junior high school activities.....				3.7	*3.2	*4.3
Conferences on the extracurriculum are held between junior and senior high school teachers.....				*4.7	7.4	4.0
Certain supervisors give attention to the integration of junior and senior high school activities.....						3.8

\* A single star indicates that a given practice is reported by less than 10 per cent of the group of schools reporting that practice least often.

\*\* Double stars indicate that a practice is reported by more than 90 per cent of the group of schools reporting that practice most often.

† This practice is reported by more than 90 per cent of the junior-senior schools and by less than 10 per cent of the senior high schools.

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TABLE 14.—Differences between 3-year separate senior high schools and senior high school grades in junior-senior high schools. (Data are for schools having total enrollments of 301-500, 501-1,000, and more than 1,000)—Continued

Types of practice showing substantial differences	Critical ratios favoring—					
	Senior high schools			Junior-senior high schools		
	301-500 pupils (18 schools)	501-1,000 pupils (20 schools)	More than 1,000 pupils (38 schools)	301-500 pupils (12 schools)	501-1,000 pupils (20 schools)	More than 1,000 pupils (28 schools)
1	2	3	4	5	6	7
<b>Articulation.—Continued.</b>						
Number of arrangements for articulation of guidance between junior and senior high schools.....				8.4	6.9	11.5
Certain counselors or advisers serve in both junior and senior high schools.....				3.3	3.3	6.8
Both junior and senior high school teachers are members of committees—						
On senior high school guidance.....				*3.0		
On junior high school guidance.....				*3.6		
Conferences are held between junior and senior high school teacher.—						
On the senior high school guidance program.....				3.7	3.5	4.2
On the junior high school guidance program.....				3.7	4.4	4.7
On the guidance of individual senior high school pupils.....						3.5
On the guidance of individual junior high school pupils.....				3.1		5.5
Certain supervisors give attention to the integration of junior and senior high school guidance.....						4.0
<b>Teaching staff:</b>						
Number of teachers holding college degrees.....		4.9				
<b>Supervision:</b>						
The program of supervision involves individual conferences between teachers and the principal or assistant principal.....	**3.0					
General supervisors are concerned—						
Primarily with the senior high school grades.....	*6.6	4.7				
Equally with the junior and senior high school grades.....				*5.5	*3.1	
Special supervisors are concerned—						
Primarily with the senior high school grades.....	*5.9	4.1				
<b>Housing and equipment:</b>						
The principal reports serious inadequacies in—						
Rooms for home economics.....	3.7					
Provisions for health and physical education.....	3.3					

\* A single star indicates that a given practice is reported by less than 10 per cent of the group of schools reporting that practice least often.  
 \*\* Double stars indicate that a practice is reported by more than 60 per cent of the group of schools reporting that practice most often.

*Differences between the senior units of schools enrolling 301-500 pupils.*—Differences among the smallest schools tend to favor the separate senior high schools only in supervision. There are no clear differences in the methods of supervision employed in the two types of schools. Supervisory assign-



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ments, however, seem more likely to insure a comprehensive program of supervision in the separate senior high schools than in the senior units of the junior-senior schools.

The most evident advantage of the combined schools is in articulation. In provisions for guidance and in housing and equipment, however, the differences in practice between the schools are well worth noting. In the organization of instruction the apparent superiority of the junior-senior schools is increased by a difference not listed in the table—the tendency of these schools to surpass the separate schools in their use of standardized tests of mental ability as well as of achievement. Certain other differences not extensive enough to be listed in detail show that the combined schools in general offer a greater number of elective courses than do the separate schools, and that the variety of extracurriculum activities in which pupils are engaged tends to be greater among the junior-senior schools.

*Differences between the senior units of schools enrolling 501-1,000 pupils.*—Among the schools of the next larger group the senior high schools retain their advantage with respect to supervision, and cease to show a disadvantage in housing and equipment. The separate schools show a substantial advantage also in the proportion of their staffs holding college degrees and a slight advantage in the proportion of teachers who have taught previously in the same schools. The junior-senior schools, however, notably increase their own advantage in articulation and in guidance. Moreover, data not presented in the table show a more extensive use by the combined schools of standardized tests and of various means for adapting instruction to individual differences, in addition to the greater use of the specialized techniques referred to under the organization of instruction. Whether the combined schools hold an advantage because of the fact that their pupils study under a greater number of teachers, and that their teachers give instruction in a larger number of grades, is not altogether clear. In admission and promotion the differences between the schools are not large, since there is evidence that the combined schools tend to supplement their annual promotions by taking account of more factors in making promotions than do the separate schools, which commonly have semiannual promotions. The combined

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schools again show a somewhat greater comprehensiveness in their extracurriculums.

*Differences between the senior units of schools enrolling more than 1,000 pupils.*—Among the largest schools the substantial differences are notably reduced in number. Certain differences not large enough to be listed in detail show that the junior-senior schools make more extensive use of standardized tests of achievement than do the separate schools. Differences showing critical ratios of 3 or more occur only in connection with the program of studies, guidance, and articulation. The difference in the program of studies—the more general adoption of a combination type of program among the separate schools—can hardly be interpreted on the basis of present knowledge as proving either type of school. The differences in guidance and articulation are so definitely to the advantage of the combined schools as to require no special comment.

*Differences persisting throughout the comparisons.*—Had a group of smaller schools been available for comparison, it is possible that the small senior high schools might have shown a slight superiority over the junior-senior schools of equivalent size, corresponding to the superiority of the small junior high schools. The shift in relative advantage from the separate to the combined organizations with increasing size takes place in somewhat the same way in the senior as in the junior units.

In the three groups in which the senior units have been compared, however, the advantage rests consistently with the junior-senior schools. The separate senior high schools maintain a constant superiority of organization in no single feature. Among the smaller schools the senior high schools are more comprehensively organized with respect to supervision, but among the schools enrolling more than 1,000 pupils, this advantage seems to shift to the combined schools. In articulation and guidance the junior-senior schools display an advantage which steadily increases with each major increase in their size. The schools of this type tend to be superior also in the organization of instruction, and they are favored by at least slight differences in the extracurriculum.

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### 4. THE COMPARATIVE MERITS OF THE SEPARATE AND COMBINED ORGANIZATIONS

*Comparison of detailed differences with differences suggested by summary scores.*—The conclusions set forth in the preceding pages depart in no major respects from those based on the summary scores for comprehensiveness of organization discussed in Chapter IV. Analysis of differences among schools of various sizes has, however, brought to light important variations in these differences with changes in enrollment. Such variations must obviously be taken into account in interpreting the results of the comparisons.

*Possible explanations of the difference between the two types of schools.*—Certain factors which presumably explain the differences between separate and combined schools have been discussed in some detail at the conclusion of Section I of this chapter. These factors need not be listed again here. But it should be noted that the advantages to which they give rise on the part of one type of school or the other do not appear to the same extent in comparisons based on total enrollment as in comparisons based on average grade enrollment. The separate schools stand out strongly, in the present comparisons, in a number of features in which they were relatively weak in the comparisons presented in the first section of this chapter; and the junior-senior high schools, though they still maintain a general superiority, hold their advantage somewhat less decisively than on the previous basis.

The explanation of this difference is to be found, of course, in the greater relative size of the separate schools in the present comparisons. Factors which tend to produce differences between the two types of schools are still presumably at work in the organizations. But relatively large enrollment on the part of the separate schools gives these schools an advantage which overshadows certain advantages possessed by the combined schools in their type of organization. Particularly among the smaller schools the influence of size seems to outweigh that of type. Thus it is that the junior-senior schools prove inferior to the separate schools—or at least not superior to them—until they reach a certain size. Beyond that size the effect of enrollment, though still important, is not sufficient completely to overcome the effect of type.

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*Significance of differences among schools of equivalent total enrollments in relation to differences among schools of equivalent enrollments in junior and senior units.*—Differences among schools of equivalent total enrollments need to be interpreted in relation to corresponding differences among schools of equivalent enrollments in junior and senior units. Differences within junior and senior units need to be interpreted, also, in relation to the organization of the secondary division as a whole. Thus interpreted, the differences disclosed in this chapter suggest the following conclusions:

When a school system has fewer than 1,000 pupils in grades 7 to 12, it will do well to provide for all its secondary-school pupils in a single school. A more comprehensive organization is likely to be secured through the establishment of a combined junior-senior high school than through the establishment of a separate junior high school and a separate senior high school.

If, however, circumstances require the establishment of two secondary schools in a system of this size, a separate junior high school and a separate senior high school are likely to be preferable to two junior-senior high schools. With separate junior and senior high schools, provisions for articulation and guidance, and possibly for extracurriculum activities, are likely to suffer. The provisions for other major features of organization in the 6-year secondary division as a whole will in all probability be more comprehensive in separate junior and senior units of fewer than 500 pupils each than in two combined schools of equivalent total size.

When more than 1,000 pupils are to be provided for, a single junior-senior high school is again likely to be superior to a separate junior high school and a separate senior high school. The junior-senior high school can enroll as many as 2,000 pupils without lessening its superiority to the separate schools. There is no doubt a point beyond which increase in the size of a junior-senior high school produces a serious disadvantage in this type of organization. The junior-senior high schools examined in the present study apparently do not reach this point; growth in enrollment to a total of at least 2,000 pupils tends to be accompanied by increasing rather than decreasing superiority.

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If a secondary-school population of more than 1,000 pupils can not be cared for in a single school, two junior-senior high schools are likely to prove superior to one junior high school and one senior high school. Combined schools enrolling more than 500 pupils each may be less comprehensively organized than separate schools of equivalent total size in a few of their junior high school features. In most of these features, however, and in practically all the senior high school features, any major differences which occur are likely to be to the definite advantage of the junior-senior schools.

CHAPTER VI : UNDIVIDED 6-YEAR SCHOOLS COMPARED  
WITH 3-3 JUNIOR-SENIOR HIGH SCHOOLS

1. SCHOOLS REPRESENTED IN THE COMPARISONS

*Basis of comparisons.*—Comparisons between undivided 6-year schools and 3-3 junior-senior high schools may be fairly made on the basis either of equivalent enrollments in junior and senior units separately or of equivalent total enrollments. Because of the external similarity in the types of organization, the two schemes of classification produce essentially the same results. In the present comparisons the schools are grouped on the basis of equivalent enrollments in junior and senior units.

*Numbers of schools in various size groups.*—The numbers of schools available for comparison are shown in Table 15.

TABLE 15.—*Distribution of undivided 6-year schools and 3-3 junior-senior high schools, in terms of average enrollment per grade in junior and senior units*

Type of school	Average enrollment per grade						All groups
	Group 1, 30 or fewer	Group 2, 31-60	Group 3, 61-100	Group 4, 101-200	Group 5, 201-333	Group 6, 334 or more	
1	2	3	4	5	6	7	8
<i>Junior high school grades</i>							
Undivided schools.....	16	22	6	10	4	2	60
Junior-senior schools.....	7	10	15	20	18	3	73
<i>Senior high school grades</i>							
Undivided schools.....	29	13	7	7	3	1	60
Junior-senior schools.....	14	13	12	21	12	1	73

The distribution of the schools is such as to allow separate comparisons of the schools in groups 1 and 2 with respect to practices in their senior units. For comparisons of junior high school practice, certain groups have had to be combined in order to provide sufficiently large numbers of schools. Comparisons of junior units have been made among the schools of groups 1 and 2 together and the schools of groups

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3 and 4 together. Analyses of schools in other groups have not been feasible, because too few schools for group study are included in the separate groups, and because other combinations of groups than those which have been made would produce disproportionate representation of the two types of schools in the groups combined.

*Basis for distinction between junior-senior and undivided schools.*—It should be noted that the schools involved in these comparisons are classed as junior-senior high schools and as undivided 6-year schools on the basis of their own reports. In the check list through which data on individual schools were secured respondents were asked to classify their schools according to type. Certain questions in the body of the check list referred to the classification adopted, and each check list was scrutinized to see that this classification was consistently maintained. The classification of each school was determined, however, by the school's own reply as to its form of organization, and not by subsequent distinctions made by members of the survey staff.

### 2. DIFFERENCES IN THE ORGANIZATION OF THE JUNIOR HIGH SCHOOL GRADES

*Differences among schools enrolling 60 pupils or fewer per grade in their junior units.*—The most extensive differences among the smallest schools are found in the extracurriculum, guidance, articulation, and supervision. (Table 16.<sup>1</sup>) In all these features of organization the advantage seems to rest with the junior-senior schools. In extracurriculum activities and in guidance, minor contrasts in practice indicate an even greater superiority on the part of these schools than that suggested by the practices reported in the table. The differences between the junior-senior schools and the undivided 6-year schools consist not so much in variations in detailed practice as in the greater number of provisions made by the former schools under the phases of organization in question. Differences in certain specific practices—those in particular which relate to the extracurriculum—are, however, worthy of attention.

<sup>1</sup> For an explanation of the symbols used in tabulating these differences, see Ch. V.

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TABLE 16.—Differences between the junior high school grades in undivided 6-year schools and 3-3 junior-senior high schools. (Data are for schools enrolling averages of 60 or fewer and 61-200 pupils per grade)

Types of practice showing substantial differences	Critical ratios favoring—			
	Undivided schools		Junior-senior high schools	
	60 or fewer pupils per grade (38 schools)	61-200 pupils per grade (16 schools)	60 or fewer pupils per grade (17 schools)	61-200 pupils per grade (35 schools)
1	2	3	4	5
<i>Admission and promotion:</i>				
The school employs annual promotions.....				3.0
<i>Organization of instruction:</i> [No differences showing critical ratios as high as 3.0.]				
<i>Program of studies:</i>				
The program of studies includes a general curriculum.....	3.0			
Smith-Hughes aid is used for ninth-grade courses.....				*3.6
<i>Required courses:</i>				
Number of required courses included in ninth-grade offering.....				3.3
Business training is required in grade 8.....				*3.6
<i>Extracurriculum:</i>				
Number of major types of activities included in extracurriculum.....			3.4	
Provision is made for participation in—				
Extracurriculum athletics.....			**4.0	
Graduation exercises.....			3.5	
<i>Guidance:</i>				
Number of provisions for offering guidance to junior high school pupils with respect to junior high school activities.....			4.2	
Number of different methods and materials used in guidance.....		3.8	6.0	
The guidance program provides for visits to homes of pupils by—				
Home-room or class teachers.....			*3.9	
School nurses.....		4.4		
<i>Articulation:</i>				
Number of arrangements for articulation of subject matter and methods between junior and senior high school grades.....			3.8	
Number of arrangements for articulation of guidance between junior and senior high school grades.....			3.1	
<i>Teaching staff:</i>				
16 semester hours or more of professional training are required for appointment to seventh-grade positions.....			3.0	
<i>Supervision:</i>				
Number of different types of supervisory officers.....		3.0	4.2	
Number of different methods of supervision.....			4.1	
<i>Housing and equipment:</i> [No differences showing critical ratios as high as 3.0.]				

\*Practices marked by a single star are reported by less than 10 per cent of the undivided schools. All the practices listed are reported by more than 10 per cent of the junior-senior schools.

\*\*This practice is reported by more than 90 per cent of the junior-senior high schools. None of the practices listed is reported by as many as 90 per cent of the undivided schools.

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Among the features of organization in which less striking differences occur, a certain superiority is shown by the undivided schools.

In the program of studies these schools have a slight advantage through their more frequent provision of a general curriculum. The difference between the schools in this respect is in part due to the fact that the undivided schools tend to employ the multiple curriculum form of organization somewhat more frequently than do the junior-senior high schools, though the latter difference is not great enough to be thoroughly reliable. Differences in the comprehensiveness of the programs of studies in the two types of schools prove to be insignificant when measured in terms of the number of courses offered.

In the composition of the teaching staffs an apparent difference to the advantage of the junior-senior schools is somewhat more than balanced by less extensive differences in favor of the undivided schools. The junior-senior high schools tend, as the table shows, to require professional training for appointment to seventh-grade teaching positions more often than the 6-year schools. Moreover, the junior-senior schools tend somewhat less often to give preference to local residents in making appointments to their staffs. But the undivided schools more frequently demand college graduation for appointment to ninth-grade teaching positions than do the junior-senior schools. In the undivided schools, furthermore, junior high school teachers more often receive salaries equivalent to those paid teachers in the senior units. All the differences together suggest that the undivided schools may be somewhat freer than the junior-senior schools from traditional distinctions in requirements for appointments to grades 7 and 8 as contrasted with grade 9.

The undivided schools seem to be at some advantage also in housing and equipment. Though the difference is not large enough to show a critical ratio of more than 2.1, there is probably significance in the fact that 76 per cent of the 6-year schools, as compared with only 47 per cent of the junior-senior schools, are housed in buildings erected specifically for their use.

One further difference should be recorded which tends to show no clear advantage on the part of either type of school.

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The junior-senior schools universally employ annual promotions, whereas certain of the 6-year schools make at least occasional use of semiannual promotions. This difference, like others which have been commented on above, is not large enough to be entirely reliable.

In sum, the various differences suggest the superiority of the junior-senior schools in most features of organization. Though differences in housing and equipment, in the composition of the teaching staff, and possibly in the organization of the program of studies tend to favor the undivided schools, differences large enough to indicate distinct advantages are without exception favorable to the junior-senior high schools.

*Differences among schools enrolling 61-200 pupils per grade in their junior units.*—In the second group of schools substantial differences no longer appear in connection with the extracurriculum program, articulation, and the composition of the teaching staff. In provisions for admission and promotion the schools tend to be distinguished merely by the more common use of annual promotions on the part of the junior-senior organizations. Extensive and thoroughly reliable differences occur only in the program of studies, guidance, and supervision.

The junior-senior schools offer somewhat more comprehensive programs of studies than do the undivided schools. In particular, they tend to provide a greater amount of required work in the seventh and eighth grades as well as in the ninth, though the differences in the lower grades are not large enough to gain a place in Table 16.

The undivided schools, however, make notably more comprehensive provisions for guidance and for supervision. In guidance their advantage is increased by their apparent tendency to intrust responsibility for guidance to a larger number of different members of the staff. In supervision they commonly employ a somewhat greater number of supervisory methods. Since the differences last mentioned are not large, they are not shown in the table, but it is important to note that they confirm the advantages suggested by the differences which the table does present.

One further unlisted difference affects the teaching staff in the two types of schools. Professional training is less frequently required of teachers in the junior-senior high schools

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than of those in the undivided schools. There is thus some reason to believe that the larger junior-senior high schools possess a disadvantage similar to that noted among the smaller schools of this type, though among the larger schools the handicap probably does not arise from differences in the effects of tradition.

The differences among these larger schools are less easy to summarize than those among the smaller schools. Combining in a single group schools averaging from 61 to 200 pupils in each grade has probably obscured certain shifts of advantage from one type of school to the other. Such shifts might have been more clearly discernible if the schools could have been studied within smaller size intervals. Under the present circumstances the most that can be said with assurance is, first, that important differences between the two types of schools tend to affect fewer features of organization among the larger schools than among the smallest schools, and, second, that the large undivided schools appear to advantage in a somewhat greater number of single features than do the large junior-senior schools.

*Differences persisting throughout the comparisons.*—In spite of the nature of the groupings, certain definite trends are apparent. In their programs of studies the junior-senior high schools are consistently more comprehensively organized than the undivided schools. Except in this feature, the advantage tends to shift from the junior-senior schools to the undivided schools as schools of larger enrollment are considered. In guidance and supervision, in which the small junior-senior schools are superior, the shift is great enough to allow the larger undivided schools to be rated as better organized than the combined schools of equivalent size. In the extracurriculum and in articulation the large undivided schools gain no positive advantage, but the large junior-senior schools lose the advantage which the small schools of this type possess. Changes in relative provisions for admission and promotion can not be clearly traced; they seem, however, to follow a similar course. In the composition of their teaching staffs the undivided schools seem to have throughout at least a slight advantage.

The general tendencies may be briefly stated as follows: The junior units in junior-senior schools of fewer than 60

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pupils per grade tend to be more comprehensively organized than the junior units of undivided schools in a majority of their major features. At no point in the comparisons do the junior high school grades of the undivided schools become unquestionably better organized in general than the corresponding grades in junior-senior high schools. But among the larger schools of both types the undivided schools are in most matters at least as well organized as the combined schools, and probably surpass them in a considerable number of features.

3. DIFFERENCES IN THE ORGANIZATION OF THE SENIOR HIGH SCHOOL GRADES

*The groups of schools included.*—In Table 17 are shown differences between the senior units of the two types of schools, among schools enrolling fewer than 30 pupils per grade, and among schools enrolling 31 to 60 pupils per grade. It is to be noted that the size groups here considered are restricted to smaller schools than certain of those compared in their junior units.

TABLE 17.—Differences between the senior high school grades in undivided 6-year schools and 3-3 junior-senior high schools. (Data are for schools enrolling averages of 30 or fewer and 31-60 pupils per grade)

Types of practice showing substantial differences	Critical ratios favoring—			
	Undivided schools		Junior-senior high schools	
	30 or fewer pupils per grade (29 schools)	31-60 pupils per grade (13 schools)	30 or fewer pupils per grade (14 schools)	31-60 pupils per grade (13 schools)
1	2	3	4	5
<i>Admission and promotion:</i> [No differences showing critical ratios as high as 3.0.]				
<i>Organization of instruction:</i> [No differences showing critical ratios as high as 3.0.]				
<i>Program of studies:</i> The program of studies includes a general curriculum	3.6			
Number of required courses included in eleventh-grade offering			3.0	
<i>Elective courses—</i>				
Number of elective courses included in—				
Tenth-grade offering	4.3			
Eleventh-grade offering	5.9			
Twelfth-grade offering	4.9			

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TABLE 17.—Differences between the senior high school grades in undivided 6-year schools and 3-3 junior-senior high schools. (Data are for schools enrolling averages of 30 or fewer and 31-60 pupils per grade)—Continued

Types of practice showing substantial differences	Critical ratios favoring—			
	Undivided schools		Junior-senior high schools	
	30 or fewer pupils per grade (29 schools)	31-60 pupils per grade (13 schools)	30 or fewer pupils per grade (14 schools)	31-60 pupils per grade (13 schools)
1	2	3	4	5
<i>Program of studies—Continued.</i>				
<i>Elective courses—Continued.</i>				
A course in social studies is elective in grade 11.....	*3.4			
A course in mathematics is elective—				
In grade 10.....	3.4			
In grade 11.....	3.4			
A course in foreign language is elective in grade 11.....	3.1			
A course in business training is elective in grade 10.....	*4.6			
<i>Extracurriculum:</i>				
The club program includes athletic clubs.....			3.1	
Certain club activities have been initiated by the principal or some other supervisory officer without previous action by pupils, teachers, or faculty.....				3.1
<i>Guidance:</i>				
Number of provisions for offering guidance to senior high school pupils.....			3.5	
Pupils receive group guidance during the first few weeks of school from the principal.....			**3.5	
Number of different methods and materials used in guidance.....			3.8	
The guidance program provides for—				
Visits to pupils' homes by home-room or class teachers.....			3.4	
Use of detailed cumulative records concerning individual pupils.....		**3.7		
<i>Articulation:</i>				
[No differences showing critical ratios as high as 3.0.]				
<i>Teaching staff:</i>				
[No differences showing critical ratios as high as 3.0.]				
<i>Supervision:</i>				
Number of different types of supervisory officers.....			3.6	
Number of different methods of supervision.....			3.3	
Emphasis is placed on extension or correspondence study by teachers.....			3.1	
General supervisors are concerned equally with the junior and senior high school grades.....				3.1
Special supervisors are concerned equally with the elementary grades and the senior high school grades.....	*3.3			
<i>Housing and equipment:</i>				
[No differences showing critical ratios as high as 3.0.]				

\* Practices marked by a single star are reported by less than 10 per cent of the junior-senior high schools. All the practices listed are reported by more than 10 per cent of the individual schools.

\*\* Double stars indicate that a given practice is reported by more than 90 per cent of the group of schools reporting that practice most often.

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*Differences among schools enrolling 30 pupils or fewer per grade in their senior units.*—Among the smallest of these schools substantial differences are found in the program of studies, the extracurriculum, guidance, and supervision.

Differences in the program of studies tend unquestionably to favor the undivided schools. The greater number of required courses included in the eleventh-grade offering of the junior-senior schools is more than offset by the more extensive provision which the undivided schools make in all three grades for their elective work. The extent to which differences occur in specific elements of the program is particularly noteworthy.

Differences in the extracurriculum, guidance, and supervision favor the junior-senior schools. In extracurriculum activities the single difference listed is perhaps of no great importance. In guidance and supervision, however, the differences are numerous enough and far-reaching enough to be of considerable significance.

Less extensive differences not listed in the table show that the junior-senior schools are likely in all three grades to place greater emphasis on required work in their programs of studies than is the case among the undivided schools. Such differences tend also to confirm the advantage of the junior-senior schools in the greater scope of their extracurriculums. The differences indicate, furthermore, a greater tendency on the part of the junior-senior schools to employ semiannual promotions, though the schools of both types are generally committed to annual promotions. Finally, the differences show that teachers in the junior and senior units of the undivided schools are more frequently on the same salary basis; teachers in the junior-senior schools are, however, more often selected without special preference for local residents.

Comparison of the senior units in these smallest schools exhibits a less definite superiority on the part of the junior-senior schools than does comparison of the junior units. Though the junior-senior schools hold the advantage in the greater number of features, the features in which differences occur are few, and a number of important differences favor the undivided schools.

*Differences among schools enrolling 31-60 pupils per grade in their senior units.*—The listed differences among the larger

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schools are almost negligible. Certain club activities have more frequently been initiated from above in the junior-senior schools—a somewhat doubtful advantage. The undivided schools make practically universal use of cumulative records in their guidance programs; a lesser proportion of the junior-senior schools do so. General supervisors in the junior-senior high schools more often than in the undivided schools are concerned equally with the junior and senior high school grades, though in most instances the general supervisors divide their attention between these grades in both types of schools. The major differences thus show a division of advantage between the two types of schools, to such an extent that neither type gives evidence of definite superiority.

Unlisted differences are similarly divided between the schools. The junior-senior schools tend to take account of a somewhat greater number of factors in admissions and promotions than do the undivided schools. The undivided schools more frequently offer special college preparatory and normal preparatory curriculums, but the junior-senior schools tend to provide a greater number of elective courses. The undivided schools tend to provide a larger number of activity periods each week in their extracurriculums. The junior-senior schools require professional training of their teachers less often than do the undivided schools.

On the whole, the two types of organization appear to be practically equivalent among schools of this size. The substantial differences affect practices which are of relatively minor importance. Differences in important practices, where such differences occur, are too small to afford a basis for valid distinctions.

*Differences persisting throughout the comparisons.*—The undivided schools show in their senior units the same tendency which they display in their junior units, to become more nearly equivalent to the junior-senior schools as the enrollments of the schools increase. Senior units have been compared only in relatively small schools. There has been no opportunity, therefore, to determine whether the undivided schools show a positive advantage in their senior units among schools as large as the largest of those compared with respect to their junior units. But the trends in the size groups studied suggest that in both units the larger undivided schools

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may be better organized in certain features than the junior-senior schools.

### 4. THE COMPARATIVE MERITS OF THE UNDIVIDED AND JUNIOR-SENIOR ORGANIZATIONS

*Comparison of detailed differences with differences suggested by summary scores.*—The summary scores presented in Chapter IV indicate that the undivided 6-year schools rank close to 3-3 junior-senior high schools of equivalent size in their general comprehensiveness of organization. The comparisons undertaken in the present chapter wholly confirm this conclusion.

The summary scores do not, however, show the increasing advantage among the larger undivided schools which the detailed comparisons reveal. This change in relative advantage may be of no small significance. Most undivided 6-year schools now in existence are of comparatively limited enrollment. The largest among them are probably as a group not much more comprehensively organized than the existing junior-senior schools of equivalent size. But still larger undivided schools, were they to be established, might prove definitely superior in organization to equally larger junior-senior schools. In view of the trends in organization which have been disclosed, this possibility deserves consideration.

*Possible explanations of the differences between the two types of schools.*—Whether large undivided schools would in fact be superior in organization to large junior-senior schools can only be surmised on the basis of present data. The presumable reasons for the differences between the two types of schools may throw some light on this question.

It seems probable that among the larger schools studied the organization of the undivided schools is in certain respects superior to that of the junior-senior schools for much the same reasons which bring about a difference between the latter schools and separate junior and senior high schools. The closer relation between the junior and senior parts of the undivided schools probably stimulates reorganization in both parts, facilitates certain special arrangements, and produces greater uniformity of qualifications in the teaching staff.

That corresponding advantages do not appear among the smallest of the undivided schools may be due to the adminis-

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trative and supervisory arrangements characteristic of these schools. Two facts revealed in Tables 16 and 17 seem of particular significance. First, the very small 6-year schools tend to have fewer different supervisory officers than the junior-senior schools. Second, the senior units in undivided schools compare more favorably than do the junior units with the corresponding units in junior-senior schools. These facts may contain the explanation of the less comprehensive organization of the 6-year schools. Most high-school supervisors and administrators are at present likely to be better versed in the work of one of the two secondary-school units than in that of the other. The principals of small 6-year schools are in all probability chiefly experienced in senior high school procedures. Since these principals' supervisory activities are supplemented from relatively few sources, the attention given to the small 6-year schools is likely to be more directly focused on the upper grades than on the lower.<sup>2</sup> In the junior-senior high schools the division of supervisory responsibilities among a greater number of persons perhaps results in more direct attention to each unit as distinct from the other.<sup>3</sup>

Although this explanation is based on little more than conjecture, it suggests that both large and small undivided schools may tend to be more comprehensively organized than junior-senior schools of equivalent size, *provided one unit in the undivided schools is not allowed to overshadow the other.* The fact that the junior and senior units are more nearly coordinate in junior-senior high schools may represent the chief basis for the present advantage of these schools. If the two units can be kept similarly coordinate in undivided schools, the possible advantages of such schools may be thrown into sharper relief.

\* Cf. Bristow, W. H. *The Junior High School a Factor in the Rural School Problem.* *School Life*, 13: 167-169, May, 1928. "Failure with 6-year schools heretofore has been the failure to recognize the distinct functions of the junior and senior units." (P. 169.)

<sup>2</sup> This explanation can not be confirmed by other objective evidence than that which has been cited. It is directly supported, however, by observations made in the course of visits to a number of outstanding schools chosen for special study.

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## CHAPTER VII : FURTHER COMPARISONS AMONG SCHOOLS OF VARIOUS TYPES

### 1. TWO-YEAR JUNIOR AND 4-YEAR SENIOR HIGH SCHOOLS COMPARED WITH 3-YEAR SCHOOLS

*General nature of comparisons presented in this chapter.*— Because of the great amount of time and labor which they would involve, the study has not been able to make all the detailed comparisons for which data are available. Three-year and six-year schools have been given special attention, since schools of these types occupy an especially prominent place in the movement for reorganization. Among other types of schools the comparisons have had to be limited to those which have promised to be most indicative of widespread tendencies. It has seemed desirable to trace the differences between the 2-4 type of organization and the more common 3-3 arrangement. Hence a group of separate 2-year junior high schools and 4-year senior high schools have been compared with a group of 3-year junior and senior high schools of equivalent size. It has seemed desirable also to contrast reorganized schools at their best with a group of the most comprehensively organized conventional schools. Junior-senior high schools and unreorganized schools have therefore been compared, within the size groups in which both types of schools reach their highest standing as indicated by their summary scores for comprehensiveness. This chapter reports the results of these two sets of comparisons.

*Schools represented in the comparisons of the 6-2-4 plan and the 6-3-3 plan.*—To compensate for the different numbers of grades included in the separate units, 2-year junior and 4-year senior high schools have been compared with 3-year junior and senior schools on the basis of groupings according to average grade enrollments in the junior and senior units. The numbers of schools available for comparison are shown in Table 18. The only size group within which both types of schools are well enough represented to justify detailed comparisons is group 4, containing schools with average enrollments of from 100 to 200 pupils in each grade. Even

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within this group the 4-year senior high schools have fewer representatives than would be desirable. The distributions of the schools do not permit fair combinations of groups, however, so that the comparisons of both junior and senior units have had to be limited to the schools in this single group.

TABLE 18.—*Distribution of 2-year junior and 4-year senior high schools, and of 3-year junior and senior high schools, in terms of average enrollment per grade in junior and senior units*

Type of school	Average enrollment per grade						All groups
	Group 1, 30 or fewer	Group 2, 31-60	Group 3, 61-100	Group 4, 101-200	Group 5, 201-333	Group 6, 334 or more	
1	2	3	4	5	6	7	8
2-year junior high schools..	0	7	5	21	11	3	47
3-year junior high schools..	6	4	18	33	34	38	133
4-year senior high schools..	1	4	14	14	5	4	42
3-year senior high schools..	2	4	6	25	22	38	97

*Differences in the organization of the junior high school grades.*—Table 19 shows the major differences in the practices of the two types of schools in their junior high school grades.<sup>1</sup>

Perhaps the most striking feature of this table is that the differences which it lists are relatively few in number. No substantial differences occur under the extracurriculum, supervision, and housing and equipment. With a single exception, the differences which do occur relate to practices which are common in both types of schools, rather than to practices which are either very rare or almost universal in one of the types.

The 2-year junior high schools have an advantage over the 3-year schools in their arrangements for articulating their extracurriculum activities with the extracurriculum of the elementary school. Curiously enough, this advantage does not appear in their provisions for articulation with the elementary school in subject matter and methods of teaching, or in guidance.

<sup>1</sup> For an explanation of the symbols used in tabulating these differences, see Ch. V

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TABLE 19.—Differences between 2-year and 3-year junior high schools enrolling an average of 101-200 pupils per grade

Types of practice showing substantial differences	Critical ratios favoring—	
	2-year schools (21 schools)	3-year schools (33 schools)
<i>Admission and promotion:</i>		
The school employs—		
Promotion by grade.....	3.0	
Some form of promotion by subject.....		3.0
Promotion is determined by subject completion (based on teachers' marks).....		4.6
<i>Organization of instruction:</i>		
Number of different instructional problems in connection with which standardized tests of achievement are used.....		3.9
<i>Program of studies:</i>		
The program of studies is organized on a single-curriculum basis.....	4.2	
Required courses:		
Number of required courses included in ninth-grade offering (as compared with ninth grade in 4-year senior high school).....		3.1
Elective courses:		
A course in music is elective in grade 8.....		3.1
<i>Extracurriculum:</i>		
[No differences showing critical ratios as high as 3.0]		
<i>Guidance:</i>		
Junior high school pupils are given guidance with respect to choice of junior high school courses.....		4.3
Number of different methods and materials used in guidance.....		3.5
Exploratory and try-out courses are used as a basis for guidance.....		4.3
<i>Articulation:</i>		
Number of arrangements for articulation of subject matter and methods between junior and senior high schools.....		6.0
Last-year junior high school pupils and first-year senior high school pupils have daily schedules providing about the same number of different subjects.....		3.0
Junior high school pupils may take certain senior high school subjects in the senior high school.....		3.1
Senior high school pupils may take certain junior high school subjects in the junior high school.....		5.3
The junior high school offers certain courses offered in the senior high school.....		3.3
The senior high school offers certain courses offered in the junior high school.....		3.1
Number of arrangements for articulation of extracurriculum activities between junior high school and elementary school.....	3.5	
Certain supervisors give attention to the integration of junior high school and elementary school activities.....	3.2	
<i>Teaching staff:</i>		
Less than 15 semester hours of professional training is required for appointment to ninth-grade positions.....		* 2.8
<i>Supervision:</i>		
[No differences showing critical ratios as high as 3.0]		
<i>Housing and equipment:</i>		
[No differences showing critical ratios as high as 3.0]		

\* This practice is reported by less than 10 per cent of the 2-year schools.

The 2-4 systems have a further advantage in that practically none of their number fails to require at least 15 semester

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hours of professional training for appointment to ninth-grade teaching positions. This difference is, of course, based on a comparison between the ninth grades in 3-year junior high schools and in 4-year senior high schools. Differences not large enough to be listed in Table 19 suggest that there is a similar though less extensive distinction in the requirements for appointments in the seventh and eighth grades. As an offset to this advantage, nearly half the teachers in the 3-year schools, as compared with approximately one-fourth the teachers in the 2-year schools, hold college degrees; and 36 per cent of the 3-year schools, as compared with only 14 per cent of the 2-year schools, report salary schedules under which certain junior high school teachers are as well paid as the highest paid senior high school teachers. The latter differences are not, however, sufficiently large in view of the small number of schools considered, to furnish thoroughly reliable distinctions.

The remaining differences are without exception to the credit of the 3-year schools. The advantages possessed by the latter schools in the flexibility of their systems of promotion, in their more frequent use of programs of studies permitting election of courses, and in their more extensive arrangements for guidance and for articulation, are particularly noteworthy. In addition to the differences listed in the table, record should perhaps be made of the fact that 55 per cent of the 3-year schools, as compared with 29 per cent of the 2-year schools, occupy buildings erected specifically for their use; and that the 3-year schools tend less often to report inadequacies in detailed features of their equipment. These differences, like certain of the differences in the qualifications of teachers, are not large enough to be wholly reliable, but they are suggestive of certain handicaps under which the 2-year schools must work.

*Differences in the organization of the senior high school grades.*—The major differences in practice in the senior units of the two types of organization are shown in Table 20. The differences here are even fewer than the differences between the junior units.

The 4-year senior high schools appear to hold an advantage in the organization of instruction, in one phase of the program of studies, and in housing and equipment.

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TABLE 20.—Differences between 4-year and 3-year senior high schools enrolling an average of 101-200 pupils per grade

Types of practice showing substantial differences	Critical ratios favoring—	
	4-year schools (14 schools)	3-year schools (25 schools)
<i>Admission and promotion:</i> [No differences showing critical ratios as high as 3.0.]		
<i>Organization of instruction:</i> Number of different instructional problems in connection with which standardized tests of mental ability are used.....	3.3	
<i>Program of studies:</i> Required courses— Number of required courses included in ninth-grade offering (as compared with ninth grade in 3-year junior high school).....		3.1
Elective courses: A course in agriculture is elective in grade 10.....	*3.0	
<i>Extracurriculum:</i> [No differences showing critical ratios as high as 3.0.]		
<i>Guidance:</i> [No differences showing critical ratios as high as 3.0.]		
<i>Articulation:</i> Number of arrangements for articulation of subject matter and methods between junior and senior high schools.....		3.0
Senior high school pupils may take certain junior high school subjects in the junior high school.....		3.2
<i>Teaching staff:</i> One year's experience is required for appointment to senior high school positions.....		*3.2
<i>Supervision:</i> [No differences showing critical ratios as high as 3.0.]		
<i>Housing and equipment:</i> The principal reports serious inadequacies in rooms for home economics.....		3.4

\* These practices are reported by less than 10 per cent of the group of schools reporting them least often.

Their advantage in the first of these features is enhanced by the fact that they use standardized tests of achievement, as well as tests of intelligence, somewhat more commonly than do the 3-year schools. This difference may possibly be due to their inclusion of the ninth grade, in which such tests are likely to be more frequently employed than in the upper grades.

In the program of studies the advantage of the 4-year schools is not an extensive one. These schools offer agriculture somewhat more frequently than the 3-year schools, not merely in the tenth grade but in the eleventh and twelfth grades also. The difference in the total number of tenth-grade elective courses, however, tends to favor the 3-year

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schools, though not to a statistically reliable degree. As indicated in Table 20, the number of ninth-grade required courses is also greater among the 3-year schools. In other respects the differences in the program of studies are insignificant.

The less frequent reports of inadequacy in the home-economics equipment of the 4-year schools are accompanied by slightly less frequent reports of inadequacy in other types of equipment as well.

To balance the advantages of the 4-year schools, the 3-year senior high schools are favored by substantial differences in articulation and in the composition of their teaching staffs, and by a difference not extensive enough to be wholly reliable, in their provisions for guidance. In articulation the differences reported in the table are supported by smaller differences in arrangements for the integration of extracurriculum activities and of guidance. In the composition of the teaching staff one unlisted difference tends to minimize the apparent advantage which the table shows. Eighteen per cent of the 3-year schools and none of the 4-year schools require less than 15 semester hours of professional training for appointment to teaching positions. In guidance the 3-year schools tend to offer programs of somewhat broader scope than those of the 4-year schools.

The only unequivocal advantages possessed by the senior units of either type of school are found in housing and equipment and in articulation. The 4-year senior high schools seem to be in the lead with respect to the first of these features, and the 3-year senior high schools with respect to the second.

*Comparison of detailed differences with differences suggested by summary scores.*—The findings of this section agree in general with the conclusions based on the summary scores for comprehensiveness of organization.<sup>2</sup> Both sets of conclusions indicate that the 2-year junior high schools have somewhat fewer points of advantage than the separate 3-year schools, and that the 4-year and 3-year senior high schools in general are not greatly different from each other.

The findings of this section do not coincide with the summary scores, however, as to the particular features of

<sup>2</sup> See Fig. 8, Ch. IV.

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organization in which the two types of schools differ. This discrepancy is chiefly due to the fact that the separate sets of conclusions are based on different groups of schools. The summary scores were computed from schools in all six size groups, whereas the comparisons in this section have taken account only of the schools which fall in group 4. To check the trustworthiness of the scoring system, scores have been separately computed for the single size group of schools here analyzed. The agreement between these scores and the conclusions drawn from the detailed comparisons is practically complete. It is evident, therefore, that while 2-4 system and 3-3 system schools in general may be expected to differ in much the same *degree* as the schools which have been analyzed, the schools in group 4 do not provide representative examples of the *kinds* of differences which may occur.

*Possible explanations of the differences between the two types of schools.*—This latter fact is of some significance. It suggests marked variability in the organization of at least one of the two types of schools. That such variability is likely to be less characteristic of the 3-year schools than of the 2-year and 4-year schools is suggested by the results of preceding comparisons in which the 3-year schools have figured. Contrasted with junior-senior high schools, the 3-year schools have displayed more or less constant qualities—qualities which differ relatively from those of the junior-senior schools when different size groups are considered, but which maintain a fairly consistent direction.<sup>3</sup> In all probability, therefore, fluctuations in the differences between the 3-year and the 2-year and 4-year schools are due chiefly to lack of constancy in the latter rather than in the former group.

Because of the small numbers of 2-year and 4-year schools involved, this conclusion can not be thoroughly substantiated. Judgments based upon it must therefore be highly tentative. It suggests, however, a major reason for the differences between the two types of schools.

The 3-year schools are found in systems so far committed to reorganization that they have undertaken a complete regrouping of grades in order to further their purposes. The new grade combinations have no doubt facilitated important changes in internal organization. Perhaps more important

<sup>3</sup> See Ch. V.

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than the grade combinations in themselves, however, has been the attitude toward reorganization which has accompanied the changes. Having been willing to make drastic external changes, the systems in question have presumably been prone to make internal changes as well.

The 2-year and 4-year schools, in contrast, are to be found in systems which have been unable or unwilling to make the external changes which reorganization implies. In certain instances these schools have unquestionably accomplished quite as much internal reorganization as most of the 3-year schools. In other instances there is more than a possibility that the 2-year and 4-year schools have been content to be called junior and senior high schools, and finding themselves still in practically the traditional external mould, have departed only in minor ways from traditional internal procedures. Unevenness in organization has been a natural result. Not having been forced to reform because of new external arrangements, the extent to which these schools have actually reformed has probably varied more greatly than among the 3-year organizations.

The salient feature of this explanation is that it attaches less importance to form of organization as such than to the adoption of a form which will encourage desirable internal changes. Valuable though certain grade combinations may be, it is probable that they are in themselves less significant than the attitude toward reorganization which underlies them.

### 2. CONVENTIONALLY ORGANIZED SCHOOLS COMPARED WITH 3-3 JUNIOR-SENIOR HIGH SCHOOLS

*Schools represented in the comparisons.*—The numbers of conventionally organized schools and of junior-senior high schools available for comparison, grouped according to average enrollments per grade in the junior and senior units, are shown in Table 21.

The 4-year high schools represented in this table have been classified according to enrollments in their three upper grades only. Since the ninth grade is ordinarily larger than the grades above, these schools have some advantage over the reorganized schools in their average grade enrollments. Grouping the schools on the basis used seemed fairer to the

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conventional schools, however, than a grouping based on the conventional schools' enrollment in all four grades. The latter grouping would have put the 4-year high schools at a disadvantage in the grades directly compared with the senior units of the junior-senior schools.

TABLE 21.—Distribution of conventionally organized schools and 3-3 junior-senior high schools, in terms of average enrollment per grade in junior and senior units

Type of school	Average enrollment per grade						All groups
	Group 1, 30 or fewer	Group 2, 31-60	Group 3, 61-100	Group 4, 101-200	Group 5, 201-333	Group 6, 334 or more	
1	2	3	4	5	6	7	8
<i>Junior high school grades</i>							
Elementary schools.....	3	4	8	11	3	1	30
Junior-senior schools.....	7	10	15	20	18	3	73
<i>Senior high school grades</i>							
4-year high schools.....	12	11	6	9	9	5	52
Junior-senior schools.....	14	13	12	21	12	1	73

The elementary schools are so few that an adequately large size group for comparative purposes is available only by combining two of the separate groups shown in Table 21. Groups 3 and 4 include the schools which, according to their summary scores, are the most comprehensively organized of the elementary schools represented in the study. Fortunately the elementary schools falling in these groups are divided between the two groups in approximately the same proportions as the junior units of the junior-senior high schools. The combined groups have therefore been used in the comparisons.

The 4-year high schools are so distributed that the schools in the first two of the separate size groups might fairly be compared with the senior units of the junior-senior schools. The 4-year high schools, however, like the elementary schools, attain a higher standing in groups 3 and 4 than in the other groups. Both for this reason and in order to show the characteristics of junior and senior units of approximately the same average grade enrollment, the comparisons in the

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senior high school grades have also been based on groups 3 and 4 together.

It should be added that the junior-senior schools as well as the conventional schools appear at their best in the groups selected for study. The comparisons which follow therefore represent the differences between well-organized schools of both types.

*Differences in the organization of the junior high school grades.*—In Table 22 are listed the major differences in practice in the junior high school grades under the two types of organization. Noteworthy differences appear in connection with every one of the nine major features. The differences are so numerous that they can best be discussed under their various heads, with comments under each head on whatever related but less extensive differences have been disclosed in the complete analysis.

TABLE 22.—Differences between the junior high school grades of 3-8 junior-senior high schools and conventionally organized schools. (Data are for schools enrolling an average of 61-200 pupils per grade)

Types of practice showing substantial differences	Critical ratios favoring—	
	Con-ventional schools (19 schools)	Junior-senior high schools (35 schools)
<i>Admission and promotion:</i>		
The school employs—		
Annual promotions.....	*	4.5
Semiannual promotions.....	4.7	
Promotion by grade.....	5.0	
Some form of promotion by subject.....		5.0
Promotion is determined by subject completion (based on teachers' marks).....		3.6
<i>Organization of instruction:</i>		
Length of school day.....		4.9
Pupils are grouped according to specialized curriculums.....		*3.5
<i>Program of studies:</i>		
The program of studies is organized on—		
A single-curriculum basis.....	*9.2	
A multiple-curriculum basis.....		*4.0
Smith-Hughes aid is being utilized.....		*4.3
Required courses:		
Fine arts is required—		
In grade 7.....	**3.5	
In grade 8.....	3.6	
Music is required—		
In grade 7.....	**3.7	
In grade 8.....	**4.3	
Business training is required in grade 8.....		*3.6

\*A single star indicates that a given practice is reported by less than 10 per cent of the group of schools reporting that practice least often.

\*\*Double stars indicate that a practice is reported by more than 90 per cent of the group of schools reporting that practice most often.

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TABLE 22.—Differences between the junior high school grades of 3-3 junior-senior high schools and conventionally organized schools. (Data are for schools enrolling an average of 61-200 pupils per grade)—Con.

Types of practice showing substantial differences	Critical ratios favoring—	
	Conventional schools (19 schools)	Junior-senior high schools (35 schools)
<i>Program of studies—Continued.</i>		
Elective courses—		
Number of elective courses included:		
In seventh-grade offering.....		4.9
In eighth-grade offering.....		6.5
In ninth-grade offering (as compared with ninth grade in 4-year high school).....		3.9
A course in music is elective—		
In grade 7.....		5.6
In grade 8.....		5.8
<i>Extracurriculum:</i>		
In the general pupil organization, certain pupil officers or representatives are appointed by the faculty.....	4.6	
Certain powers and duties of the pupil organization are proposed by the faculty.....	3.1	
Number of major types of club activities.....		3.2
The club program includes—		
Debating or dramatic clubs.....		3.1
Athletic clubs.....		3.3
<i>Guidance:</i>		
Junior high school pupils receive group guidance throughout the junior high school period from class teachers.....		*4.4
Pupils receive guidance with respect to choice of junior high school courses.....		3.1
The school relies in its guidance program on cooperation from all teachers.....		*4.9
The guidance program includes guidance classes or classes in occupations.....		3.9
<i>Articulation:</i>		
Number of arrangements for articulation of subject matter and methods—		
Between junior high and elementary grades.....	5.2	
Conferences dealing with articulation of subject matter and methods are held between junior high school and elementary school teachers.....	3.0	
Between junior and senior high school grades.....		13.4
Last-year junior high school pupils and first-year senior high school pupils—		
Have daily schedules providing about the same number of different subjects.....		5.8
Are taught by about the same number of different teachers.....		6.0
Junior high school pupils may take certain senior high school subjects in the senior high school.....		*5.4
Senior high school pupils may take certain junior high school subjects in the junior high school.....		*11.4
The senior high school regularly employs teachers who are at the same time teaching in the junior high school.....		*9.4
The senior high school employs teachers drawn for temporary service from the junior high school.....		*3.5
The junior high school employs teachers drawn for temporary service from the senior high school.....		*0.8
Both junior and senior high school teachers are members of committees on—		
The senior high school curriculum.....		3.4
The junior high school curriculum.....		3.1
Junior high school teachers are members of committees on methods of teaching in the senior high school.....		*3.9
Conferences on articulation are held between junior and senior high school teachers.....		*3.0

\* A single star indicates that a given practice is reported by less than 10 per cent of the group of schools reporting that practice least often.

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TABLE 22.—Differences between the junior high school grades of 3-3 junior-senior high schools and conventionally organized schools. (Data are for schools enrolling an average of 61-200 pupils per grade)—Con.

Types of practice showing substantial differences	Critical ratios favoring—	
	Conventional schools (19 schools)	Junior-senior high schools (35 schools)
<i>Articulation—Continued.</i>		
Number of arrangements for articulation of extracurriculum activities—		
Between junior high and elementary grades	13.8	.....
Certain of the activities engaged in by seventh-grade pupils have been engaged in by those same pupils in the sixth grade	3.6	.....
Certain sponsors for junior high school activities serve as sponsors for elementary school activities	*6.1	.....
Between junior and senior high school grades		10.5
Last-year junior high school pupils and first-year senior high school pupils—		
Engage in certain activities which are of the same general type in both schools		**3.8
Engage in about the same number of different activities each week		**3.8
Devote about the same time to extracurriculum activities each week		**5.2
Are granted about the same freedom in their choice of activities		**4.5
Certain sponsors for senior high school activities serve as sponsors for junior high school activities		3.8
Both junior and senior high school teachers are members of committees on—		
Senior high school activities		*4.6
Junior high school activities		*6.1
Conferences are held between junior and senior high school teachers—		
On the senior high school guidance program		*5.1
On the junior high school guidance program		4.3
Conferences on the guidance of individual senior high school pupils are held between junior and senior high school teachers		4.1
Certain supervisors give attention to the integration of junior and senior high school guidance		*7.1
<i>Teaching staff:</i>		
Relative number of men teachers		5.0
Relative number of teachers who have held previous positions in the same school	4.7	.....
Relative number of teachers holding college degrees		7.8
College graduation is required for appointment to ninth-grade teaching positions	**3.0	.....
Certain teachers employed in the junior high school receive salaries as high as the highest in the senior high school		*4.1
<i>Supervision:</i>		
The supervisory staff includes directors or supervisors of special subjects	3.1	.....
Methods of supervision involve individual conferences between teachers and—		
Superintendent, director of secondary education, or assistant superintendent		*8.5
Special supervisors	3.3	.....
General supervisors are concerned—		
Primarily with the senior high school grades		*3.0
Equally with the junior and senior high school grades		*4.2
Equally with the elementary grades and the junior high school grades	3.0	.....
<i>Housing and equipment:</i>		
The school is housed in a building containing only its own grades		**5.5

\* A single star indicates that a given practice is reported by less than 10 per cent of the group of schools reporting that practice least often.

\*\* Double stars indicate that a practice is reported by more than 90 per cent of the group of schools reporting that practice most often.

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In admission and promotion the two types of schools are chiefly distinguished through the more frequent adoption of semiannual promotions coupled with promotion by grade in the elementary schools, as contrasted with annual promotions and promotion by subject in the reorganized schools. Neither type of school follows one or the other practice with complete uniformity; each scheme of promotion is found in a considerable number of schools of both types. The differences are in themselves perhaps differences of kind rather than of degree. Unlisted differences show, moreover, that the elementary schools tend to take a larger number of factors into account in both admissions and promotions than do the junior high schools, so that the advantage with respect to flexibility is by no means decided by the junior high schools' more frequent use of promotion by subject.

In the organization of instruction the more common use of homogeneous grouping in the reorganized schools is accompanied by a tendency on the part of these schools to make more extensive use of tests of mental ability than is the case in the conventional schools. Though the difference is not a completely reliable one, the junior high schools appear to surpass the conventional schools in their use of tests for research and experimentation in particular. The junior high schools also provide schedules which allow more extensive specialization by individual teachers, and which involve the teaching of somewhat smaller classes. Though the school day is longer in the reorganized schools than in the conventional schools, the latter report a somewhat longer school year.

Differences in the program of studies can be briefly characterized in terms of differing emphases on required and elective work in the two types of schools. The elementary schools, organized in the majority of cases on a single-curriculum basis, provide a somewhat longer list of required courses than do the junior high schools. The junior high schools have in every instance adopted a form of curriculum organization which provides for elective courses. When all three grades are taken into account, the total program of the reorganized schools tends to be somewhat broader than that of the conventional schools. The reorganized schools achieve this greater breadth of program chiefly through their more

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frequent offering of eighth-grade business training, seventh-grade and eighth-grade foreign language, and in a few schools seventh-grade and eighth-grade agriculture. Significantly, more of the junior-senior schools provide for Smith-Hughes work than is the case among the conventional schools, even when the ninth-grade high-school offerings are taken into account. From the standpoint both of comprehensiveness and of flexibility, therefore, the reorganized-school programs of studies seem to be definitely superior to those of the conventional schools.

Differences in the extracurriculums of the schools are less extensive than differences in the programs of studies. The thoroughly substantial differences indicate a greater tendency on the part of the conventional schools to set up formal faculty restrictions on pupil activities. This tendency is perhaps in part justifiable on account of the lesser maturity of the elementary-school pupils; the elementary schools, containing no ninth grades, can not rely on the influence of the older pupils found in the junior-senior high schools. A similar tendency is, however, practically universal in the 4-year high schools.<sup>4</sup> Hence it seems probable that the unreorganized schools have in general adopted a more conservative attitude toward their extracurriculum work than have the junior-senior high schools. Such a conclusion is consistent with the greater variety of club activities provided in the latter schools. It is consistent also with less extensive differences between the two types of schools—differences which, taken in conjunction with the more reliable differences presented in Table 22, indicate that the junior-senior high schools offer in general the more comprehensive and flexible extracurriculums.

The differences in guidance uniformly favor the reorganized schools. Particularly worth noting is the fact that continuous group guidance from class teachers and plans for guidance which enlist the cooperation of all the teachers are practically absent in the conventional schools. The greater attention to guidance classes and classes in occupations in the junior-senior high schools is also significant. Differences in the guidance program are restricted, however, to differences in guidance *within* the junior high school grades; the arrange-

<sup>4</sup> See Table 23.

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ments for guidance of elementary-school pupils about to enter the junior high school grades, and of junior high school pupils with respect to senior high school work, are practically indistinguishable in the two types of schools.

Arrangements for articulation between the sixth and seventh grades are more numerous in the elementary schools than in the junior-senior high schools. Though differences are few with respect to specific arrangements for articulation at this point, the elementary schools give greater attention to the integration of all three of the types of work in which articulation is most needed—subject matter and methods of teaching, extracurriculum activities, and guidance.

For making a gradual transition between the ninth and tenth grades, the arrangements offered by the junior-senior schools are far more numerous than those which the conventional schools provide between the eighth and ninth grades. A majority of the things commonly done by the reorganized schools in this connection are done by almost none of the conventional schools. Certain practices found almost universally in the reorganized schools are by no means universal in the conventional schools. The differences favoring the junior-senior high schools in their articulation between the lower and upper secondary-school units are distinctly greater than the differences favoring the conventional school in its articulation between the sixth and seventh grades.

In the composition of the teaching staffs of the two types of schools, certain less extensive differences emphasize the differences presented in Table 22. Practically all the conventional schools require professional training of their ninth-grade teachers; only three-fourths of the reorganized schools insist upon such training. Forty-two per cent of the conventional schools demand two or more years of experience for appointment to seventh- and eighth-grade teaching positions; only 13 per cent of the reorganized schools have established this requirement. The reorganized schools are more prone to favor nonlocal residents or to make no distinction between local and nonlocal residents in all their appointments than are the conventional schools. To these differences must be added on the one hand the greater emphasis which the conventional schools place on college graduation for appointment to ninth-grade positions, and on the other hand the greater

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uniformity in junior and senior high school salary scales provided in the reorganized schools. In the light of all these differences together, the general basis for the distinction between the schools becomes apparent. The reorganized schools, presumably seeking teachers who can render effective service under the revised program which reorganization has brought forth, have adopted less rigid requirements than those to which the conventional schools adhere. At the same time the reorganized schools have more often extended their high-school salary schedules to apply to teachers in the lower secondary-school unit. The conventional schools have tended to retain the more usual requirements as to professional and academic training. In particular they have more frequently kept the traditional distinction between elementary-school and secondary-school requirements, thus producing a notable differentiation between the seventh and eighth grades, and the ninth. In the requirements which the schools set up and in the opportunities which they offer to teachers of other than orthodox background, the junior-senior high schools thus tend to be more liberal than the conventional schools.

The supervisory organization of the schools provides a somewhat similar basis for distinction. In the number of different types of supervisory officers employed, and in the number of different methods of supervision used, the schools offer no important contrasts. They differ, however, in the character of the supervisory program. Supervision in the elementary schools places large reliance on contacts between teachers and certain supervisors of special subjects. The latter are frequently as much concerned with problems in the lower elementary grades as with problems in the seventh and eighth grades; their perspective is likely to be that of the elementary school. Supervision in the reorganized schools is more frequently carried on through one or more general supervisors who are concerned with the secondary-school program as a whole. The reorganized schools are thus more likely to substitute a secondary-school point of view for a traditional elementary-school point of view in the supervision of their lower units. Though the change implied may not always be advantageous, it probably results in greater freedom to introduce new methods and materials of teaching

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than is to be found in most conventionally organized seventh and eighth grades.

The final difference between the schools consists in the more frequent provision for the junior-senior high schools of buildings containing only secondary-school grades—an obvious consequence of the types of organization being compared. In the general equipment of the two types of schools no significant differences appear. The difference which does occur is important chiefly because it emphasizes the difference in the points of view which necessarily govern the work of the two schools. Through their housing as well as through their supervision and their standards for the selection of teachers, the seventh and eighth grades under the conventional organization are closely bound to elementary-school traditions. Through these same features of organization the lower grades in the reorganized school are constantly subjected to evaluation from a secondary-school standpoint.

To summarize the advantages of each type of organization in terms of the major features in which the schools of this size group excel: The seventh and eighth grades in the conventional schools are superior to the junior units of the reorganized schools in their provisions for articulation with the lower elementary grades. The conventional schools provide arrangements different from those of the reorganized schools in admission and promotion, in requirements for the selection of teachers, in supervision, and in housing and equipment. In the main, these differences seem to result from adherence by the conventional schools to an elementary-school tradition, as contrasted with the adoption by the reorganized schools of a secondary-school point of view. The reorganized schools surpass the conventional schools in their arrangements for the organization of instruction, in the comprehensiveness and flexibility of their programs of studies, in the scope of their extracurriculums, in their programs of guidance, and in their provisions for articulation with the upper secondary-school grades.

*Differences in the organization of the senior high school grades.*—The substantial differences in practice between the conventional high schools and the senior units of the junior-senior high schools are shown in Table 23. Though these differences are not so numerous as the differences between

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TABLE 23.—Differences between the senior high school grades of 3-3 junior-senior high schools and conventionally organized high schools (Data are for schools enrolling an average of 61-200 pupils per grade)

Types of practice showing substantial differences	Critical ratios favoring—	
	Conventional schools (15 schools)	Junior-senior high schools (33 schools)
<i>Admission and promotion:</i>		
Number of factors taken into account in determining admissions.....		4.0
Admission is based in part on—		
Intelligence quotients.....		* 3.8
Chronological age.....		* 4.1
Promotion is based in part on—		
Chronological age.....		* 3.3
Degree of physical maturity.....		* 3.0
<i>Organization of instruction:</i>		
Pupils are grouped according to ability.....	3.5	
<i>Program of studies:</i>		
Elective courses—		
Number of elective courses included in ninth-grade offering (as compared with ninth grade in 4-year high school).....		3.9
A course in home economics is elective—		
In grade 11.....		4.1
In grade 12.....		3.2
<i>Extracurriculum:</i>		
The form of the pupil organization has recently been changed.....		* 8.1
Certain powers and duties of the pupil organization are proposed by the faculty.....	** 4.1	
The pupil organization is engaged in promoting—		
Health.....		** 5.0
School publicity.....		* 8.1
Scholarship.....		* 6.4
Introduction of new students.....		* 4.5
The pupil organization is engaged in regulating school publications.....	** 5.4	
Certain club activities have been initiated by an interested teacher.....	** 3.3	
<i>Guidance:</i>		
During the first few weeks of school, pupils receive both group and individual guidance from a special counselor.....		* 3.0
Throughout the senior high school period, pupils receive—		
Group guidance from a special counselor.....		* 3.8
Individual guidance from a special counselor.....		* 4.7
The school employs a special counselor.....		* 4.9
Number of different methods and materials used in guidance.....		4.2
<i>Articulation:</i>		
Conferences on articulation of subject matter and methods are held between junior and senior high school teachers.....		** 4.1
Number of arrangements for articulation of guidance between junior and senior high school grades.....		3.9
Conferences are held between junior and senior high school teachers—		
On the senior high school guidance program.....		3.1
On the junior high school guidance program.....		3.3
<i>Teaching staff:</i>		
[No differences showing critical ratios as high as 3.0.]		
<i>Supervision:</i>		
Number of different types of supervisory officers.....		3.1
The supervisory staff includes a director, supervisor, or assistant superintendent in general charge of secondary education.....		* 3.7
General supervisors are concerned equally with the junior and senior high school grades.....		* 3.0
<i>Housing and equipment:</i>		
The school is housed in a building erected specifically for its present use.....	** 3.0	

\* Practices marked by a single star are reported by less than 10 per cent of the conventional schools. All the practices listed are reported by more than 10 per cent of the junior-senior schools.

\*\* Double stars indicate that a given practice is reported by more than 90 per cent of the group of schools reporting that practice most often.

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the junior units, they affect nearly all the major features of organization.

In admission and promotion it is significant that the reorganized schools not merely tend to take more factors into account than do the conventional schools; but recognize certain factors which are given attention in almost none of the conventional schools. The senior units of the junior-senior high schools approach the flexibility in admission and promotion which is characteristic of their junior units. The 4-year high schools not merely lag behind the reorganized schools in this matter, but display less flexibility than the upper grades of the conventional elementary schools.

The 4-year high schools, like the elementary schools, report a somewhat longer school year than do the reorganized schools, though the difference in this respect is not extensive. The fact that pupils are more often grouped according to ability in the 4-year schools than in the reorganized schools is perhaps due to the greater size of the former schools through their inclusion of the ninth grade. The reorganized schools make somewhat more extensive use of standardized achievement tests than do the conventional schools. In the use of tests of mental ability and in the number of provisions which they make for individual differences the two types of schools follow substantially the same practices. Thus neither type seems to have a clear advantage in the organization of instruction as a whole.

In the program of studies there is less difference between the schools than was apparent in their junior units. Within the grades above the ninth neither type of school offers a much more extensive program than the other. The reorganized schools, however, in addition to providing more frequently for elective courses in home economics, more often offer specialized curriculums in industrial arts, home economics, and music. The differences with respect to the latter offerings are not large enough to be thoroughly reliable, but they suggest more direct attention on the part of the junior-senior schools to nonacademic elements in the program of studies.

The more conservative attitude of the conventional schools toward the extracurriculum has already been commented on in connection with the elementary schools. Certain types

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of activities are apparently better established in the conventional schools than among the reorganized schools; but the latter commonly give attention in their extracurriculums to various problems rarely dealt with on an extracurriculum basis in the conventional schools. In general the junior-senior high schools have the more comprehensive programs.

In guidance the differences all favor the reorganized schools. The most important differences are two: The junior-senior high schools frequently employ a special guidance counselor, whereas a special counselor is rarely found in the conventional schools; and the junior-senior schools employ a greater number of different methods and materials in guidance. Certain not wholly reliable differences appear also, to the advantage of the reorganized schools, in the number of different problems dealt with in guidance.

The differences in articulation are especially noteworthy. Conventional high schools were asked to report on their provisions for articulation between the ninth and tenth grades. The differences listed in Table 23 therefore represent differences between the arrangements for articulation which the 4-year high schools make within the upper high-school unit, and the arrangements which the reorganized schools make for articulation between the upper and lower units. The junior-senior high schools lead not merely in the practices reported in the table, but to a less extensive but still important degree in the number of their arrangements for integrating subject matter and methods of teaching and extracurriculum activities. This fact offers significant indication of what may fairly be interpreted as a greater consciousness of the problem of integration on the part of the reorganized schools.

No thoroughly reliable differences are apparent in the composition of the teaching staff. The conventional schools are more commonly insistent on college graduation as a requirement for appointment to teaching positions, and a somewhat larger proportion of their teachers hold college degrees. The conventional schools are at the same time less inclined to give preference to local residents. The junior-senior high schools more frequently report certain junior high school teachers as well paid as the highest paid senior high school teachers. In these differences there is

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perhaps some evidence of the greater conservatism noticeable among the conventional elementary schools, but the differences between the senior high school staffs are less capable of interpretation on this basis than the differences between the junior units.

In supervision the salient differences consist in the employment of a more elaborate supervisory staff by the reorganized schools, and the responsibility of supervisors in these schools for six grades instead of four. The reorganized schools tend to employ a greater number of different methods of supervision than the conventional schools, though the differences in this respect are less extensive than those noted in Table 23.

In housing and equipment neither type of school seems to have a general advantage over the other. The fact that the conventional schools in all cases occupy buildings erected specifically for them is no indication of their better equipment; the reorganized schools which have not had new buildings erected for them are housed in buildings originally planned to accommodate conventional schools.

Summed up in terms of the major advantages of each type of school, the differences between the senior units appear as follows: The 4-year high schools included in this size group are superior to the junior-senior high schools in none of their major features. In the organization of instruction, the composition of the teaching staff, and housing and equipment differences appear between the schools which are extensive enough to deserve notice, but which are not clearly to the advantage of either type of school. As in the case of the lower grades, differences of this sort are perhaps to be explained by the continuance among the conventional schools of certain traditional standards which have been modified in the reorganized schools. The junior-senior high schools provide a more comprehensive or more flexible organization than that of the conventional schools in connection with each of the remaining major features—admission and promotion, the program of studies, the extracurriculum, guidance, articulation, and supervision.

*Comparison of detailed differences with differences suggested by summary scores.*—Since the schools here compared are drawn from the best organized schools of each type, the

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results of these comparisons can not be expected to parallel exactly the results of comparisons between thoroughly representative groups of conventional schools and of junior-senior high schools. Still less can the comparisons be regarded as indicating the differences between conventional schools in general and reorganized schools in general. The results of the comparisons do in fact differ from the results obtained for the larger groups through the use of summary scores.<sup>5</sup>

As a test of the significance of the summary ratings, scores have been separately tabulated for the conventional and reorganized schools which have here been compared in detail. The conclusions based on these tabulations differ in one major point from the conclusions supported by the detailed comparisons. This point concerns the program of studies. Though the scores offer a reasonably accurate index of the comprehensiveness of the program in terms of the number of different offerings provided, they fail to give due recognition to opportunities for election. The scores for the junior high school program in particular underrate the flexibility of organization in the junior-senior high schools. Hence, in comparing the scores for the program of studies in conventional schools and junior-senior high schools, the same caution needs to be observed that is necessary in similar comparisons between separate and combined reorganized schools.<sup>6</sup> In both cases the junior-senior high schools deserve a higher standing in their programs of studies than the summary scores tend to indicate.

*Possible explanations of the differences between the two types of schools.*—The differences between conventional schools and junior-senior high schools which are revealed by the detailed comparisons are of peculiar interest. The conventional elementary schools may be assumed to stand well above the average of their type; they not merely represent, like the reorganized schools, an outstanding group among all the schools of their type which the study has investigated, but their number includes 9 schools, of a total of 19, which form parts of systems in which other schools have been reorgan-

<sup>5</sup> See Fig. 8, Ch. IV.

<sup>6</sup> See the concluding section of Ch. V.

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ized.<sup>7</sup> Though the 4-year high schools have presumably not been so directly affected by reorganization as have certain of the elementary schools, they also consist of outstanding schools. If conventional schools in general can be expected to match the comprehensiveness of organization attained by reorganized schools of equivalent size, these schools should be able to do so. Yet these schools are in only a few respects as comprehensively organized as the junior-senior high schools with which they have been compared.

The superiority of the junior-senior schools to the conventional schools is no doubt in part to be explained in terms of the factors which give the latter schools an advantage over other types of reorganized schools. As suggested in a preceding chapter, the combination of the six upper grades in a single organization seems to stimulate reorganization in both junior and senior units, to facilitate desirable arrangements which might not otherwise be made, to free the lower grades from certain hampering effects of tradition. The fact that the six upper grades are brought together under the junior-senior organization, whereas these grades are broken into two sharply separate divisions under the conventional organization, thus furnishes an obvious explanation of the differing internal arrangements provided.

This explanation probably does not completely account, however, for the differences between the two types of schools. In discussing the contrasts between 2-4-system and 3-3-system reorganized schools it was suggested that the matter of attitude toward reorganization might be quite as important as the adoption of a particular grouping of grades. Attitude would seem to be an even more significant factor among the conventionally organized schools than among the 2-4-system schools. In the organization of their teaching staffs and in their arrangements for supervision the conventional schools which have been examined have offered unmistakable evidence of a tendency not to change—to hold to traditional standards and traditional arrangements. The attitude of teachers and supervisors must inevitably determine the schools' provisions for other features of its organization. This attitude, even more than the disadvantage of the traditional grade groupings, may explain the failure of the

<sup>7</sup> See Ch. I, sec. 4.

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conventional schools to provide an organization as comprehensive as that of reorganized schools of equivalent size.<sup>8</sup>

Compared with reorganized schools in general—perhaps especially with separate junior and senior high schools—it seems probable that the conservatism which is associated with the conventional grade grouping is the chief factor accounting for the less comprehensive organization of the conventional schools. Compared with junior-senior high schools or undivided 6-year schools, the conventional schools are probably handicapped not only by their conservatism, but by tangible disadvantages in their forms of grade grouping.

<sup>8</sup> Four of the conventional schools which compared most favorably with reorganized schools were visited by members of the survey staff. The outstanding handicap of these schools seemed to be their inability to free themselves from traditional procedures. Listed as elementary schools and 4-year high schools, they were bound by both State and local regulations applying to such schools. They found it almost impossible, in consequence, to gain approval for various procedures which would have been approved without question in schools definitely classified as "reorganized."

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## CHAPTER VIII : SMALL SCHOOLS COMPARED WITH LARGE SCHOOLS

### 1. METHODS OF STUDYING THE RELATIONSHIP BETWEEN ENROLLMENT AND SCHOOL PROCEDURES

*Differences in size of enrollment as a cause of differences in organization.*—Chief attention has been given in this study to the differences among schools which seem to grow out of differing types of external organization. Hardly less important, however, are the differences in internal arrangements characteristic of various sizes of schools. Though the limitations of the study have prevented thoroughgoing analysis of the latter differences, the effects of size of enrollment have been subjected to what may serve as at least a preliminary investigation.

To demonstrate a causal connection between the size of a school and its form of organization is a complex task. Schools of various sizes can be shown to differ from each other in numerous important respects, and differences primarily associated with type of organization can be to some extent distinguished from other differences. The remaining differences will presumably comprise those which are characteristic of variations in size. But such differences may not be *caused by* the variations in size, even though the two are closely associated. They may spring from other factors—financial conditions, varying qualities of leadership, in the schools in question, and the like—which usually accompany varying sizes of enrollment. The differences can be strictly interpreted, therefore, only as differences which are *associated with* changes in enrollment under the conditions with which secondary schools are usually confronted.

In spite of the difficulty of establishing cause-and-effect relationships, there is value in knowing what is commonly to be expected of schools of different sizes. Such knowledge may allow a more intelligent planning of the secondary-school program as a whole, and it may permit certain conjectures as to the actual causes of important differences. The study of variations which accompany changes in size has been made with these possible benefits in view.

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*Method of studying the relationship between enrollment and internal organization.*—There are at least two possible methods of studying the influence of size of enrollment on a school's internal organization. One method is to compare the practices found in schools of various sizes, grouping the schools without respect to the type of external organization which they have adopted. The other method consists likewise in comparing the practices found in schools of various sizes, noting separately, however, the differences found among the schools of each special type. Because of the means which it provides for equating the possible influences of type of organization in the various comparisons, the second method is to be preferred to the first. The time and funds available have not been sufficient, however, to permit the use of this second method in the present study. Schools have had to be grouped according to size without respect to type. Fortunately, the influence of type has not had to be entirely ignored, since the comparisons of various types of schools with the factor of size equated have already allowed the identification of a number of major differences which seem to be primarily associated with type. These differences have been taken into account in interpreting the results of the present comparisons. But because the influence of type of organization can be only generally recognized, it has seemed inadvisable to attempt such detailed comparisons among the various sizes of schools as have been undertaken among the various separate types.

### 2. SCHOOLS REPRESENTED IN THE COMPARISONS

The numbers of schools of each type available for comparison are reported in Table 24. The schools are classified in the six size groups previously used, according to their average grade enrollments in junior and senior units.

To reduce the number of separate comparisons required, it has been necessary to combine certain of the size groups. Groups 3 and 4 and groups 5 and 6, respectively, have been thrown together for purposes of comparison. Certain of these groups already contain more schools than groups 1 and 2, so that the combinations have not added to the reliability of the comparisons by increasing the size of groups containing only small numbers of schools. It seems probable, however,

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TABLE 24.—Distribution of various types of reorganized schools in terms of average enrollments per grade in junior and senior units

Type of school	Average enrollment per grade						
	Group 1, 30 or fewer	Group 2, 31-60	Group 3, 61-100	Group 4, 101-200	Group 5, 201-333	Group 6, 334 or more	All groups
1	2	3	4	5	6	7	8
<i>Junior high school grades</i>							
3-year junior .....	6	4	18	33	34	38	133
3-3 junior-senior .....	7	10	15	20	18	3	73
6-year undivided .....	16	22	6	10	4	2	60
2-year junior .....	0	7	5	21	11	3	47
2-4 junior-senior .....	11	10	9	7	3	0	40
4-year junior .....	12	1	1	0	0	0	14
All types .....	52	54	54	91	70	46	367
<i>Senior high school grades</i>							
3-year senior .....	2	4	6	25	22	38	97
3-3 junior-senior .....	14	13	12	24	12	1	73
6-year undivided .....	29	13	7	7	3	1	60
4-year senior .....	1	4	14	14	5	4	42
2-4 junior-senior .....	10	13	11	4	2	0	40
All types .....	56	47	50	71	44	44	312

that relatively slight increases in enrollment among the smaller schools are of greater moment than corresponding increases among the larger schools. To preserve the lower size groups has therefore been judged more important than to preserve the upper groups.

3. DIFFERENCES AMONG SCHOOLS OF VARIOUS SIZES IN THE ORGANIZATION OF THE JUNIOR HIGH SCHOOL GRADES

*Interpretation of the tabulated data.*—In Table 25 are shown the major differences in practices in the junior high school grades among schools having average junior high school grade enrollments of fewer than 30, between 31 and 60, between 61 and 200, and more than 200 pupils, respectively.

The differences listed are those which are extensive enough to produce critical ratios of 3 or more.<sup>1</sup> Differences favoring the smaller schools in the separate comparisons are represented by the critical ratios entered in Columns 2, 3, and 4 of the table; differences favoring the larger schools are represented by the critical ratios entered in Columns 5, 6, and 7. Columns 2 and 5 contain the critical ratios of differences

<sup>1</sup> For the significance of such ratios see Ch. V

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between the group of smallest schools and the group of schools next larger in size. Columns 3 and 6 contain the critical ratios of differences between the schools in the second group and those in the third. Columns 4 and 7 contain the ratios of differences between the schools in the two upper groups.

The appearance of a difference favoring larger schools obviously means that between one size group and the next an increase in the frequency with which a given practice is reported accompanies the increase in size of enrollment. Conversely, the appearance of a difference favoring smaller schools means a decrease in the frequency of a given practice with increase in enrollment. Absence of a critical ratio does not imply the failure of the schools to report a given practice; it means only that no substantial change in the frequency of that practice appears from one size group to the next.

TABLE 25.—Differences in junior high school practices among reorganized schools enrolling averages of 30 or fewer, 31-60, 61-200, and more than 200 pupils per grade

Types of practice showing substantial differences	Critical ratios favoring—					
	Smaller schools			Larger schools		
	30 or fewer compared with 31-60 pupils per grade	31-60 compared with 61-200 pupils per grade	61-200 compared with 201 or more pupils per grade	30 or fewer compared with 31-60 pupils per grade	31-60 compared with 61-200 pupils per grade	61-200 compared with 201 or more pupils per grade
1	2	3	4	5	6	7
<i>Admission and promotion:</i>						
Number of factors taken into account in determining admissions.....				7.7		
The school employs—						
Annual promotions.....		5.2	5.7			
Semiannual promotions.....					5.7	5.5
Grade completion (determined by teachers' marks in all subjects) is used as a basis for promotion.....			3.0			
<i>Organization of instruction:</i>						
Number of teachers under whom each pupil studies—						
In grade 7.....				3.2	5.9	
In grade 8.....				3.2	5.9	
In grade 9.....				3.2		7.0
Number of different fields of instruction taught by the average teacher.....			11.6			
Number of grades in which the average teacher offers instruction.....		8.7				

See footnotes at end of table.

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TABLE 25.—Differences in junior high school practices among reorganized schools enrolling averages of 30 or fewer, 31-60, 61-200, and more than 200 pupils per grade—Continued

Types of practice showing substantial differences	Critical ratios favoring—					
	Smaller schools			Larger schools		
	30 or fewer compared with 31-60 pupils per grade	31-60 compared with 61-200 pupils per grade	61-200 compared with 201 or more pupils per grade	30 or fewer compared with 31-60 pupils per grade	31-60 compared with 61-200 pupils per grade	61-200 compared with 201 or more pupils per grade
1	2	3	4	5	6	7
<b>Organization of Instruction—Continued.</b>						
Number of pupils enrolled in the usual class in—						
Recitation subjects.....				4.6		
Physical training and music.....					3.8	
Shop or laboratory subjects.....						3.3
Length of class periods.....				3.5		
Length of the school year.....						6.2
Standardized tests of mental ability are used for evaluation of teaching efficiency.....			3.0			
Pupils are grouped according to ability.....				5.3		3.6
<b>Program of studies:</b>						
The program of studies includes—						
An industrial arts curriculum.....						3.5
A curriculum in music.....					*3.0	
The school utilizes Smith-Hughes aid.....			*4.3			
<b>Required courses—</b>						
Number of required courses included in seventh-grade offering.....						3.0
Fine arts is required in grade 7.....				3.0		4.2
Industrial arts is required in grade 7.....						3.2
Physical training is required in grade 7.....						**3.0
Home economics is required in grade 8.....				3.2		
Mathematics is required in grade 9.....		3.0				
Music is required in grade 9.....						3.6
<b>Elective courses—</b>						
Number of elective courses included:						
In eighth-grade offering.....					3.3	4.7
In ninth-grade offering.....				4.2	4.1	
A course in foreign language is elective in grade 8.....						5.6
A course in fine arts is elective in grade 8.....					*3.2	
A course in business training is elective—						
In grade 8.....						4.8
In grade 9.....						3.4
A course in home economics is elective in grade 9.....				3.0		
A course in agriculture is elective in grade 9.....			*3.0			
<b>Extracurriculum:</b>						
Number of major types of activities included in the extracurriculum.....					3.2	5.7
The extracurriculum provides for participation in—						
Home-room organizations.....				3.8		
General school government.....				3.0		3.7
Activities connected with school publications.....						4.4
The pupil organization is engaged in—						
Promoting thrift.....						4.6
Regulating school social affairs.....				3.3		

See footnotes at end of table.

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TABLE 25.—Differences in junior high school practices among reorganized schools enrolling averages of 30 or fewer, 31-60, 61-200, and more than 200 pupils per grade—Continued

Types of practice showing substantial differences	Critical ratios favoring—					
	Smaller schools			Larger schools		
	30 or fewer compared with 31-60 pupils per grade	31-60 compared with 61-200 pupils per grade	61-200 compared with 201 or more pupils per grade	30 or fewer compared with 31-60 pupils per grade	31-60 compared with 61-200 pupils per grade	61-200 compared with 201 or more pupils per grade
1	2	3	4	5	6	7
<i>Extracurriculum—Continued.</i>						
Number of major types of club activities.....						4.2
The club program includes purely social clubs.....						3.2
Clubs are occasionally initiated by persons or agencies not a part of the regular school organization.....					* 3.5	
<i>Guidance:</i>						
Number of provisions for the guidance of pupils before their admission to the junior high school grades.....						4.0
Number of provisions for the guidance of junior high school pupils with respect to junior high school activities.....				3.6		5.0
Pupils receive group guidance during the first few weeks of school from—						
A special counselor.....						3.2
Home-room teachers.....						3.0
Older pupils.....						* 3.0
Pupils receive group guidance throughout the junior high school period from class teachers.....		* 5.0				
Parents are informed concerning their children's special problems through individual interviews at the school.....					3.4	
Parents of pupils about to enter the senior high school are informed concerning the senior high school program through printed or mimeographed explanations.....				4.6		
The school employs a special counselor.....						* 3.0
Home-room advisers play a part in the guidance program.....						4.4
All teachers take part in the guidance program.....		* 6.6				
Number of different methods and materials used in guidance.....				3.6	3.0	3.0
The program provides for—						
Guidance periods or home-room periods.....					3.1	
Examinations of pupils' mental health.....					3.3	
Exploratory and try-out courses as a basis for guidance.....						3.8
Articles in school publications.....					3.1	
<i>Articulation:</i>						
Articulation of subject matter and methods—						
Between junior high school and elementary school:						
The junior high school regularly employs teachers who are at the same time teaching in the elementary school.....						
			3.2			
The junior high school sends teachers from its regular staff for temporary service in the elementary school.....						
			* 3.5			

See footnote at end of table.

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TABLE 25.—Differences in junior high school practices among reorganized schools enrolling averages of 30 or fewer, 31-60, 61-200, and more than 200 pupils per grade—Continued

Types of practice showing substantial differences	Critical ratios favoring—					
	Smaller schools			Larger schools		
	30 or fewer compared with 31-60 pupils per grade	31-60 compared with 61-200 pupils per grade	61-200 compared with 201 or more pupils per grade	30 or fewer compared with 31-60 pupils per grade	31-60 compared with 61-200 pupils per grade	61-200 compared with 201 or more pupils per grade
1	2	3	4	5	6	7
<i>Articulation—Continued.</i>						
<i>Articulation of subject matter and methods—Con.</i>						
<i>Between junior and senior high schools—</i>						
The junior high school offers certain senior high school courses.....						3.7
The senior high school offers certain junior high school courses.....						4.8
The senior high school regularly employs teachers who are at the same time teaching in the junior high school.....			3.6			
Number of provisions for articulation of extracurriculum activities between junior and senior high schools.....		3.6				
Certain sponsors for junior high school activities serve as sponsors for senior high school activities.....		3.0				
Conferences on extracurriculum activities are held between junior and senior high school teachers.....			3.3			
<i>Number of provisions for articulation of guidance—</i>						
<i>Between junior high school and elementary school</i>						
Certain supervisors give attention to the integration of junior high school and elementary school guidance.....		3.1		3.5		
<i>Between junior and senior high schools.....</i>		4.6				
<i>Teaching staff:</i>						
Relative number of men teachers.....		5.6				
Relative number of teachers holding college degrees.....		3.2				
College graduation is required for appointment to ninth-grade positions.....		4.1		3.5		
Prior teaching experience is required for appointment to seventh-grade positions.....						3.3
Nonlocal applicants are given preference in appointments to eighth grade positions.....		* 3.1				
Certain junior high school teachers receive salaries as high as the highest in the senior high school.....						3.2
Certain senior high school teachers receive salaries as low as the lowest in the junior high school.....						3.0
<i>Supervision:</i>						
Number of different types of supervisory officers.....				3.6	3.6	6.4
The school employs an assistant principal.....					* 6.0	
The supervisory staff includes directors, supervisors, or assistant superintendents in general charge of—						
Academic subjects.....						4.4
Special subjects.....						4.2
Vocational subjects.....						5.2
The supervisory staff includes department heads, or chairmen, for academic subjects.....				* 3.2		

See footnote at end of table.

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**TABLE 25.—Differences in junior high school practices among reorganized schools enrolling averages of 30 or fewer, 31-60, 61-200, and more than 200 pupils per grade—Continued**

Types of practice showing substantial differences	Critical ratios favoring—					
	Smaller schools			Larger schools		
	30 or fewer compared with 31-60 pupils per grade	31-60 compared with 61-200 pupils per grade	61-200 compared with 201 or more pupils per grade	30 or fewer compared with 31-60 pupils per grade	31-60 compared with 61-200 pupils per grade	61-200 compared with 201 or more pupils per grade
1	2	3	4	5	6	7
<i>Supervision—Continued.</i>						
Number of different types of supervisory officers—Continued.						
Supervision is in part conducted through—						
A school council or corresponding group composed of department heads.						3.0
A general supervisory council for the school system, composed of special directors of instruction or special supervisors.					* 3.3	
Number of different methods of supervision				4.0		
The program of supervision involves—						
Classroom visitation by special supervisors (including department heads).		* 3.6				
Individual conferences between teachers and— Superintendent, director of secondary education, or assistant superintendent.		* 9.0				
Special supervisors (including department heads).						6.0
Departmental meetings.					3.0	4.8
Curriculum revision in individual subjects.					3.1	
General supervisors are in most instances concerned—						
Equally with the junior high school grades and the elementary grades.	3.0					
Primarily with the junior high school grades.					* 3.5	
Special supervisors are in some instances concerned equally with—						
The junior high school and elementary grades.				3.0		
The junior and senior high school grades.				3.0		
<i>Housing and equipment:</i>						
The school is housed in a building containing no other grades than those of the school unit in question.					3.3	3.1

\* A single star indicates that a given practice is reported by less than 10 per cent of the group of schools reporting that practice least often.

\*\* This practice is reported by more than 90 per cent of the largest schools. None of the other practices listed is reported by as many as 90 per cent of the schools of any one of the 4 size groups.

As in the case of differences among various types of organization, the size of a critical ratio gives no clue to the frequency of the practice to which the ratio refers. Single stars have again been used to denote procedures reported only rarely by one of the groups of schools compared. Double stars mark procedures reported practically universally by one of the groups. In the present connection the single

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stars show the points at which practices either disappear or first begin to appear with changes in enrollment, and the double stars show the points at which certain practices reach maximum frequency.

The differences listed in Table 25 illustrate the types of differences revealed by the group comparisons. To comment in detail on all these differences will probably serve no important purpose. Of chief significance are the more general changes which accompany increase in enrollment. These changes, as they show themselves in the whole list of significant differences<sup>2</sup> revealed through the check-list reports from the four groups of schools, are summarized in the following paragraphs in connection with each major feature of organization in turn. The conclusions presented give due allowance to the differing proportions of schools of various types included in the separate size groups.

*Admission and promotion.*—In provisions for admission and promotion, increase in enrollment tends to be accompanied by three major changes. Greater size brings, first, an increase in the number of factors taken into account in admission. Though there is no later falling off in the number of these factors, the increase does not continue among schools enrolling more than 60 pupils per grade. Greater size is accompanied, second, by the introduction of semi-annual promotions and by an increase in promotion by subject. Neither of these modifications begins until the schools reach an enrollment of approximately 60 pupils per grade, but changes in these matters increase steadily thereafter. Greater size is attended, third, by an increase in the number of factors taken into account in promotions among schools of from 60 to 200 pupils per grade. This increase does not continue among the larger schools. In general, each major increase in enrollment brings an increase of one type or another in the comprehensiveness of provisions for admission and promotion.

*Organization of instruction.*—In the organization of instruction growth in enrollment tends to be accompanied by increases in the extent of departmentalization, in the size of

<sup>2</sup> As in the comparisons between various types of organization, differences involving critical ratios of 2.0 or more are taken into account in the general conclusions. Lack of space prevents inclusion in the tables of differences involving critical ratios below 3.0.

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classes, in the amount of time devoted to instruction, and in provisions for individual differences.

Departmentalization in the smallest schools results in each pupil's having approximately four different teachers, while each teacher is ordinarily responsible for two different fields of instruction and is assigned classes in four grades. From group to group the number of teachers to whom each pupil is assigned steadily increases, and the number of subjects and grades for which each teacher is responsible steadily declines. The result is that among the largest schools each pupil must adjust himself to seven different teachers, while each teacher ordinarily offers instruction in only a single field and teaches classes in only two grades.

The average size of the usual recitation class ranges from 18 pupils in the smallest schools to 33 pupils in the largest schools. Classes in all subjects tend to increase in size as the schools grow larger; the increase appears most noticeably in recitation classes first, then in classes in physical training and music, and finally in classes in shop or laboratory subjects.

With increasing enrollment the schools tend to increase the amount of time which they give to instruction. Among the smaller schools this increase takes the form of lengthened class periods; the average period is one of 40 minutes among the schools enrolling fewer than 30 pupils per grade, and one of 47 minutes among the schools of from 30 to 60 pupils per grade. The schools of more than 200 pupils per grade retain the longer period and at the same time tend to increase the length of the school year from 178 days (the average among the third-group schools) to an average of 184 days.

Growth in provisions for individual differences appears among all the schools through the more frequent adoption of homogeneous grouping as the size of schools increases. Among the larger schools increase in size involves the adoption of other forms of special grouping as well—in particular, grouping according to curriculums. Increase in size results also in an increase among schools of fewer than 60 pupils per grade in the use of tests of mental ability; among the larger schools it merely varies the purposes for which the tests are used.

The changes in the organization of instruction, considered all together, produce a somewhat conflicting effect. The extreme departmentalization found among the larger schools

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is of debatable value; while it offers the benefits of specialization from the teachers' standpoint, it may go counter in certain schools to the gradual introduction of departmentalization which has been advocated for the junior high school, and thus may add seriously to the complication of the learning process from the pupils' point of view. Increase in the size of classes doubtless results in no instructional loss,<sup>3</sup> and obviously adds to the economy of administration. Lengthening of the time devoted to instruction presumably represents a gain. Increase in the provisions for individual differences may also be assumed to represent a gain. In terms of their total effect, the changes in the organization of instruction should probably be interpreted as additions to the comprehensiveness and flexibility of the school's organization.

*Program of studies.*—Differences in the program of studies may be summarized in terms of five major respects in which the schools tend to expand their programs with increase in enrollment. The first expansion consists in an addition to the number of elective courses in grade 9. Additions of this sort persist throughout the successive groups, keeping fairly steady pace with each increase in school enrollment. The second expansion consists in the addition of required courses in grades 7 and 8. The tendency with respect to seventh-grade and eighth-grade required work seems to involve a sharp increase between the smallest schools and those next larger in size, a gain of no great magnitude among schools of the third group, and another sharp gain among the largest schools. A third type of expansion consists in the setting up of specialized curriculums. Tendencies in this direction fluctuate from group to group. The trends in general curriculum organization are toward increasing use of multiple curriculums among schools enrolling fewer than 60 pupils per grade, substitution of a constants-and-variables scheme among the schools enrolling between 60 and 200 pupils per grade, and abandonment of the constants-and-variables organization in favor of multiple curriculums among the largest schools. In the schools adopting a multiple-curriculum organization there is steady growth from group to group in the number of different curriculums offered, with especial

<sup>3</sup> Cf. the list of experimental investigations of this problem presented in Hudson, Earl, *Class Size at the College Level* (University of Minnesota Press, 1928), Ch. II.

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emphasis upon the addition of industrial arts curriculums. A fourth step in expansion consists in additions to the eighth-grade offering of electives. The tendency in this matter seems to be toward an increase in the number of such electives with increasing enrollment, at a rate which grows with each major increase in size of school. The final step consists in the substitution of elective courses for certain ninth-grade required courses. Through such substitution the schools tend to provide increasing freedom in ninth-grade work. Differences in this respect cease to appear, however, after the enrollment reaches approximately 200 pupils per grade.

The effect of all these changes together is to produce, with each major increase in size, a program of studies which offers more frequent opportunity for election of courses, more numerous courses of a nonacademic type, and more extended work in the nonacademic fields as measured by the number of grades in which each field is represented.

*Extracurriculum.*—Changes from group to group in the organization of extracurriculum activities affect various characteristics of the extracurriculum. The number of major types of activities included in the program grows steadily in each succeeding size group. Home-room activities, general pupil organizations, and clubs are the first to receive added attention with increased enrollment; musical organizations are the next to be more frequently reported. The variety of activities with which the pupil organization deals and the variety of club activities provided also grow steadily, though no specific types of activities can be singled out as the focal points for these changes. The number of activity periods included in the weekly schedule rises from an average of three among the smallest schools to five among the largest. The number of regulations with which the schools surround participation in activities likewise increases—first through the more frequent setting of limits on the extent to which pupils may participate, next through the more common requirement of participation in certain forms of activities, and finally through the requirement of approval by some supervisory officer before club activities may be initiated. In the main it may be concluded that expansion of the scope and variety of extracurriculum activities, increase in the amount of time

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devoted to them, and more systematic regulation of pupil participation in them accompany each major increase in school enrollment.

*Guidance.*—Changes in guidance reflect an increasing tendency, with increase in enrollment, to concentrate responsibility for guidance in the hands of a few members of the school staff. Schools enrolling more than 60 pupils per grade rarely require the direct participation of all teachers in the guidance program. Though special counselors are seldom found in any but the largest schools, the increasing concentration of responsibility is accompanied, even without the counselors, by steady growth in the comprehensiveness of the program. With growing enrollment the schools markedly increase the number of their definite arrangements for guidance. They add also to the number of different methods and materials of guidance—particularly to their use of guidance periods and exploratory or try-out courses.

*Articulation.*—Except in two respects, arrangements for articulation tend to decrease in extent with each major increase in enrollment. The first exception concerns the duplication of courses between junior and senior high schools; each succeeding group of schools shows at least a slightly greater tendency than the group below it to provide such duplication. The second exception, which is less extensive, has to do with the appointment of supervisors who give attention to the integration of subject matter and teaching method between the various school units; the larger schools report such supervisors more frequently than the smaller. In other matters the general tendency seems to be for schools of increasing size to make increasingly fewer provisions for the integration of the school units both above and below. The tendency shows itself first in the steady decrease, among schools of increasing size, in the practice of appointing teachers for service in more than one school unit; second, in the decreasing frequency with which conferences are reported among teachers of the separate units; next, in the decreasing frequency of curriculum committees or other integrating committees composed of teachers of more than one unit; and, finally, in the decreasing number of specific arrangements of any sort which are likely to lead to effective integration.

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*Teaching staff.*—Differences affecting the teaching staff are apparent in the general composition of the staff, the qualifications required for appointment to teaching positions, and the salary schedules in effect in the junior and senior units of the schools.

Differences in the composition of the staff are numerous. The proportion of men teachers tends to vary inversely with the size of the schools, from 48 per cent in the smallest schools to 26 per cent in the largest. This difference is probably due in part to the fact that the principals notably enhance the proportions of men in the small schools. The proportions of teachers new to the school and of teachers who have had no previous experience decrease slightly from group to group. The proportion of teachers who have had no professional training is relatively constant at about 1 in 20 for all the groups. The proportion of teachers who do not hold college degrees is lower among the schools enrolling an average of from 30 to 60 pupils per grade than among the smallest schools; among the larger schools it rises slightly from group to group, presumably because of the increased offering of courses of a nonacademic type.

In the qualifications required for appointment to academic teaching positions the differences are less numerous than in the actual composition of the staff. Increase in size of school tends in the main to bring increased insistence upon extensive academic and professional training and upon previous teaching experience. Insistence upon college graduation for appointment to ninth-grade teaching positions, however, is less frequent among the schools enrolling more than 60 pupils per grade than among the smaller schools.

Differences with respect to uniform salary schedules in the junior and senior units, finally, tend to be insignificant among schools averaging fewer than 200 pupils per grade, but to appear noticeably between these schools and the largest of the schools studied. The largest schools more frequently than the smaller schools make it possible for teachers in the junior and senior units to work on an identical salary scale.

Taken together, the changes seem to be in the direction of somewhat higher standards among the larger schools. Perhaps because of the influence of various standardizing

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agencies, however, the differences from group to group are less marked than is sometimes assumed.

*Supervision.*—The most obvious differences in supervisory organization consist in a steady growth in the number of different supervisory officers employed. With increased enrollment, enlargement of the supervisory staff tends to occur first through the appointment of department heads; next, through the more common employment of vice principals and special supervisors; and finally, through the establishment of general supervisory councils for the school system and of separate councils for individual schools.

The elaboration of the supervisory staff is attended by changes in the location of immediate supervisory responsibility. The smallest schools tend to divide the responsibility for direct supervision between the superintendent and the high-school principal. The schools enrolling from 30 to 60 pupils per grade are more likely to centralize supervision in the superintendent's office. In the schools of the third group, major responsibility seems to be shifted back again to the principal and vice principal. Among the largest schools the principal and vice principal retain their responsibility, though increased reliance is placed on special supervisors.

With these changes in the staff and in the location of responsibility go an increasingly closer supervisory connection between the junior and senior units (in the sense that supervisors have oversight of work in both units) and less direct supervisory association with the elementary school. There occurs an increase also in the variety of methods of supervision. Changes in supervisory methods are most extensive between the schools of the first and second groups and between those of the third and fourth; there are few marked differences in method between the schools of the second and third groups. Where growth in the variety of methods occurs, it is most likely to result from more frequent employment of departmental meetings, curriculum revision, and the systematic examination of new textbooks.

The changes in supervisory practice as a whole constitute an obvious increase in arrangements for the systematic oversight and improvement of the school's work.

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*Housing and equipment.*—In housing and equipment the only apparent difference consists in the more frequent housing of each group of larger schools in buildings containing no other grades than those included in the schools' own organizations. No reliable differences appear in the frequency with which the principals judge their plants to be adequate or inadequate for secondary-school purposes. This latter fact can not be taken as evidence that the small schools as a group are as well provided for as the larger schools; it means only that the principals of the small schools are no more dissatisfied with their equipment than the principals of the large schools.

*General effect of increased enrollment upon junior high school organization.*—As a whole, the comparisons of practice under each of the various features of organization emphasize a fact of which most school administrators have long been aware—that the larger a school's enrollment within the limits of size which secondary schools ordinarily attain, the more comprehensive and flexible the school's organization is likely to be. Except in the one feature of articulation, the differences in the junior high school grades of the schools here examined favor the larger schools. Varying items of practice stand out as the basis for successive group differences. There is, however, no general feature excepting articulation in which, broadly considered, increased enrollment does not bring about a growth in desirable arrangements.

In interpreting these results one important limitation of the present study should be clearly recognized. The median average grade enrollment in the junior high school grades of the group of schools containing the largest schools analyzed was 311 pupils. How far the gains in organization would have been found to persist had still larger schools been available for analysis can not be predicted. There is presumably a point at which large size ceases to be a help in school organization, and there is presumably a later point at which size begins to be an appreciable handicap. The present study includes no group of schools which give evidence of having reached either of these points. The size of the largest schools studied needs, however, to be taken into account in formulating any general conclusion. With due recognition of the size of the schools involved, the comparisons indicate that

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until schools reach an average grade enrollment in their junior high school units of at least 300 pupils (or until they reach a total junior high school enrollment of approximately 900 pupils), each major increase in enrollment is likely to be accompanied by appreciable gains in the general comprehensiveness of organization of the junior high school grades.<sup>4</sup>

4. DIFFERENCES AMONG SCHOOLS OF VARIOUS SIZES IN THE ORGANIZATION OF THE SENIOR HIGH SCHOOL GRADES

*The comparisons made.*—Differences in the organization of senior high schools of various sizes offer a number of contrasts to the differences found among the junior high schools. The senior high school practices in which the most substantial differences occur are listed in Table 26. The major contrasts between differences among the junior and the senior high schools, as well as the differences which are of the same general nature in both units, are indicated in the following summary. Differences apparently due to the disproportionate representation of various special types of organization have again been taken into account in comparing the size groups.

TABLE 26.—Differences in senior high school practices among reorganized schools enrolling averages of 30 or fewer, 31-60, 61-200, and more than 200 pupils per grade

Types of practice showing substantial differences	Critical ratios favoring—					
	Smaller schools			Larger schools		
	30 or fewer compared with 31-60 pupils per grade	31-60 compared with 61-200 pupils per grade	61-200 compared with 201 or more pupils per grade	30 or fewer compared with 31-60 pupils per grade	31-60 compared with 61-200 pupils per grade	61-200 compared with 201 or more pupils per grade
1	2	3	4	5	6	7
Admission and promotion: Admission is based on pupils' completion of a major part of the work of the preceding grade.....						3.2
The school employs— Annual promotions.....			7.2			
Semiannual promotions.....						7.8

<sup>4</sup> For an account of advantages in organization obtained by combining two junior high schools of 500 pupils each, see Unziker, S. P. What Size Junior High School? *School Review*, 36: 374-379, May, 1928.

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TABLE 26.—Differences in senior high school practices among reorganized schools enrolling averages of 30 or fewer, 31-60, 61-200, and more than 200 pupils per grade—Continued

Types of practice showing substantial differences	Critical ratios favoring—					
	Smaller schools			Larger schools		
	30 or fewer compared with 31-60 pupils per grade	31-60 compared with 61-200 pupils per grade	61-200 compared with 201 or more pupils per grade	30 or fewer compared with 31-60 pupils per grade	31-60 compared with 61-200 pupils per grade	61-200 compared with 201 or more pupils per grade
1	2	3	4	5	6	7
<i>Organization of instruction:</i>						
Number of grades in which the average teacher offers instruction.....		11.4	16.7			
Number of pupils enrolled in the usual class in—						
Recitation subjects.....				6.0		
Physical training and music.....					3.0	
Shop or laboratory subjects.....						5.3
Length of class periods.....				3.0		
Length of the school year.....						4.8
Pupils are grouped according to ability.....				3.7		
Opportunity rooms are provided for slow pupils.....					*3.7	
The school provides restoration, remedial, or adjustment rooms or classes.....					*4.0	
<i>Program of studies:</i>						
The program of studies includes—						
A normal preparatory curriculum.....				*3.3		
An industrial arts curriculum.....				*3.1		
<i>Required courses—</i>						
Number of required courses included in the eleventh-grade offering.....		3.5				
Physical training is required in grade 10.....		5.1				7.2
Social studies is required in grade 11.....		3.6				
Foreign language is required in grade 11.....		*3.4				
<i>Elective courses—</i>						
Number of elective courses included in—						
The tenth-grade offering.....				4.1	5.9	
The eleventh-grade offering.....				4.1	4.1	3.5
The twelfth-grade offering.....				3.7		4.7
A course in fine arts is elective in—						
Grade 10.....						4.2
Grade 11.....					3.6	5.0
Grade 12.....					3.3	5.3
A course in agriculture is elective in—						
Grade 10.....			*4.6			
Grade 11.....			*3.2			
A course in English is elective in grade 11.....						3.7
A course in mathematics is elective in grade 12.....						**3.0
A course in foreign language is elective in grade 12.....					*3.1	
A course in business training is elective in grade 12.....					*3.7	
A course in industrial arts is elective in—						
Grade 10.....				4.8		
Grade 11.....				3.3		

\*A single star indicates that a given practice is reported by less than 10 per cent of the group of schools reporting that practice least often.

\*\*Double stars indicate that a given practice is reported by more than 90 per cent of the group of schools reporting that practice most often.

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TABLE 26.—Differences in senior high school practices among reorganized schools enrolling averages of 30 or fewer, 31-60, 61-200, and more than 200 pupils per grade—Continued

Types of practice showing substantial differences	Critical ratios favoring—					
	Smaller schools			Larger schools		
	30 or fewer compared with 31-60 pupils per grade	31-60 compared with 61-200 pupils per grade	61-200 compared with 201 or more pupils per grade	30 or fewer compared with 31-60 pupils per grade	31-60 compared with 61-200 pupils per grade	61-200 compared with 201 or more pupils per grade
1	2	3	4	5	6	7
<i>Extracurriculum:</i>						
Number of major types of activities included in the extracurriculum.....			4.5	4.2		
The program provides for—						
Home-room organizations.....				3.3		
Club activities.....			**6.0			
Musical organizations.....		**7.0				
School publications.....						**3.0
Extracurriculum athletics.....			**4.8			
Number of major types of activities in which the pupil organization is engaged.....				3.0		
The pupil organization promotes athletics.....		**3.7				
Number of major types of club activities.....				4.1		
The club program includes—						
Academic or "hobby" clubs.....				4.1		
Debating or dramatic clubs.....				4.4		
Athletic clubs.....				3.7		
Clubs are initiated by persons or agencies not a part of the regular school organization.....						*3.2
A club may not be initiated without giving evidence of adequate financial resources.....			*4.2			
<i>Guidance:</i>						
Parents of pupils about to enter the senior high school are informed concerning the senior high school program through printed or mimeographed explanations.....				4.0		
Senior high school pupils receive individual guidance during the first few weeks of school from the principal.....			4.8			
Pupils receive individual guidance throughout the senior high school period from—						
The principal.....			3.1			
A special counselor.....					*3.2	
Class teachers.....			3.0			
The school employs—						
A director of guidance, or dean.....					*3.8	
A special counselor.....						3.7
The guidance program provides for—						
Guidance classes or classes in occupations.....			3.2			
Visits to homes of pupils by special counselors.....					*3.7	
Articles in school publications.....					3.5	
<i>Articulation:</i>						
Arrangements for articulation of subject matter and methods—						
The junior high school offers certain senior high school courses.....						3.7
The senior high school offers certain junior high school courses.....						4.0

\*A single star indicates that a given practice is reported by less than 10 per cent of the group of schools reporting that practice least often.

\*\*Double stars indicate that a given practice is reported by more than 90 per cent of the group of schools reporting that practice most often.

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TABLE 26.—Differences in junior high school practices among reorganized schools enrolling averages of 30 or fewer, 31-60, 61-200, and more than 200 pupils per grade—Continued

Types of practice showing substantial differences	Critical ratios favoring—					
	Smaller schools			Larger schools		
	30 or fewer compared with 31-60 pupils per grade	31-60 compared with 61-200 pupils per grade	61-200 compared with 201 or more pupils per grade	30 or fewer compared with 31-60 pupils per grade	31-60 compared with 61-200 pupils per grade	61-200 compared with 201 or more pupils per grade
1	2	3	4	5	6	7
<i>Articulation—Continued.</i>						
Arrangement for articulation of subject matter and methods—Continued.						
The senior high school regularly employs teachers who are at the same time teaching in the junior high school.			6.5			
The junior high school includes in its staff teachers drawn for temporary service from the senior high school.			4.0			
Number of arrangements for articulation of extracurriculum activities.	3.3		7.9			
Last-year junior high school pupils and first-year senior high school pupils—						
Engage in about the same number of different activities each week.			**3.2			
Devote about the same time to extracurriculum activities each week.		**3.8				
Certain sponsors for junior high school activities serve as sponsors for senior high school activities.		3.3				
Both junior and senior high school teachers are members of committees on—						
Senior high school activities.			*3.8			
Junior high school activities.			3.4			
Conferences on the extracurriculum are held between junior and senior high school teachers.			4.5			
Certain supervisors give attention to the integration of junior and senior high school activities.			3.7			
<i>Teaching staff:</i>						
Relative number of men teachers.	3.0					
Relative number of teachers who have held previous positions in the same school.				3.4		3.3
15 hours or more of professional training is required for appointment to senior high school positions.	3.3				3.5	
Nonlocal applicants are given preference in appointments.		*3.0				
<i>Supervision:</i>						
Number of different types of supervisory officers.					4.1	5.0
The supervisory staff includes—						
Directors, supervisors, or assistant superintendents in general charge of—						
Special subjects.						3.0
Vocational subjects.						3.2
Department heads, or chairmen, for—						
Academic subjects.						4.1
Special subjects.						3.1
Vocational subjects.						3.1

\*A single star indicates that a given practice is reported by less than 10 per cent of the group of schools reporting that practice least often.

\*\*Double stars indicate that a given practice is reported by more than 90 per cent of the group of schools reporting that practice most often.

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TABLE 26.—Differences in senior high school practices among reorganized schools enrolling averages of 30 or fewer, 31-60, 61-200, and more than 200 pupils per grade—Continued

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1	2	3	4	5	6	7
<i>Supervision—Continued.</i>						
Supervision is in part conducted through—						
A school council or corresponding group composed of—						
All teachers.....			3.0			
Department heads.....						3.8
A general supervisory council for the school system, composed of—						
Special directors of instruction or special supervisors.....					*5.7	
Department heads.....					*3.5	
Number of different methods of supervision.....					4.1	
The program of supervision involves—						
Classroom visitation by—						
Superintendent, director of secondary education, or assistant superintendent.....			3.8	3.1		
Special supervisors (including department heads).....					3.3	4.3
Individual conferences between—						
Superintendent, director of secondary education, or assistant superintendent.....			3.6			
Special supervisors (including department heads).....						4.9
Departmental meetings.....					3.8	
Curriculum revision in individual subjects.....					4.6	
<i>Housing and equipment:</i>						
The school is housed in a building containing no other grades than those of the school unit in question.....					4.3	
The principal reports serious inadequacies in the provisions for health and physical education.....		*6.9				

\* A single star indicates that a given practice is reported by less than 10 per cent of the group of schools reporting that practice least often.

*Admission and promotion.*—In their provisions for admission and promotion the senior high schools tend with increasing size to make only one of the three major modifications found among the junior high schools. They follow the junior high schools in reporting the use of semiannual promotions and promotion by subject with increasing frequency as grade enrollments become larger. They show no significant change from group to group, however, in the number of factors

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which they take into account as a basis for promotion. Nor do they make the extensive changes which are found among the junior high schools in the number of factors taken into account in determining admissions. In view of the relative lack of flexibility in arrangements for admission and promotion under the typical senior high school organization,<sup>5</sup> the small amount of change in these matters can not be attributed to lack of opportunity for an increase in flexibility. The increasing use of flexible promotion schemes represents an advantage on the side of large senior high schools as compared with small schools. The total advantage of the large schools in arrangements for admission and promotion is, however, notably less in the senior high school grades than in the junior high school grades.

*Organization of instruction.*—Differences in the organization of instruction are of the same general nature as those noted in the junior high school grades, though in the senior high school the range in practice tends to be narrower.

Teaching is departmentalized among the smallest schools to the same extent in the senior high school grades as in the junior high school grades; each pupil is ordinarily assigned to four different teachers, and each teacher is responsible for two fields of instruction and teaches in four grades. Among the largest of the senior high schools each pupil tends to have five different teachers (as compared with seven in the junior high school grades), while each teacher is assigned, as in the junior high school, to one field of instruction and to two different grades.

The usual size of recitation classes rises from 17 among the smallest schools (1 less than in the smallest junior high schools) to 26 among the largest schools (as compared with 33 in the largest junior high schools). In the senior high schools as in the junior high schools, increasing school enrollment affects successively the size of recitation classes, classes in physical training and music, and classes in shop or laboratory subjects.

Increase in size among the senior high schools brings with it approximately the same changes in the length of class periods and the length of the school year that were noted among the junior high schools.

<sup>5</sup> Cf. Ch. III.

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Provision for individual differences shows distinctly less variation in the senior high school grades than in the junior high school grades, perhaps because of the fact that special provisions of this nature are generally less common in the upper grades than in the lower. The variations which occur consist, as in the junior high school grades, in more frequent arrangements for special groupings with each major increase in enrollment.

The organization of instruction as a whole thus shows a slightly increasing flexibility with increases in senior high school enrollment.

*Program of studies.*—In the program of studies, growth in senior high school enrollment produces tendencies toward expansion somewhat different in detail, though approximately the same in effect, as those observed in the junior high school grades. Instead of enlarging its program first at one point and then at another, the senior high school tends to change its program gradually in a number of respects at once.

Each major increase in enrollment brings, first, the addition of electives, usually in all three grades. The offerings in business training, home economics, and industrial arts are the first to be increased in this way; next comes expansion of the elective work in English, social studies, foreign language, fine arts and music; finally appear additions in mathematics, science, and physical training. The only subject not affected by the tendency toward expansion is agriculture, which practically disappears from the programs of the largest schools.

With the addition of elective courses appears a second tendency, to transfer certain courses from a required basis to an elective basis. Business training and home economics are the first to be thus affected, then social studies and foreign language, and finally twelfth-grade English.

A third and last tendency involves changes in the number of specialized curriculums. With each increase in enrollment to an average of 200 pupils per grade, the total number of specialized curriculums tends to be increased. Scientific preparatory, normal preparatory, commercial, and industrial arts curriculums are more frequently reported with the first increase in enrollment; commercial and music curriculums show a gain with further growth. The number of specialized

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curriculums decreases, however, among schools enrolling more than 200 pupils per grade. The decrease affects practically all curriculums alike. It is explained by the more frequent adoption among the large schools of the constants-and-variables or combined constants-and-variables and multiple-curriculum type of organization, as contrasted with a more formal multiple-curriculum arrangement. Though the largest schools provide a broader offering of separate courses than the smaller schools, they thus tend to set up a somewhat simpler curriculum arrangement.

Taken together, these various changes accompanying increased enrollment suggest an effect upon the senior high school program of studies which parallels closely the effect upon the junior high school program. Larger enrollment is here also accompanied by more frequent opportunity for election of courses, more numerous courses of a nonacademic type, and more extended work in various fields.

*Extracurriculum.*—Expansion of the senior high school extracurriculum program takes place less regularly with each increase in enrollment than does expansion of the junior high school program.

The most important difference between the changes in the junior and senior units concerns the number of major types of activities included in the program. The senior high schools enrolling from 30 to 60 pupils per grade, like the junior high schools of corresponding size, report more frequent provision for home-room activities, general pupil organizations, and club activities than do the smallest schools, and the senior high schools more frequently report musical organizations, school publications, and pupil assemblies as well. Unlike the junior high schools, the senior high schools enrolling more than 60 pupils per grade show a marked decline in the number of different types of activities included in their programs. Though a few types of activities—school publications in particular—increase in frequency, there is a definite falling off in provisions for home-room activities, club activities, musical organizations, and extracurriculum athletics.

In other respects the tendencies among the senior high schools more closely parallel those observed in the junior high schools. Growth in enrollment brings an increase—

though a somewhat irregular one—in the variety of activities with which the pupil organization deals, and in the variety of club activities provided by the schools which sponsor club programs. As in the junior high school grades, the usual number of weekly activities periods increases from three among the smallest schools to five among the largest. The number of regulations applying to participation in extra-curriculum activities also increases, but in a different order from that found in the junior high schools. Among the senior high schools, the first noteworthy change in regulations consists in an increase in the number of conditions to be met before clubs may be initiated; only among the largest schools is there extensive requirement of participation, or systematic limitation of individual participation.

As a whole, the differences suggest a program more limited in scope among the large senior high schools than among the large junior high schools. Increase in enrollment beyond 60 pupils per grade seems, indeed, to be accompanied by a marked narrowing in scope of the senior high school extra-curriculum.

*Guidance.*—Responsibility for guidance, in the senior high school grades as in the junior high school grades, tends with each increase in enrollment to be concentrated more frequently in the hands of a few members of the staff. The senior high school program does not, however, show so definite a growth in comprehensiveness as does the program in the lower grades. Both the number of arrangements for guidance and the number of different methods and materials used in guidance increase with each major increase in size among schools enrolling fewer than 200 pupils per grade. Among larger schools, increase in enrollment seems to bring no definite gain in these matters.<sup>6</sup> It seems fair to conclude that increase in enrollment tends to be accompanied by no appreciable gain in the comprehensiveness of the guidance program among schools enrolling more than 200 pupils per grade. In view of the fact that a systematic-guidance program is by

<sup>6</sup> Table 28 suggests a definite decrease in the comprehensiveness of the guidance program among the largest schools. This seems to be due, however, to the disproportionate representation of separate senior high schools in the upper group. With allowance for the effect of type of organization, it seems probable that the provisions for guidance made by the schools enrolling more than 200 pupils per grade are practically equivalent to those made by the schools enrolling from 60 to 200 pupils per grade.

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no means universal among such schools, this conclusion is one of considerable moment.

*Articulation.*—Changes in the arrangements for articulation between junior and senior units have been commented on in the summary of junior high school practice. As pointed out in that summary, the general tendency seems to be for schools of increasing size to make increasingly fewer provisions for integrating the work of the two school units.

*Teaching staff.*—Differences from group to group in the organization of the senior high school teaching staff show none of the fluctuations noted in the differences with respect to the junior high school staffs.

As in the junior high school grades, the proportion of men teachers tends to vary inversely with the size of the schools; it decreases from 47 per cent among the smallest schools to 33 per cent among the schools enrolling between 60 and 200 pupils per grade, remaining practically constant thereafter. The proportion of teachers new to the school decreases more rapidly than in the junior high school grades—from 33 per cent among the smallest schools to 9 per cent among the largest. Teachers who have had no previous experience form a relatively constant proportion (6 or 7 per cent) of the senior high school staff, whereas the proportion of such teachers in the junior high school staffs is slightly greater among the smallest schools than among the largest. In the senior high school as in the junior high school, the proportion of teachers who have had no professional training is approximately 5 per cent in all the size groups. The proportion of senior high school teachers who do not hold college degrees decreases steadily from 21 per cent among the smallest schools to 13 per cent among the largest—a change which is in marked contrast to the slightly increasing proportions of such teachers in the junior high school grades of the larger schools.

Like the qualifications actually possessed by teachers, the requirements insisted upon for appointment to senior high school positions show consistent changes with increase in enrollment. Growth in the size of the schools brings more frequent insistence upon extensive academic and professional training and upon previous teaching experience. In the senior high school grades there is none of the relaxing of standards

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with respect to college graduation which appears among the larger junior high schools.

Salary schedules, finally, tend more frequently to be the same for junior and senior high school teachers among the largest schools than among the smaller—a tendency previously noted in connection with the junior high school grades.

The general changes which accompany growth in enrollment—changes in the composition of the staffs, the requirements for appointment to teaching positions, and the relation between junior and senior high school salaries—are thus in essentially the same direction in the upper and in the lower units. In the upper units, however, the changes tend somewhat more consistently toward a higher degree of selection in the make-up of the staffs with each major increase in enrollment.

*Supervision.*—Changes in the supervisory organization of the senior high school grades parallel closely, with a single exception, the changes found in the junior high school grades. The exception consists in the fact that growth in the variety of supervisory methods appears regularly with each increase in senior high school enrollment, whereas the junior high schools show somewhat irregular development of this feature with increasing size. Of supervision in the senior high school grades, as in the junior high school grades, it may be said in general that increase in enrollment brings a marked elaboration of the supervisory staff, a closer supervisory connection between junior and senior units, and an increase in the variety of supervisory methods.

*Housing and equipment.*—In the matter of housing and equipment the larger senior high schools seem to be at a more definite advantage over the smaller than is the case among the junior high schools. With each increase in enrollment the senior high schools, like the junior high schools, are housed more frequently in buildings containing no other grades than those included in the schools' own organizations. Growth in enrollment seems also to be accompanied among the senior high schools by increasingly adequate provisions for special equipment. There are marked differences between the largest schools and the smaller schools, not merely in the adequacy of special facilities but in the frequency with

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which school principals characterize their plants in general as exceptionally suitable.

*General effect of increased enrollment upon senior high school organization.*—Comparisons of senior high school practices emphasize again the importance of size of enrollment. There can be little question that the larger a school is within the range investigated in this study the more likely the school is to provide a generally comprehensive and flexible organization in the senior high school grades as well as in the junior high school grades.

In the senior unit, however, the development of certain major features of organization does not parallel growth in size as directly as is the case in the lower grades. Decrease in the number of arrangements for articulation takes place in both junior and senior units. In addition, the senior high school grades show no appreciable development of their programs of guidance after the schools reach an enrollment of approximately 200 pupils per grade, and among schools enrolling more than 60 pupils per grade there occurs a marked narrowing in the scope of the extracurriculum. These exceptions do not alter the conclusion that increase in size tends on the whole to be accompanied by an increase in comprehensiveness of organization. The exceptions are nevertheless sufficiently important to deserve special attention in the attempt which will shortly be made to point out the significance of the general conclusions.

It should be noted again that the present study can set no upper limit to the tendencies with respect to comprehensiveness which accompany increase in enrollment. For the group of schools containing the largest schools here studied the median average grade enrollment in the senior high school grades is 333 pupils. The conclusions as to senior high school organization, therefore, apply until the schools reach a total enrollment of at least 1,000 pupils.

### 6. SIGNIFICANCE OF DIFFERENCES AMONG SCHOOLS OF VARIOUS SIZES

*Comparison of detailed differences with differences suggested by summary scores.*—In Chapter IV were presented certain tentative conclusions as to the comprehensiveness of organization of schools of various sizes. These conclusions were based on summary scores for the major features of organiza-

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tion. The comparisons of detailed practice summarized in the present chapter have been intended in part to test the reliability of the conclusions drawn from the summary scores. Hence it is worth noting that the results of the detailed comparisons are in general agreement with the earlier conclusions.

The norms for schools of various sizes presented in Chapter IV were derived from scores for conventionally organized schools as well as for junior and senior high schools. These norms were established for six size groups, moreover, instead of for the four groups used in the detailed comparisons. As a result of the differences in the composition and size of the groups of schools used, exact agreement could not fairly be looked for in the results from the two methods of analysis. The results nevertheless approximate each other closely. The two methods lead to the same conclusions as to the features of organization in which increasing enrollment brings increase or decrease in comprehensiveness; they point to the same difference between junior and senior high school grades in the general development of provisions for guidance and for extracurriculum activities; and they lead to the same conclusions as to the size of school in which the last-named features of organization cease to show consistent development with increased enrollment.

*Significance of the differences as a gage of the effectiveness of various sizes of schools.*—The conclusions as to the general superiority of the larger schools have an important bearing on certain arguments occasionally advanced in defense of the small school. Apologists for the status quo have sometimes pointed out that the disadvantage of the small school in the seeming narrowness and rigidity of its organization may be more apparent than real. With few pupils to deal with, the school may not need to set up a complex administrative framework; so that the small school which lacks elaborate organization may actually be doing quite as well by its pupils as the large school which is forced by its size to make intricate administrative arrangements.

The present analysis furnishes slight support for such a contention. Certain of the practices which have been found to be used more extensively by large schools than by small are, it is true, primarily compensations for large enrollment. The provision of an increasing number of supervisory officers

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with each increase in size is a compensation of this sort; so also, no doubt, is the increasing centralization of the guidance program. But the comparisons made in the present study have been chiefly concerned with things actually done to promote effective instruction. The differences found have for the most part related to practices which any school may well undertake, no matter how large or how small its enrollment. Practices of this nature comprise, for example, the use of a variety of supervisory devices for the improvement of classroom work, the employment of varied methods and materials in the guidance program, the provision of a wide range of subjects of study, the offering of numerous types of extracurriculum activities. The superiority of the larger schools is chiefly based on such practices as these, irrespective of mere elaborations of administrative machinery. Though increasing size is obviously accompanied by increasing complexity of organization, it seems to be accompanied also by unmistakable gains in the educational opportunities afforded.

At the same time the relative shortcomings of the larger schools should not be overlooked. Just as the advantages of these schools seem to consist in real gains, so do their disadvantages comprise real losses. The decreasing attention paid by large schools to articulation with the elementary grades and to integration between the junior and senior units represents a decrease in things actually done to promote effective instruction. The failure of the large senior high schools to expand their programs of guidance and of extracurriculum activities represents likewise a relative lack of attention to things which are presumably worth doing in any school. Whatever total advantage the large schools possess thus results from a balancing of fairly tangible gains and losses in the arrangements which they provide.

*Possible explanations of the differences among schools of various sizes.*—When one attempts to determine the causes of the various differences among the schools, one is immediately confronted with the difficulties suggested at the beginning of this chapter. The fact that changes in organization consistently accompany increase in enrollment does not in itself prove that increase in enrollment produces the changes. The changes may be products of some factor or combination

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of factors commonly associated with increased enrollment, rather than of size of enrollment as such.

*Differences directly attributable to size.*—There are in fact relatively few differences among all those that have been listed, which can be adequately explained on the basis of size of enrollment alone. These few differences are wholly concerned with the grouping of pupils. It is clear that variations in the size of enrollment may be a primary cause of differences in the size of recitation classes and of differences in the extent to which various forms of specialized groupings are used. Size of enrollment may also directly determine among the smaller schools the number of specialized curriculums and of separate courses (both required and elective) which the schools offer. Finally, size of enrollment may place a necessary limitation on the variety of special activities provided in the extracurriculum; it completely prevents, in fact, the offering of large-group extracurriculum activities in very small schools.

The size of a school's teaching staff is ordinarily roughly proportionate to the size of the school's enrollment. If differences among schools growing out of the size of their staffs are added to the differences which result from the numbers of pupils enrolled, the list of variations directly due to size is somewhat extended. The size of a school's staff has an inescapable bearing upon the extent to which teaching is departmentalized. Through the extent of departmentalization the extent to which the school can offer promotion by subject is also affected. The size of the staff has a further effect upon the number and variety of courses offered; it exerts in this connection an influence over and above that of the size of the school's enrollment. The size of the staff may have a similar effect upon the number and variety of the school's extracurriculum activities. Finally, the number of teachers employed will have an obvious influence on the complexity of the school's supervisory organization.<sup>7</sup>

<sup>7</sup> For a detailed analysis of the limitations placed by small enrollment and small teaching staffs upon the organization of the junior high school, see Spaulding, F. T. *The Small Junior High School*, Harvard University Press, 1927.

Frank P. Bachman, in Chs. III and IV of his study entitled "Training and Certification of Teachers" (George Peabody College for Teachers, 1930), analyzes the effects of a limited teaching staff upon the secondary-school program as a whole. Though Bachman's study is primarily concerned with 4-year schools, his analysis of teaching assignments has direct bearing on the problems of the small reorganized school.

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In all these matters there is probably a causal relationship between the size of a school's enrollment or of its teaching staff and the comprehensiveness of its organization. But there is probably also a diminishing relationship of this sort as schools increase in size. The possession of a very small enrollment no doubt means that a school actually can not make—economically, at least—various arrangements usually considered desirable. When enrollment increases beyond a certain point, however, the arrangements in question become no longer impossible. Though they may be more difficult to make than would be the case in schools of still larger size, in the sense that they demand greater administrative skill, they cease to be wholly impracticable.

At what point the impracticable becomes the possible but difficult can not be definitely established on the basis of the present data. A previous study indicates that, so far as the organization of the junior high school grades is concerned, schools enrolling more than 60 pupils per grade are large enough to escape any absolute limitations by reason of limited enrollment.<sup>8</sup> This conclusion was derived from analysis of the minimum number of pupils necessary for economical offering of a full program of required and elective work, extracurriculum activities, promotion by subject, and departmentalization. The factors considered are such as to suggest a similar conclusion for the senior high school grades. A second study, in which estimates were based on the degree of specialization necessary to insure effective teaching, supports the conclusion that a staff of 10 teachers represents the minimum teaching force necessary to present a well-rounded secondary-school program.<sup>9</sup> With a pupil-teacher ratio of 25 to 1, a staff of this size would presuppose an average enrollment per grade in a 6-year school of approximately 42 pupils. The necessary minimum enrollments in separate 3-year junior and senior schools would of course be larger, though exchange of teachers between the schools would make it possible for the enrollments to be considerably less than twice the average grade enrollment necessary in a 6-year school. Differences in the features of organization considered in the two studies lend somewhat different

<sup>8</sup> Spaulding, F. T., *op. cit.*, Ch. XII.

<sup>9</sup> Bachman, F. P., *op. cit.*, p. 41.

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import to the two conclusions. In the absence of a study which combines all the factors involved, the most optimistic conclusion which can now be justifiably adopted is probably that suggested by the former study—that schools enrolling fewer than 60 pupils per grade in either their junior or their senior units are inevitably prevented by their size from adopting thoroughly comprehensive or flexible forms of organization. As a corollary it may be assumed that larger schools may, with skillful administration, make any or all of the major arrangements usually advocated for reorganized schools.

Thus the two lower groups of schools in the present comparisons are probably working under an inevitable handicap in those features of organization on which enrollment and size of staff have a direct bearing. Size no doubt affects the organization of the larger schools as well. But among the schools of the two upper groups it is probable that practice in organization is determined more largely by other factors than by size as such.

*Differences attributable to other factors than size.*—From the foregoing analysis it would seem to follow that many of the differences among schools of various sizes are not *necessary* products of differences in enrollment. Even brief consideration of the practices in which major differences occur tends to confirm this conclusion. Certainly the steady decrease from group to group in the number of arrangements for articulation can not be attributed to any inevitable handicap imposed by large enrollment. The specific arrangements for articulation which have been examined are entirely practicable in large schools, as is shown by the fact that almost none of these arrangements are wholly lacking among the largest schools studied. Nor can the tendency of the large schools not to expand their senior high school programs of guidance and of extracurriculum activities be explained primarily in terms of the size of the schools concerned. As to the small schools, the question may fairly be raised as to whether an average difference of 30 pupils per grade between the smallest schools and those next in size is in itself sufficient to account for all differences in practice between the two groups. Provision for home-room activities, for pupil participation in school government, for the syste-

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matic guidance of pupils, and for the improvement of instruction through supervision—to cite examples of matters in which the smallest schools are seriously deficient—is not rendered impossible nor even extraordinarily difficult by the mere fact that a school enrolls relatively few pupils.

The explanation of such differences as these is presumably to be found in certain underlying factors which are commonly associated in varying degrees with the factor of size. One such factor is the relative amount of financial support of which the individual school can avail itself. A second factor is the attitude of the community supporting the school—the community's interest in education, its liberality of outlook, its willingness to make changes when changes are desirable. A third factor is the degree of wisdom, foresight, and administrative ability possessed by the head of the school. The effects of these factors can seldom be directly measured in terms of specific differences among the various size groups of schools. Underlying factors of this type are of obvious importance, however, in determining the nature and scope of secondary-school organization. It seems probable that the three factors named are more directly responsible than size of enrollment as such, for many of the differences which have been revealed.

*Differing influence of various factors on schools of various sizes.*—The relative effects of size, of financial resources, of community attitude, and of differing qualities of administrative leadership can be no more than guessed at in the cases of the schools which have been analyzed. It seems a reasonable presumption, however, that all four of these factors have a strong negative effect among the smallest schools. That size exercises such an effect has already been shown. The presumption that the other factors are similarly operative is supported by certain of the comparisons presented earlier, among schools classified according to types of organization.<sup>10</sup> In these comparisons, the smaller the schools considered the less difference the type of organization adopted seemed to make. This proved true not merely in the features of organization on which size of enrollment has immediate bearing but in practically all

<sup>10</sup> See especially Chs. V and VI, in which schools of various types of organization are analyzed in a number of successive size groups.

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the features of organization studied. The relative lack of variation in practice among very small schools suggests that among these schools both size of enrollment and such other factors as may<sup>2</sup> be associated with size tend to exercise a highly repressive effect.<sup>11</sup>

With each major increase in enrollment there is presumably a lessening in the negative effect of the various factors. This would seem to be especially the case with the two factors of community attitude and relative financial resources. The differences in organization produced by these factors as distinct from the others can, of course, not be clearly identified. It seems probable, however, that among the larger schools these two factors offer no important basis for group distinctions.

Size of enrollment in itself, while it does not altogether cease to have a limiting influence among even the largest schools, probably changes with respect to the nature of the handicaps which it inposes. Whereas small enrollment exercises a positive limitation of one sort, very large enrollment no doubt gives rise to handicaps of a quite different sort. Among the largest schools the administrative complexity which results from the need for dealing with many pupils at once unquestionably provides an obstacle to thoroughly effective organization.

The influence of administrative leadership probably persists unchanged in its nature, though it differs in its limiting effects through all the size groups. Among the smaller schools the relative lack of systematic planning on the part of the schools' administrative officers is almost unmistakable. The relative absence of planning clearly reveals itself in the neglect of numerous features of organization which have already been pointed out—guidance, the improvement of instruction, various phases of the extracurriculum. These represent undertakings which are by no means impracticable in the small school despite its restricted enrollment and its restricted financial resources. Whether the absence of planning in this connection is due to lack of time and opportunity

<sup>11</sup> Cf. Bear, Robert M. How Distinctive Are Small Six-Year Schools? *School Review*, 40: 375-380, May, 1932. As between small 6-year and 4-year schools in Kentucky, Bear concludes that "the differences are unimportant as compared with the resemblances. In fact, the distinctive character of the 6-year school is generally lacking; these schools, being unable to do otherwise, function largely as do 4-year schools under a different organizational name."

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on the part of administrative officers or to lack of training and experience, the available data do not show;<sup>12</sup> but the obvious defects suggest an important starting point for improvement in the work of the small school. Among the larger schools the defects in articulation, in guidance, and in extracurriculum activities can not be satisfactorily accounted for except in terms of similar administrative oversight. The complexity resulting from large size, as well as the lack of administrative planning, no doubt affects the provision for these features. But properly applied administrative leadership might in all the large schools—as it does in individual schools—effectively counterbalance the handicap of large enrollment.

*Summary.*—The size intervals within which these various factors exert their effects can not be exactly determined. To summarize the effects in terms of definite sizes of schools may suggest an exactness which present data will hardly support. It seems desirable, nevertheless, to attempt such a summary. In view of the limitations of the data, the following statements should be interpreted as dealing with approximations only, so far as the sizes of schools are concerned.

Among reorganized schools enrolling fewer than 60 pupils per grade, practice with respect to organization is restricted not merely by limited enrollment but probably also by lack of an effective public sentiment, of adequate financial resources, and of sufficiently competent administrative leadership. The limiting effect of all these factors together seems to be in approximately inverse proportion to the size of school enrollment.

Among schools enrolling an average of from 60 to 200 pupils per grade, the first three of the factors listed probably offer as a rule no insuperable handicaps to the attainment of an organization at least as effective as the average. The defects in organization which appear among these schools may in general be attributed as much to inadequate planning as to any other single cause.

<sup>12</sup> The limitations of the present study have prevented detailed analysis of the type of leadership afforded in schools of various sizes. The study of the high-school principalship reported in Koss, L. V., *The High-School Principal* (Houghton Mifflin Co., 1924), offers significant evidence, however, as to the differences in this matter which commonly appear between large and small schools. See also Foster, F. K. *Status of the Junior High-School Principal*, U. S. Office of Education Bulletin, 1930, No. 18.

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Among schools enrolling more than 200 pupils per grade, lack of adequate attention to certain specific features of organization seems to be responsible for the major deficiencies in organization. Schools of extreme size probably encounter a further obstacle in the administrative complications of very large enrollment.

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## CHAPTER IX : THE COMPARATIVE PROMISE OF VARIOUS TYPES OF ORGANIZATION

### 1. ARE SIGNIFICANT DIFFERENCES TO BE FOUND AMONG VARIOUS TYPES OF SCHOOL ORGANIZATION?

*The purpose of this chapter.*—The preceding comparisons of practice in various types and sizes of schools bear directly on the answers to a number of important questions. First, do certain types of secondary-school organization differ in important respects from other types of organization? Second, what major differences in organization are to be found among the more common types of schools now in operation? Third, what are the probable explanations of important differences?

It is the purpose of this chapter to bring together the principal conclusions of the study with respect to these questions. Most of the conclusions have been presented in somewhat scattered form in preceding chapters. They are here summarized in part for convenience, and in part to supply the basis for a tentative answer to a further question: What form of organization is likely to be most appropriate for the individual school which is seeking to improve its program?

*The existence of major distinctions as revealed in the study.*—The answer to the first question is unmistakable. Clearly significant differences exist among the commonly recognized types of secondary-school organization. These differences become especially apparent when the effects of differences in enrollment are at least partially ruled out. The differences can be demonstrated, moreover, not merely in terms of general ratings for school organization as a whole, but in terms of long lists of detailed practices.

*Distinctions based on summary scores.*—Differences among schools have been studied in part through the use of summary scores for the major features of school organization. The use of such scores has permitted distinctions on the basis, first, of comprehensiveness of organization and, second, of consistency of organization. The study has assumed, first, that the more arrangements a school makes to provide for the

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effective conduct of its work the better organized that school is likely to be. In keeping with this assumption, scores have been computed for *comprehensiveness* by giving numerical credit for the number of different arrangements reported in connection with each of nine major features of organization. The study has assumed, second, that a school which does approximately equal justice to all its major features is better organized than one which builds up certain features at the expense of others. On the basis of this second assumption, the *consistency* of organization characteristic of various types of schools has been determined by computing the percentage of the schools of each type which reach or surpass median scores for schools of their size in each of the nine major features. In both comprehensiveness and consistency important differences appear among schools of differing types of organization.

*Distinctions based on comparisons of detailed practice.*—Differences among certain types and sizes of schools have been studied also through comparisons of detailed practices. These comparisons have been of value as a supplement to the comparisons of summary scores. They have been valuable also as a test of the significance of the differences suggested by the summary scores. Where it has been possible to apply both types of comparisons to the same groups of schools, important differences in specific practice have been found in substantially all instances to have been reflected by differences in summary scores.

*Summary scores contrasted with analyses of specific practice as a gage of differences in organization.*—The correspondence in the results of the two sets of comparisons is of much significance. The assumptions underlying the summary scores are subjective in nature and may not meet with universal acceptance. Hence, conclusions based on these scores as to the superiority or inferiority of various types of organization may be challenged by those who would gage organization on a different basis. But even though the conclusions derived from the scores are not accepted in toto, there is no escaping the fact that differences in the scores point to differences in practice which are sufficiently striking to demand recognition.

This fact has an important bearing on the problem of standardizing school organization where standardization

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seems necessary or desirable. The scoring system used in this study is in need of revision and refinement before it can be safely depended on for any exact rating of individual schools. But the agreement obtained in identifying important differences between groups of schools through the use of this scoring system on the one hand and through the analysis of detailed practice on the other suggests that a scoring system can be devised by which the organization of individual schools may be fairly and accurately judged in relation to an agreed-upon standard.

From the point of view of the conclusions reached in this study, the agreement in the results of the two types of comparisons is of still further significance.

In the first place, not all the schools which have been rated on the basis of summary scores have been compared with each other in terms of detailed practices. Those schools which were studied in detail were judged for relative comprehensiveness of organization in terms of both types of comparison. In the case of these schools the general agreement between the two methods of rating suggests that the scores alone may be relied on to furnish approximate measures of comprehensiveness for types of schools which have not been analyzed in detail.

In the second place, the comparisons of detailed practice have not allowed judgments of consistency of organization. Consistency can not be judged, in fact, except on the basis of a scoring system, since scores are necessary to permit recognition of general levels of achievement in major features of organization. But consistency of organization is determined in the last analysis by the specific arrangements which individual schools provide in connection with each major feature. The fact that differences in summary scores can in general be relied upon to point to differences in important arrangements means that for groups of schools, at least, the differences in consistency indicated by the summary scores can in turn be assumed to represent actual differences of some importance.

Thus the detailed comparisons serve to support the conclusions based on summary scores with respect to both comprehensiveness and consistency of organization.

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### 1. WHAT ARE THE MAJOR DIFFERENCES IN ORGANIZATION AMONG THE COMMON TYPES OF SECONDARY SCHOOLS?

*Comprehensiveness, consistency, and size.*—If the assumptions underlying this study are valid, the relative comprehensiveness and consistency attained by various types of school organization provide a basis for distinguishing the more promising types of organization from those of less promise. The common types of secondary schools, as they are found in actual practice, have been studied in terms of these two criteria. The general characteristics of these schools are summarized in the following paragraphs.

In judging the characteristics of the schools the effects of size of enrollment have had to be taken into definite account. Size is recognized in the standards for consistency of organization through the methods by which these standards have been computed. Size has been recognized in judging comprehensiveness of organization, also, by restricting the comparisons of comprehensiveness to schools falling within limited size groups. The descriptions which follow thus indicate the relative consistency and comprehensiveness of schools of various types as compared with other schools of equivalent size.

*Conventionally organized elementary schools and 4-year high schools.*—The secondary-school grades in conventionally organized systems—that is, the seventh and eighth grades in elementary schools and grades 9 through 12 in unreorganized 4-year high schools—display wide variations from school to school in their comprehensiveness of organization. In each of the major features of organization numerous conventional schools provide at least as comprehensive an organization as that attained by the average school under any one of the various types of reorganization. Conventional schools tend to possess a distinct advantage over reorganized schools in their arrangements for articulation between the sixth and seventh grades. Conventional schools in general are probably quite as comprehensively organized as the so-called reorganized schools forming parts of 6-2-4 systems. They tend, however, to be surpassed in comprehensiveness by reorganized schools of equivalent size administered on a 6-3-3 or 6-6 basis.

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The attainment of consistency of organization seems to present much greater difficulties to conventional schools than the attainment of comprehensiveness. Such schools can apparently make any one of the various provisions commonly expected of reorganized schools. But conventional schools seem to be under a serious handicap when it comes to making all these provisions at once. In consistency of organization they fall below the 6-3-3-, 6-6-, and 6-2-4-system reorganized schools. Their major weakness from the standpoint of organization thus rests in their failure to provide requisite diversity of arrangements, rather than in their inability to make arrangements of any single specified type.

*Separate 3-year junior and senior high schools.*—Among the reorganized schools, separate 3-year junior and senior high schools represent the most common type of organization in all but very small systems. Schools of this type surpass the conventional schools and schools organized on a 6-2-4 basis in comprehensiveness of organization, but they attain a relatively low rank as compared with certain other types of reorganized schools. They are notably weak in their provisions for articulation of the junior and senior units.

In consistency of organization the 3-year schools occupy likewise an intermediate position. Though individual schools of this type apparently find it less difficult than do the conventional schools to do justice to all the major features of organization, relatively few 3-year schools achieve a desirable standard of consistency.

The rank attained by the 3-year schools is of particular interest because of the esteem in which this type of organization is commonly held. The comparisons undertaken in the present study suggest that the advantages usually attributed to schools of this type may be products quite as much of large enrollment as of the form of grade grouping adopted.

*Undivided 6-year schools.*—Most common in very small school systems are the reorganized schools in which the six secondary-school grades are administered as a single unit. Compared with other schools of equivalent size, undivided 6-year schools are outstanding in both comprehensiveness and consistency of organization. They tend to be surpassed in these respects only by the 3-3-plan junior-senior high schools, and they fall below these schools by a small margin

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only. Their chief strength lies not merely in their obvious advantage with respect to articulation, but in their provisions for guidance, in the composition of their teaching staffs, and in their arrangements for supervision.

The smallest of the 6-year schools seem to be subject to a tendency to subordinate the organization of their junior high school grades in some degree to that of the senior high school grades. In spite of this tendency, the organization of their junior units is generally superior both in comprehensiveness and in consistency to that of separate junior high schools of equivalent size.

*Three-three-plan junior-senior high schools.*—Three-three-plan junior-senior high schools, representing a compromise type of organization between the separate junior and senior high schools and the undivided 6-year schools, are found in both large and small school systems. Data are not available for enough junior-senior high schools enrolling more than 2,000 pupils to allow group analyses of schools of this size. Below this upper limit large junior-senior schools tend to be more comprehensively organized and more consistent in their organization than separate schools of comparable size. Small junior-senior schools tend likewise to be superior to small 6-year schools, though their advantage over the 6-year organization is less clearly marked than their advantage over the separate 3-year schools.

The organization of the 3-3-plan junior-senior high schools stands out, in fact, above that of all the other types of secondary schools examined. Like the undivided 6-year schools, the junior-senior high schools provide especially comprehensive arrangements for articulation between the junior and senior units. The junior-senior schools excel also in the comprehensiveness of their organization of instruction, their senior high school programs of studies, their extracurriculums for both junior and senior high school grades, their arrangements for guidance, and their supervisory programs in the senior high school. The advantage of these schools with respect to consistency of organization is even greater than their advantage in comprehensiveness. As compared with all other types of schools excepting the undivided 6-year schools, the proportion of junior-senior high schools attaining a desirable standard of consistency is not less than 4 to 1.

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*Four-year junior high schools.*—Four-year junior high schools, which are commonly found only in small school systems, have not been represented in large enough numbers in the present study to justify more than a tentative judgment concerning their type of organization. In comprehensiveness of organization they seem to be superior to conventional schools of comparable size and to schools organized on a 2-4 basis, though whether they are equivalent in comprehensiveness to 3-year schools is uncertain. They are notably inferior to small junior-senior high schools and undivided 6-year schools. In consistency of organization they probably rank with 3-year junior high schools.

*Two-four-plan reorganized schools.*—Separate junior and senior high schools and combined junior-senior high schools administered on a 6-2-4 basis are as a group the least comprehensively organized of the various types of reorganized schools investigated. Schools of this type seem to vary markedly in their particular strengths and weaknesses. The range in their practice is indeed almost as great as that of the conventional schools, which they strongly resemble. Two-four-plan schools in general are hardly more comprehensively organized than conventional schools, and attain a desirable standard for consistency of organization only slightly more often.

*The relation between size of school and comprehensiveness of organization.*—In the foregoing characterizations of various types of schools the effect of type of organization has been considered among schools of equivalent size. Size has at least two effects which are of so much importance that they can not be ignored.

First, small enrollment tends notably to prevent variations in school practice. Differences in practice among small schools of differing types of organization tend in the main to be fewer and less important than differences among large schools of the same types. Among small schools, in other words, the repressive effect of limited enrollment is so great that the type of organization adopted is *relatively* of little moment.

Second, each major increase in enrollment tends to be accompanied by a marked increase in general comprehensiveness of organization. Differences between large and

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small schools are so great that large schools of any type are likely to be more comprehensively organized than small schools either of the same or of any other type. The advantage possessed by the large schools is, moreover, a "real" advantage, in the sense that it is based upon a greater number of inherently desirable practices rather than upon mere complexity of organization.

The descriptions of special types of organization need to be interpreted in the light of these facts. Certain types of schools seem to be demonstrably superior to other types when their enrollments are equivalent. Less-favored types permitting greater enrollments may, however, offer advantages over superior types when special circumstances allow the latter to be organized only as small schools.<sup>1</sup>

*Variations among individual schools.*—The descriptions of special types of organization need to be interpreted also in the light of the wide variations which exist among individual schools of the same type and size. Individual schools even of the less-favored types frequently rank above some of the better schools of generally superior types. The characterizations of the various types are based on practices usually found among schools of those types. The characterizations are not to be interpreted as limits above which individual schools never rise.

### 5. WHAT ARE THE PROBABLE EXPLANATIONS OF IMPORTANT DIFFERENCES AMONG THE COMMON TYPES OF SCHOOLS?

*Underlying sources of differences in practice.*—The variations in practice among individual schools suggest a need for caution in drawing conclusions as to the causes even of widespread differences. Judged in terms of comprehensiveness and consistency, certain types of schools are in general superior to others. But the adoption of a superior type of organization does not guarantee outstanding practice in an individual school, nor does the adoption of an inferior type of organization necessarily condemn a school to inferior practice. Though type of organization may have an important effect on school practice, it is obviously neither the sole nor perhaps even the chief cause of differences in practice.

<sup>1</sup> The extent to which this holds true for separate junior and senior high schools and junior-senior high schools has been analyzed in detail. See Sec. I of Ch. V.

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The explanation of such differences is probably to be found, as a matter of fact, not so much in what the different types of organization *cause* as in what they *make possible*. At best, the form of a school's organization probably does little more than provide a relatively convenient or inconvenient setting for desirable practices. Superior forms of organization prove to be superior simply because they make desirable practices easier to adopt than is the case under other forms of organization.

If this is so, the characteristics of organization which make desirable practice convenient are of major importance. Recognition of such characteristics is likely, indeed, to provide a more reliable guide to improvement in organization than is the mere knowledge that certain special types of schools tend at present to be more comprehensively and consistently organized than other types.

*Characteristics likely to promote effective organization.*—As a means of determining what characteristics are likely to promote effective organization, an effort has been made to discover not merely how various types of schools differ but why they differ. Explanations of why the schools differ have, perforce, been based largely on conjecture. The conjectures are supported, however, by detailed analysis of practice in a considerable number of schools; so that they represent more than purely subjective judgment.

It seems probable that there are at least four major characteristics which distinguish superior types of organization from average or inferior types. Listed in what seems to be the order of their importance, as accurately as their relative importance can be estimated, these characteristics are as follows:

1. *Possession of large enrollments in separate grades.*—The fact that large schools tend in most respects to be more comprehensively organized than small schools has already been pointed out. Large total enrollments gained by combining numerous grades in a single organization presumably make easier the introduction of certain desirable practices. It is probable, however, that large average grade enrollments represent a more important characteristic than large total enrollments. The relative value of large grade enrollments is attested, for example, by the superiority of separate junior

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and senior high schools enrolling fewer than 500 pupils to junior-senior high schools of the same total enrollments. The adoption of a form of organization, of no matter what special type, which permits large grade enrollments within a single school would seem to be of the first importance in providing for more effective organization.<sup>2</sup>

2. *Adoption of grade combinations which free the school from a traditional pattern.*—Conventionally organized schools seem to be handicapped chiefly by their inability to break with tradition. The conventional schools are inferior in organization to most reorganized schools, not so much, apparently, because of any inherent disadvantage in their forms of grade grouping as because those forms tend to bind the schools to practices which reorganized schools are able to avoid or improve upon. Two-four-system schools are less well organized than 3-year junior and senior high schools, presumably for a similar reason. Not the peculiar merit of a 3-year grade combination, but the fact of a sufficient break with the traditional pattern to allow freedom in introducing new practices, seems to give the 3-year schools their principal advantage. Thus the adoption of a form of organization which departs unmistakably from the conventional—again irrespective of the particular type of organization chosen—would seem to provide marked opportunity for greater effectiveness.

3. *Provision for the close association of junior and senior units.*—Combining the junior and senior high school grades in either a junior-senior high school or an undivided 6-year school seems to result in at least three important benefits.<sup>3</sup> The proximity of the units apparently causes each unit to stimulate the other in the adoption of desirable procedures. Administered within a single school, the junior and senior high school grades may readily make, in combination, certain

<sup>2</sup> As pointed out in connection with the detailed comparisons of large schools (Chs. V and VIII), the data of this study do not allow an estimate of maximum desirable enrollment. The largest schools studied had average grade enrollments of more than 333 pupils.

<sup>3</sup> This conclusion is based on the analyses of 3-3-plan junior-senior high schools and undivided 6-year schools presented in Chs. V and VI. The limitations of the study have not permitted detailed comparisons of 2-year junior high schools and 4-year senior high schools with 2-4-plan junior-senior schools. Comparisons of schools of these types on the basis of summary scores yield somewhat uncertain results because of the unevenness of organization mentioned in Ch. VII. The summary scores tend to indicate advantages on the part of the junior-senior schools, however, which are similar to those noted as favoring the 3-3-plan junior-senior high schools in comparison with separate 2-year schools.

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special arrangements which neither could as easily undertake alone. Junior and senior units working under a single-school organization more readily achieve uniformity of purpose and of standards. Within any system in which all the secondary-school grades are considered to have the same general purposes and in which essentially the same methods and materials of teaching are employed throughout these grades, the combination of the grades in a single school seems likely on the whole to make for more effective organization.<sup>4</sup>

4. *Recognition of the junior and senior high school grades as coordinate units.*—As between undivided 6-year schools and junior-senior high schools, whatever major advantage is held by the latter seems to be due to arrangements through which the upper school unit is not allowed to overshadow the lower. The present need for improvement in the work of both school units means that the problems of each require direct attention. Such attention can probably best be assured by the assignment to each unit of at least one supervisory officer whose primary concern is with that unit. A form of organization making some such provision as this offers still further opportunity for effectiveness.

These four characteristics represent the impersonal factors which most clearly distinguish superior types of organization in present practice.

### 4. WHAT FORM OF ORGANIZATION IS MOST APPROPRIATE FOR THE INDIVIDUAL SCHOOL?

*General superiority of the 3-3-plan junior-senior high school.*—As judged by the criteria set up in this study, the 3-3-plan junior-senior high school represents in general the most effective type of organization among those in common use. Its form of grade grouping allows it to present in greater measure than any other type of school all four of the characteristics which facilitate desirable practice. In both comprehensiveness and consistency of organization it is outstanding among schools of comparable size, whether large or small. There can be little question that wider adoption of the junior-senior organization would result in increased

<sup>4</sup> It should again be noted that it has not been possible in this study to set an upper limit on desirable size of enrollment. The advantages of combining the junior and senior units may be offset, in very large schools, by the handicap of unwieldy size.

opportunities for desirable types of secondary-school procedure.

Yet the value of this form of organization in general does not imply its corresponding value in every individual school situation. Before such an organization can be recommended for an individual school a number of matters demand attention. Three points in particular should be clearly recognized. The criteria by which school organization has been judged in this study do not take account of certain important educational outcomes. Other factors than those which have been discussed in detail may have significant effect on school procedure. The advantages of the junior-senior high school organization—or of any other special type of organization—may be only temporary. Each of these three points deserves comment.

*Limitations of the criteria by which school organization has been judged in this study.*—There are obvious limitations to the criteria by which school organization has here been judged—limitations which may weigh heavily for certain schools. The various types of organization have been measured in terms of more or less tangible procedures. No direct account has been taken of the relatively intangible effects upon pupils which may follow certain forms of grade grouping. In particular, the mental and emotional outcomes of complex large-school groupings, and of schemes of organization by which relatively young pupils are thrown into contact with pupils who are relatively mature, have not been given any immediate consideration.

The possibility of unfortunate effects from these sources deserves careful study. The junior-senior organization may involve dangers from both sources. Whether the dangers are so great as to offset possible advantages in other directions can not be determined on the basis of present data. For the individual school the question is an important one, and one which may need to be differently answered in the light of differing circumstances. Despite the promise which the junior-senior organization offers of an increase in desirable school procedures, its possible outcomes in other directions may occasionally dictate the adoption of a different form of grade grouping.

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*Importance of certain unpredictable factors influencing school organization.*—Even though its advantages outweigh its dangers, the junior-senior high school can hardly be regarded as a sure solution for the problems of every individual school system. The four characteristics which seem to make this type of school outstanding represent by no means the only factors that need to be considered in deciding upon the organization of an individual school. These four characteristics, as has been noted, relate to largely impersonal factors. Vitaly important personal factors also affect school procedure. So likewise do factors which are not strictly personal in nature, but which are more or less unpredictable for schools in general. The quality of administrative leadership, the strength and intelligence of community support, the financial resources available for education—to mention factors which have been commented on in the detailed analyses—furnish examples of matters which influence school practice quite as directly as the four characteristics described.

Any one of such matters as these may make it desirable for an individual school system to adopt what would in general be an inferior type of organization. The advantage of large enrollment is not likely to be great if a large school can be gained only at the cost of weakening the community's confidence in the educational program. Departure from conventional forms of organization may be of doubtful value in the absence of adequate financial support for thoroughgoing reorganization. The combination of junior and senior high school grades, even under an organization which establishes these grades as coordinate units, is likely to be fruitless unless competent administrators and supervisors can be provided.

Hence the junior-senior high school organization can not be recommended indiscriminately. Other things being equal, the characteristics possessed by this type of organization lend it certain appreciable advantages. But many factors in the local situation may require careful attention before an individual school can expect to profit from the advantages in question.

*Temporary nature of the advantages of special types of organization.*—Finally, brief consideration of the characteristics which now distinguish superior types of organization

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will show that the advantages offered by the last three of these characteristics, at least, may be of immediate significance only.

There is reason at the present time, for example, to expect some gain in effectiveness from the mere fact of a break with the 8-4 system. But if a new system itself becomes conventional—and present tendencies suggest that the 3-year groupings are in process of doing so—a departure from the new system may in turn result in improvement. Thus even the junior-senior organization may at length become a pattern which needs to be broken away from.

There is reason at present to expect a definite gain in effectiveness also through administering the six secondary-school grades together. Yet change in the functions of the various grades or in the methods and materials which seem appropriate at various educational levels is likely in the future to lend advantage to quite different grade combinations. The current experimentation with the junior college may quite conceivably be laying the basis for just such a shifting of advantage.

There is at present some value, finally, in providing for equally direct attention to the junior and senior high school units. At no very distant date, however, procedure in the units which are now in process of change may become standardized on an acceptable basis and the need for special attention may shift to some other school unit. In such an event the six high-school grades may at length be as advantageously administered in an undivided unit as are the six elementary-school grades at the present time.

Whether all these changes will in fact come to pass can not now be foreseen. Nor can there be any accurate prediction as to how such changes will affect specific practice if they do come to pass. The possibility of change is nevertheless clearly apparent. In the light of this possibility, the characteristics of an effective school organization to-day can obviously not be counted on to remain the characteristics of an effective school organization 15 or 20 years from now.

From the standpoint of the junior-senior high school this means that this type of organization is likely to provide best a solution for certain *present* difficulties only. Had a widespread survey been made of American secondary-school

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organization in 1915 or 1920, it is more than possible that separate 3-year junior and senior high schools, and not combined junior-senior schools, would have stood out as the most promising types. Assuming corresponding changes in the future, the junior-senior high school is likely in turn to be superseded by some type of school better adapted to the newer aims and the newer problems of secondary education.

*The responsibility of the school administrator.*—All these considerations need to be recognized by the administrator who is seeking to improve the organization of his individual school or school system. Detailed knowledge of the problems confronting the individual school is essential before any wise decision can be made as to appropriate organization. Most schools, facing conditions not extraordinarily different from those confronting the schools of this study, will no doubt find the junior-senior high school organization of marked advantage. There will be numerous schools, however, for which some other type of organization will offer greater promise. To determine what form of organization is most likely to meet both the present and the future needs of his community must be one of the chief responsibilities of the local administrator. The administrator who is alert to conditions in his own school system will be ready to advocate whatever type of organization best meets those conditions, irrespective of its appropriateness for schools in general.

In the last analysis the test of the organization of an individual school will be the extent to which that organization tends to promote desirable practice. The question of what practice should be promoted has as yet been dealt with only by implication. The remaining chapters of this report bear directly on this question.

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## DIVISION III : THE IMPROVEMENT OF SECONDARY-SCHOOL ORGANIZATION

### CHAPTER X : PRACTICES CHARACTERISTIC OF COMPREHENSIVELY ORGANIZED SCHOOLS

#### 1. THE IMPROVEMENT OF ORGANIZATION IN THE INDIVIDUAL SCHOOL

*The significance of practice in outstanding schools.*—To set up a pattern for school organization in terms of a list of practices which every school should adopt is no part of the purpose of this study. The improvement of organization in the individual school must depend in the last analysis not on the acceptance of any formal pattern, but on the painstaking effort of the school's administrative officers to find the best possible solutions for that school's special problems. A description of the types of practice which distinguish superior schools may, however, be of some value to schools in general. Procedures which find a place in the organization of outstanding schools do not necessarily represent procedures which every school should attempt to incorporate. But the fact that certain practices have been introduced and retained in a group of superior schools suggests that these practices are worthy of general consideration. The secondary-school principal who interprets the practices of outstanding schools not as features to be copied at all costs, but as features which may prove effective, will find in a list of such practices the basis for a critical examination of his own organization.

*The purpose of this chapter.*—It is the purpose of this chapter to present a list of practices which may be used in this way. Procedures in a group of schools outstanding in comprehensiveness of organization have been compared with procedures in a group of schools distinctly inferior in comprehensiveness, and with practices in a second group of only average comprehensiveness. Certain practices have been found, of course, to be more or less equally common in all the groups. Certain other practices have been found to be definitely characteristic of the outstanding schools alone. These latter practices are listed in detail in the following pages.

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To make the analysis of practice somewhat more suggestive of methods for improving the organization of individual schools, the lists are accompanied by comments on matters of particular significance. In various instances procedures which outstanding schools have not adopted are of as much interest as procedures which they have adopted. Procedures of the former type are pointed out. In other instances comments are included as to the possible effectiveness of certain practices. Visits were made in the course of the study to a large number of outstanding schools, and practices found in these schools were discussed at first hand with the schools' administrative officers. Where the visits have thrown light on the possible value of particular practices, that fact has been noted.

It should be recognized that comprehensiveness of organization is not in itself a guaranty of the value of detailed features of organization. Study of the practices especially characteristic of comprehensively organized schools nevertheless suggests that in most cases the procedures are likely to be of definite value on their own account. They are commended on this basis to the attention of school officers in general.

### 2. METHODS USED IN DETERMINING THE PRACTICES CHARACTERISTIC OF COMPREHENSIVELY ORGANIZED SCHOOLS

*Schools selected for study.*—The outstanding schools selected for special analysis were the 6-3-3-plan and 6-6-plan schools which received the highest total ratings for comprehensiveness of organization among the schools included in this study. One group of 25 schools was selected on the basis of scores for the organization of the junior high school grades, and a second group of equal size was chosen on the basis of scores for the organization of the senior high school grades. Seven 6-year schools were represented in both groups, so that the total list comprised 43 individual schools.

The schools selected as representing inferior organizations were the 6-3-3-plan and 6-6-plan schools which obtained the lowest total scores among the schools studied. As among the outstanding schools, 25 schools were chosen on the basis of junior high school scores and 25 on the basis of senior high school scores. The inclusion of 11 six-year schools in both groups reduced the total list to 39 individual schools.

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As a check on the differences which might appear between clearly outstanding schools and distinctly inferior schools, a group of average schools was also chosen. In the case of both junior and senior high schools, the 6-3-3-plan or 6-6-plan school which had received the total score halfway between the lowest score in the superior group and the highest score in the inferior group was selected as the middle school of the average group. The schools receiving the 12 successive scores above and below the score for this school were then added to the middle school to form a group of 25. In the list of average schools, 3 six-year schools were represented in both junior and senior high school groups, so that the total list comprised 47 individual schools.

Twenty-five schools were included in each of the groups to be compared on the assumption, first, that this number would in each case provide a group large enough to display significant group characteristics, and, second, that the total number of schools selected would include a small enough proportion of the list of available schools to leave extensive gaps between successive groups. The three groups of schools together comprise about 30 per cent of the schools available for study. Approximately 35 per cent of the total list of available schools thus fall between the inferior and average schools chosen for special study, and the remaining 35 per cent are distributed between the average and superior schools.

The methods of selection by which superior, average, and inferior schools were chosen might conceivably have been refined through the use of more elaborate statistical techniques. The groups were chosen, however, for the purpose of allowing merely a reasonably approximate judgment as to practices which are likely to be distinctive. It is probable that for this particular purpose the methods used were sufficiently exact.

*General characteristics of the superior, average, and inferior schools compared.*—That these methods resulted in the selection of groups of schools differing widely from each other in average scores for separate features of organization will be apparent from the data given in Table 27. The scores for housing and equipment in the junior high school grades are the same for the average and superior groups. The

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score for articulation in the senior high school grades is slightly lower for the average group than for the inferior group. In all the remaining features of organization the scores increase steadily and extensively from group to group.

TABLE 27.—Average scores for comprehensiveness of organization in the junior high school grades and the senior high school grades, respectively, of 25 inferior, 25 average, and 25 superior schools

Major features of organization	Junior high school grades			Senior high school grades		
	Inferior group	Average group	Superior group	Inferior group	Average group	Superior group
1	2	3	4	5	6	7
Admission and promotion.....	12	20	31	12	15	21
Organization of instruction.....	40	49	68	38	53	65
Program of studies:						
Grade 7.....	32	42	47			
Grade 8.....	35	48	54			
Grade 9.....	36	52	66			
Grade 10.....				35	60	75
Grade 11.....				32	61	82
Grade 12.....				30	61	80
Extracurriculum.....	22	37	56	24	36	51
Guidance.....	22	43	65	31	41	60
Articulation.....	19	22	28	29	26	41
Teaching staff.....	20	22	24	22	25	28
Supervision.....	9	17	24	10	16	22
Housing and equipment.....	11	16	16	9	14	17
All features.....	258	368	479	272	408	542

In Table 28 is shown the composition of each of the three groups of schools in terms of the sizes of the schools, the types of organization represented, and the sections of the country in which the schools were found. The distribution of the schools is of no great significance as showing what classes of schools are most likely to be inferior, average, or superior in comprehensiveness, since the schools were taken from the total list without regard to representativeness. It will be noted, however, that the inferior schools, as might be expected, are chiefly small schools, whereas the average and superior schools, though they cover practically the whole range of size groups, are predominantly large schools. The size of the schools is reflected in their types of organization; the inferior schools are in the main junior-senior high schools and undivided 6-year schools, while the average and superior schools are about equally divided between separate and combined organizations. The geographical distribution of

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the schools is largely determined by the frequency with which the various sections of the country were represented in the total list of schools available for study. There is some significance, however, in the fact that the Western States are extensively represented, and the Southern States are hardly represented at all, among the schools of the superior group.

TABLE 28.—Distribution of 25 inferior, 25 average, and 25 superior schools, respectively, in terms of average grade enrollments, types of organization, and geographical location

Enrollment, type of organization, and location	Junior high school grades			Senior high school grades		
	Inferior group	Average group	Superior group	Inferior group	Average group	Superior group
1	2	3	4	5	6	7
<i>Average enrollment per grade:</i>						
30 or fewer.....	11	1	1	19	1	3
31-60.....	6	3	4	5	5	3
61-100.....	6	3	2	1	2	3
101-200.....	1	8	6	1	8	7
201-333.....	1	3	7	7	5	3
334 or more.....	1	7	5	4	4	9
<i>Type of organization:</i>						
Separate junior or senior.....	6	15	15	3	13	12
Undivided 6-year.....	13	3	2	15	4	3
3-3 junior-senior.....	6	7	8	7	8	10
<i>Geographical location:</i>						
New England.....	2	1	3	3	3	1
Middle Atlantic States.....	1	6	6	1	5	4
Southern States.....	4	4	7	7	1	1
Middle West.....	17	12	5	13	15	7
Western States.....	1	2	11	1	1	12

The data on the distribution of the schools according to their major characteristics are chiefly significant as showing that the schools of each group cover a considerable range in size, type of organization, and location. Though each group has characteristics which tend to distinguish it from the others, there is extensive overlapping in all these matters. The range of characteristics represented in each group is probably sufficient to insure that conclusions based on comparisons among the groups will not be distorted by unfairness in selection.

*Method of identifying distinctive practice.*—As a means of identifying the practices characteristic of the outstanding schools, each group of schools has been compared with the other two, and the reliability of differences in the frequency

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of specific items of practice has been computed through the use of critical ratios.<sup>1</sup> Though a critical ratio of at least 3 is necessary to give assurance that a difference is statistically reliable, lower ratios have been regarded as significant in these comparisons. The purpose of the comparisons has been to discover in what practices superior schools differ often enough from average or inferior schools to make these practices worthy of attention. For this purpose a critical ratio of 1.5 has been judged large enough to be important. A ratio of this magnitude means that the chances are approximately 93 in 100 that a difference similar to the difference discovered would reappear were the measurement to be repeated among other schools similarly selected.

In interpreting the differences revealed by the comparisons, two types of practice have been regarded as distinctive of the superior schools. The first type consists of practices reported at least as frequently by the average as by the inferior schools, and enough more frequently by the superior schools than by the average schools to result in a critical ratio of at least 1.5. The second type consists of practices reported more frequently by the superior schools than by the average schools, irrespective of the critical ratio involved, and enough more frequently by the superior schools than by the inferior schools to result in a critical ratio of 2 or more. The practices of these two types together comprise those which are listed in the following sections.

In numerous instances the differences in the frequency with which specific practices were reported by the three groups of schools were found to be unimportant in terms of the standards here used. Occasionally the differences with respect to a given practice have seemed to be contradictory—as, for example, in the case of a practice reported more frequently by average schools than by either superior or inferior schools. Though in both these instances the practices in question have been excluded from the formal lists, practices are commented on when either the absence of differences or the presence of contradictory differences seems to have significant bearing on current educational problems.

*Interpretation of the lists of practices.*—The practices characteristic of the group of superior schools are listed

<sup>1</sup> For an explanation of the meaning of critical ratios, see Ch. V, Sec. I-1.

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separately for the junior high school grades and the senior high school grades. For each school unit the distinctive practices and the comments upon the differences among the schools are presented in connection with each major feature of organization in turn.

To indicate the extent to which the individual practices are reported by the superior schools, a plan has been employed similar to that adopted in the comparisons described in preceding chapters. Practices reported by as many as 20 of the 25 superior schools are marked with double stars. The chances are approximately 99 in 100 that these practices would be reported by a majority of any similarly selected group of outstanding schools. Practices reported by fewer than 10 of the 25 schools are single starred. The latter practices may be interpreted as distinctive of outstanding schools, but as having not yet become widely accepted features even of unusually comprehensive organizations. Practices not starred at all are common in superior schools, though by no means universal.

### 3. DISTINCTIVE PRACTICES IN JUNIOR HIGH SCHOOL ORGANIZATION

*Admission and promotion.*—The procedures in admission and promotion which are characteristic of the most comprehensively organized junior high schools may be summarized as follows:

The most comprehensively organized junior high schools tend more frequently than other junior high schools—

1. To take the following factors into account in admitting pupils to the school—
  - (a) Estimates of teachers of the preceding grade as to pupils' ability to do the work of the grade to which they are to be admitted.
  - (b) Standardized achievement test scores, or educational age.
  - (c) Intelligence test scores, or mental age.
  - (d) Intelligence quotient.
  - (e) Educational quotient.
  - (f) Achievement quotient.
  - (g) \*\* Chronological age.
  - (h) \*\* Degree of physical maturity.
  - (i) \*\* Degree of social maturity.

\*\* In this list of junior high school practices and in the lists that follow, practices which are double starred are reported by 20 or more of the 25 outstanding schools. Practices marked with a single star (\*) are reported by fewer than 10 of the outstanding schools.

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2. **\*\*To promote pupils when promotion seems justified, regardless of fixed periods.**
3. To take the following factors into account in determining a pupil's readiness for promotion—
  - (a) **\*\*Teachers' estimates of the pupil's ability to do the work of the succeeding grade.**
  - (b) Teachers' estimates of the pupil's industry, application, or effort.
  - (c) Standardized achievement test scores, or educational age.
  - (d) Intelligence test scores, or mental age.
  - (e) Intelligence quotient.
  - (f) Educational quotient.
  - (g) Achievement quotient.
  - (h) **\*\*Chronological age.**
  - (i) **\*\*Degree of physical maturity.**
  - (j) **\*\*Degree of social maturity.**

The most comprehensively organized junior high schools follow the practice of junior high schools in general in requiring completion of a major part of the work of the preceding grade as a basis for admission to the school in the case of normal pupils. The outstanding schools are about equally divided between the use of annual and of semiannual promotions. They are divided also between promotion by grade and promotion by subject; 10 employ promotion by grade, 10 offer promotion by subject in all subjects, and the remainder offer promotion by subject either in "major" subjects only, or merely as the schedule of classes may allow in individual cases. For normal promotions within the school the outstanding schools hold to general practice in requiring the completion of one subject unit before permitting advancement to the next.

It may be of interest to note that the outstanding schools show slight tendency to employ the practice, which is sometimes advocated, of admitting all pupils from the preceding grade either without reservation or subject to a trial period. Neither of these methods of admission is reported by more than 1 of the 25 schools.

From the standpoint of educational theory, the lack of agreement among the schools on methods of promotion is perhaps of some significance. The small size of a few of the schools possibly accounts for the use by these schools of annual rather than semiannual promotions, and of promotion by

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grade rather than promotion by subject. Visits to a number of relatively large schools disclosed the fact, however, that annual promotions and promotions by grade are in some instances being intentionally retained in spite of their apparent disadvantages. In the experience of the principals of certain outstanding schools, appropriate use of ability grouping and provision for varying rates of progress within each grade render arrangements for frequent formal promotions and for promotion by subject largely unnecessary. Among all but very large schools, moreover, the administrative problems involved in grouping pupils according to ability are likely to be increased by the smallness of the groups which result from semiannual promotions, especially at mid-term. A plan of semiannual promotion and promotion by subject, coupled with limited ability grouping, undoubtedly offers certain advantages not found in the plan of annual promotion and limited promotion by subject coupled with relatively extensive ability grouping; yet the latter plan would seem to have special values of its own. The relative merits of the two plans need to be thoroughly canvassed before either can be judged the more effective. For the present the division in practice in this matter among outstanding schools suggests the existence of an administrative problem worthy of further investigation.

*Organization of instruction.*—In the organization of instruction the outstanding schools differ from average and inferior schools in the following respects:

The most comprehensively organized junior high schools tend more frequently than other junior high schools—

1. To provide for a school year of more than 180 days in length.
2. \*\*To arrange for class enrollments in such manner that the usual class in physical training and music enrolls more than 30 pupils.
3. \*\*To use standardized tests of mental ability and of achievement—
  - (a) \*\*For assigning pupils to grade or class sections.
  - (b) For assigning pupils to specialized subjects or curriculums.
  - (c) For diagnosis of difficulties in learning.
  - (d) For determination of achievement quotients or ratios.
  - (e) \*\*For prognosis or guidance.
  - (f) \*\*For research and experimentation.

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4. To employ the following special features of organization—
- (a) \*\*One or more special techniques for the individualization of instruction (e. g., differentiated assignments, contract plan, etc.).
  - (b) \*\*One or more special techniques for the socialization of instruction (e. g., socialized recitation, group-project method, etc.).
  - (c) \*\*Homogeneous or ability grouping.
  - (d) Grouping according to specialized curriculums.
  - (e) Opportunity rooms for slow pupils.
  - (f) Restoration, remedial, or adjustment rooms or classes.
  - (g) Special classes for pupils who have failed.
  - (h) Individual coaching of slow pupils.
  - (i) Individual coaching of gifted pupils.
  - (j) Scientific study of problem cases.

The outstanding schools do not differ substantially from the average schools in the extent of departmentalization, the size of classes in recitation subjects or in shop or laboratory subjects, or the length of the school day. Practice in these matters differs in both average and superior schools from practice in inferior schools, but the differences would seem to be a product of differences in size of school rather than of variations in policy.

A noteworthy characteristic of both the average and the superior schools is their tendency to provide a high degree of specialization for individual teachers, even at the cost of sudden introduction of departmental work. The principals of a number of the outstanding schools which were visited reported difficulties on the part of certain entering pupils which seemed to be due to the sudden break in the extent of departmentalization between the elementary school and the junior high school. In systems in which pupils become accustomed to extensive departmentalization in the elementary school, the junior high school obviously need not recognize gradual introduction of this feature of organization as one of its special problems. Junior high schools in other systems frequently lessen the evils of a sudden break by special provisions for the orientation of entering pupils. In many instances, however, it seems apparent that even outstanding schools have given less attention to the problem than was contemplated by proponents of the junior high school movement, and less attention even than the needs of their own pupils would show to be desirable.

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With respect to standardized tests it is significant that all the outstanding schools, as compared with only 15 of the inferior schools, make use of such tests. The superior schools report systematic employment of the tests for all the specific purposes listed on the inquiry form concerning school organization.

A small number only of the outstanding schools report opportunity rooms for gifted pupils, though more than half these schools report opportunity rooms for slow pupils. Eleven of the schools offer credit for out-of-school projects or studies; 10 give credit for extracurriculum activity as a part of curriculum work. In the latter practices the most comprehensively organized schools do not differ substantially from the average and inferior schools.

*Program of studies.*—Differences in the program of studies affect both the organization of the program as a whole and the offering of specific subjects. The differences may be summarized as follows:

The most comprehensively organized junior high schools tend more frequently than other junior high schools—

1. \*To provide a combination multiple-curriculum and constants-and-variables organization.
2. To include under the multiple-curriculum organization, when this type of organization is in effect, the following basic curriculums—
  - (a) College preparatory.
  - (b) \*Scientific preparatory.
  - (c) Commercial.
  - (d) Industrial arts.
  - (e) Home economics.
  - (f) \*Fine arts.
  - (g) \*Music.
3. To provide the following courses in the seventh-grade program—
  - (a) Required courses in—
    - (1) \*Foreign language.
    - (2) \*\*Fine arts.
    - (3) \*\*Music.
    - (4) \*\*Home economics
    - (5) \*\*Industrial arts.
    - (6) \*\*Physical training.
  - (b) Elective courses<sup>2</sup> in—
    - (1) \*\*Music.
    - (2) \*Agriculture.
    - (3) \*Physical training.
4. To provide the following courses in the eighth-grade program—
  - (a) Required courses in—
    - (1) Fine arts.
    - (2) Music.
    - (3) \*\*Physical training.

<sup>1</sup>Courses are here listed as elective if they are not required of all junior high school pupils. Certain of these courses are commonly required of pupils electing specified curriculums.

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- (b) Elective courses in—
- |                         |                         |
|-------------------------|-------------------------|
| (1) Foreign language.   | (5) Home economics.     |
| (2) *Fine arts.         | (6) *Agriculture.       |
| (3) **Music.            | (7) Industrial arts.    |
| (4) *Business training. | (8) *Physical training. |
5. To provide the following courses in the ninth-grade program—
- (a) Required courses in—
- (1) Music.
  - (2) \*\*Physical training.
- (b) Elective courses in—
- |                         |                         |
|-------------------------|-------------------------|
| (1) *English.           | (6) **Music.            |
| (2) Mathematics.        | (7) Business training.  |
| (3) Science.            | (8) **Home economics.   |
| (4) **Foreign language. | (9) **Industrial arts.  |
| (5) Fine arts.          | (10) Physical training. |
6. To substitute elective courses for required courses in—
- (a) Ninth-grade mathematics.
  - (b) \*Eighth-grade agriculture.

TABLE 29.—*Courses offered by the majority of a group of 25 comprehensively organized junior high schools*

GRADE 7	GRADE 8	GRADE 9
<i>Required:</i>	<i>Required:</i>	<i>Required:</i>
English.	English.	English.
Social studies.	Social studies.	Social studies.
Mathematics.	Mathematics.	Science.
Science.	Science.	Physical training.
Fine arts.	Fine arts.	
Music.	Music.	
Home economics.	Home economics.	
Industrial arts.	Industrial arts.	
Physical training.	Physical training.	
<i>Elective:</i>	<i>Elective:</i>	<i>Elective:</i>
Music.	Music.	Music.
	Foreign language.	Foreign language.
		Social studies.
		Mathematics.
		Science.
		Business training.
		Home economics.
		Industrial arts

The practices listed represent those in which the programs of studies reported by comprehensively organized junior high schools tend to *differ* from those of average or inferior schools. To show the common practice in outstanding schools, there is presented in Table 29 a list of the required and elective

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courses found in a majority of the 25 schools which have been analyzed. A single-curriculum organization, without electives, is reported by 7 of the schools. A constants-and-variables type of program, in which specialized curriculums are not formally designated, is found in 6 schools. The 12 remaining schools offer either a multiple-curriculum or a combination multiple-curriculum and constants-and-variables type of organization. Among the schools in which multiple curriculums are provided, the basic curriculums tend to be college preparatory, scientific preparatory, general, commercial, industrial arts, and home economics.

With respect to the program of studies as a whole, the varying use of single-curriculum, multiple-curriculum, and constants-and-variables types of organization is of interest. Whatever the relative theoretical merits of these various plans, it is apparent that outstanding schools are not agreed in practice on any one of the three.

The balance of emphasis on required and elective work is also of interest. A comparison of the courses listed in Table 29 with the list of courses typical of reorganized schools in general<sup>3</sup> will show that in their seventh-grade and eighth-grade programs even comprehensively organized schools do not as a group depart markedly from a somewhat standardized offering. Adherence to a largely required program in the seventh grade is doubtless a reflection, first, of the attempt to introduce elective courses gradually and, second, of the policy of preceding elective work with required exploratory courses. The continued emphasis on required courses in the eighth grade may serve a similar purpose so far as exploration is concerned. But comprehensively organized schools offer a wide variety of electives in grade 9; and from the point of view of the gradual introduction of such courses the number of electives in grade 8 may perhaps be unduly limited. As in the case of departmentalization, there is reason to believe that an entirely satisfactory transition from elementary school to secondary school has not yet been achieved.

The infrequency with which certain courses are offered even among comprehensively organized schools deserves special comment. Work in agriculture is found in so few

<sup>3</sup> Cf. Ch. III, sec. 1.

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of the schools that one may fairly question whether the possibility and the desirability at least of survey courses in this field have not been seriously neglected. Courses in home making for boys, recommended by various proponents of the junior high school movement, are almost entirely lacking in the programs of studies of the schools investigated. Courses in any form of industrial arts for girls are likewise practically nonexistent.

In spite of their standardized programs in the seventh and eighth grades, and in spite also of their neglect of certain fields of study, it is clearly characteristic of comprehensively organized schools to experiment individually with offerings which have not as yet become generally accepted. The range of this experimentation is indicated in the list of specific differences between outstanding schools and average or inferior schools. From the point of view of the school which seeks to improve its own organization, these differences are likely to be even more suggestive than the list of courses commonly offered.

*Extracurriculum.*—In the organization of extracurriculum activities the major differences between outstanding schools and average or inferior schools are as follows:

The most comprehensively organized junior high schools tend more frequently than other junior high schools—

1. To provide in their extracurriculums for the following major types of activities—
  - (a) \*\*Home-room organizations.
  - (b) \*\*General pupil participation in school government.
  - (c) \*\*Club activities.
  - (d) \*\*Musical organizations.
  - (e) \*\*School publications.
  - (f) \*\*Extracurriculum athletics.
  - (g) \*\*Assemblies conducted by pupils.
  - (h) \*\*School social affairs.
  - (i) \*\*School exhibitions.
2. To regulate pupil participation in extracurriculum activities by—
  - (a) Requiring participating of all pupils in certain major types of activity.
  - (b) \*Setting definite limits on the extent to which pupils may participate.
3. \*\*To set aside at least three periods in the weekly schedule for extracurriculum activities.

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4. To provide for pupil participation in school government in such manner that—
- (a) \*Certain powers and duties of the pupil organization are determined by the pupils, without restriction by the faculty.
  - (b) The pupil organization is engaged in the following activities—
    - (1) The treatment of disciplinary problems.
    - (2) \*\*Maintenance of order in corridors, streets and school grounds, classrooms, etc.
    - (3) Promotion of—
      - (a) Health.
      - (b) Thrift.
      - (c) \*\*Beauty of school building or grounds.
      - (d) \*\*Clubs and similar extracurriculum activities.
      - (e) \*\*School publications.
      - (f) \*\*School social affairs.
      - (g) School publicity in the community at large.
      - (h) Scholarship in curriculum work.
      - (i) Introduction of new pupils.
    - (4) Regulation of school social affairs.
5. To provide for club activities in such manner that—
- (a) The following major types of clubs are in active existence in the school—
    - (1) \*\*Academic or "hobby" clubs (Latin, science, airplane, travel, etc.).
    - (2) Civic or ethical clubs (leaders, courtesy, "good turn," etc.).
    - (3) \*\*Debating or dramatic clubs.
    - (4) \*\*Musical clubs.
    - (5) \*\*Athletic clubs.
    - (6) Purely social clubs.
  - (b) Club activities may be initiated only after the following specified conditions have been met—
    - (1) \*\*A sufficient number of pupils must be actively interested.
    - (2) The club program must be definitely outlined in advance.
  - (c) \*\*Club activities have been initiated in one or more instances by interested groups of pupils.
6. \*\*To use funds derived from certain nonathletic activities for the support of other nonathletic activities.

Certain practices are sufficiently common among all the schools to provide no clear basis for distinction. Provisions for the participation of pupils in graduation exercises are reported with slight variation by a majority of the schools in

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each group. A number of the common procedures with respect to pupils' participation in school government and with respect to club activities are of sufficient interest to deserve separate mention.

Among the schools which provide for pupil participation in school government, the pupil organization is generally of several years' standing. Its form has been adapted to special conditions in the local situation. Important questions submitted to the pupil organization are voted on in certain instances by all pupils in the school, in other instances by pupil officers and representatives only. Pupil officers are commonly nominated and elected by the pupils under definite restrictions imposed by the faculty. Certain powers and duties of the pupil organization are usually determined by the faculty, without having been submitted for approval to the pupils; others are proposed by the faculty, subject to acceptance by the pupils; still others are determined by the pupils, subject either to certain general restrictions or to specific approval by the faculty. Whatever its other duties, the pupil organization is usually closely concerned with the school's athletic activities. In all these matters the practice in the three groups of schools examined is essentially the same.

There is a certain similarity of practice with respect to club activities also. Schools which encourage these activities generally require that one or more teachers be willing to serve as sponsors before a club may be initiated, and that approval of new clubs be granted by the principal or some other supervisory officer. In a large majority of the schools which support them, clubs are reported as having been initiated by interested teachers.

No less important than the practices on which the schools are agreed, are certain other practices which provide no clear basis for distinction because they are as yet not widely accepted, even among the most comprehensively organized schools. Participation in extracurriculum activities carries credit toward promotion or graduation in only six of the outstanding schools. In spite of the fact that funds derived from certain nonathletic activities are used to support other nonathletic activities in all but three of the schools, only eight schools use funds earned by athletic activities for a similar

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purpose.<sup>4</sup> The administration of funds for the extracurriculum as a whole is on a budget basis in only six schools. Practice in these matters has clearly not yet approached the standards frequently suggested as desirable.

*Guidance.*—In their provisions for guidance, comprehensively organized schools are likely to show the following characteristics:

The most comprehensively organized junior high schools tend more frequently than other junior high schools—

1. To make provisions for the guidance of elementary-school pupils who are about to enter the junior high school whereby—

(a) \*\*The majority of these pupils have had the work of the junior high school explained to them by—

- (1) \*\*Principal or teachers of the elementary grades.
- (2) The junior high school principal or teachers.
- (3) \*A special counselor or the director of guidance.

(b) The majority of these pupils have visited the junior high school under the guidance of—

- (1) Principal or teachers of the elementary grades.
- (2) \*The junior high school principal or teachers.
- (3) \*Pupils or graduates of the junior high school appointed for the purpose.

(c) The majority of these pupils have received before admission to the junior high school guidance with respect to—

- (1) Choice of specific subjects of study in the junior high school.
- (2) Participation in extracurriculum activities in the junior high school.
- (3) \*Vocational choices.
- (4) Ethical conduct in the junior high school.

(d) Parents of a majority of these pupils have been informed concerning the junior high school program through distribution of printed or mimeographed explanations.

2. To make provisions for the guidance of junior high school pupils with respect to junior high school activities whereby—

(a) \*\*Practically all pupils receive *group* guidance during the first two or three weeks of school from—

- (1) A special counselor.
- (2) \*\*Home-room teachers.

(b) Practically all pupils receive *individual* guidance during the first two or three weeks of school from—

- (1) \*A special counselor.
- (2) Home-room teachers.

<sup>4</sup>This may be due in part to the relatively limited proceeds of junior high school athletics. See the comment on this point in connection with practice in outstanding senior high schools.

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- (c) **\*\*Practically all pupils receive both group and individual guidance throughout the junior high school period from—**
- (1) The principal.
  - (2) A special counselor.
  - (3) **\*\*Home-room teachers.**
  - (4) Class teachers.
- (d) **Practically all pupils receive guidance with respect to—**
- (1) **\*\*Choice of specific subjects of study in the junior high school.**
  - (2) **\*\*Choice of curriculums in the junior high school.**
  - (3) **\*\*Participation in extracurriculum activities in the junior high school.**
  - (4) **\*\*Vocational choices.**
  - (5) **\*\*Ethical conduct.**
  - (6) **\*\*Etiquette or "manners."**
  - (7) **\*\*Health.**
  - (8) **\*\*Methods of study.**
  - (9) **\*\*Use of leisure time.**
- (e) **\*\*Parents of a majority of the pupils are informed concerning their children's special problems through—**
- (1) **\*\*The use of printed forms (including special reports).**
  - (2) Individual interviews at the school.
  - (3) Visits to the home.
  - (4) Group meetings with parents.
3. **To make provisions for the guidance of junior high school pupils who are about to enter the senior high school whereby—**
- (a) **\*\*The majority of these pupils have had the work of the senior high school explained to them by—**
- (1) **\*\*The junior high school principal or teachers.**
  - (2) The senior high school principal or teachers.
  - (3) **\*Senior high school pupils or graduates appointed for the purpose.**
  - (4) **\*A special counselor or the director of guidance.**
- (b) **The majority of these pupils have visited the senior high school under the guidance of the junior high school principal or teachers.**
- (c) **The majority of these pupils have received before admission to the senior high school guidance with respect to—**
- (1) **\*\*Choice of specific subjects of study in the senior high school.**
  - (2) **\*\*Choice of curriculums in the senior high school.**
  - (3) **Participation in extracurriculum activities in the senior high school.**
  - (4) **\*\*Vocational choices.**
  - (5) **Ethical conduct in the senior high school.**

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- (d) **\*\*Parents of a majority of these pupils have been informed concerning the senior high school program through—**
- (1) **\*\*Distribution of printed or mimeographed explanations.**
  - (2) **\*Individual interviews.**
4. To employ the following methods and materials in the guidance program—
- (a) Conferences with—
    - (1) **\*\*Individual pupils.**
    - (2) **\*\*Individual parents.**
  - (b) Guidance classes (including classes in occupations).
  - (c) Guidance or home-room periods.
  - (d) Standardized tests of—
    - (1) **\*\*Achievement in school subjects.**
    - (2) Probable future success in specific courses (prognostic tests).
    - (3) **\*\*Mental ability or general scholastic aptitude**
    - (4) Mechanical or manipulative ability.
    - (5) Personality and character traits.
    - (6) Specialized vocational aptitude.
  - (e) Examinations of—
    - (1) **\*\*Pupils' physical health.**
    - (2) Pupils' mental health.
  - (f) Ratings by teachers and others of pupils'—
    - (1) **\*\*School achievement.**
    - (2) **\*\*Mental ability or general scholastic aptitude.**
    - (3) **\*\*Personality and character traits.**
    - (4) Specialized vocational aptitude.
  - (g) **\*Self-ratings by pupils.**
  - (h) Visits to homes of pupils by—
    - (1) **\*Special counselors.**
    - (2) **\*Visiting teachers.**
    - (3) Home-room or class teachers.
    - (4) School nurses.
  - (i) **\*\*Detailed cumulative records concerning individual pupils.**
  - (j) **\*\*Exploratory and try-out courses.**
  - (k) Excursions to observe workers in specific vocations.
  - (l) Excursions to other educational institutions.
  - (m) **\*\*Library exhibits or special library activities.**
  - (n) **\*\*Extracurriculum activities.**
  - (o) Group meetings of parents.
  - (p) **\*\*Formal notices or reports to parents.**
  - (q) **\*\*Personal letters to parents.**
  - (r) School manual or handbook.
  - (s) **\*\*Newspaper publicity.**
  - (t) Posters.
  - (u) Articles in school publications.
  - (v) School "drives."

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5. To employ the following members of the school staff as active participants in the guidance program—
- (a) \*Director of guidance, or dean.
  - (b) Special counselor.
  - (c) \*Director of tests and measurements.
  - (d) Class advisers.
  - (e) \*\*Home-room advisers.

The number of practices with respect to guidance in which the most comprehensively organized schools do *not* differ from average or inferior schools is small indeed. Schools of all the groups make common use of the principal as an active participant in the guidance program. A majority of the schools in each group report the participation of all teachers in the program. So few schools report individual interviews with the parents of pupils about to enter the junior high school, or systematic follow-up of pupils who have left the school, that provision for these matters does not prove to be especially distinctive of the superior schools. In practically all the other matters concerning which direct inquiry was made, the outstanding schools show clear superiority.

Increased attention to follow-up and to means for securing the cooperation of parents would seem to be desirable even among schools which in other respects have established unusually comprehensive programs. In the matter of follow-up none of the schools visited had developed any extensive body of procedure. Several of these schools had done much to secure the cooperation of parents, however, particularly through making the school a center for various adult interests. One school<sup>b</sup> reports a systematic effort, through the aid of the parents of pupils already enrolled in the junior high school, to introduce the parents of elementary-school pupils to the junior high school and its staff two years or more before the elementary-school pupils plan to enter the junior high school. The experience of this school suggests the possibility of marked advantages from some such procedure, not merely in its bearing on the program of guidance narrowly defined, but in its contribution to the difficult task of safeguarding the transition from elementary school to junior high school.

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<sup>b</sup> Eagle Rock High School, Los Angeles, Calif.

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*Articulation.*—In arrangements for articulation, outstanding junior high schools possess the following characteristics:

The most comprehensively organized junior high schools tend more frequently than other junior high schools—

1. To administer the program of studies in such manner that—
  - (a) As compared with the typical sixth-grade pupil, the typical seventh-grade pupil—
    - (1) Has a daily schedule providing a considerably greater number of different subjects.
    - (2) Finds in the program of studies a considerably greater opportunity for election of subjects.
    - (3) \*\*Finds opportunity for promotion by subject in a considerably greater number of subjects.
  - (b) As compared with the typical ninth-grade pupil, the typical tenth-grade pupil—
    - (1) Has a daily schedule providing a considerably smaller number of different subjects.
    - (2) \*Is taught by one or two fewer different teachers.
2. To administer the extracurriculum in such manner that—
  - (a) As compared with the typical sixth-grade pupil, the typical seventh-grade pupil—
    - (1) \*\*Engages in some of the same extracurriculum activities.
    - (2) \*\*Engages in a considerably greater number of different extracurriculum activities each week.
    - (3) \*\*Devotes considerably more time to extracurriculum activities each week.
    - (4) \*\*Is granted considerably more freedom in his choice of extracurriculum activities.
3. To make the following special provisions for the articulation of subject matter and methods of teaching—
  - (a) Between the elementary school and the junior high school—
    - (1) The junior high school makes special modifications in the subject matter regularly offered in its first year, to meet the needs of pupils admitted from the elementary grades.
    - (2) Both elementary-school teachers and junior high school teachers are appointed members of committees engaged in formulating or revising subject matter or methods of teaching—
      - (a) \*In elementary-school courses.
      - (b) \*In junior high school courses.
    - (3) \*\*Integration of subject matter and methods of teaching receives attention from certain subject supervisors.

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- (b) **Between junior high school and senior high school—**
- (1) **Certain courses are duplicated in the junior and senior high schools.**
  - (2) **Both junior and senior high school teachers are appointed members of committees engaged in formulating or revising subject matter or methods of teaching—**
    - (a) **In junior high school courses.**
    - (b) **In senior high school courses.**
  - (3) **\*\*Conferences dealing with the integration of subject matter or methods of teaching are held between members of the junior and senior high school faculties.**
  - (4) **Integration of subject matter and methods of teaching receives attention from—**
    - (a) **Certain general supervisors.**
    - (b) **\*\*Certain subject supervisors.**
4. **To make the following special provisions for articulation of extracurriculum activities—**
- (a) **Between the elementary school and the junior high school—**
- (1) **\*Elementary-school teachers are appointed members of committees engaged in formulating or revising the junior high school extracurriculum.**
  - (2) **\*Conferences dealing with the junior high school extracurriculum are held between members of the elementary-school and junior high school faculties.**
  - (3) **The junior high school and the elementary school have in common one or more supervisors who give attention to the integration of extracurriculum activities.**
5. **To make the following special provisions for the articulation of the guidance program—**
- (a) **Between the elementary school and the junior high school—**
- (1) **\*Elementary-school teachers are appointed members of committees engaged in formulating or revising the junior high school guidance program.**
  - (2) **Conferences are held between members of the elementary-school and junior high school faculties dealing with—**
    - (a) **\*The junior high school guidance program.**
    - (b) **The guidance of individual junior high school pupils.**
  - (3) **The junior high school and the elementary school have in common one or more supervisors who give attention to the integration of the guidance program.**

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- (b) Between junior high school and senior high school—
- (1) Both junior and senior high school teachers are appointed members of committees engaged in formulating or revising the junior high school guidance program.
  - (2) Conferences are held between members of the junior and senior high school faculties dealing with—
    - (a) The guidance program in—
      - (1) The junior high school.
      - (2) The senior high school.
    - (b) The guidance of individual pupils in—
      - (1) The junior high school.
      - (2) The senior high school.
  - (3) The junior and senior high schools have in common one or more supervisors who give attention to the integration of the guidance program.

The fact that even outstanding schools have not provided a gradual administrative transition from the elementary school to the junior high school has already been noted in connection with the organization of instruction. This fact is apparent also in the administrative provisions reported under the head of articulation. There would seem to be a corresponding, though less extreme, lack of administrative adjustment between the junior and senior high schools. Despite the attention centered on this problem in the movement for reorganization, the thorough integration of the successive school units has apparently only rarely been accomplished.

Perhaps because the problem of articulation has been neglected in many schools there are no specific practices under this head which are so common that they are employed in equal measure by superior, average, and inferior schools. There are a number of practices, however, which fail to be distinctive because of their rarity.

In their provisions for the articulation of subject matter and methods of teaching, few schools include any provision by which pupils enrolled in one school unit may take courses in an upper or lower unit. Junior high schools frequently modify their seventh-grade offerings to meet the special needs of entering pupils, and among comprehensively organized schools there is a certain amount of overlapping in the junior and senior high school offerings. It is questionable, however,

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whether these arrangements are sufficiently flexible to permit the varied adjustments that may be desirable in the case of individual pupils.

Even comprehensively organized schools, moreover, have seldom adopted the plan of exchanging teachers between upper and lower units. Integration of subject matter and methods of teaching, so far as it occurs in day-by-day classroom work, must result from the efforts of supervisors, of curriculum committees,<sup>6</sup> and of occasional conference groups, rather than from the individual teacher's intimate acquaintance with the problems of class groups above and below those with which he or she is directly concerned.

In connection with the extracurriculum, provisions for articulation between the elementary school and the junior high school are notably lacking in most schools. Such provisions as are made tend to be characteristic only of unusually comprehensive organizations. There is more definite attention to integration of the extracurriculum between the junior and senior units, but even at this point no large number of schools make any specific arrangement for articulation.

What is true of the lack of articulation in extracurriculum activities is true in almost as great a degree with respect to the guidance program. Even among outstanding schools there are numerous individual schools in which programs of guidance are in operation without any apparent provisions for securing effective interrelation between these programs and the programs of higher or lower school units within the same system.

The practices in articulation reported by outstanding schools are suggestive of much that may be done in securing the integration of successive school units. Perhaps more than in any other feature of organization, however, provisions for articulation need to be carried beyond those found even in outstanding schools.

<sup>6</sup> In an article entitled "Articulation of the Junior and Senior High School" (American Educational Digest, 47: 406-407, May, 1928), Dr. Jesse H. Newlon cites the Denver program of curriculum revision in support of a plan of separate curriculum committees for junior and senior high schools (p. 406). No data are available in connection with the present investigation to show the extent to which separate committees, as contrasted with joint committees, have been employed by outstanding reorganized schools. The relative merits of the two plans would seem as yet to be a matter of uncertainty. It will be observed, however, that joint committees are reported by a considerable number of the outstanding schools investigated.

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*Teaching staff.*—In the composition of their teaching staffs outstanding schools differ in the following respects from average or inferior schools:

The most comprehensively organized junior high schools tend more frequently than other junior high schools—

1. To provide staffs of which—
  - (a) \*\*At least 80 per cent have held positions in the school prior to the current school year.
  - (b) \*\*At least 90 per cent have had one year or more of prior teaching experience.
2. To have established minimum qualifications for appointment to academic teaching positions such that—
  - (a) Academic training amounting at least to college graduation is required.
  - (b) Appointments to seventh-grade and eighth-grade teaching positions are subject to the same requirements with respect to academic training as appointments to ninth-grade positions.
  - (c) Prior teaching experience is insisted on, and—
    - (1) \*Two or more years of experience may be required.

In spite of the greater insistence of the outstanding schools on college graduation as a qualification for appointment to teaching positions, there are no substantial differences in this respect in the actual composition of the staffs of the three groups of schools. Among practically all the schools of each group, 70 per cent or more of the teachers hold college degrees.

It is noteworthy that the most comprehensively organized schools tend more frequently than the other schools to set up the same academic standards for appointments to teaching positions in all three grades. The common distinction between seventh-grade and eighth-grade positions and ninth-grade positions has already been pointed out. Though approximately one-third of the outstanding schools preserve such a distinction, it is notably less prevalent among these schools than among the average and inferior schools.

There is general agreement among the schools of the three groups in the requirement of professional training. All but two of the most comprehensively organized schools insist on such training. All but eight of these schools require at least 15 semester hours of professional study. Corresponding requirements among the average and inferior schools result in the possession of at least some professional training by 90 per cent or more of the teachers in practically all the schools analyzed.

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In the matter of salary scales, less than half the schools of any one group report a schedule by which junior and senior high school teachers are paid on the same basis. There is no consistent difference in this respect between superior and average or inferior schools. Even among outstanding schools the movement for uniform schedules thus seems to have made no very general headway. This fact may well be a cause for concern. The payment of lower salaries to junior high school teachers than to senior high school teachers is likely to have the obvious effect of raising the standards of teaching in the upper school at the expense of those in the lower. A less obvious result is the production of an unfortunate cleavage between the staffs of the two school units. As observed in numerous schools visited in the course of the survey, a cleavage of this sort makes complete articulation of junior and senior high school work almost impossible, and frequently prevents the assignment of individual teachers to the school units in which their services may be utilized most effectively. Whatever its advantages or disadvantages in other respects, the adoption of a uniform salary schedule for junior and senior high school teachers would seem to promise both improvement in secondary-school teaching and increased flexibility in secondary-school organization.<sup>7</sup>

*Supervision.*—The arrangements for supervision provided in comprehensively organized schools differ from those of average or inferior schools in the following respects:

The most comprehensively organized junior high schools tend more frequently than other junior high schools—

1. To intrust responsibility for supervision to the following individuals or groups—
  - (a) One or more assistant principals.
  - (b) Directors, supervisors, or assistant superintendents in general charge of—
    - (1) Academic subjects.
    - (2) Special subjects.
    - (3) Vocational subjects.
  - (c) Department heads or chairmen for—
    - (1) Academic subjects.
    - (2) Special subjects.
    - (3) Vocational subjects.

<sup>7</sup> Cf. the discussion of this point by Gaumnitz, W. H. *Articulation Between Junior and Senior High Schools*. *School Life*, 13; 112-114, February, 1928.

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- (d) **\*\*A school council or corresponding group, which includes—**
    - (1) Principal or assistant principal.
    - (2) \*Representative teachers.
    - (3) \*Department heads.
  - (e) **\*\*A general supervisory council for the school system, which includes—**
    - (1) Superintendent, director of secondary education, or assistant superintendent.
    - (2) Special directors of instruction or special supervisors.
    - (3) \*Department heads.
    - (4) \*Representative teachers.
2. To employ the following methods of supervision—
- (a) **\*\*Classroom visitation by—**
    - (1) **\*\*Principal or assistant principal.**
    - (2) Special supervisors (including department heads).
  - (b) Individual conferences between teachers and special supervisors (including department heads).
  - (c) **\*\*Departmental meetings.**
  - (d) **\*\*Curriculum revision—**
    - (1) Throughout the school.
    - (2) In individual subjects.
  - (e) \*Experimental use of new methods.
  - (f) **\*\*Systematic examination of new textbooks.**
  - (g) School "visiting days."
  - (h) \*Self-rating by teachers.
  - (i) Rating of teachers by supervisors.
  - (j) Demonstration teaching.
  - (k) **\*\*Emphasis on outside study by teachers—**
    - (1) **\*\*During summer sessions.**
    - (2) Through extension or correspondence courses.
  - (l) Self-survey of the school.

Except for three of the inferior schools, all the schools analyzed have separate principals. The addition of other supervisory officers or supervisory groups, while it reflects the greater complexity which attends the greater size of the average and superior schools, undoubtedly reflects also a greater awareness of numerous special problems.

The effect of increasing the number of different supervisory officers can be seen in the greater variety of methods of supervision employed in the outstanding schools. Classroom visitation by the superintendent, the director of secondary education, or the assistant superintendent and individual conferences between teachers and the superintendent or the principal are reported by a large majority of the schools.

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The further supervisory practices which distinguish the outstanding schools serve as supplements to these more common methods. The wide variety of such practices is suggestive of the systematic effort being made in comprehensively organized schools toward the effective direction and improvement of instruction.

*Housing and equipment.*—In housing and equipment the following tendencies are characteristic of the outstanding schools:

The most comprehensively organized junior high schools tend more frequently than other junior high schools—

1. \*\*To be housed in buildings which contain no elementary-school grades.
2. To be adequately equipped, in the principal's judgment, with respect to provisions for health and physical education.

In general, the reports from the principals of the various schools reveal markedly better physical equipment among the average and superior schools than among the inferior schools. The latter schools are reported as especially handicapped in the adequacy of the school plant as a whole, judged in terms of the requirements of a soundly reorganized secondary-school program. A large majority of these schools report serious inadequacies in special features as well—most notably in rooms for all-school purposes (the principal's office, regular classrooms, assembly hall, library, study rooms, lunch room, etc.); in shops, and in provisions for health and physical education.

Between average and superior schools there are no marked differences in housing and equipment. Where slight differences occur—as, for example, in the relative numbers of schools reporting adequate provisions for shopwork and for home economics—they are quite as often to the advantage of the average group as of the superior group. Though only two schools of every five in either of these groups report their plants as a whole as being exceptionally suitable, the average schools seem to be no more handicapped in this respect than the most comprehensively organized schools.

The comparisons of physical equipment are chiefly significant for the evidence which they give that comprehensiveness of organization is largely determined by factors beyond those in the physical situation. Among the schools of

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inferior organization, lack of adequate equipment probably has much to do with relative narrowness and rigidity of organization. But if other factors are favorable, the possession of only reasonably adequate equipment is clearly sufficient to allow a school to attain marked superiority in organization.

### 4. DISTINCTIVE PRACTICES IN SENIOR HIGH SCHOOL ORGANIZATION

*Admission and promotion.*—Among senior high schools the practices in admission and promotion which are characteristic of outstanding schools are as follows:

The most comprehensively organized senior high schools tend more frequently than other senior high schools—

1. To take the following factors into account in admitting pupils to the school—
  - (a) Standardized achievement test scores, or educational age.
  - (b) Intelligence test scores, or mental age.
  - (c) Intelligence quotient.
  - (d) \*Achievement quotient.
  - (e) Chronological age.
  - (f) Degree of physical maturity.
  - (g) \*Degree of social maturity.
2. To promote pupils—
  - (a) Semiannually, rather than annually.
  - (b) \*When promotion seems justified, regardless of fixed periods.
  - (c) \*\*By subject, in all subjects.
3. To take the following factors into account in determining a pupil's readiness for promotion—
  - (a) Teachers' estimates of the pupil's ability to do the work of the succeeding grade.
  - (b) Teachers' estimates of the pupil's industry, application, or effort.
  - (c) Standardized achievement test scores, or educational age.
  - (d) \*Intelligence test scores, or mental age.
  - (e) \*Achievement quotient.
  - (f) \*Degree of social maturity.

Comparison of this list of senior high school practices with the practices characteristic of outstanding junior high schools will show that the total number of practices distinctive of comprehensively organized senior high schools is relatively small. This is not due to the fact that the three groups of senior high schools selected for study universally employ the same procedures. It springs rather from the relative narrowness of the policies with respect to admission and pro-

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motion even among comprehensively organized senior high schools. Only three procedures are so general among these schools as to have been adopted by 20 or more of the outstanding schools which have been analyzed: The requirement that pupils complete a major part of the work of the ninth grade before they are admitted to the school, the use of subject promotion in all subjects, and the requirement of a "passing" mark as a basis for promotion. The outstanding schools are distinguished with respect to other practices than these three, not because they make unusually extensive use of common practices but because they make *some* use of practices which are hardly found at all in average or inferior schools.

Whether senior high schools need to employ all the procedures in admission and promotion which are used by outstanding junior high schools is perhaps a moot question. The fact that at least a few comprehensively organized senior high schools have established such procedures suggests that they may be of value at the senior high school level. Their possible usefulness is clearly worthy of trial by individual schools which are seeking to improve their own organizations.

*Organization of instruction.*—In the organization of instruction the following practices are characteristic of the outstanding schools:

The most comprehensively organized senior high schools tend more frequently than other senior high schools—

1. To arrange for class enrollments in such manner that—
  - (a) \*\*The usual class in recitation subjects enrolls more than 20 pupils.
  - (b) The usual class in physical training and music enrolls more than 30 pupils.
2. \*\*To use standardized tests of mental ability and of achievement—
  - (a) For assigning pupils to grade or class sections.
  - (b) For assigning pupils to specialized subjects or curriculums.
  - (c) \*\*For diagnosis of difficulties in learning.
  - (d) For determination of achievement quotients or ratios.
  - (e) For prognosis or guidance.
  - (f) For evaluation of teaching efficiency.
  - (g) For research and experimentation.
3. To employ the following special features of organization—
  - (a) One or more special techniques for the individualization of instruction (e. g., differentiated assignments, contract plan, etc.).

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- (b) \*\*One or more special techniques for the socialization of instruction (e. g., socialized recitation, group-project method, etc.).
- (c) \*\*Homogeneous or ability grouping.
- (d) Grouping according to specialized curriculums.
- (e) \*Opportunity rooms for slow pupils.
- (f) \*Opportunity rooms for gifted pupils.
- (g) \*Restoration, remedial, or adjustment rooms or classes.
- (h) Special classes for pupils who have failed.
- (i) Credit for out-of-school projects or studies.
- (j) Scientific study of problem cases.

As among the junior high schools, the variation in size among the three groups of senior high schools is doubtless largely responsible for the greater size of certain types of classes in the most comprehensively organized schools.

The superior group of senior high schools, like the corresponding group of junior high schools, stand out through their extensive use of standardized tests. The diagnosis of difficulties in learning represents the use to which such tests are most frequently put; yet of the seven different uses specifically listed in the inquiries addressed to these schools, all but one—the determination of the achievement quotient—were reported by a majority of the outstanding schools.

In connection with special features of organization the most comprehensively organized senior high schools are distinguished by the same practices as the corresponding group of junior high schools. The senior high schools tend, however, to make less common use than the junior high schools of features involving individual attention to pupils' needs. The use of special techniques for the socialization of instruction and the provision of homogeneous grouping<sup>3</sup> are only slightly less frequent among the senior high schools than among the junior high schools; the use of groupings according to specialized curriculums is more frequent. These, however, are definitely group procedures. Only 18 of the 25 senior high schools, as compared with 23 of the junior high schools, employ special techniques for the individualization of instruction; only 6 of the senior high schools provide opportunity rooms for slow pupils; only 15 offer individual coaching for slow pupils. The provision of these or similar forms of

<sup>3</sup> Cf. the comment on the relation of homogeneous grouping to semiannual promotion and promotion by subject, in the discussion of admission and promotion requirements in comprehensively organized junior high schools. (Sec. 3 of this chapter.)

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attention to individual needs represents a phase of organization in which further development may well be looked for even among outstanding schools.

*Program of studies.*—In the organization of the program of studies the most comprehensively organized senior high schools stand out in the following respects:

The most comprehensively organized senior high schools tend more frequently than other senior high schools—

1. \*To provide a combination multiple-curriculum and constants-and-variables organization.
2. To include under the multiple-curriculum organization, when this type of organization is in effect the following basic curriculums—
  - (a) \*Scientific preparatory.
  - (b) \*Industrial arts.
  - (c) \*Music.
3. To include the following courses in the offering of all three grades—
  - (a) Required courses in physical training.
  - (b) Elective courses<sup>9</sup> in—

(1) English.	(7) **Music.
(2) **Social studies.	(8) **Business training.
(3) **Mathematics.	(9) **Home economics.
(4) **Science.	(10) **Industrial arts.
(5) **Foreign language	(11) Physical training.
(6) **Fine arts.	
4. \*To include elective courses in agriculture in the eleventh-grade and twelfth-grade programs.
5. To substitute elective courses for required courses in—
  - (a) Tenth-grade offerings in—

(1) **Social studies.	(4) **Business training.
(2) **Mathematics.	(5) **Home economics.
(3) **Foreign language.	(6) *Agriculture.
  - (b) Eleventh-grade offerings in—
    - (1) Social studies.
    - (2) \*\*Mathematics.
    - (3) \*\*Business training.
  - (c) Twelfth-grade offerings in—
    - (1) English.
    - (2) Social studies.
    - (3) \*\*Business training.

The fields of study represented in the programs of the majority of the comprehensively organized senior high schools are shown in Table 30. The basic curriculums in the schools

<sup>9</sup> Courses are here listed as elective which are not required of all senior high school pupils. Certain of these courses are commonly required of pupils electing specified curriculums.

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which provide multiple curriculums are the college preparatory, scientific preparatory, commercial, industrial arts, and home economics curriculums. As among the junior high schools, there is no clear agreement upon any one general plan of curriculum organization. Nine of the twenty-five outstanding senior high schools report a multiple-curriculum scheme of organization, 6 report the constants-and-variables plan, and 8 others report a combination of these plans. Of the 2 remaining schools, 1 offers only a single curriculum (though certain elective courses are included), and the other combines the single- and multiple-curriculum types of organization. Thus, while 19 of the 25 schools make at least some use of the multiple-curriculum scheme, there is sufficient diversity in the plans of organization adopted to suggest the existence of an administrative problem for which as yet there is no generally accepted solution.

TABLE 30.—Courses offered by the majority of a group of 25 comprehensively organized senior high schools

GRADE 10	GRADE 11	GRADE 12
<i>Required:</i>	<i>Required:</i>	<i>Required:</i>
English.	English.	English.
Physical training.	Social studies.	Physical training.
	Physical training.	
<i>Elective:</i>	<i>Elective:</i>	<i>Elective:</i>
Social studies.	English.	English.
Mathematics.	Social studies.	Social studies.
Science.	Mathematics.	Mathematics.
Foreign language.	Science.	Science.
Fine arts.	Foreign language.	Foreign language.
Music.	Fine arts.	Fine arts.
Business training.	Music.	Music.
Home economics.	Business training.	Business training.
Industrial arts.	Home economics.	Home economics.
Physical training.	Industrial arts.	Industrial arts.
	Physical training.	Physical training.

Perhaps because the senior high school curriculum has thus far been subjected to less far-reaching scrutiny than that of the junior high school, less variety among individual schools is apparent in the offerings of outstanding senior high schools than in those of the junior high schools. The pres-

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ence or absence of work in agriculture provides the most noticeable source of variation in the programs of the senior high schools. Only eight of the most comprehensively organized senior high schools provide two or more years' work in this field. Though courses in agriculture are more frequently reported by the superior schools than by the average or inferior schools, the relative infrequency of such courses again gives point to a question as to whether agriculture has not thus far been seriously neglected.

*Extracurriculum.*—In their extracurriculums the outstanding schools are distinguished by the following practices:

The most comprehensively organized senior high schools tend more frequently than other senior high schools—

1. To provide in their extracurriculums for the following major types of activities—
  - (a) \*\*Home-room organizations.
  - (b) \*\*General pupil participation in school government.
  - (c) \*\*Club activities.
  - (d) \*\*School publications.
  - (e) \*\*Assemblies conducted by pupils.
  - (f) \*\*School exhibitions.
2. To regulate pupil participation in extracurriculum activities by—
  - (a) Requiring participation of all pupils in certain major types of activity.
  - (b) Setting definite limits on the extent to which pupils may participate in extracurriculum activities.
3. To set aside at least three periods in the weekly schedule for extracurriculum activities.
4. To provide for pupil participation in school government in such manner that—
  - (a) \*Certain powers and duties of the pupil organization are determined by the pupils, without restriction by the faculty.
  - (b) The pupil organization is engaged in the following activities—
    - (1) Promotion of—
      - (a) Health.
      - (b) Thrift.
      - (c) Beauty of school building or grounds.
      - (d) \*\*Clubs and similar extracurriculum activities.
      - (e) \*\*School publications.
      - (f) Scholarship in curriculum work.
      - (g) Introduction of new pupils.

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- (2) Regulation of—
  - (a) School publications.
  - (b) School social affairs.
5. To provide for club activities in such manner that—
  - (a) The following major types of clubs are in active existence in the school—
    - (1) \*\*Academic or "hobby" clubs (Latin, science, airplane, travel, etc.).
    - (2) Civic or ethical clubs (leaders, courtesy, "good turn," etc.).
    - (3) \*\*Debating or dramatic clubs.
    - (4) \*\*Musical clubs.
    - (5) \*\*Athletic clubs.
    - (6) \*Purely social clubs.
  - (b) Club activities may be initiated only after the following specified conditions have been met—
    - (1) \*\*A sufficient number of pupils must be actively interested.
    - (2) The club program must be definitely outlined in advance.
  - (c) \*\*Club activities have been initiated in one or more instances by interested groups of pupils.
6. \*\*To derive the necessary extra funds for the support of extracurriculum activities from sources other than those from which funds for curriculum work are secured (e. g., from dues, sale of tickets, subscriptions, sale of advertising, private contributions, etc.).
7. To adopt the following procedures in the administration of funds—
  - (a) Funds derived from athletic activities are used to support nonathletic activities.
  - (b) \*\*Funds derived from certain nonathletic activities are used to support other nonathletic activities.

The provision of musical organizations, extracurriculum athletics, school social affairs, and graduation exercises in which pupils take active part fails to be as distinctive of outstanding senior high schools as of comprehensively organized junior high schools. This is because of the almost universal provision for activities of these types among the three groups of senior high schools examined.

The relatively large number of major types of activities usually included in the senior high school programs is perhaps of some significance. It may at least partly account for the fact that comprehensively organized senior high schools tend somewhat less frequently than outstanding junior high schools to require participation in extracurriculum activities.

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It may account also for the greater frequency with which the senior high schools set limits on the extent of participation allowed.

There is no substantial difference between the upper and lower schools in the frequency with which participation carries credit toward promotion or graduation. Eight of the outstanding senior high schools, as compared with six of the corresponding group of junior high schools, grant such credit.

Among the senior high schools providing for pupil participation in school government, the methods of administering the pupil organization are essentially the same as among the junior high schools. The outstanding senior high schools are not distinguished by arrangements through which the pupil organization deals with disciplinary problems or maintains order in the school building and grounds, because these functions are equally common in all three of the groups of schools investigated. In other respects pupil organizations in the outstanding senior high schools are marked by the same practices as those which characterize such organizations in the most comprehensive junior high schools. There is similar agreement between the junior and senior high schools in the organization of club activities.

The fact that there is a greater tendency among the outstanding senior high schools than among the junior high schools to support nonathletic activities from the proceeds of athletics is no doubt due in a measure to the greater income from athletics of which the senior high schools can ordinarily avail themselves. The tendency may perhaps be traced also to a greater systematization of the financial side of the extracurriculum among the outstanding senior high schools. Thirteen of these schools, as compared with only six of the corresponding group of junior high schools, report that the administration of their funds for the extracurriculum as a whole is on a budget basis. The adoption of a budget plan by a majority of the outstanding senior high schools and the tendency among these schools to use the funds derived from certain activities for the support of other activities are both matters which are worthy of attention by schools seeking to organize their extracurriculums on a systematic basis.

*Guidance.*—The reports from junior and senior high schools both deal with procedures in the guidance of junior high

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school pupils with respect to senior high school work. Reports from the junior and senior high schools, analyzed separately, reveal almost exactly the same practices in this phase of the guidance program as being especially characteristic of comprehensively organized schools. Since these practices have already been listed in connection with the organization of junior high school guidance, they are not repeated below. The list which follows comprises the distinctive practices in guidance affecting pupils already enrolled in the senior high school.

The most comprehensively organized senior high schools tend more frequently than other senior high schools—

1. To make provisions for the guidance of senior high school pupils with respect to senior high school activities whereby—
  - (a) Practically all pupils receive both group and individual guidance during the first two or three weeks of school from—
    - (1) A special counselor.
    - (2) Home-room teachers.
  - (b) Practically all pupils receive both group and individual guidance throughout the senior high school period from—
    - (1) A special counselor.
    - (2) Home-room teachers.
  - (c) Practically all pupils receive guidance with respect to—
    - (1) \*\*Choice of curriculums in the senior high school.
    - (2) Participation in extracurriculum activities in the senior high school.
    - (3) \*\*Vocational choices.
    - (4) \*\*Health.
  - (d) \*\*Parents of a majority of the pupils are informed concerning their children's special problems through—
    - (1) \*\*The use of printed forms (including special reports).
    - (2) \*\*Individual interviews at the school.
    - (3) Visits to the home.
    - (4) Group meetings with parents.
2. To employ the following methods and materials in the guidance program—
  - (a) \*\*Conferences with individual parents.
  - (b) Guidance or home-room periods.
  - (c) Standardized tests of—
    - (1) \*\*Achievement in school subjects.
    - (2) Probable future success in specific courses (prognostic tests).
    - (3) \*\*Mental ability or general scholastic aptitude.
    - (4) \*Mechanical or manipulative ability.
    - (5) \*Personality and character traits.
    - (6) \*Specialized vocational aptitude.

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- (d) Examinations of—
    - (1) \*\*Pupils' physical health.
    - (2) Pupils' mental health.
  - (e) Ratings by teachers and others of pupils'—
    - (1) \*\*Mental ability or general scholastic aptitude.
    - (2) Personality and character traits.
    - (3) Specialized vocational aptitude.
  - (f) \*Visits to homes of pupils by special counselors.
  - (g) \*\*Detailed cumulative records concerning individual pupils.
  - (h) Exploratory and try-out courses.
  - (i) \*\*Excursions to observe workers in specific vocations.
  - (j) Excursions to other educational institutions.
  - (k) Library exhibits or special library activities.
  - (l) Group meetings of parents.
  - (m) \*\*Formal notices or reports to parents.
  - (n) \*\*Personal letters to parents.
  - (o) School manual or handbook.
  - (p) \*\*Newspaper publicity.
  - (q) Posters.
  - (r) Articles in school publications.
  - (s) \*School "drives."
3. To employ the following members of the school staff as active participants in the guidance program—
- (a) \*Director of guidance, or dean.
  - (b) Special counselor.
  - (c) \*\*Home-room advisers.

As with the junior high schools, the most comprehensively organized senior high schools stand out in a very large number of the detailed practices which have been advocated as phases of the secondary-school guidance program. The outstanding senior high schools are not clearly distinguished by the use of certain features—notably the provision of guidance with respect to further education following upon senior high school work, guidance in ethical conduct and etiquette or "manners," and guidance in the use of leisure time—because a considerable majority of all three groups of schools report these features. In the provision of special guidance classes the most comprehensively organized schools do not differ substantially from the less comprehensively organized schools; 10 of the former group report such classes. But in arrangements for more informal guidance periods or home-room periods, as shown in the preceding list of practices, the outstanding schools are definitely in the lead.

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Besides agreeing with the junior high schools in the procedures which they adopt, the upper schools agree with the lower also in the procedures which they neglect. The small number of junior high schools making systematic provision for securing the active cooperation of parents and for following up pupils who have left school has been commented on. The infrequency of reports from senior high schools as to provisions for these same features of organization gives added indication of the probable weakness of most secondary-school guidance programs in these respects.

*Articulation.*—The provisions for articulation between junior and senior high schools which distinguish comprehensively organized junior high schools have been listed in the preceding section. The outstanding senior high schools selected for study were drawn in most instances from other school systems than those in which the junior high schools were found. In spite of the difference in composition of the junior and senior high school groups, the reports from the two groups resulted in identical conclusions as to the practices in articulation characteristic of comprehensively organized schools. For the list of these practices the reader is referred again to the preceding section.

*Teaching staff.*—In the composition of their teaching staffs the outstanding senior high schools are characterized by the following differences from average or inferior schools:

The most comprehensively organized senior high schools tend more frequently than other senior high schools—

1. To provide staffs of which—
  - (a) \*At least 90 per cent have held positions in the school prior to the current school year.
  - (b) \*\*At least 90 per cent have had one year or more of prior teaching experience.
  - (c) At least 90 per cent hold college degrees.
2. To have established minimum qualifications for appointment to academic teaching positions such that—
  - (a) Appointees are required—
    - (1) \*\*To hold college degrees.
    - (2) \*To have had graduate training.
  - (b) \*\*At least 15 semester hours of professional training is required.
  - (c) \*Two or more years' experience is required.

The outstanding senior high schools, as might be expected, insist in practically every case on college graduation as a

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requirement for appointment to academic teaching positions. In this respect the senior high schools have appreciably higher standards than the corresponding group of junior high schools. The senior high schools are likewise more insistent on professional training; only four of their number, as compared with eight of the junior high schools, accept less than 15 semester hours of professional work. In their requirements as to experience the outstanding junior and senior high schools are in general agreement.

As a result of the senior high schools' higher standards for appointment, the composition of the staffs in the most comprehensively organized of these schools differs in certain respects from that of the staffs in the corresponding group of junior high schools. The proportions of experienced teachers and of teachers who have had professional training are about the same in both groups. A larger number of the senior high school teachers than of the junior high school teachers, however, have had prior experience in the same school; and 90 per cent of the senior high school teachers, as compared with only 70 per cent of the junior high school teachers, hold college degrees.

It is possibly significant that there are somewhat greater differences between the most comprehensively organized senior high schools and the average and inferior schools than between the corresponding groups of junior high schools. The contrast is probably to be explained chiefly by the lower standards for appointment maintained by the outstanding junior high schools. As compared with these standards, the standards of the comprehensively organized senior high schools are presumably more difficult for average or inferior schools to meet.

*Supervision.*—The supervisory organization of outstanding senior high schools tends to differ in the following respects from that of average or inferior schools:

The most comprehensively organized senior high schools tend more frequently than other senior high schools—

1. To intrust responsibility for supervision to the following individuals or groups—
  - (a) A director, supervisor, or assistant superintendent in general charge of secondary education.
  - (b) One or more assistant principals.

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- (c) Directors, supervisors, or assistant superintendents in general charge of—
    - (1) Academic subjects.
    - (2) Special subjects.
    - (3) Vocational subjects.
  - (d) Department heads or chairmen for—
    - (1) Academic subjects.
    - (2) Special subjects.
    - (3) Vocational subjects.
  - (e) A school council or corresponding group which includes—
    - (1) \*Principal or assistant principal.
    - (2) \*Representative teachers.
    - (3) Department heads.
  - (f) \*\*A general supervisory council for the school system which includes—
    - (1) Superintendent, director of secondary education, or assistant superintendent.
    - (2) Principals or assistant principals.
    - (3) Special directors of instruction or special supervisors.
    - (4) Department heads.
    - (5) \*Representative teachers.
2. To employ the following methods of supervision—
- (a) Classroom visitation by special supervisors (including department heads).
  - (b) Individual conferences between teachers and special supervisors (including department heads).
  - (c) \*\*Departmental meetings.
  - (d) Curriculum revision throughout the school.
  - (e) \*Experimental use of new methods.
  - (f) \*\*Systematic examination of new textbooks.
  - (g) Self-rating by teachers.
  - (h) Rating of teachers by supervisors.
  - (i) \*Demonstration teaching.
  - (j) \*\*Emphasis on outside study by teachers—
    - (1) \*\*During summer sessions.
    - (2) Through extension or correspondence courses.
  - (k) Self-survey of the school.

A comparison of the list of supervisory practices characteristic of well-organized junior high schools with the list of practices which distinguish outstanding senior high schools will show that the chief differences between the two groups of schools consist merely in the frequency of certain procedures. As indications of the kinds of practice characteristic of well-organized schools the lists are essentially the same. The comments made on the supervisory programs of the junior high schools, therefore, apply equally to the senior high schools.

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*Housing and equipment.*—Practices in housing and equipment characteristic of the outstanding senior high schools are as follows:

The most comprehensively organized senior high schools tend more frequently than other senior high schools—

1. \*\*To be housed in a building which contains no elementary-school grades.
2. To be equipped with a school plant which as a whole the principal considers exceptionally suitable in meeting the requirements of a soundly reorganized secondary-school program.
3. To be adequately equipped, in the principal's judgment, with respect to the following special features—
  - (a) \*\*Rooms for all-school purposes (principal's office, regular classrooms, assembly hall, library, study rooms, lunch room, etc.).
  - (b) \*\*Rooms for home economics.
  - (c) Provisions for health and physical education.

The number of comprehensively organized senior high schools which report reasonably adequate equipment for their work is not appreciably larger than the number of junior high schools making similar reports. Unlike the average junior high schools, however, the average senior high schools are consistently reported as less well equipped than the superior schools. It is because of this fact that the outstanding senior high schools are characterized by a greater number of special advantages in housing and equipment than are the outstanding junior high schools.

In other respects the differences among the various groups of senior high schools require no particular comment.

*Characteristics of outstanding senior high schools compared with those of outstanding junior high schools.*—To show the somewhat different points of emphasis which characterize the two school units, the major differences in organization between well-organized junior and senior high schools and the major likenesses between such schools are briefly summarized in the following paragraphs.

The outstanding senior high schools appear to advantage as compared with the outstanding junior high schools in two major features of organization—the extracurriculum and the composition of the teaching staff. In their extracurriculums the senior high schools provide quite as wide a variety of activities as the junior high schools, and seem to have planned

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for those activities somewhat more systematically, particularly in the matter of their financial support. The teaching staffs of the senior high schools represent a more highly selected group with respect to both academic and professional training than the teaching staffs of the junior high schools, and a more stable group as gaged by their previous experience in the same schools.

The outstanding senior high schools tend to be surpassed by the outstanding junior high schools in two other features—arrangements for admission and promotion and the organization of instruction. In admission and promotion the junior high schools have adopted more flexible procedures than those employed in most of the upper schools. In the organization of their instruction the junior high schools make more direct provision than the senior high schools for individual attention to pupils' needs.

Practice in the remaining features of organization suggests no clear distinctions between the two school units, except as obvious differences in the maturity and previous training of the pupils concerned supply such distinctions. Arrangements for articulation are, of course, largely common to both units. Differences in the organization of the program of studies are for the most part those which would naturally result from the differing needs of pupils of different ages. In guidance, supervision, and housing and equipment the practices of the schools are essentially alike.

### 5. THE ACHIEVEMENT OF A COMPREHENSIVE SCHOOL ORGANIZATION

*External factors associated with comprehensive organization.*—The foregoing sections provide an account of procedures found in comprehensively organized schools which are not found, or are found less often, in average or inferior schools. In the course of visits by members of the survey staff to outstanding schools, systematic efforts were made to determine what external factors, if any, had been of service in introducing these procedures. It is more than probable that not all such factors were discovered in any one of the schools visited. Many of the factors which were disclosed, moreover, were peculiar to certain local situations. There proved, nevertheless, to be a number of factors associated with out-

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standing organizations which seemed suggestive for secondary schools in general. Before considering the means by which an individual school may improve the comprehensiveness of its own organization, it will be appropriate to list these factors briefly.

The first and most obvious aid to the attainment of a comprehensive school organization is *the existence of school laws and regulations favorable to reorganization*. The effect on reorganization of various State laws and regulations has been analyzed in detail in another project of this survey.<sup>10</sup> In the present connection it will suffice to point out that regulations which prevent the development of reorganized schools have served in many instances as obstacles to the attainment of thoroughly comprehensive organizations. Laws permitting school districts to reorganize on a junior-senior high school basis will obviously not insure improved school organization. But laws and regulations which tend to block such reorganization may make widespread improvement difficult, if not impossible.

A second factor of importance is *the existence of geographical conditions in the individual school system which (a) make possible effective articulation of the successive school units and (b) make unnecessary extensive duplication of offerings between such units*. The desirability of close association of the junior and senior high school units has already been emphasized. In school systems in which building problems or other considerations have made the adoption of the junior-senior type of organization undesirable, the location of a junior high school close to the senior high school has frequently allowed at least some of the advantages of the junior-senior organization to be attained. Junior high school pupils who can profit by certain senior high school courses may be encouraged to elect work in both schools; certain teachers may likewise divide their work between the schools; the problems of articulation may more readily be dealt with by junior and senior high school faculties together than is possible when the school units are far removed from each other. As a means of promoting articulation between the junior high school and the lower grades, proximity of the junior high

<sup>10</sup> See Monograph No. 9, Legal and Other Regulatory Provisions Affecting Secondary Education.

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school to at least one of the elementary schools from which it draws its pupils has been found similarly advantageous.

A third factor which seems to make for more effective organization is *the adoption of the comprehensive high-school plan* rather than the plan of specialized schools. Faced with the requirement that it provide for heterogeneous groups of pupils, the individual secondary school has before it a constant reminder of the need for varied and flexible adjustments in its organization. Insofar as it is responsive to this need, not merely its program of studies but its provisions for admission and promotion, its organization of instruction, its program of extracurriculum activities, its guidance program, and its articulation with other schools are likely to be affected. Where special schools are set aside for special types of pupils, even outstanding individual schools give evidence of a tendency to hold to a relatively narrow and rigid organization in these matters. From the standpoint of general comprehensiveness of organization, the favorably situated school would seem to be the school which is willing and able to provide for its pupils' needs, and is at the same time forced to recognize those needs because of their obvious variety.<sup>11</sup>

A final factor noted as bearing on comprehensiveness of organization is *the direction of public interest toward the junior and senior high schools together* rather than toward the senior high school alone. In various school systems reorganization has apparently been brought about in such manner as to focus attention chiefly on the upper school unit. School publicity, especially in connection with athletics, has tended to cause the senior high school to be looked upon as sole heir to the rights and privileges of the old 4-year high school. The junior high school has as a result been seriously neglected, particularly from the financial standpoint. Among most of the outstanding schools investigated, the judicious use of publicity has served to bring all six secondary grades, instead of the upper three alone, to public attention. Though, even under these circumstances, the senior high school is some-

<sup>11</sup> It should be understood that this paragraph is not intended as a complete answer to the question of the comparative merits of comprehensive and specialized high schools. The point here raised is solely that of the relative comprehensiveness of organization of the two types of schools in their major features. For a more extended discussion of the general issue, see Monograph No. 2, *The Horizontal Organization of Secondary Education—A Comparison of Comprehensive and Specialized Schools*.

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times unduly favored, the building up of interest in junior and senior high schools together seems to produce for each of the schools more nearly its just share of support.

The presence of such external factors as the four which have been described seem to have been of value in achieving comprehensiveness of organization in numerous outstanding schools. Like the form of grade grouping to which a school is subject, the presence of these factors does not, of course, insure effective organization. But the fact that the conditions which these factors imply may make effective organization more readily possible suggests the desirability of establishing such conditions in school systems where they do not already exist.

*Achievement of comprehensive organization in individual schools.*—Granting the existence of reasonably favorable conditions, and granting also the adoption of whatever type of organization seems most promising in the local situation, it still remains for the administrative officers of each individual school system to determine what specific procedures are likely to be most valuable in their own secondary-school organization. The lists of practices given in the preceding sections may be of service in this connection. By checking the practices of an individual school against the practices which distinguish outstanding schools, the extent to which a given school has already incorporated distinctive procedures may be readily determined. Distinctive practices not found in the school in question may be considered suggestive of appropriate next steps in the development of a more comprehensive organization.

It should be borne in mind, however, that not all the practices listed as characteristic of outstanding schools have been found in any single school. There is indeed room for question as to whether all these practices could be incorporated in any one organization without danger of overwhelming the school with its own machinery. Hence the task which confronts the individual school is one of selection. From among the practices not yet in use, those need to be chosen which seem to offer greatest contribution to the school's immediate needs. Many practices, however desirable for schools in general, may not be appropriate under special local circumstances. Many other practices, though locally desirable, may be im-

possible to put into thoroughgoing effect. Discrimination as to what should be done and judgment as to how it should be done are both necessary for wise use of the lists.

*Importance of maintaining consistency of organization.*— One further caution should be observed in deciding upon procedures to be added in the case of a given school. Concentration upon the development of one major feature of organization at a time will frequently prove a desirable policy. But such concentration, continued indefinitely, is likely to lead to overemphasis on certain features as contrasted with others. If there is justice in the assumption that consistency as well as comprehensiveness is a criterion of good school organization, new practices which are to be introduced should be so chosen as to maintain appropriate balance in the school's whole organization.

The fact that the lists of practices set forth in this chapter are to be regarded only as suggestions for the individual school can not be too strongly emphasized. The most important use of these lists should be as means of appraising an existing organization. The lists ought in no case to dictate school procedure. Yet as a source of clues to possible methods of improvement in school organization they are worthy of attention by progressive schools.

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## CHAPTER XI : SPECIAL ASPECTS OF ORGANIZATION AS ILLUSTRATED IN INDIVIDUAL SCHOOLS

### 1. PRACTICE IN INDIVIDUAL SCHOOLS AS ILLUSTRATIVE OF GENERALLY VALUABLE PROCEDURE

*Limitations of lists of detailed practices.*—Visits to outstanding secondary schools by members of the survey staff have thrown light on certain aspects of organization which do not clearly appear in lists of detailed practices. The problem of maintaining an appropriate distinction between the junior and senior divisions of a junior-senior high school; methods of meeting the needs of an exceptionally varied schools population; the development of a comprehensive school program in spite of limited funds and serious physical handicaps—these are aspects of school organization of the type in question. The ways in which certain outstanding schools have dealt with these and similar problems are briefly described in this final chapter.

*Value of descriptions of individual schools.*—The various problems touched on in the following descriptions represent only a few of the broad issues which individual schools must face. The problems dealt with were chosen because they involve common difficulties met by certain schools through what seem to be unusually promising methods. Taken in conjunction with the lists of detailed practices presented earlier, the descriptions of these problems and of the methods used in coping with them will give a reasonably coherent view of outstanding school organizations in actual operation.

*Interpretation of the descriptions here presented.*—The descriptions in each case are to be interpreted as of the school year 1930-31. Each of the schools described was visited during the spring semester of that year.

It should be noted that the descriptions are not intended as complete accounts of the organization of the schools concerned. In the case of each school, only those features

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are touched on which are likely to be of peculiar interest.<sup>1</sup> It should be noted also that the particular schools described are by no means the only schools in the United States which present illustrations of especially promising methods of dealing with the aspects of organization in question. Only a small sampling of outstanding schools could be visited in the course of this study; and of the schools visited, no more than a half dozen can be described within the scope of this report. The necessary limitations of the study will explain what may otherwise seem a somewhat arbitrary selection both of matters chosen for discussion and of schools singled out for description.

### 2. A PLAN FOR THE COORDINATION OF JUNIOR AND SENIOR UNITS UNDER THE JUNIOR-SENIOR HIGH SCHOOL ORGANIZATION

*Achievement of distinction between units without sacrifice of needed coordination.*—As pointed out (Ch. II, sec. 1) the junior-senior high school organization differs from the undivided 6-year organization chiefly by virtue of an administrative distinction between the grades comprising the upper and lower school units. Experience with large 6-year schools has convinced many administrators that some such distinction is necessary; without it the upper grades tend frequently to receive more than their just share of attention, and the younger pupils tend to be unduly dominated by the older. Various plans for separating the junior and senior units are

<sup>1</sup> Readers interested in more extensive descriptions of individual schools will find the following references of value:

- Anderson, H. S. *Administering a Junior High School of Four Hundred Students*. University of Oklahoma, 1928.
- Bruner, H. B. *The Junior High School at Work*. Teachers College, Columbia University, Contributions to Education, No. 177, 1925.
- Hill, G. H. *The Development of a Junior High School Suitable to the Needs of a Small Community*. University of North Carolina, 1928.
- Lyman, R. L. A series of articles appearing in the *School Review*, as follows:
- The Ben Blewett Junior High School of St. Louis, 28:26-40, 97-111, January and February, 1920.
  - The Washington Junior High School, Rochester, N. Y., 28:178-204, March, 1920.
  - The Junior High Schools of Montclair, N. J., 29:495-509, September, 1921.
  - The Junior High Schools of Chicago, 32:733-745, December, 1924.
  - The Junior High Schools of Atlanta, Ga., 33:578-593, October, 1925.
  - The Junior High Schools of Kansas City, Kans., 36:176-191, March, 1928.
  - The Walter H. French Junior High School of Lansing, Mich., 37:433-450, June, 1929.
  - The Junior Schools of San Antonio, Tex., 37:414-429, June, 1930.

The first three of these references provide accounts of the progressive development of the school organizations described. The articles by R. L. Lyman are of particular interest not merely as descriptions of unusual schools, but for the panorama which they give of reorganization throughout the decade from 1920 to 1930.

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to be found in individual schools.<sup>2</sup> In certain instances the plans in use involve such complete separation as seriously to endanger the essential unity of the school as a whole. The plan in effect in Eagle Rock High School of Los Angeles is of interest because it seems to allow appropriate distinction between the units, while at the same time it provides for the administration of the secondary grades as a single 6-year school.

*Reasons for junior-senior rather than undivided 6-year organization.*—Eagle Rock High School was established in 1927 with the two upper grades lacking. Promotions from the tenth and later from the eleventh grade eventually gave the school its full complement of grades. Its total enrollment in 1930-31 was approximately 1,300 pupils; its staff consisted of a principal, two vice principals, a special counselor, and 63 teachers.

The school was administered at first as an undivided organization. This scheme was retained for a time even after the two upper grades had been added. With all six grades present, however, the need became apparent for differentiating between the activities provided for the junior and senior units. Trial of the plan of assigning individual teachers to both junior and senior high school classes, moreover, had shown that the teachers experienced much difficulty—and incidentally wasted much time—in adjusting themselves to the widely varying maturity and background of the pupils in successive recitation classes. For these two reasons a shift to the junior-senior plan of organization seemed desirable.

*General plan for separation of junior and senior units.*—The high-school teaching staff in Eagle Rock has accordingly been divided into two groups, one of which is assigned to the junior and the other to the senior high school grades. With a few exceptions, the schedule for each teacher is arranged to include classes only from the grades to which he or she is assigned. The exceptions consist of a small number of teachers whose schedules cannot be filled by class assignments from one unit alone. The division of assignments among the teachers thus results in the creation of practically separate junior and senior high school staffs, each staff com-

<sup>2</sup> Cf. the articles on the junior-senior organization referred to in Ch. II.

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posed of teachers particularly interested or competent in the work of the school unit concerned. This arrangement has meant no loss of dignity by teachers assigned exclusively to the junior unit, since in Eagle Rock High School, as throughout the Los Angeles system, the same standards are in effect for the appointment of junior and senior high school teachers, and the same salary schedule applies to the two school units.

In addition to separate staffs, the junior and senior groups have been given slightly different time schedules. Times for the beginning and ending of recitation periods are the same for both groups, but the times for beginning and ending the daily sessions differ by a few minutes.<sup>3</sup> The junior high school lunch periods and play periods, moreover, are scheduled at different hours from those of the senior high school. The arrangement of the schedule results in keeping the two groups of pupils apart from each other except during brief periods when their activities can be directly supervised.

In extracurriculum work a similar plan has been adopted. Separate programs of club activities, separate organizations for pupil participation in school government, and separate home rooms are provided for the two school units. The distinction between the units is reflected both in these separate groupings and in the nature of the respective extracurriculums. For the junior high school pupils the program of extracurriculum activities emphasizes adjustment to the school. Problems of guidance and social training are given a prominent place in the club activities for these pupils; their pupil organization is based on the home rooms as political units, and is so conducted as to place chief attention on matters of specific conduct. For the senior high school pupils the program gives major emphasis to the encouragement of special interests. Club activities in the senior division center about types of activity of particular interest to relatively small groups; the senior high school pupil organization comprises representatives from the various activity groups, concerns itself largely with matters of school improvement and school policy, and recognizes the home-

<sup>3</sup> As noted previously, this account describes practice in the school for 1930-31. For the school year 1932-33, time schedules have been adopted which provide seven 60-minute periods for the junior high school pupils, as compared with eight 45-minute periods for the senior high school pupils. The junior and senior groups have been still further separated by assigning them to separate parts of the school buildings.

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room groups chiefly as social rather than as political units. Thus both administratively and from the standpoint of the activities involved, certain clear distinctions have been set up.

The distinctions in curriculum and extracurriculum work alike are reinforced by the school's supervisory organization. Separate faculty meetings are scheduled for teachers of the junior and senior units, so that problems of peculiar importance to each unit may receive their due share of attention. In the administration of the extracurriculum certain teachers are given special responsibility for overseeing the activities of the junior high school group as a whole, while other teachers are made definitely responsible for senior high school activities. These two measures are intended to insure a degree of unity in the separate divisions by allowing each division independently of the other to determine its own special purposes and methods.

*Coordination of the work of the junior and senior units.*—To guard against a complete break between the junior and senior units, definite arrangements have been made for coordinating the school's entire program. These arrangements take the form, first, of provisions for certain undertakings shared by the pupils of both units, and, second, of arrangements for vertical as well as horizontal supervision.

Undertakings of interest to the school as a whole are systematically planned for in the extracurriculum. School plays and exhibitions, an annual flower show and pet show, school field days, and athletic events provide opportunity for junior and senior high school pupils to work with each other in arranging and carrying out activities in which all have a part. Problems of school conduct and general school policy, moreover, frequently furnish occasion for definite cooperation between junior and senior pupil organizations and home-room groups. The decoration of the school grounds—a matter of particular concern at the outset, since appropriations for building the school did not cover the cost of landscaping—was undertaken to remarkable effect by the junior and senior pupils together. Through extracurriculum activities of these various sorts the school seeks to build up coherent purposes and loyalties among the pupils of all six grades.

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In the school's supervisory organization the junior and senior units are bound together by a number of arrangements for integrating the work of the school as a whole. The supervisory staff includes department heads for the major subjects of study; departmental meetings are so planned as to bring together the teachers of all the grades. A boys' vice principal and a girls' vice principal are responsible for the supervision of both junior and senior units. Direction of the guidance program for the entire school is entrusted to a single counselor. The principal undertakes to coordinate the total program through general faculty meetings, classroom visitation, and continuous general oversight of the school's work. By these means an offset is provided to the distinction between the units emphasized in the appointment of separate faculties.

*Value of this plan for secondary schools in general.*—The resultant organization of Eagle Rock High School is one of both horizontal and vertical lines of emphasis and responsibility. Horizontally, these lines hold together the junior and senior high school grades, respectively, as separate units. Vertically, the two units are definitely coordinated in their contributions to the educational goals of the school as a whole.

The details of this plan have been dictated, as the details of any such plan ought to be, by various special circumstances in the local situation. Not many schools will be in a position to adopt exactly this scheme of organization. Schools of much smaller enrollment will unquestionably have fewer supervisory officers than are provided in Eagle Rock; in such schools the principal will have to assume a larger share of responsibility for both vertical and horizontal coordination. Certain schools may find horizontal coordination in need of greater emphasis than is given to it in the Eagle Rock scheme. In the latter case the appointment of separate supervisors for the junior and senior units (as contrasted with separate vice-principals for boys and girls) may represent a valuable modification. Other modifications will no doubt be desirable to meet the varied conditions confronting individual schools.

The general plan adopted in Eagle Rock should be of widespread interest, however, as illustrating a practical method of organizing a junior-senior high school. The essential

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feature of the plan—namely, the adoption of an organization in which neither school unit is subordinated to the other, yet in which both units are held to a well-coordinated program—is one which promises marked contribution to both comprehensiveness and consistency in secondary-school organization.

### 3. ADAPTATION OF SCHOOL ORGANIZATION TO THE NEEDS OF A HETEROGENEOUS SCHOOL POPULATION

*The community and the school population.*—In the preceding chapter it was noted that marked variety in the needs of the pupils enrolled in a given school may often be a factor in promoting comprehensiveness and flexibility in the school's organization. David Starr Jordan High School, of Los Angeles, furnishes an example of a school whose organization has been shaped to meet the needs of an extremely heterogeneous population.

Jordan High School is situated in one of the outlying suburbs of Los Angeles. The community which the school serves was originally a separate town, and the school district is still a more or less distinct geographical unit. The local population includes Negroes, Orientals, Mexicans, and members of various European races, as well as native-born whites. The community is composed largely of members of the laboring classes, with unskilled and semiskilled workers predominating.

The population of the school is as mixed as that of the community. In the six junior-senior high school grades the school enrolls slightly more than 1,000 pupils. Thirteen nationalities in all are represented. Only 44 per cent of the pupils are of American or European stock; 30 per cent are Negroes; 24 per cent are Mexican; the rest are Japanese or Chinese. As measured by their intelligence quotients, the average ability of the pupils is somewhat below that of public-school pupils in general, and very definitely below that of most high-school pupils. The median intelligence quotient for the school as a whole is approximately 95; the range in 1930-31 extended from three pupils whose quotients were below 65 to four pupils who scored 140 or more. Even in the senior high school grades alone the median intelligence quotient does not rise above 100.

*The school plant and equipment.*—Despite the comparative poverty of the local community, the city has sought to provide

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in Jordan High School a school building and school equipment commensurate with the needs of the pupils. The building is attractive, spacious, and well planned. Classrooms, library, auditorium, and gymnasium have been adequately provided for. Facilities for work in science and practical arts, though in certain instances not ample enough to allow as comprehensive a program as the school would offer if it could, are sufficient to permit extensive work. Various types of equipment not found in other city high schools—for example, the equipment for the boys' chef course and the girls' course in beauty culture, which will be referred to later—have been provided to meet the special needs of pupils in this particular school. The building as a whole furnishes a striking example of the application of a consistent policy of offering education in relation to local need, rather than in relation to local taxable wealth.

*Relation of school and community.*—The school officers who have been responsible for the organization of Jordan High School and for the determination of the school's policy have recognized the school's work as having a twofold aspect. In common with all other schools Jordan is confronted with the task of determining the educational needs of its pupils and meeting those needs to the best of its ability. But more than most other schools, Jordan has had to meet special needs in the community outside the school. Low standards of living and lack of education among the parents of its pupils, ignorance of principles of health and sanitation among many of the adults of the community, lack of a sense of responsibility and often positive immorality in the homes from which the pupils have come have handicapped the school in its primary task. To an unusual extent the work of educating boys and girls has had always to be accompanied, if not actually preceded, by the education of their parents.

In dealing with this problem the school has adopted two major policies. First, it has sought to become a center for various phases of adult life in the community. By providing meetings of interest to adults, school exhibitions, athletic contests, "shows" of various types, it has done much to make itself a civic and recreational center. More difficult, but even more important, has been the task of establishing the school as a center of advice and counsel. The latter has

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been in part accomplished by the offering of special evening courses for adults—particularly “upgrading” courses in various skilled and semiskilled occupations for both men and women. It has been in part accomplished also by the personal efforts of the principal. Having lived for years in the local community, the principal has been able to build up a wide acquaintance among the parents of his pupils. By encouragement, by advice, and often by more tangible assistance in matters which have frequently had little direct connection with school work he has succeeded in winning the respect and confidence of the community both individually and collectively.

The school's second policy has been that of adopting a large measure of paternalism in its dealings with the community. In this matter the school has been helped by the obvious fact that through its own resources alone the local community could support no such school as the one which the city has provided. The school has been helped also by the general respect accorded the principal. With these reinforcements to fall back upon, the school has not hesitated to use all the authority at its command, when it could profitably do so, to keep its pupils in attendance even above the legal age, to make home conditions as satisfactory as possible, and often to determine for individual pupils what they should study and what they should not.

These policies with respect to the community serve as a background for Jordan's procedures within its own organization. The school's policies in dealing with its pupils are perhaps best exemplified by its arrangements for admission and promotion, and by its program of studies.

*Admission and promotion of pupils.*—Pupils are admitted to Jordan High School semiannually from six elementary schools. Jordan has adopted the practice of accepting virtually all pupils who are recommended by the elementary school as more likely to profit by secondary-school work than by continuance in the lower grades. Extreme overage and unusual physical or social maturity are frequently regarded as justifying the admission of pupils whose school accomplishment has been markedly below the usual grade standards.

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The policy of admitting pupils on this basis, coupled with the wide variation in social and educational background in the local community, exerts a marked effect on the general level of accomplishment among entering pupils. Tests of achievement in reading and arithmetic given to pupils promoted from the sixth grade in June, 1930, and January, 1931, showed a range in accomplishment from a high third-grade to a low ninth-grade level. The average accomplishment of the pupils admitted during these two semesters fell at the fifth-grade level. In general, the school expects both a wide range and a low average of achievement among its incoming pupils, and is prepared to deal with the pupils on this basis.

Once admitted to the seventh grade, pupils are given standardized tests both of mental ability and of achievement. Entering pupils are assigned to class sections on the basis of their accomplishment in these tests, interpreted in the light of their prior educational histories. So far as the size of the grade enrollment permits, homogenous grouping is used in all seventh-grade classes. For overage pupils and for pupils who need special teaching, special programs of study are arranged and special classes are organized whenever this procedure is feasible. The school's practice is thus to determine as accurately as possible the educational status of its incoming pupils; to accept that status as the starting-point for its own instruction, irrespective of formal seventh-grade standards; and to proceed from that point on to carry its pupils as far forward as it can.

The plan of promotion is consistent with this general scheme. The use of semiannual promotions allows relatively frequent readjustments in the assignment of pupils to grade and class sections or to special classes. In exceptional cases pupils may be advanced whenever promotion seems justified, regardless of fixed periods. Promotion by subject is employed in all subjects in both junior and senior divisions, except that in the seventh grade, which serves as a foundation grade, pupils are not allowed to advance if they have failed in more than one of their major subjects. Pupils required to repeat their seventh-grade work are transferred to a higher grade-section, however, so that their further work differs somewhat from that of the preceding semester. The combination of promotion by subject with the use of

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homogeneous grouping makes possible, particularly in the junior high school, the advancement of pupils at rates of speed at least approximately commensurate with individual abilities and needs.

*The program of studies.*—The program of studies reflects a similar effort to adjust the work of the school to the pupils' widely varying needs.

In its general form the program follows the plan of curriculum organization which is in effect in all the Los Angeles high schools. The offerings for the seventh grade and for the first semester of the eighth grade are organized on a constants-and-variables basis. The required work in these grades includes courses in health and physical education, English, social studies, mathematics, penmanship, music, art, and science. The elective work comprises courses in agriculture, woodworking, automobile work, homemaking, and music and art—the last-named courses representing offerings in addition to the required work in these fields. At the beginning of the second semester of the eighth grade, pupils are expected to choose one of five different curriculums—college-preparatory, commercial, fine arts, homemaking, or industrial. Each pupil's work in the succeeding grades centers about the curriculum which he has chosen. Curriculum requirements permit a considerable amount of election in each semester, so that in the upper grades, as well as in the lower, the program of studies offers numerous opportunities for adjustments to individual needs.

It is worthy of note that Jordan offers no "general" curriculum. Such a curriculum serves in many high schools as a catch-all for pupils who aspire to an academic program but can not meet accepted academic standards. Under these circumstances the general curriculum often enrolls pupils who have no well-conceived educational purpose, and who gain from the curriculum slight assistance either in deciding upon or in arriving at a consistent goal. In Jordan High School much importance has been attached to the school's responsibility for helping each pupil to make at least a tentative choice of some fairly tangible objective. Hence the curriculums open for choice are all more or less definitely "pointed." Changes in curriculums are, of course, allowed and even strongly urged whenever circumstances may sug-

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gest such changes, and special curriculums are arranged for pupils whose interests or needs can not be met through the established program. But the program of studies is so organized as to emphasize a function of the school which seems to be of unusual importance in the local situation—the function of assisting each pupil to arrive early in his secondary-school career at a reasonably clear-cut notion of where he expects his high-school work to lead him.

The composition of the pupil population in Jordan affects notably the choices of the various curriculums. In the spring semester of 1931 almost exactly half the pupils in the four upper grades were enrolled in the homemaking and industrial-arts curriculums. Thirteen pupils—approximately 1 in 40 of the total enrollment in these grades—had chosen the fine-arts curriculum. The remainder were about equally divided between the college-preparatory and the commercial curriculums. Despite the relatively small enrollments in the last two, it is possible that the commercial and academic curriculums still attract more pupils than is their due share in a pupil group of the type with which Jordan has to deal. The large proportion of pupils enrolled in nonacademic curriculums is indicative, however, of the school's effort to direct pupils into types of work in which chances of success will be greatest for the individuals concerned.

*Adaptation of subject matter to pupils' special needs.*—The adjustment of the school's work to the needs of its pupils is apparent in the general organization of the program of studies. It is even more strikingly evident in the courses offered within certain of the curriculums. Of greatest general interest are two courses already referred to—the chef course for boys and the course in beauty culture for girls. "What's What in Jordan," a booklet prepared by the boys of the school printing department, thus describes these courses:

At Jordan, we have a large number of vocational classes, among them one in chef instruction. It is held the first four periods in the morning, in order that the boys may prepare luncheon for the faculty and students and thus gain instruction in cooking palatable foods. An interested and intelligent member of this class learns, during his high-school career, all the necessary fundamentals which prepares him to start as a chef's or baker's helper. He is trained in the preparation of soups, meats, entrees, vegetables, salads, pastries, and beverages. Also storeroom practice, meal-planning, menu-making, sanitation,

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personal hygiene, care of tools and equipment, food science, etc. Thus, the boy who starts his training with an earnest effort and application of both mind and hands is ready to go out as an efficient worker.

A popular course at Jordan is Beauty Culture. This is a try-out course "to develop skill and knowledge in cosmetology so that the pupil may advance in the trade as a general operator, specialist, or shop manager." The physical traits required are simply that the girl not be too short or too fat, for both of these prove to be serious hindrances to operators. Other requirements are neatness, punctuality, courtesy, reliability, modesty, honesty, silence. If a girl has all of these traits, is 18 years of age, and has had 1,000 hours of training in a recognized school, she will be able to pass her State examination and secure a State license. Many girls take this course for personal benefit, or for credit. Credit counts as Practical Arts.

The manner in which these courses came to be established is significant of the general policy of the school. The chef course, as its description implies, is primarily a vocational course. Study of the probable vocational futures of boys enrolled in the school showed that many of the Negro boys in particular were likely to go into service as cooks, waiters, restaurant helpers, or Pullman porters. Among these boys a large number had formed so definite a preference for work of this type that the more conventional instruction in practical arts held little appeal for them. It was to gain the interest of such boys, by focusing their work on a goal of obvious practical value to them, that the chef course was established.

The course in beauty culture had a somewhat different origin. Prior to the introduction of this course, the school had been attempting with only moderate success to interest its girls in the improvement of their personal appearance. Incidental instruction and the instruction offered in the home-making courses seemed to have little effect. As an experiment, the course in beauty culture was established, ostensibly on a vocational basis. The course produced almost immediate results. Both for the girls who elected it as a part of their vocational training and for others who entered it "for personal benefit," the practical nature of the work seemed to hold a strong attraction. The course has been continued because of its evident general value. Relatively few girls enroll for extensive training as "cosmetologists," but for the many girls who elect the course "for personal benefit," training in beauty culture seems to achieve desirable results which less pretentious courses had failed to bring about.

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Emphasis on values which appeal to the pupils as thoroughly "practical" is characteristic of much of the work at Jordan, especially in the nonacademic courses. The large enrollment in the homemaking and industrial curriculums is no doubt due principally to this emphasis. In homemaking the list of courses includes, among others, courses in food preparation and recipes, manners and etiquette, the planning of menus, table service and decoration, budgeting and income, financing a home, selection of a home site, planning of house and garden, principles of interior decoration and selection and arrangement of furniture, the selection of ready-made clothing, the construction of all kinds of garments—a list which in itself is likely to have direct appeal to pupils. Industrial courses in the fields with which the school is equipped to deal—carpentry and cabinet work, electrical work, auto repairing, mechanical drafting, printing, horticulture, and building construction—are so organized as to make their vocational bearing clearly apparent. Within the non-vocational as well as the vocational courses, moreover, the work is made as immediately valuable from the pupils' point of view as possible—as, for example, through attention to home gardens in the courses in agriculture, provision of opportunity to make decorations for the pupils' homes and for the school itself in the art classes, development of a school band which plays at all football games as an outgrowth of the courses in music.

It will be evident from these illustrations that the school has sought to build up a program of studies which is at once both comprehensive and flexible, and which is so organized as to be particularly adapted to the somewhat unusual group of pupils with which Jordan High School has to deal.

*Other special features of organization.*—Lack of space forbids the detailed description of other special features of the Jordan High School organization. A number of these features nevertheless deserve at least passing mention. In keeping with its effort to adjust its program to its pupils' varying abilities and needs, the school has developed a systematic plan of guidance through which pupils and their parents are acquainted with the work of the school even before the pupils are admitted to the seventh grade. The school makes definite provision for supervised study in con-

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nection with each major subject in the junior high school grades, as a means of assuring an effective foundation for later work. Twenty-six of the school's fifty-four teachers are men—a fact which has had much to do with the school's success in meeting the disciplinary problems almost certain to arise in a pupil group of the type with which Jordan must deal. The school's club activities have been placed on a purely voluntary basis, in order to avoid the danger of formalization; its scheme of pupil control has by contrast been intentionally formalized through the adoption of a plan of merits and demerits—a combination of policies which is again a direct result of the school's efforts to cope with a peculiar local situation. In all these matters, as in those which have been discussed at some length, the school has shown an unusual readiness to adapt its organization to whatever needs have appeared, to deserve special attention.

This tendency to fit its organization to the immediate situation is the respect in which Jordan High School may be regarded as especially outstanding. The school's detailed procedures are not in themselves new; every one of them can be found in numerous other secondary schools, reorganized and unreorganized. Nor are these procedures always orthodox, as judged by current educational theories. But Jordan High School would seem to have been unusually successful in defining its own peculiar functions in terms of the immediate practical needs of its own community and its own pupils. The school has apparently been unusually successful also in devising a combination of procedures—whether orthodox or unorthodox—well calculated to meet those needs. In its adaptation of accepted practices to a clearly recognized end, it offers an example of a type of planning which is well worthy of imitation.

### 4. THE DEVELOPMENT OF A COMPREHENSIVE ORGANIZATION IN SPITE OF LIMITED FINANCIAL RESOURCES

*Relationship of school organization and financial support.*—The schools thus far described have been able to avail themselves of generous financial support. Schools less fortunately situated may find it impossible to introduce all the procedures which these schools have established. The survey has nevertheless revealed a large number of schools

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which in spite of limited resources have succeeded in building up unusually comprehensive organizations. Ways in which such organizations may be achieved even in relatively poor communities are well illustrated by the development of the Union Junior and Senior High Schools of Hemet, Calif.

*The community and its schools.*—Hemet is a small rural community in Riverside County. Its schools are subject to the provisions of the California school district regulations. In accordance with these regulations, the town of Hemet originally constituted an elementary-school district which supported and controlled the education offered to pupils in the first eight grades. Secondary education—defined in the regulations, for practical purposes, as the training offered in grades 9 to 12, inclusive—was provided through a union high-school district, which included not merely Hemet but a sparsely settled surrounding area so large as to embrace all or a major part of 12 other elementary-school districts. The high-school district elected its own school board, which by law was independent of the elementary-school boards both financially and in matters of educational policy. Prior to 1920 each of the 13 elementary-school districts included in the Hemet Union High School district likewise elected its own elementary-school board; so that the immediate control of elementary and secondary education in this area was in the hands of 14 independent elective bodies.

In 1920 six of the elementary-school districts included in the Hemet High School district combined to form a union elementary-school district. To promote the coordination of elementary schools and high school, the union elementary-school board and the union high-school board agreed on the election of the same man as superintendent of the elementary schools and principal of the high school.

The movement for consolidation was given impetus in Hemet by a strong current interest in secondary-school reorganization. It was hoped that the closer coordination and more unified control of the elementary schools and the high school might make possible the adoption of some form of junior and senior high school organization. But a number of serious obstacles still presented themselves. Control of the first eight grades on the one hand and of the four upper grades on the other was still vested in legally independent

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boards. Financial resources for the support of a reorganized secondary-school program were exceedingly meager. The citizens of the elementary-school districts, in spite of the generally favorable attitude toward consolidation, were by no means universally convinced of the desirability of modifying the established 8-4 system. All these obstacles had to be overcome before any marked progress could be made in reorganization. They were eventually surmounted not, of course, in the order in which they have been listed, but first in one direction and then in another, as opportunity offered. For the sake of clarity, the steps taken in meeting them may well be described in relation to each obstacle in turn.

*School-board cooperation in separate school districts.*—The plans for secondary-school reorganization called for the establishment of separate 3-year junior and senior high schools. In order that these plans might be carried out, arrangements had to be made by which control of the seventh and eighth grades might be transferred from the elementary-school board to the high-school board. The difficulty of making such arrangements will be apparent when it is recalled that responsibility for raising and spending money for the support of these grades is legally vested, in consolidated districts in California, in the elementary-school board, and that State regulations make no provision for transfer of responsibility or authority to the high-school board. Only through securing the voluntary cooperation of the two boards could the projected reorganization be accomplished.

As has already been noted, interest in reorganization was strong enough in Hemet to provide a basis for such cooperation from the outset. The elementary-school board and the high-school board were separately elected and differed in membership. An active exchange of views between the boards had been assured, however, by the nomination and election of one man as a member of both boards. Aided by this interrelationship and by the leadership of the superintendent as the executive officer of both boards, the boards were able to come to an agreement on the crucial matters of the allotment of funds and the direction of school policy.

The elementary-school board agreed in general to assign to the high-school board, toward the support of a 3-year junior high school, that proportion of the elementary-school funds

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which would normally be allotted to the seventh and eighth elementary grades. The elementary-school board agreed also to yield to the high-school board immediate authority for the organization and control of instruction in these grades.

The financial agreement, while it established a general policy for the support of the junior high school, did not define in any exact terms the amount of money which was to be transferred annually to the high-school board. At the time the agreement was reached it seemed probable that this amount might properly differ from year to year. The proportionate amount has in fact, varied to meet varying annual needs within the school system. To help defray the initial expenses of reorganization, for example, the elementary-school board assigned to the high-school board a relatively large share of the funds available for elementary schools. After the junior and senior high schools had become well established the contributions from elementary-school funds were lessened in order to permit certain major outlays for the improvement of work in the lower grades. By varying the assignments from year to year the boards have been able to administer the two funds with almost as much flexibility as if a single unrestricted fund had been available.

The agreement with respect to the control of the junior high school was likewise somewhat loosely defined at the outset. Though immediate control of the school was vested in the high-school board, matters of school policy were freely discussed by both boards. The policies eventually adopted were in practically every instance policies which both boards had had opportunity to approve.

In spite of the legal independence of the two boards, a basis was thus laid for a thoroughly flexible secondary-school organization. The cooperation of the boards was so complete, and their policies met with such general approval, that it shortly became evident that two separate boards were no longer necessary. Since 1928, therefore, the same persons have been nominated and elected to membership on both boards. As a result the elementary schools and the junior and senior high schools in the Hemet union districts are under completely unified control, even though the districts still remain formally distinct from each other.

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*The securing of funds for the improvement of school organization.*—The formation of a union elementary-school district made available no additional money for the support of the schools involved. Under the existing State regulations, indeed, the union district was threatened with the loss of a part of the State aid which had previously been available for the separate elementary-school districts, since State-aid allotments on the basis of the relatively large consolidated-school enrollments proved to be less than on the basis of enrollments in the abandoned small separate schools. Conferences with the county school authorities fortunately resulted in a continued allotment to the union district of financial support equivalent to that previously granted the separate districts. Consolidation made possible, also, certain new economies in administration. But the total financial resources of the Hemet schools, even with generous allotments from local taxation, proved to be exceedingly limited.

Two principal means were employed for securing necessary funds. One means was the application for Federal aid under the Smith-Hughes law. The second was the adoption of various devices for earning money within the schools themselves.

*Use of Federal aid for vocational courses.*—Smith-Hughes aid was secured by the senior high school for courses in agriculture and automobile repair. In 1931 these were the only fields in which the school had undertaken extensive vocational training,<sup>4</sup> though courses were offered also in mechanical drawing, woodworking and building construction, machine-shop and metal work, foods and clothing, millinery, dressmaking, and home decoration. Without Federal aid it is doubtful that the school could have provided systematic vocational training in any practical-arts field, so that decided advantages have accrued to pupils in those courses which the Federal subsidy helps to support.

Like various other schools, Hemet has found certain disadvantages in the conditions attached to the Federal grant. In agriculture and automobile repairing the school can afford to offer no upper-grade work other than that provided in the Smith-Hughes courses. The restrictions placed upon these

<sup>4</sup> Since the spring of 1931 the school has established a 2-year Smith-Hughes program in homemaking.

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courses force pupils who could profit best by only part of the work, to choose between electing it all or taking none of it. Moreover, the financial burden imposed by the vocational courses, in spite of the Federal aid, has forced the school to curtail its offerings in other important fields.

Opportunity to admit nonvocational pupils to a modified part of the Smith-Hughes work might have added appreciably to the assistance which Hemet has derived from the Federal subsidy, without lessening the value of the strictly vocational courses. Opportunity to use Smith-Hughes instructors in nonvocational courses might have been similarly advantageous. Yet in spite of its disadvantages, the use of Federal aid has unquestionably allowed the school to offer a more comprehensive program than would otherwise have been possible.

*The raising of funds through productive school undertakings.*—In the expansion of the Hemet secondary-school program, needed funds have frequently been obtained by turning part of the training which the junior and senior high schools offer to practical account. Three illustrations only can be given of the methods employed, though the schools have used numerous devices for this purpose.

For the transportation of pupils the elementary-school and high-school districts together make use of a half-dozen school busses owned by the districts. Early in the history of the reorganized high school, the superintendent proposed to the school boards that the boys in the automobile-repairing, machine-shop, and woodworking courses be allowed to service the busses and keep them in repair, and to build the bodies for new busses as replacements became necessary. The money saved by this scheme he planned to use for badly needed shop equipment. The boards accepted his proposal. As a result the schools have been able each year to use for educational purposes a considerable sum which would otherwise have been spent for transportation.

Against this device it may be argued that the plan has to some extent interfered with the educational work of the school. The repetition day after day of the routine tasks involved in caring for the school busses has undoubtedly used pupils' time which might have been employed in mastering new skills or new understandings. The fact that the

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work which the pupils were called on to do has represented a real job, however, is not to be overlooked. As compared with artificial "exercises," work of this sort has undoubtedly offered educational values of no small importance. From the standpoint of the educational program as a whole, moreover, the benefits derived from the productive work have been almost unquestionable. Whatever its immediate disadvantages, the net outcome of this undertaking has been a marked broadening of educational opportunity.

Again, the schools needed a gymnasium, which had not been provided for in the construction of the junior and senior high school buildings. To secure money for the erection of a gymnasium through increased tax levies was virtually out of the question. The superintendent discovered, however, that at an Army aviation field a few miles distant from Hemet there was an abandoned hangar which could be had for little more than the cost of removing it. The expense of taking the hangar apart and transporting it in sections to Hemet could be met from available school funds. The hangar was accordingly bought and brought to Hemet. Except for framing the building, which seemed too dangerous an undertaking to intrust to high-school boys, the whole work of re-erecting the structure and remodeling it as a gymnasium was carried out by pupils enrolled in the practical-arts courses.

Finally, the schools needed a fund which could be drawn upon to make the work in vocational agriculture fully effective. Each boy electing a course in agriculture is required to carry out, under supervision, a practical home project. Certain pupils enrolled in the courses come from families too poor to supply the equipment and the land needed for these projects. To overcome this difficulty the vocational agriculture students have established a fund known as the "Future Farmers' Fund." The fund has been built up, first, from departmental winnings at the county fair; second, from rentals charged for farm machinery owned by the Future Farmers' organization; and third, from service fees of 5 cents a sack for feed and seed purchased cooperatively through the organization. Out of the fund thus created loans are made to needy pupils, to allow them to buy or rent farming implements, purchase seeds or stock, or rent small tracts of land for their projects. Pupils borrowing from the fund are ex-

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pected to repay their loans with interest from the eventual sale of their produce. Thus the fund continues from year to year, making it possible for the school to provide thoroughgoing instruction for numerous pupils who otherwise could not be adequately cared for.

Through similar devices the school has been able to introduce various significant features. Though often minor in themselves, these features taken together have added appreciably to the scope of the secondary-school program.

*Development of a favorable public opinion.*—The development of a favorable public opinion has kept pace with the expansion of the schools' program. As in numerous other communities, the establishment of an active parent-teacher association has proved of value in this connection. In addition, two major policies in the administration of the schools have aided greatly in winning the cooperation of the community.

The first policy has consisted in the avoidance of coercion in matters affecting the various school districts. From the outset the superintendent of schools and the union school boards have endeavored to carry out the program of reorganization without the exercise of autocratic authority. Much freedom of choice has been left to individual school districts. The six districts which formed the elementary-school union were not required, for example, to send their pupils to a consolidated elementary school unless they elected to do so. One of these districts gave up its local school immediately, but the remaining districts abandoned their elementary schools more slowly. Moreover, the high-school program was arranged to provide as adequately as possible for pupils from the seven districts which had not joined the elementary-school union. Instead of being penalized for their failure to unite with the majority, these districts were notified that their pupils would be admitted to the high school either at the beginning of the ninth grade, as before, or at the beginning of the seventh grade if individual pupils so desired; and that in the latter case the pupils concerned would not be charged seventh-grade and eighth-grade tuitions. As a result of this policy the schools have gained through the voluntary cooperation of the districts a degree of support which would have been almost impossible to gain through coercion.

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The second policy has been that of making the practical benefits of the schools' work as evident as possible to the community at large. The local concern with agriculture furnished especially valuable opportunities in this connection. Whenever possible, the home agricultural projects supervised by the school have been brought to public notice. Crops to be cultivated by the pupils have been planted on land adjacent to that of farmers who were cultivating similar crops—seldom to the discredit of the school projects. Live-stock raised by the pupils has been entered in agricultural contests, and all possible publicity has been given to the award of prizes to the pupils' entries. The work done by the pupils in caring for the school busses, in erecting the school gymnasium, and in engaging in numerous other types of practical projects in connection with their training, has been duly brought to public attention. Through such means as these the schools have not merely won strong popular support, but have made themselves an important educational center for the adults of the community as well as for the boys and girls.

*The resultant school organization.*—This brief account of the development of a reorganized secondary-school program in Hemet will suggest the methods by which the Hemet schools have met their principal handicaps—a legal situation unfavorable to thorough-going reorganization, a community able to supply only meager funds from the usual sources, a public opinion which at the outset was not wholly in favor of abandoning the traditional organization.

So successfully have these obstacles been dealt with that the Hemet Junior and Senior High Schools in 1931—41 years after their establishment—were outstanding in comprehensiveness of organization. The junior high school enrolls approximately 275 pupils; the senior high school, approximately 200 pupils. Within these small schools have been introduced a program of studies providing for well-planned specialization in academic, commercial, home economics, agricultural, and industrial curriculums; an extensive program of guidance; a system of admission and promotion more flexible than the systems offered by many schools of much larger enrollment; numerous provisions for varying subject matter and methods of teaching to meet individual differ-

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ences; and arrangements for articulation which result in exceptional coordination between the upper and lower school units.

The organization of the Hemet secondary schools would be noteworthy even had it been attained under especially favorable conditions. In view of the handicaps which the schools have had to face, the comprehensiveness and flexibility of their program are doubly significant. Their present organization offers a striking example of what may be accomplished, despite strongly adverse conditions, under a leadership combining tact, sound administrative insight, and a clear recognition of educational goals.

### 5. SECONDARY-SCHOOL REORGANIZATION IN A SMALL SCHOOL SYSTEM

*Reorganization of small schools a difficult problem.*—The reorganization of secondary education within small school systems constitutes a notoriously difficult problem. The problem is, in fact, so complex that it deserves and has received extensive discussion as a major aspect of the whole movement for reorganization.<sup>5</sup> To present all its ramifications through the description of a single reorganized school is obviously impossible. The description of one small school which has attempted reorganization with some success may nevertheless be of value in illustrating certain major procedures applicable within small-school systems in general.

*The effect of local factors on the success of small-school reorganization.*—The school to be described is the 6-year high school of Grosse Ile, Mich. Grosse Ile High School enrolls a total of approximately 100 pupils—55 in grades 7

<sup>5</sup> General treatments of this problem from various standpoints will be found in the following books and articles:

Douglass, Harl R. Possibilities in the Six-Year High School for the Small Town. *Educational Administration and Supervision*, 9:39-51, January, 1923.

Ferriss, Emery N. *Secondary Education in Country and Village*. Appleton, 1927.

Gaumnitz, W. H. The Smallness of America's Rural High Schools. *U. S. Office of Education Bulletin*, 1930, No. 13.

Koos, Leonard V. Junior High School Reorganization in Smaller Communities. *Journal of Rural Education*, 4:49-55, October, 1924.

Lyman, R. L. The Rural Junior High Schools of New Hampshire. *School Review*, 34:175-184, March, 1926.

Mills, Samuel E. Features of the Junior High School in the Smaller Schools of Nebraska. *University of Nebraska*, 1929.

Spaulding, F. T. *The Small Junior High School—A Study of its Possibilities and Limitations*. Harvard University Press, 1927.

Winder, Eustace E. *Organization and Administration of Junior High Schools in Rural and Small School Communities*. George Washington University, 1927.

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to 9, and 45 in the three upper grades. In view of certain special advantages which the school possesses as compared with the usual small school, its selection for description deserves a brief preliminary explanation.

Comparisons of practice in small schools with practice in large indicate that limited enrollment tends to prevent marked deviation from a relatively narrow and rigid organization.<sup>6</sup> The restricted nature of practice in small schools has made it difficult to single out schools which are unusually comprehensive in organization, and which at the same time are representative of what small schools can become under ordinary conditions. Certain small schools have, of course, been found to be more comprehensively organized than others. But in practically every case in which a marked degree of superiority occurred, the more comprehensive small schools were discovered to be exceptional, in the sense that they were more favored in their environment or their source of support than small schools in general. Schools which were typically situated proved in nearly every instance to have organizations that were also approximately typical.

Hence if a clearly outstanding small school is to be described, it must of necessity be an "exceptional" school. Grosse Ile High School has had to its advantage two unusual factors which go far to explain the difference between its organization and the organization of the average small school. First, it is supported by a wealthy community. The financial resources of Grosse Ile—a residential suburb of Detroit—have made possible school expenditures beyond the reach of most small schools. Second, the school has been backed since the beginning by a group of citizens actively interested in the town's educational program and willing to see that program expanded wherever expansion has appeared justifiable and practicable. This second factor has been of no less importance than the first. The two factors together have secured for the high school the continued leadership of a principal whose training and experience are superior to those of most small-school principals; the service of a relatively large staff of unusually competent teachers, whose tenure in the school has been much longer than that of small-school teachers in general;

<sup>6</sup> Cf. Ch. VIII, sec. 5.

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and the advantage of a building and equipment remarkably well adapted to the school's needs.

In spite of the school's exceptional background, the organization of Grosse Ile High School is one which merits attention by many other small schools. Certain of the practices which Grosse Ile has introduced cannot be paralleled in schools of similar size unless more than the usual financial support is available. Most of its practices, however, are products less of unusual wealth than of careful planning and constructive supervision. The latter practices are especially worthy of consideration by principals of other small schools who are seeking to improve their own school organizations.

In the following general description of Grosse Ile High School, the two types of practices are wherever possible distinguished from each other.

*Origin of the reorganized school.*—Until 1924 the school system of Grosse Ile was organized according to the conventional 8-4 plan. The community's interest in the improvement of its schools, coupled with a building situation which presented serious problems, led in that year to the town's request for a survey of the system by the State department of education. In keeping with recommendations based on the survey, the town abandoned the 8-4 organization in favor of a 6-year elementary-school system followed by a 6-year high school. The survey charted for the reorganized school system a general program of development which provided guidance in the necessary initial changes. To supervise the work of putting these changes into effect, the school committee elected as administrative head of the system a man who has served continuously since 1924 both as superintendent of schools and as principal of the high school.

*Building and equipment.*—A new building was erected for the reorganized high school. This fact has unquestionably had much to do with the development in Grosse Ile of an especially comprehensive secondary-school organization. Planned directly in terms of a 6-year high-school program, the building contains well-equipped classrooms, gymnasium, assembly hall, library, science laboratories, general shop, print shop, and rooms for home economics. The high school is located in close proximity to the central elementary-school—a circumstance which promotes economy in the

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supervision of both schools, and which greatly facilitates arrangements for articulation. In the general housing and equipment of its school plant, as has already been noted, Grosse Ile possesses advantages which under present conditions few small school systems can attain.

*Admission and promotion of pupils.*—The practices of the high school in the admission and promotion of its pupils have been less directly determined by the wealth of the community.

The pupil population with which Grosse Ile has to deal is somewhat above the normal level both in intelligence and in home background. The average intelligence quotient of the total high-school group is approximately 105. Most of the high-school pupils come from well-to-do homes, and a majority look to the school for preparation for some form of higher education. Under these circumstances the school might easily content itself with the conventionally narrow academic requirements both for admission to the seventh grade and for subsequent advancement to higher grades.

Grosse Ile interprets its high-school admission requirements, however, with a considerable degree of flexibility. Though pupils normally admitted to the high school are expected to have completed all their elementary-school work, exceptions are made in the case of individual pupils for whom the usual program seems not wholly suitable. For pupils of the latter type—particularly pupils who are over age for their grades, or who show unusual physical or social maturity—the question of admission may be decided quite as largely in terms of standardized achievement and intelligence tests, of success or lack of success in certain phases of the elementary-school program, and of elementary-school teachers' judgments of the pupils' ability to profit by junior high school work, as in terms of the pupils' formal completion of all the work of the elementary grades.

Promotion requirements are likewise flexibly interpreted. Pupils are promoted annually throughout the school system. The small enrollment of the high school has made necessary the retention of promotion by grade in the junior high school grades. Promotions from grades 7 to 8 and 8 to 9 are regularly based, however, on standardized test results as well as on teachers' marks; and in individual cases advancement,

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may be granted to pupils whose age, maturity, intelligence, and industry or general ability, as estimated by their teachers, seem better indices of their need for promotion than their academic standing alone. Promotions from the ninth grade and succeeding grades are by subject, in all subjects. Here again standardized test results as well as teachers' marks are regularly taken into account, and exceptions may be made in the cases of pupils who need exceptional treatment.

The principal exercises direct supervision over all admissions and promotions, deciding in consultation with the teachers upon whatever special steps may be necessary in individual cases. The procedures adopted in this phase of the school's organization are thus largely a product of the principal's effort and initiative.

*Organization of instruction.*—Grosse Ile High School employs the equivalent of  $8\frac{1}{2}$  full-time teachers for its 100 pupils. This relatively large teaching staff allows a much greater degree of specialization for the teachers than can be achieved in most small schools. With two or three exceptions, each teacher is responsible for instruction in only a single subject field—that is, in mathematics, or English, or social studies, etc. Extensive departmentalization obviously results in each pupil having to work with a relatively large number of different teachers. In Grosse Ile the high degree of departmentalization probably does not cause serious difficulties for the pupils, since the latter have already become accustomed to departmental teaching in the elementary grades. The specialization in teaching which the scheme makes possible no doubt adds appreciably to the quality of the secondary-school instruction.

Classes in the high school are necessarily small. The largest class in the junior high school grades enrolls only 26 pupils; the smallest class, only 10. In spite of the offering of numerous upper-grade subjects in alternate years, enrollments in senior high school classes range from a minimum of 4 to a maximum of only 23, with a usual class enrollment or no more than 15.

The small size of the classes obviously prevents the use of homogeneous grouping. In the assignment of pupils to special subjects, however, and in the guidance of pupils with respect to the choice of curriculums, extensive use is

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made of standardized tests, both of mental ability and of achievement. Tests of achievement in particular are administered twice each year throughout the school. The employment of these tests makes possible a certain amount of systematic study of individual difficulties in learning. It provides a basis, furthermore, for special attention to individual differences. Such attention is afforded within class groups by the use of differentiated assignments, by such methods of teaching as the socialized recitation and the project method, and by provisions for the individual coaching of slow pupils. The small size of the classes, coupled with the adoption of these various devices, allows a considerable degree of flexibility in meeting individual needs.

The extent of departmentalization possible within a small high school is largely a product of the wealth of the supporting community, since that wealth is likely to determine the size of the school's staff. The size of recitation classes is likewise determined in a measure by the community's ability to shoulder a high instructional cost. Adjustment of class work to individual needs, however, is less directly dependent on wealth. The procedures adopted by Grosse Ile in the latter respect are unquestionably practicable in many schools which have no extraordinary financial resources, and are worthy of special attention on that account.

*Program of studies.*—The program of studies in Grosse Ile, in terms of the required and elective courses offered in each grade, is shown in Table 31. In grades 7 and 8 all courses are required. At the beginning of the ninth grade each pupil elects either the college-preparatory, the commercial, or the general curriculum; his subsequent elections of subjects are made from among the courses appropriate to the curriculum selected. The school offers no home economics and practical arts curriculums. Its offerings in the latter fields are sufficiently extensive, however, to provide for the needs of most of its pupils who can not profit by academic specialization.

The list of courses presented in Grosse Ile High School is not one which should serve as a model for small schools in general. Planned in terms of a particular local situation, the balance between required and elective courses, and the specific courses included in the list or omitted from it, would not be equally appropriate for differently situated schools. But

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TABLE 31.—*Program of studies in a small 6-year secondary school (Grosse Ile, Mich.)*

GRADE 7	GRADE 8	GRADE 9
<p><i>Required:</i>                      History (Old World background).                      Geography.                      English.                      Mathematics.                      Physical education.                      Chorus.                      Home economics (girls).                      Woodworking (boys).</p> <p><i>Elective:</i>                      None.</p>	<p><i>Required:</i>                      History (American).                      General science.                      English.                      Mathematics.                      Physical education.                      Chorus.                      Home economics (girls).                      Household mechanics and printing (boys).</p> <p><i>Elective:</i>                      None.</p>	<p><i>Required:</i>                      English.                      Algebra.                      Physical education.</p> <p><i>Elective:</i>                      World history.                      Latin.                      Junior business training.                      Manual arts.                      Home economics.                      *Biology.                      Printing.                      Chorus.</p>
GRADE 10	GRADE 11	GRADE 12
<p><i>Required:</i>                      English.                      Plane geometry.                      Physical education</p> <p><i>Elective:</i>                      Latin.                      Bookkeeping.                      **Geography.                      Manual arts.                      Home economics.                      Printing.                      Chorus.</p>	<p><i>Required:</i>                      *English literature.                      *American history.                      Physical education</p> <p><i>Elective:</i>                      French.                      *Chemistry.                      *Trigonometry.                      Typewriting.                      Commercial law and business administration.                      Shorthand.                      Mechanical drawing.                      Manual arts.                      Printing.                      Chorus.</p>	<p><i>Required:</i>                      **American literature.                      Physical education.</p> <p><i>Elective:</i>                      French.                      **Physics.                      Community problems.                      **Solid geometry.                      **Advanced algebra.                      Typewriting.                      Shorthand.                      Mechanical drawing.                      Manual arts.                      Printing.                      Chorus.</p>

\* Offered in 1931-32 and alternate years.

\*\* Offered in 1932-33 and alternate years.

Classes in physical training and chorus meet 2 periods each week.

Classes in home economics, manual arts, printing, and mechanical drawing meet 5 or 10 periods each week.

Other classes meet 5 periods each week.

the Grosse Ile program illustrates the application of at least two principles which are likely to be of value to nearly all small schools. First, the program makes liberal use of alter-

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nation of courses. Particularly in the upper grades, where classes are especially small and grade groups can be readily combined, this procedure adds greatly to the possible breadth of the school's offering. Second, the program provides for at least the minimum needs not merely of the academically inclined pupils, but of pupils whose interests and abilities fall in other major fields. Profiting by the economy gained through alternation of subjects, the school has sought to provide diversity in its offerings, instead of limiting its attention to a single field.

Grosse Ile's ability to provide a relatively comprehensive program of studies is obviously due in part to the size of the school staff. The extensiveness of its program is due also to skillful planning of its offerings. The two features of its plan which have been particularly commented on may be used to advantage in practically every school of limited enrollment, quite irrespective of the school's wealth and to a certain extent irrespective of the size of its staff.<sup>7</sup>

*Extracurriculum.*—Pupils' participation in extracurriculum activities in Grosse Ile High School is entirely voluntary. No scheduled periods are set aside for activities, nor is credit offered for participation. The school has succeeded, nevertheless, in building up an extracurriculum which appeals strongly enough to the pupils to lead practically all to engage in some major type of activity.

The various types of activities provided are unusually numerous for so small a school. The school has a general pupil organization, the officers of which are elected by the pupils without restriction by the faculty. Though the pupil organization does not include separate home-room organizations, it touches directly on many phases of the life of the school, concerning itself with such diverse matters as the treatment of disciplinary problems within the school; the maintaining of order in corridors, streets, and school grounds; the promotion of health, thrift, and scholarship; the beautification of the school building and grounds; the promotion of school publications; the regulation of athletics and of school social affairs. A large majority of the pupils engage in extra-

<sup>7</sup> For an illustration of the use of a similar plan in organizing the program of studies for a 6-year school of only six teachers, see Spaulding, F. T. Can the Small High-School Improve Its Curriculum? *School Review*, 39: 423-438, June, 1931.

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curriculum athletics. A majority also take active part in school social affairs, school exhibitions, and school exercises accompanying the annual graduations. School publications enlist pupils from both junior and senior high school grades. Musical organizations and school assemblies provide further sources of pupil activity. The school has not as yet introduced systematic club activities, so that its program lacks certain features commonly found in reorganized schools. Its extracurriculum as a whole is clearly, nevertheless, a remarkably comprehensive undertaking.

The development of so broad a program is explained in part by the fact that Grosse Ile has been able to obtain funds for extracurriculum activities from the same source as funds for its more formal curriculum work. As money has been needed for the gradual introduction of specific activities, the necessary sums have been included in the school's regular budget.

The development of the extracurriculum has been furthered also by the relatively large number of teachers included in the school staff. The provision of an unusual variety of activities, especially, has been made possible by the school's advantage in this respect.

The most important factors in establishing the program would seem, however, not to have been primarily financial. Of major importance has been the principal's recognition of the value of such a program in providing a well-rounded school experience for the pupils. Hardly less important has been the principal's willingness to see the program grow slowly out of the needs and interests of the pupils. Instead of having been forced into sudden existence by administrative mandate, the various activities which the school provides have been developed one by one over a considerable period.

The advantage of long tenure on the part of the principal and of various members of his staff is especially apparent in this connection. The continued service of the principal has allowed the school to avoid a serious handicap to which many small schools are subject—the occurrence of frequent and radical changes in leadership and hence in educational policy. Since it has been able to count on a consistent policy and on a continuing staff familiar with that policy, the school has succeeded in gradually adding new features without abandoning old features of convincing value.

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*Guidance.*—The formal guidance program of Grosse Ile High School is conducted entirely by the principal. Briefly outlined, the program includes the following major features.

Before their admission to the high school the principal meets with each year's sixth-grade class and explains the work of the high school to them. The fact that subjects of study in the seventh and eighth grades are wholly required means that no immediate guidance is necessary with respect to choice of curriculums. Sixth-grade pupils visit the high school under the principal's direction, however, to become acquainted with the school before beginning their secondary-school work.

Upon their admission to the school, pupils again meet with the principal early in the school year to discuss matters affecting their work—particularly conduct in the school and methods of study. The principal maintains contact with the pupils as a group throughout the junior high school period. He keeps in touch with their parents, moreover, through the use of special reports on the work of individual pupils and through occasional interviews with individual parents at the school.

Prior to the pupils' election of specialized curriculums the principal discusses with them the problem of choosing both appropriate curriculums and specific subjects of study. From this point on, the pupils receive individual as well as group guidance, concerning not merely their election of courses but their participation in extracurriculum activities, their plans for further education following upon senior high school work, and their conduct in matters of health, methods of study, and use of leisure time. As in the case of the lower-grade pupils, the principal maintains contact with the pupils' parents through special reports and individual interviews.

Conferences with pupils and their parents, assembly programs of various types, exploratory and try-out courses, excursions to observe workers in specific vocations and visits to other educational institutions, special library exhibits, and various extracurriculum activities are all used as means of aiding the pupils in making appropriate decisions affecting their educational plans. To provide a basis for judgment concerning the abilities and needs of individual pupils, the school employs a system of detailed cumulative records in

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which are listed for each pupil the results of standardized tests of achievement and ability, the results of individual health examinations, and periodic ratings by teachers of the pupil's school achievement. An effort is made to conduct a systematic follow-up of pupils who have left the school, as a means both of providing continued assistance to such pupils and of affording data for the improvement of guidance within the school.

This program of guidance is obviously not as comprehensive as the programs adopted by many large schools, nor is it as comprehensive as may be necessary to meet the varied needs of pupils even within a small school system.<sup>8</sup> It is greatly superior to the programs found in most small schools, however, both in its continuity and in its direct bearing upon vital aspects of the pupils' work. Particularly noteworthy is the fact that it depends hardly at all upon the wealth of the local community. At least as comprehensive and systematic a program as this should be attainable in any school which possesses an administrative officer of sufficient vision and determination to put it into effect.

*Articulation.*—The proximity of the Grosse Ile High School building to the elementary school has been referred to earlier. The nearness of the schools to each other, together with the undivided 6-year organization in effect in the high school, have permitted unusually extensive arrangements for articulation.

A close relationship is maintained between the elementary school and the high school in all the major phases of the schools' work. Curriculum committees composed of teachers from both school units have been responsible for formulating and revising subject matter for high-school and elementary-school courses alike. Conferences dealing with the extra-curriculum of the lower high-school grades have been held between the teachers of the two schools. Certain teachers serve in both the elementary school and the high school; and most of the teachers who act as sponsors of extracurriculum activities in the high school are engaged as sponsors of similar activities in the elementary school. The means taken for securing continuity of the guidance program between the

<sup>8</sup> Cf. the procedures in guidance which distinguish comprehensively organized schools, as listed in Ch. X.

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schools have already been described. Through his position as administrative head of both schools the principal has sought to assure a similar continuity in curriculum and extracurriculum activities. In particular, he has given attention to the integration of subject matter and methods of teaching and to the articulation of the extracurriculum as a part of his general supervisory program. He has undertaken, further, to provide from year to year whatever modifications of subject matter have seemed necessary to permit a gradual transition for each new group of pupils as they have passed from the lower school to the upper.

Within the high school itself the problem of articulation has been simplified by the absence of a dividing line between the junior and senior high school grades. The same teachers are in most cases responsible for the teaching of both upper-grade and lower-grade courses. Pupils enrolled in the lower grades are allowed, if they can profit by it, to elect upper-grade work; and upper-grade pupils may take lower-grade courses if such courses are appropriate in their programs. Committees of teachers have been given responsibility for formulating subject matter and methods of teaching in fields of study covering all the grades. The same teachers act as sponsors for both upper-grade and lower-grade extracurriculum work; and the extracurriculum for the school as a whole is in part a product of staff committees. As in the case of articulation between the elementary school and the high school, the integration of the instructional program within the high school has been made an important part of the principal's plan of supervision.

Without exception, these various arrangements for articulation are products of systematic planning rather than of unusual local advantages. As such they represent provisions which are entirely feasible within any small school system which can count on effective administrative leadership.

*Teaching staff.*—Grosse Ile has unquestionably been aided in the development of its present high-school organization by the quality of its teaching staff. Of the 10 teachers devoting all or a part of their time to teaching in the high school in 1930-31, 9 had held positions in the school prior to that school year. Five of the teachers were men. All had had profes-

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sional training and all were experienced teachers. All but two were college graduates.

As may be judged from the composition of its staff, Grosse Ile's standards for its teachers are high. For appointments to academic teaching positions the same qualifications are required throughout the high-school grades. Teachers must be college graduates, must have had at least 15 semester hours of professional training, and must have had two or more years of teaching experience. A single salary schedule is in effect for all high-school teachers.

The adoption by a small school system of such standards as these, and the consistent employment of teachers who could meet them, would have been impossible in recent years in any but a relatively wealthy community. To provide as low a pupil-teacher ratio as that found in Grosse Ile is still out of the question for most small schools. Conditions with respect to the supply of teachers are changing so rapidly, however, that even schools with limited financial resources may shortly find it in their power to build up experienced and well-trained staffs. The standards exemplified in Grosse Ile thus suggest a goal to which other small schools may not unreasonably aspire.

*Supervision.*—Though the quality of the teaching staff in Grosse Ile High School no doubt accounts for many of the school's outstanding characteristics, the chief explanation of the school's superiority in organization is to be found in its supervisory program. The school has no special supervisors; responsibility for oversight of the details of its work, as well as for the formulation of general educational policies, is borne wholly by the principal. Observation of classroom teaching, conferences with individual teachers, and meetings of the faculty as a whole furnish, as in most schools, a continuing basis for the program of supervision. In addition, the principal has sought to improve the quality of instruction and to give direction to the school's work through a systematic self-survey of the school, through a program of curriculum revision in individual subjects of study, through provisions for the systematic examination of new textbooks, through arrangements for "visiting days," and through the encouragement of summer and extension study by individual teachers. The effects of this supervisory program are in part,

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at least, discernible in the various phases of the school's work described in the preceding pages.

*Features of organization applicable to other small schools.*—The foregoing account of Grosse Ile High School provides a description of the major features of the school's organization. The account may perhaps best be concluded by a brief list of the features likely to be of widest significance. From the standpoint of small-high-school practice in general, those features would seem most worthy of attention which have resulted not so much from the school's unusual external advantages as from constructive administrative leadership.

The school's arrangements for flexibility in admission and promotion clearly fall under the latter head. So likewise do a number of its provisions for meeting pupils' individual needs within separate class groups. The use which this particular school makes of standardized tests may be more extensive than is practicable in less wealthy schools, yet at least a limited use of such tests is not out of the question in most small schools. The general methods employed in the organization of the program of studies, if not the specific course offerings included in the program, are applicable to small schools everywhere. The plan used in the development of extracurriculum activities is similarly capable of widespread adoption, providing only that continuity can be assured in general administrative policy. The program of guidance is one which is practicable even in schools of very limited financial resources. Finally, the various arrangements for articulating the programs of the separate levels of the school system involve practices which are at least to some extent feasible in any small school.

All these features of organization are not merely theoretically practicable but have actually been put into effect in an individual small school. This in itself is a fact which deserves emphasis.

### 6. ECONOMY OF TIME AS A FUNCTION OF SECONDARY-SCHOOL ORGANIZATION

*Reduced emphasis on economy of time.*—With the increasing spread of the junior high school movement, at least one major change in emphasis has occurred. Early proponents of reorganization attached great importance to the possibility of

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achieving economy of time for the more capable pupils, through allowing such pupils to complete the normal secondary-school program in less than the usual number of years.<sup>9</sup> Recently reorganized schools have tended on the whole to give less attention to this aspect of organization, emphasizing instead the general enrichment of the secondary-school program.

This change may be variously explained. It has no doubt resulted in part from changes in economic and social conditions; there has perhaps been less pressure in recent years for the speedy completion of secondary education than was the case two decades or more ago. The change has no doubt been furthered by the development of new methods of dealing with individual differences within the general school program. In considerable measure, however, the change would seem to have been due to the numerous administrative difficulties which reorganized schools encounter when they attempt to provide for varying rates of progress. Where separate junior and senior high schools have been established, the gap between the two units frequently acts as a serious obstacle to pupils' advancement more rapidly than at the normal rate. The shortness of the usual 3-year junior and senior periods, moreover, tends to limit the extent to which provision can be made for special-progress groups. These difficulties, and others of similar nature, may have had quite as much to do with the lessened attention to economy of time as may more fundamental educational considerations.

Except for the administrative difficulties involved, it is probable that many more schools than is now the case would regard provision for rapid progress as a major function of their organization. Hence an account of a school system which has particularly emphasized this function should be of general interest. The school system in question is that of Little Rock, Ark. Within this system the schools have been specially organized to allow a shortening of both the elementary and the secondary periods for pupils who are willing and able to proceed more rapidly than the average.

*Major features of a plan for securing economy of time.*—The Little Rock schools are administered on the 6-3-3 plan,

<sup>9</sup>Cf. the summary of early arguments for reorganization presented in Bunker, F. F. Reorganization of the Public-School System, Ch. III. U. S. Bureau of Education Bulletin, 1916, No. 8.

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with separate junior and senior high schools. The system includes three junior high schools, which have a total enrollment of approximately 3,500 pupils. The Little Rock Senior High School enrolls approximately 2,200 pupils.<sup>10</sup> Courses in all the schools are offered on a semester basis, with semiannual promotions.

The plan for securing economy of time for the more able pupils in the secondary-school grades of the Little Rock system consists essentially in setting up uniform subject-matter requirements for each field of study, and in providing arrangements by which pupils may fulfill these requirements at various rates of speed. Differences in quality of work are, of course, taken into account in judging pupils' accomplishment. Unusual attention is given, however, to securing in the case of each pupil as rapid progress as the pupil's individual ability may permit, so that each pupil may form the habit of working at a high degree of effort and efficiency.

Three major arrangements are employed to allow varying rates of progress. First, the schools make definite provision for the election of extra work by capable pupils during the regular school sessions. Second, special summer courses are offered for pupils who may wish to shorten their secondary-school programs. Third, the gap between junior and senior high schools is so bridged as to allow an unusually flexible promotion scheme. Each of these arrangements merits at least brief description.

*Provisions for election of extra courses by capable pupils.*<sup>11</sup>—Opportunity to elect extra courses during the regular school session is offered only to pupils who secure "A" or "B" marks in all their major subjects. By taking full advantage of this opportunity, especially capable pupils may shorten their junior and senior high school programs by one half-year in each case.

Opportunity for extra work in the junior high school grades is provided in certain instances by allowing capable pupils to elect one more than the usual number of courses in a given semester. For most pupils, however, the opportunity to do

<sup>10</sup> In addition to its secondary schools for white pupils, Little Rock maintains a 6-year high school for Negro pupils. Only the schools for white pupils are here considered.

<sup>11</sup> For a general consideration of this practice and a report on its extent in secondary schools of the country, see Monograph No. 13 of this survey, entitled "Provisions for Individual Differences, Marking, and Promotion."

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extra work is afforded through special rapid-progress sections. Pupils whose previous work meets the required standard, and whose health, maturity, and general ability make rapid progress desirable, may be assigned at the beginning of any semester to one of these sections. During each semester the sections cover two half-years' work in one of the major subjects. A different subject is "doubled" each half-year. Hence membership in a rapid-progress section for four semesters places a pupil a half-year in advance of his normal grade group in all four of the recognized major subjects.<sup>12</sup> Since promotion is based primarily on accomplishment in these subjects, the advancement thus gained allows a pupil to be admitted to the senior high school at the end of two and one-half years of junior high school work.

Junior high school pupils may not anticipate senior high school work by "doubling" in more than four subjects, nor by "doubling" more than once in any one subject. They may, however, gain less than a full half-year's credit by electing fewer than four semesters of extra work. The fact that certain pupils take advantage of this latter opportunity means that various "odd" credits must be recognized in admitting pupils to the senior high school. The method of providing for pupils who have earned such credits will be described in connection with the plan for assuring effective coordination of school work at upper and lower levels.

In the senior high school grades, arrangements for permitting pupils to earn extra credits are somewhat simpler. They consist merely in allowing the abler pupils to include one more than the usual number of courses in their programs. Since the school offers promotion by subject in all subjects, capable pupils enjoy a considerable degree of freedom in determining their own rates of progress.

In addition to providing opportunity for earning extra credits in its own courses, the senior high school grants credit for acceptable work done under other auspices. Correspondence courses of secondary-school grade offered by the State University may in particular be presented by students

<sup>12</sup> This is true only, of course, in case the rapid-progress section has been able to complete the work outlined for it. A rapid-progress group occasionally proves unable to advance with sufficient speed to cover the necessary ground in the time available. In such cases attention is shifted from rapid progress to enrichment of the usual program. Pupils who do rapid-progress work are expected to work only at a high degree of efficiency without being unduly pushed.

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as a part of their high-school programs. The senior high school is inclined to give full allowance, furthermore, for credits transferred from other institutions, on the assumption that its own obligation is to gage the ability of its pupils by their performance rather than by more arbitrary credit standards.

The foregoing arrangements apply to pupils enrolled in the junior and senior high schools for full-time study. The senior high school offers courses also for students who can devote only part time to school work, at hours at which these students can take advantage of such courses. The courses in question are elected chiefly by pupils who have had to leave school early in order to earn a livelihood. Credits gained in the part-time courses may be used on the same basis as those obtained in full-time work, toward satisfying the school's requirements for promotion and graduation. Though the part-time work is not "extra" in the same sense as the courses added to normal loads by full-time students, both types of courses represent outgrowths of the same fundamental policy—that of providing full opportunity for pupils to gain as much education as possible, as rapidly as possible.

*Summer session for advance credit and "make-up."*—Besides being permitted to obtain advance credit for extra work during regular sessions, capable pupils are encouraged to undertake summer study. Summer courses, unlike extra regular session courses, are open not merely to "A" and "B" pupils, but also to pupils who are required to repeat certain courses because of failures in their regular work, and to pupils with average records who need a small number of advance credits to permit early graduation.

The summer session in Little Rock is an optional session.<sup>13</sup> The work of the summer school is so organized, however, as to meet as fully as possible the standards for regular-session courses. The school is conducted in the high-school building, and draws its teachers largely from the regular high-

<sup>13</sup> A small tuition fee is regularly charged for work in summer courses, though no earnest pupil who can not afford to pay the fee is barred from summer work on that account. The practice of charging for tuition is reported to have had good results in two respects. First, it has tended to eliminate from the summer session pupils who were not interested in enrolling for a serious purpose. Second, it has tended to keep pupils from slighting their work in regular session merely because they could look forward to "making it up" in the summer. The prospect of having to pay for failure has apparently been in certain cases a strong incentive to serious effort.

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school staff. The session is six weeks in length. Summer school begins immediately upon the close of the spring semester, so that there is no interruption of school work for pupils who elect the summer courses. Classes meet for six days each week, from 8 to quarter past 12 o'clock daily. Since pupils are allowed to elect no more than two courses during any one summer, the relatively long school day makes it possible to arrange for daily supervised study in connection with each course. The summer courses given under these conditions are credited as full equivalents of corresponding half-year courses in the regular sessions.

The opportunity for extra work which the summer school offers has proved to be of value in a number of ways. Its usefulness is obvious in the case of especially capable pupils who wish to shorten their periods of secondary-school attendance, and of pupils who have failed and need to make up work required for graduation. In addition, the summer session allows pupils to take work not open to them during the regular year. College-preparatory students, for example, may elect courses in shorthand, typewriting, or general business subjects; and pupils who are seeking to meet specific vocational requirements may take subjects needed for special certificates. Summer work is also of service in providing special college-preparatory work for pupils who have changed their college plans. Moreover, the summer courses make it possible for pupils whose high-school standing is irregular to adjust their high-school programs. In this latter respect pupils who have lost time through transfers from other schools, through changes from one curriculum to another, or through absences during regular sessions are likely to be especially benefited. The summer school thus furnishes a useful supplement to the work of the regular year under a considerable variety of circumstances.

Though not a part of the formal summer-school arrangements, the provisions made by the senior high school for "parallel reading" during the summer deserve mention in this connection. The English department of the school issues at the close of each spring semester a list of the books which are to be required for reading during the fall semester of the following year. Copies of these books are withdrawn from the school library and placed in the city library, where

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they are readily accessible. Pupils who are not enrolled in the summer school are encouraged to do their reading in the summer as a means of lightening their work for the following semester. Shortly after the opening of school in September, examinations are given on the required reading, and pupils obtaining satisfactory grades are excused from such reading during the semester. The opportunity to anticipate regular-session work in this way offers a further means by which pupils may advance more rapidly than at the usual rate.

*Provisions for coordinating junior and senior high school work.*—Opportunity to gain extra credits, either during regular sessions or in the summer school, could obviously be of only limited value without careful coordination of the work of the junior and senior high schools. In spite of the fact that it is handicapped by having separate junior and senior organizations, the Little Rock school system has succeeded in largely removing the gap between the schools for rapid-progress pupils. The chief means employed in doing so have been two.

First, each major subject field throughout the system has been put in charge of a special supervisor, who has been made responsible for appropriate grade placement of materials and for the general integration of the course of study. The supervisors have devoted particular attention to establishing grade standards in terms of specific goals for each semester's work, so that the requirements for advance credits may be defined with reasonable accuracy.

Second, arrangements have been made through which, when need arises, pupils may take both junior and senior high school courses at the same time. Thus pupils may be granted promotion by subject *between* the junior high schools and the senior high schools as well as within the separate schools.

The latter provision is sufficiently uncommon among separately organized junior and senior high schools to require explanation. It depends for its success in Little Rock largely on the geographical location of the schools. Of the three junior high schools in the system one is situated within a stone's throw of the senior high school. The nearness of these two schools makes it possible for pupils enrolled in either school to take certain courses in the other. Accord-

ingly, ninth-grade pupils who are ready for certain senior high school courses and tenth-grade pupils who have deficiencies in one or two junior high school courses are permitted to include in their programs appropriate courses in both schools. Ninth-grade pupils living outside the district of the junior high school in question may be transferred to this school for their final semester of lower-school work. Through these arrangements the Little Rock school system allows a flexibility of progress from the lower secondary grades to the upper which is seldom found except in 6-year schools.

By thus defining requirements in each subject field, and by putting into effect a thoroughly workable scheme for advancing pupils from junior to senior high school as fast as their accomplishment justifies, the Little Rock schools have gone far toward overcoming the formidable obstacles to a rapid-progress scheme presented by separate secondary-school units.

*Methods used in popularizing the rapid-progress plan.*—Little Rock has not been satisfied, however, merely with making varying rates of progress possible. The schools have taken definite steps to insure the use of the rapid-progress plan, by bringing it directly to the attention of the pupils and their parents.

An innovation which has done much to popularize the plan has been the introduction of a special commencement for pupils who complete their high-school programs in the summer session. The senior high school holds three commencements annually—one in January, one in May, and one in July; so that pupils receive their diplomas immediately upon finishing their work, no matter how irregular their programs may have been. In the list of graduates appearing on the printed program for each commencement, the names of pupils who have graduated in a year or a half-year less than the normal time are specially emphasized. The commencement held at the close of the summer session is by no means the least impressive of the three. It is conducted out of doors in the late afternoon of the last day of the summer school, in surroundings which help to make it an unusually colorful ceremony.

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The schools also rely upon direct advertising of the rapid-progress plan. In April of each year, posters are placed in the junior and senior high school buildings, urging summer-school attendance. Assemblies, articles in the school publications, and general school publicity are likewise employed to bring not merely the summer school but the rapid-progress scheme as a whole to the attention of the pupils and their parents.

The most effective means for insuring appropriate use of the plan has been found, however, to be discussion of the plan with home-room groups and with individual pupils. Such discussion forms a regular part of the guidance program. The possibility of saving time in their junior high school work is explained to capable pupils during their first semester in the school. Letters are sent to the parents of such pupils, strongly urging the use of the rapid-progress plan, outlining various schemes for completing the junior high school course in two and one-half years, and requesting parents to indicate their approval or disapproval of the plan. In the senior high school a similar procedure has been adopted. The program of each pupil admitted to the school is carefully drawn up in conference with the pupil concerned, and opportunities to shorten his period of attendance are pointed out to him. Through such advance planning, and through subsequent correspondence and conferences with parents, the school seeks not merely to insure the appropriateness of each pupil's choice of work but to help the pupil complete his program in the shortest possible time.

*Results of the rapid-progress plan.*—The results of the rapid-progress plan as thus administered may be gaged by certain data for 1930.

In that year 23 per cent of the secondary-school pupils who were enrolled at the end of the regular session attended summer school. Eighty per cent of these pupils were taking advance work; 20 per cent were doing review or make-up work. Ninety-seven per cent of the total number completed their summer-school courses.

In that year also, 74 pupils—1 in every 6 in a graduating class of 435—received their high-school diplomas from a half-year to a year earlier than the time at which they would have been graduated under the usual year-by-year scheme.

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Ninety-six pupils were graduated at the end of the summer session. Thirty-six of these had completed their work a half-year early; others had taken advantage of the summer courses to make up previous loss of time in their programs.

Clearly the rapid-progress plan in Little Rock represents no mere paper program. The plan is not only there to be used by pupils who may properly avail themselves of it; it actually is being used by a considerable proportion of the secondary-school enrollment.

*Appropriateness of the rapid-progress plan for secondary schools in general.*—Whether the plan here described will commend itself to secondary schools in general must depend in large measure upon at least two important considerations. The first consideration is that of the relative value of rapid progress as compared with an enriched program for especially able pupils. The issue between these methods of meeting individual differences is by no means dead, and various school systems may well be expected to deal with it in various ways. The second consideration is that of the conditions necessary to put a rapid-progress scheme into full effect. Little Rock has been favored in its own undertaking by a number of special circumstances. Its advantage in the location of certain of its schools has been pointed out. It has had in its favor also a relatively large secondary-school enrollment, which has greatly facilitated provision for rapid-progress sections, for promotion by subject, and for the arrangement of special programs for individual pupils. Schools less fortunately situated will in many cases not be able completely to parallel the Little Rock organization, however fully they may approve its purposes and its methods.

The rapid-progress scheme adopted in Little Rock represents, therefore, neither a complete nor a final answer to the question of economy of time in secondary education. The scheme is nevertheless of distinct interest as evidence that economy of time can be achieved under a school organization addressed directly to that end, and as a suggestion of means by which certain major administrative obstacles may be overcome.

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### 7. REORGANIZATION IN AN "UNREORGANIZED" SCHOOL

*Difficulties faced by a 4-year high school.*—Comparisons of reorganized and unreorganized secondary schools have shown that conventionally organized schools tend in general to be inferior to reorganized schools in both comprehensiveness and consistency of organization.<sup>14</sup> The differences between the two types of schools can not be satisfactorily explained in terms of the inability of the conventional schools to adopt any specific feature of reorganized-school practice. The differences would seem to be more largely attributable to at least two factors which are often difficult to analyze. In the first place the conventional form of organization offers serious obstacles, even though it does not present an absolute barrier, to the introduction of desirable practices. In the second place conventionally organized schools tend to be subject to the tradition of certain formal standards and procedures from which reorganized schools, by the mere fact of reorganization, are relatively free.

Evanston Township High School, of Evanston, Ill., is a 4-year high school which is quite as subject as most conventional schools to disadvantages both of form of organization and of tradition. Certain features of the school organization in Evanston merit description as examples of what can be accomplished despite the handicaps of the conventional grade grouping.

Evanston Township High School is a school of approximately 2,500 pupils, serving a thoroughly heterogeneous population. The school is supported and controlled under the general regulations for township high schools in effect in the State of Illinois.<sup>15</sup> These regulations provide for high-school districts which are only occasionally coextensive with the local elementary-school districts. In the case of Evanston the high-school district includes two complete elementary-school districts and small areas served by two others. Responsibility for support and control of the high school is vested in a separate high-school board, which elects the high-school principal. Entirely independent boards are responsible for the elementary-school districts, each of which has

<sup>14</sup> See Chs. III, IV, and VII.

<sup>15</sup> For a general discussion of the Illinois school-district regulations, see Monograph No. 8 of the survey, entitled "District Organization and Secondary Education."

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its own superintendent of schools. No two of the boards in the Evanston area overlap in their composition, nor are the administrative and supervisory officers for the high-school and elementary-school districts in any instance the same persons. As a result of these conditions the Evanston Township High School is completely set apart, legally and financially, from the schools below it.

The restrictions imposed on the high-school organization are obvious. Evanston is apparently committed to a 4-year high school so long as the present school district law remains unchanged. Within its organization, moreover, the high school is under greater pressure than most 4-year schools to confine itself to conventional procedures. Not merely is it relatively free from external compulsion to introduce changes in practice; it actually can not introduce changes which are in any important respect dependent on corresponding changes in the elementary grades unless it can secure the voluntary cooperation of entirely independent school officials.

Until very recently, furthermore, the high school has tended to emphasize preparation in the classics as its major objective. Its inheritance of a strongly academic tradition has had one admirable outcome in the respect which has been built up for high standards of scholarship. Less admirable has been the narrowness and formality in the school's program which this tradition has tended to produce. The conception of the school held by the community, by the pupils, and by its own staff, as a school concerned almost exclusively with academic training, has been no less an obstacle to the introduction of practices characteristic of reorganized schools than has the complete separation of the school from the lower grades in the public-school system.

To bring about a change from the conventional program under these conditions has required both a revision of internal practice in the high school, and a development of cooperative relations with the elementary schools serving the same school population. Both the internal changes in the school and the changes affecting the relationship of the high school with the elementary schools are of interest, since they involve types of practice likely to be of peculiar value to schools committed to the 8-4 organization.

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*Internal reorganization in a 4-year school.*—Revision of practice within the school has been undertaken slowly. The principal has in general followed the policy of making the need for a specific change clearly felt before the change itself has been proposed. Changes in the program of studies, for example, have been brought about not through arbitrary alteration of the established program, but as a result of full discussion—first in meetings of the faculty, and later with representative groups in the community—of the needs of various types of pupils. Through development of supporting sentiment among the groups affected, each new practice introduced has thus had some assurance of permanence.

Certain changes in the program of studies illustrate the type of modifications through which the school has sought to increase the comprehensiveness of its organization. To provide fundamental instruction not offered in the preceding grades, courses in civics and science have been required of ninth-grade pupils. Special "opportunity" courses, furthermore, have been added to the regular work in English, mathematics, world history, biology, commercial geography, and home economics, "to enable . . . pupils who are not particularly gifted in a scholastic way to do worth-while work well adapted to their needs and abilities with a normal degree of success." The high-school program as a whole is so organized that pupils must elect specialized curriculums at the beginning of the ninth grade, but the first year's work in the various curriculums has been made sufficiently general to allow any necessary transfers from one curriculum to another without serious loss. College preparatory curriculums still hold a dominant position in the program of studies. The school has nevertheless been giving an increasing place to other-than-academic specialization, first through enrichment of the general, fine arts, and business curriculums, and more recently through the introduction of courses in home economics for girls and practical arts for boys. The work in home economics has been made extensive enough to permit four years of study in this field. Courses in practical arts thus far include two years of woodworking, two years of automobile mechanics, and four years of mechanical and architectural drawing; the addition of courses in other fields is contemplated as rapidly as the courses can be effectively organized.

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Through these various extensions in its offerings the school is gradually developing a program of studies which will eventually parallel, within a 4-year grade grouping, the programs offered in the upper grades of outstanding reorganized systems.

In keeping with the general policy underlying the expansion of the school's organization, the extracurriculum has been permitted to grow only as fast as clearly recognized needs have called for expansion. No formal activity periods have as yet been included in the weekly schedule, and pupils are entirely free to refrain from participation in activities. The development of special activities has been strongly encouraged, however, whenever pupils have shown active interest in particular undertakings. As a result, the school now provides at least a limited amount of opportunity for participation in practically all the commonly recognized types of extracurriculum activity. An informal pupil organization is engaged in the promotion and regulation of numerous student projects—school publications, intramural athletics, school social affairs, and the like. Without any elaborate club program formulated in advance, clubs have been established to provide an outlet for a considerable variety of pupil interests. Intramural athletics attract a large number of the pupils. Musical organizations, school publications, student assemblies, and school social affairs provide further opportunities for the development of varied interests and abilities. As in the case of the school's program of curriculum work, the program of extracurriculum activities is being added to year by year, in ways which bring it increasingly in harmony with the programs undertaken in reorganized schools.

Concurrently with the expansion of its curriculum and extracurriculum offerings, the school has been developing an extensive system of educational guidance. A director of guidance has been appointed for the school as a whole, and certain teachers have been selected as special advisers. Each adviser is responsible for personal oversight of the individual pupils in his charge. The school has gradually made an increasing amount of information available to the advisers concerning each pupil—a cumulative record of the pupil's school progress, results of standardized tests of

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ability and achievement, reports on periodic health examinations, ratings of the pupil's qualities by the teachers who have come in contact with him, and data on the pupil's home environment, general prospects, and educational ambitions. In each successive decision which the pupil has to make with respect to his school work, he has opportunity for a conference with his adviser. The individual attention thus given is supplemented by more general guidance through such agencies as the school handbook, discussion of educational problems in home-room groups, articles in school publications, meetings with parents, and the like. The school has not thus far undertaken a comprehensive program of vocational guidance, as distinguished from educational guidance. It has still to introduce, moreover, such widely recognized features as special guidance classes, and systematic exploratory or try-out courses. Yet its present provisions for guidance represent a marked advance over those which are characteristic of conventionally organized schools.

The school has undertaken extensive changes in still other major directions. In particular, it has been devoting careful attention to the revision of its courses of study in various fields, and to the improvement of methods of teaching. The new procedures introduced in connection with the program of studies, the extracurriculum, and the program of guidance thus constitute only a part of the school's approach to the improvement of its work; yet they may serve to indicate the nature of the internal reorganization which is being carried out.

*Changes in practice affecting the upper elementary-school grades.*—For obvious reasons, changes dependent on cooperative relations with the elementary schools in the Evanston area have had to be undertaken even more slowly than changes within the high school itself. The most important general modifications in the work of the seventh and eighth grades have thus far concerned the content of the curriculum and the provisions for guidance of pupils about to enter the high school.

Revision of subject matter in certain fundamental courses has been undertaken by joint committees of elementary-school and high-school teachers. Each such committee

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has dealt with the curriculum not in the seventh and eighth grades alone, but in grades 7, 8, and 9 considered as a unit. Thus far the curriculum in English has been extensively revised on a cooperative basis, and a beginning has been made in coordinating the courses in social studies and science. Further curriculum revision is planned as opportunity permits. The work already undertaken has been of hardly less value in bringing about a fuller understanding by high-school and elementary-school teachers of each other's problems, than in securing appropriate curriculum content. The extension of the plan of cooperative curriculum-study seems to promise increasingly closer relationships between the upper and lower schools.

Development of the guidance program in the lower grades has had a similar effect. The changes introduced in the lower-school guidance programs, though they are no more important than the changes in curriculum content, bulk somewhat larger in the school's general organization than do the procedures for curriculum revision.

Under the leadership of the director of guidance in the high school, arrangements have been made by which eighth-grade pupils are given a considerable measure of help in planning their high-school programs before they leave the elementary school. The eighth-grade teachers serve as home-room advisers. To assist these teachers in their guidance of individual pupils, the high school issues a bulletin in which are presented, for the teachers' use, data on the probabilities of pupils' success in the various high-school curriculums, as indicated by scores on achievement tests given in the elementary school; suggestions as to the courses likely to be of greatest value to pupils of various levels of ability; an explanation of the high-school program of studies; and directions for filling out the pupils' election cards.

The high school itself comes in direct contact with the eighth-grade pupils through an arrangement by which these pupils and their home-room teachers visit the school, with high-school pupils serving as their escorts. In the course of this visit the activities of the school are explained by high-school pupils and by members of the school staff. The parents of prospective pupils are likewise informed of the opportunities which the high school offers, chiefly by means

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of printed bulletins and of group meetings conducted under the auspices of the parent-teacher associations.

An important adjunct to the guidance program consists in the preparation by the high school of an annual report of the marks of first-year pupils. This report is issued each February, and shows the distribution of the marks obtained by the pupils from each elementary school in each of the first-semester subjects. Sent to all the elementary schools from which pupils are promoted to Evanston Township High School, the reports offer a means by which each elementary school may compare the accomplishment of its pupils with that of pupils from the other schools in the district, and a means also by which each school may gage the soundness of the advice which it gives its pupils in their choice of high-school courses.

The elementary schools in turn provide the high school with a record of the seventh-grade and eighth-grade work of each entering pupil. The forms used for this purpose have been developed by a joint committee of elementary-school and high-school teachers. They allow a cumulative record of progress from the seventh grade through the twelfth, so that the high school has for the use of its own home-room teachers and advisers detailed information with respect to each pupil from the beginning of the nominal secondary-school period.

The scheme of guidance made possible by these various means—bulletins to the eighth-grade teachers, visits of pupils to the school, the giving of information to parents, reports on the success of first-year high-school pupils, and cumulative records covering seventh-grade and eighth-grade work—is obviously neither as comprehensive nor as thoroughly integrated as that which might be provided in a 6-year secondary-school system. It offers marked advantages, however, over the meager provisions for guidance in most unreorganized systems. Furthermore, it provides the nucleus for a general plan of lower-school guidance which promises to become an increasingly valuable feature of the school organization.

*Attainment of effective cooperation between high school and elementary schools.*—The establishment of a scheme of cooperative curriculum revision and the introduction of an improved system of guidance represent, as has been noted, the principal general changes which have been brought about

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as means of improving the coordination between the upper-school and lower-school programs. Individual elementary schools in the Evanston district have from time to time modified their organizations in still other respects. In a number of instances, for example, these schools have placed their teaching on a departmental basis in the seventh and eighth grades; one or two schools have instituted at least partial promotion by subject; a number have made special provisions in their organizations for individual differences in pupils' abilities and needs; and in certain cases the elementary schools have revised their programs of studies to conform more closely to the programs found in reorganized schools. The changes already described are of major interest in the present connection, however, not merely because they have affected the majority of the pupils entering the high school rather than the pupils from a few, elementary schools only, but because they have been brought about largely through the efforts of the high school itself.

As with the modifications which the high school has made in its own program, these changes have resulted from full and open discussion of specific problems. That the high school has been able to enlist the active cooperation of the elementary schools has been due to a number of factors.

In part this cooperation has no doubt resulted from the extensive publicity given to the high school's program. The principal and various members of his staff have used every favorable opportunity to discuss the work of the school with representative groups in the community, and to show the relation of the secondary-school program to the whole local program of public education. Through discussions of this type much has been done to enlist the interest of the citizens not merely in the high-school program as such but in the development of effective relations between the upper and lower units of the school system.

Cooperation between these units has also been promoted by the high school's readiness to recognize the needs of pupils sent to it by the elementary schools. The high school accepts its entering pupils on the basis of simple promotions from the lower grades. The modifications made in the high-school program of studies to adapt the work of the school to the needs of various types of entering pupils have already been

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noted. These modifications, and others of similar intent, have provided tangible evidence of the school's willingness to do its share in any program of cooperation.

Finally, cooperative relations between the schools have been furthered by the high-school principal's personal and professional relationships with the superintendents in his district. The principal has frequently taken the initiative in seeking direct coordination of the upper-school and lower-school work. He has at all times been ready to discuss matters pertaining to this problem, in an effort to arrive at a course of action equally acceptable to all the school groups concerned. His interest in coming to mutual agreements, rather than decisions based on purely arbitrary or authoritative action, has unquestionably been of especial value in the development of harmonious school policies.

*Possibilities of improvement in the organization of the average 4-year school.*—The organization of Evanston Township High School is still in process of development.<sup>16</sup> The changes which have been made in the school's internal practice and in its relationships with the elementary schools represent only a beginning in the projected extension of the secondary-school program. Whether Evanston can eventually achieve a secondary-school organization completely equivalent to that of outstanding reorganized schools depends upon factors not clearly predictable. But the progress already made is in itself significant. It suggests that even the school which is inevitably bound down to the conventional grade grouping can raise its organization much above the conventional level. Evanston has apparently achieved this result very largely through systematic efforts to provide for the specific needs of its pupils, through willingness to initiate changes in its own organization and to ask for necessary changes in the organization of other school units, and through constant interpretation of its problems in relation to those of the school system as a whole. These means are open to every conventionally organized school. They do not promise instant improvement in school practice. They do, however, provide a basis for gradual improvement in which each successive gain is likely to be lasting.

<sup>16</sup> During the year 1931-32 the school made arrangements for regular guidance periods in addition to the individual conferences provided earlier; for an elective course in careers to deal with the problems of pupils most in need of such a course; and for work in remedial reading.

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### 8. EDUCATIONAL LEADERSHIP AND SCHOOL ORGANIZATION

The six school organizations described in this chapter were established to deal with widely different educational problems. As a result, the practices adopted by the schools concerned have likewise been widely different. The schools have had in common, however, one characteristic of so much importance that it deserves specific mention. That characteristic has been the intelligent direction given to their programs by principals, vice-principals, and superintendents possessed of professional initiative, broad social vision, and sound understanding of education.

It is no doubt a mere truism that the quality of a school's organization must in the last analysis be chiefly dependent on the ability of its administrative officers. Yet in a study which has necessarily dealt with forms and practices in organization more largely than with the personalities behind them, this truism may occasionally have seemed to be left out of due account. If this has been the case, even brief consideration of the outstanding schools here described may serve to emphasize a fact which can not be overemphasized: that the quality of educational leadership, rather than the form of organization in itself, must eventually determine the effectiveness of any school organization.

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PART II  
RECENT GROWTH AND PRESENT STATUS  
OF THE PUBLIC JUNIOR COLLEGE

BY O. I. FREDERICK

CHAPTER I : RECENT GROWTH OF JUNIOR COLLEGES

1. SCOPE OF THIS PROJECT

Approximately 2,000 articles, research studies, and books attest an active and widespread interest in the junior-college movement.<sup>1</sup> The most comprehensive books on the subject are those by Koos<sup>2</sup> and by Eells.<sup>3</sup>

This report is concerned primarily with the recent growth of junior colleges (for white students) operated under public auspices and with their status in regard to control, housing, and relation to high school. In compliance with the general policy of the survey, *private* junior colleges are considered very briefly and for comparative purposes only. Negro junior colleges and lower divisions of colleges and universities (if located on the same campus) are not included in this investigation. Special types of reorganization are considered in Part III of this report. Articulation of high school and college and kinds of innovation affecting students at the junior-college level are dealt with in this survey in Monograph 10, Articulation of High School and College.

2. METHOD OF INVESTIGATION

It seems apparent that valid comparisons can be made between different investigations only if the procedures employed are virtually the same. Therefore, *in order to ascertain growth and trends the procedures to be enumerated for this study for 1931 are practically identical with those used by Koos*<sup>4</sup>

<sup>1</sup> Eells, Walter Crosby. Bibliography of Junior Colleges. U. S. Office of Education, Bulletin, 1930, No. 2. Lists 1,600 references.

<sup>2</sup> Koos, Leonard V. The Junior College. Minneapolis, University of Minnesota Press, 1924. 682 pp. 2 vols.

— The Junior-College Movement. Boston, Ginn & Co., 1925. 436 pp.

<sup>3</sup> Eells, Walter Crosby. The Junior College. Boston, Houghton-Mifflin Co., 1931. 833 pp.

<sup>4</sup> Koos, Leonard V. Recent Growth of the Junior College. School Review, 36 : 256-266, April, 1928.

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*in 1922 and 1927. Throughout this report, data for 1922 and 1927 are taken from his findings.*

In January, 1931, a 2-page checking list was sent to all the local public and State junior colleges in the United States which were listed by Campbell.<sup>5</sup> At intervals, second and third requests and finally a personal letter prepared by Leonard V. Koos were utilized to increase the number of responses. The inquiry form asked those replying to list names of junior colleges recently organized. By this procedure a few newly organized institutions were discovered; all except one of these appeared in the directory of the junior college the following year.<sup>6</sup>

The count of junior colleges maintained under public auspices may be somewhat more nearly complete for 1931 than for 1922 and 1927, due to the existence of directories compiled by the American Association of Junior Colleges in 1931 and 1932. However, the procedures employed by Koos in 1922 and 1927 were such as probably to locate not far from all the junior colleges in operation at those dates.

Usable responses have been received from 127 of the 136 local public junior colleges and 30 of the 39 State junior colleges. The junior colleges maintained in connection with local public-school systems are classified as local public (hereafter designated public) junior colleges and those largely supported and controlled by the State are grouped together as State junior colleges. The junior colleges in Mississippi are included in the latter classification because they are county or joint-county schools "supported mainly from State resources in a State in which the county is not a dominant educational unit."<sup>7</sup> This classification was based on correspondence with officers of the State Department of Education in Mississippi.

The count for 1931 includes two junior colleges which were to begin operation at the opening of the school year 1931-32. One junior college offering three years of college work was not included because the respondent planned that it would become a 4-year college the next year.

<sup>5</sup> Campbell, Doak S. Directory of Junior Colleges, 1931. *Junior College Journal*, 1: 223-235, January, 1931.

<sup>6</sup> ———. Directory of the Junior College, 1932. *Junior College Journal*, 2: 235-248, January, 1932.

<sup>7</sup> Koos, Leonard V. Recent Growth of the Junior College. *School Review*, 36: 258, April, 1928.

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The small amount of information to be reported concerning private junior colleges is taken from the directory of the junior college,<sup>8</sup> excluding figures for private junior colleges for Negroes. For the nine public junior colleges and the nine State junior colleges which did not reply to the inquiry form in 1931, data concerning enrollment in 1930-31, classification as public or State (except in Mississippi), geographical location, and date of establishment of the junior college are taken from the same directory. Other findings are based on replies to the inquiry form only.

### 3. GROWTH OF JUNIOR COLLEGES

*Increases in total number of publicly supported colleges and students.*—The total number of public and State junior colleges known to be in operation during 1931 was 175. This number was two and one-half times as large as in 1922, nine years earlier. The enrollment in freshman and sophomore college grades only and exclusive of those in extension courses was 47,329, or almost six times that in 1922. An increase in size of units is apparent.

*Public junior colleges.*—Three-fourths of the public junior colleges are maintained in city school districts (not restricted to places with 10,000 or more inhabitants), one-eighth in union high-school districts, one-tenth in junior-college districts coterminous with two or more union high-school districts, and the other few in township high-school districts. The union high-school districts are prevalent in California and the township high-school districts in Illinois.

Nearly four-fifths of the institutions included in this investigation are public junior colleges; that is, parts of local public-school systems. Their number has trebled in the 9-year period from 1922 to 1931, increasing from 46 to 136. During the nine years the enrollment grew to more than seven times what it was in 1922, from 5,163 to 37,662.

The average increase *per year* in the number of schools was 11.9 for 1922 to 1927 and 7.8 for 1927 to 1931. This decrease in the rapidity of development is shown graphically in Figure 1. The average increase *per year* in enrollment in first and second college years only (exclusive of students in extension

<sup>8</sup> Campbell, Doak S. Directory of the Junior College, 1932. Junior College Journal, 2: 235-248, January, 1932.

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courses) was 2,244 for 1922 to 1927 and 5,320 for 1927 to 1931. This much-accelerated rate of growth is indicated in Figure 2. Thus the pace has slackened with respect to number of new units but augmented in terms of number of students trained.

TABLE 1.—Number of public and State junior colleges and number of students enrolled in 1922, 1927, and 1931

Type of unit	Number of schools			Number of students		
	1922	1927	1931	1922	1927	1931
1	2	3	4	5	6	7
Public.....	46	105	136	5,163	16,382	37,662
State.....	24	31	39	3,276	3,763	9,667
Total.....	70	136	175	8,439	20,145	47,329

The number of public junior colleges reporting to have been organized in the two years 1928 and 1929 was only equal to the number for the single peak year of 1927. It seems logical to conclude that this was due, in part at least, to the fact that fewer communities in the States concerned were in need of new public junior colleges after the rapid development in 1927. The number of public junior colleges reporting to have been organized in 1930 and 1931 was only one-third as many as for the two preceding years, which were not peak years. This leads to the conclusion that economic conditions since the autumn of 1929 probably have had an effect. This explanation fits in well with the acceleration in terms of number of students because it seems plausible that in adverse times more students than usual would attend junior colleges while living at home in preference to spending more money to attend colleges or universities away from home. In certain States, laws passed since 1927 specifying conditions to be met before a new public junior college can be established may have had some slowing effect, but this has not been a major factor for the movement as a whole, because States not affected by such legislation show the same decline in number of new units organized.

*State junior colleges.*—In 1931 there were 39 State junior colleges as compared with 136 public junior colleges. The average increase per year in the number of State junior col-

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leges was 1.4 for 1922 to 1927 and 2 for 1927 to 1931, a noticeable augmentation. The average increase per year in the number of students was 97 for 1922 to 1927 and 1,476 for 1927 to 1931, an extremely marked acceleration in growth.

A comparison of Figures 1 and 2 shows that the public junior colleges have developed much more rapidly in number of units and in number of students than the State junior colleges.

The State junior colleges are a diverse and relatively unstable group. They include three units maintained as parts

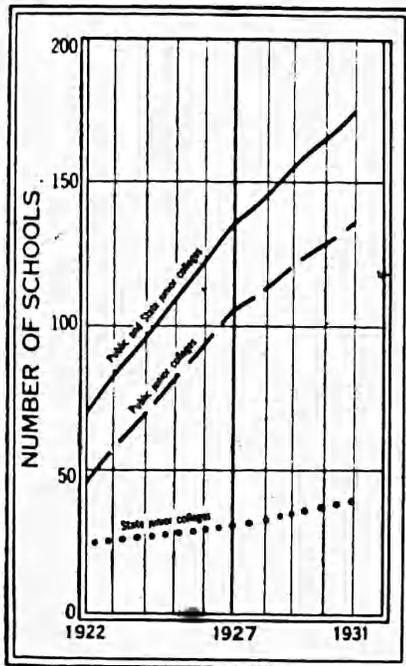


FIGURE 1.—Number of public and State junior colleges in operation in 1922, 1927, and 1931

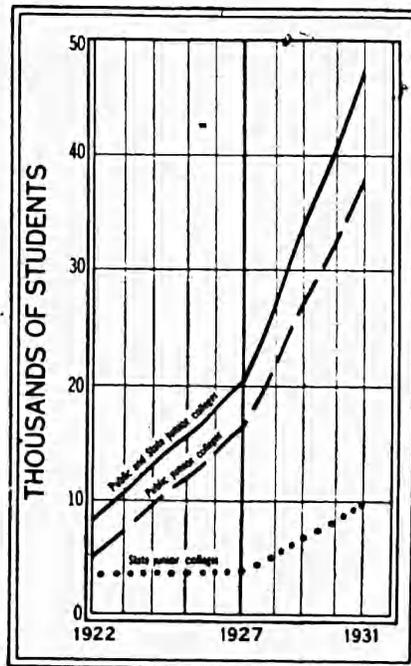


FIGURE 2.—Number of students in public and State junior colleges in operation in 1922, 1927, and 1931

of normal schools or teachers colleges, 11 county or joint-county schools largely supported and controlled by the State in a State in which the county is not a dominant educational unit, 2 as branches of State universities, 8 agricultural or agricultural and mechanical arts colleges, and a miscellaneous group of other educational institutions under State control. A notable decrease has occurred in the number of junior colleges in normal schools and teachers colleges. There were 18 such units in 1922, 7 in 1927, and 3 in 1931. In most, if

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not all, of these cases the giving up of the junior college was in some way related to extension to 4-year-college status. On the other hand, the 8 agricultural or agricultural and mechanical arts colleges and the 11 junior colleges in Mississippi, which stress agricultural curriculums, constitute one-half of all the State junior colleges and have increased significantly in number since 1922. The most rapid increase has been in the Mississippi junior colleges, the number of units mounting from none in 1922 to 3 in 1927 and to 11 in 1931. The enrollment advanced from none in 1922 to 1,633 in 1931.

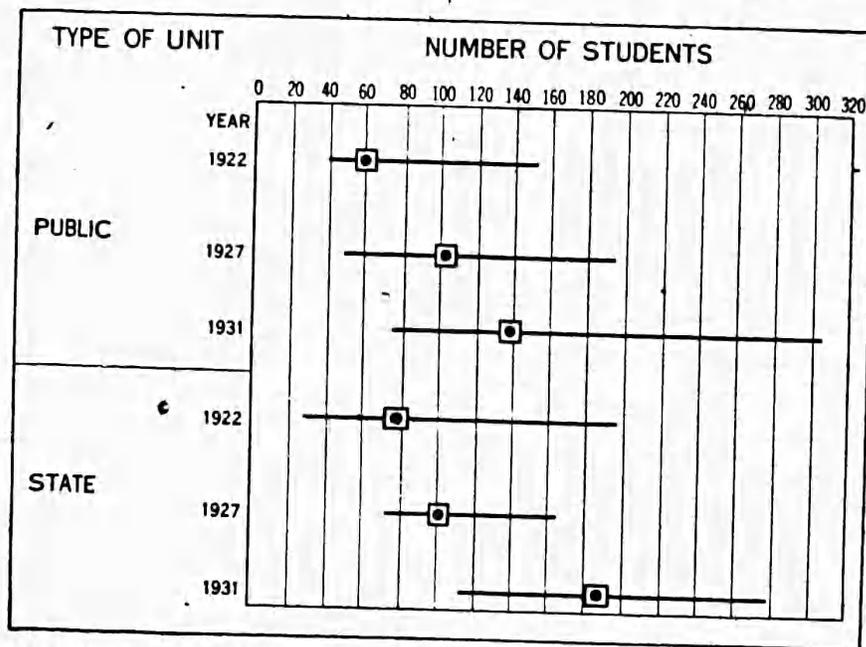


FIGURE 3.—Median enrollment and range of enrollments of the middle 50 per cent of public and State junior colleges in 1922, 1927, and 1931. (The line represents the range of the middle 50 per cent; the square locates the median)

*Private junior colleges.*—Exclusive of junior colleges for Negroes, the number of private junior colleges has increased from 137 in 1922 to 189 in 1927 and to 273 in 1931. The number of students enrolled in freshman and sophomore college grades advanced successively from 7,682 to 15,485 to 36,068. During the nine years the number of units doubled and the enrollment was multiplied by almost five. As a result the average enrollment per school in the first two college grades grew from 61 to 138. The figures for 1922 and 1927 are from studies by Koos, and the ones for 1931 are

## REORGANIZATION OF SECONDARY EDUCATION

derived from the directory for the junior college, 1932. Reference to these sources was made early in the chapter.

### 4. INCREASE IN SIZE OF JUNIOR COLLEGES

Notable growth of junior colleges with respect to size of typical or average units is presented in Table 2 and Figure 3. A comparison of Figures 1 and 2 shows the same fact. Both the number and the enrollment of public junior colleges and of State junior colleges have grown rapidly, but the enrollment has so far outrun the number that a very marked increase in size of institutions has resulted. The tentative desirable minimum standard of 150 or 200 students proposed by Koos<sup>9</sup> is being attained by an ever-increasing proportion of the junior colleges, nearly half of the public junior colleges and fully half of the State junior colleges having reached it.

TABLE 2.—Median enrollment, range of enrollments of the middle 50 per cent, and average enrollment of public and State junior colleges in 1922, 1927, and 1931

Measure	Public junior colleges			State junior colleges		
	1922	1927	1931	1922	1927	1931
1	2	3	4	5	6	7
First quartile.....	39	49	75	28	73	112
Median.....	60	103	138	78	101	187
Third quartile.....	151	194	304	195	164	278
Average.....	143	188	277	156	157	248

<sup>9</sup> Koos, Leonard V. *The Junior-College Movement*. Boston, Ginn & Co., 1925. pp. 380-381.

## CHAPTER II : DISTRIBUTION, ESTABLISHMENT, AND RELATIONSHIP TO THE HIGH SCHOOL

### I. DISTRIBUTION OF JUNIOR COLLEGES

The distribution of the 136 public junior colleges and 39 State junior colleges of the United States in 1931 is shown on the outline map designated as Figure 4.

The absence of these types of institutions (except for the 1-year junior college at Springfield, Mass.) from New England and the Middle Atlantic States is conspicuous. They are widely scattered throughout the other parts of the United States, 17 States having public junior colleges and 14 States having State junior colleges. Both types are found in five States. The States having the greatest number of public junior colleges are California with 33, Iowa with 27, and Texas with 17. The States with the largest number of State junior colleges are Mississippi with 11 and Oklahoma with 7.

The basis for a comparison of the number of public and of State junior colleges in the different sections of the United States in 1922, 1927, and 1931 is afforded in Table 3. At all three dates very few of these types of schools were found in New England. Both types have had a rapid development in the South. In the Middle West and the West the public junior colleges have had a pronounced growth, but the number of State junior colleges has remained practically the same since 1922.

TABLE 3.—*Distribution by sections of the United States of public and State junior colleges in 1922, 1927, and 1931*

Section	Public junior colleges			State junior colleges			Total		
	1922	1927	1931	1922	1927	1931	1922	1927	1931
1	2	3	4	5	6	7	8	9	10
New England and Middle Atlantic States.....	2	3	1						
Southern States.....	1	18	25	3	12	20	2	3	1
Middle Western States.....	25	54	73	11	8	9	36	62	45
Western States.....	18	30	37	10	11	10	28	41	37
All sections.....	46	105	136	24	31	39	70	136	175

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2. DATES OF ESTABLISHMENT OF JUNIOR COLLEGES

Information concerning the years of establishment of the junior-college work for the 134 public and the 39 State units

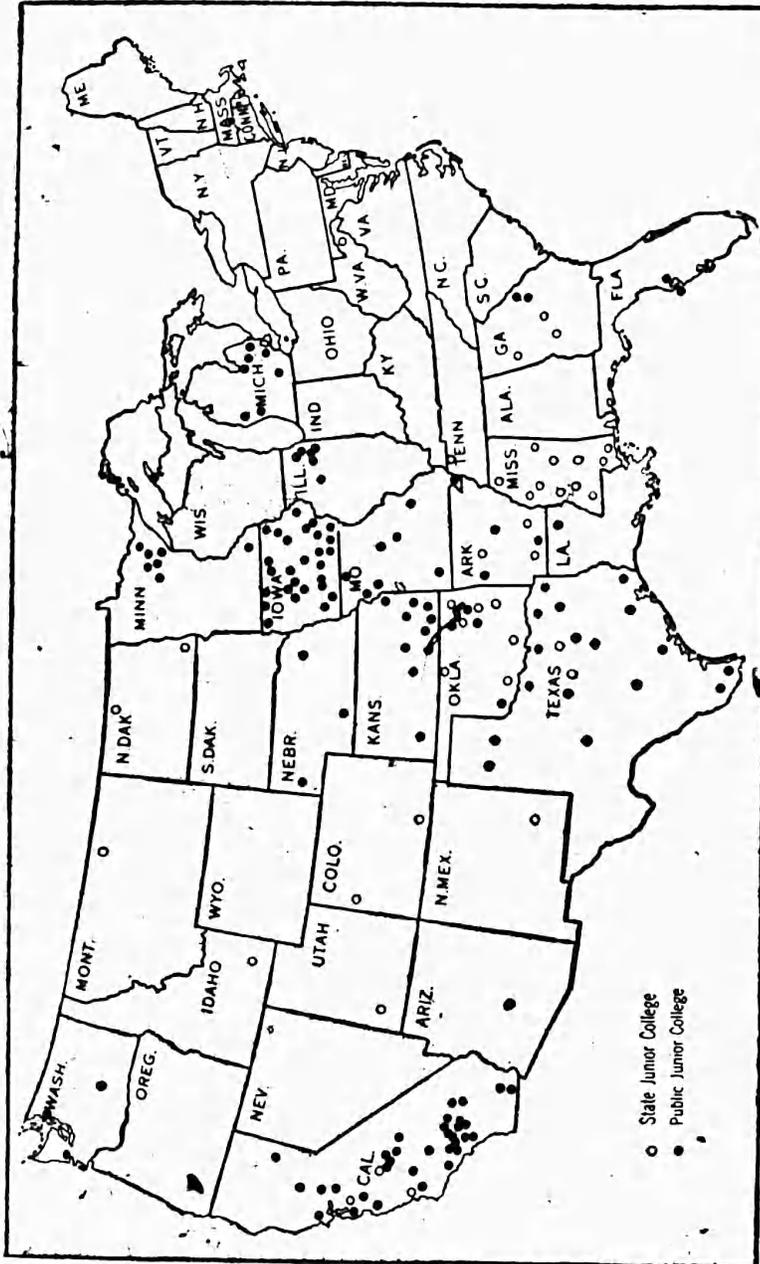


FIGURE 4.—Distribution of 136 public junior colleges and 39 State junior colleges in 1931

in operation in 1930 has been compiled cumulatively, and the result is presented in Figure 5. It is to be noted that junior colleges which were discontinued before the school year-

## NATIONAL SURVEY OF SECONDARY EDUCATION

1930-31 are not included. It is apparent that nearly all of the junior colleges operated under public auspices have been established as such within the last 20 years and that the momentum of the movement increased rapidly until 1927. After that year the growth in number of institutions slackened somewhat, but the number of students enrolled mounted even more rapidly than before (Table 1), and the result was much larger units by 1931 (Table 2).

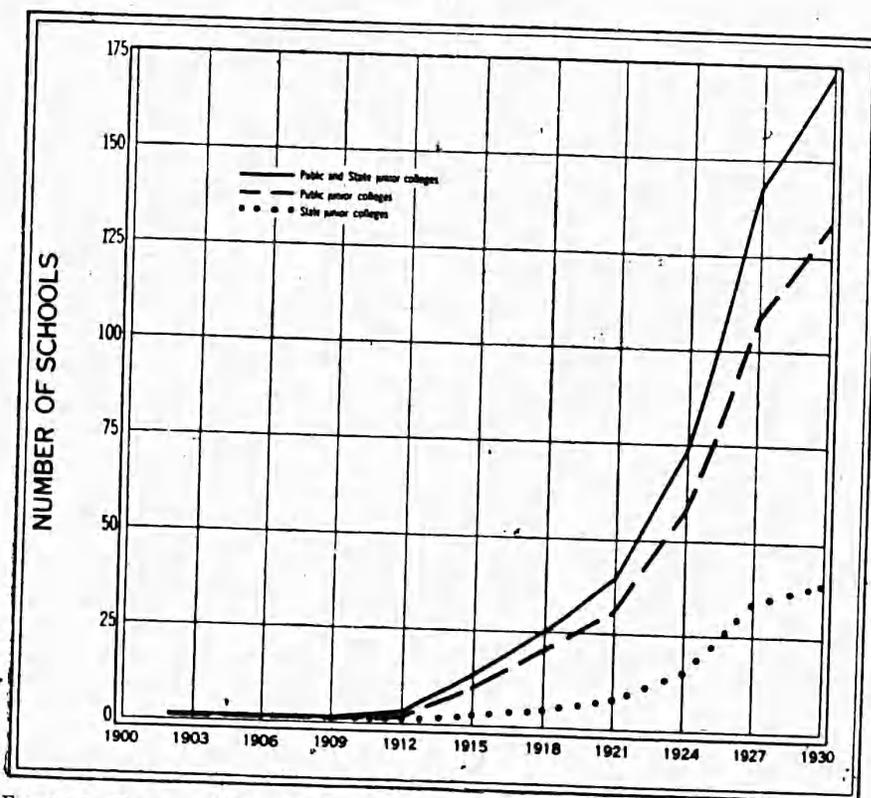


FIGURE 5.—Number of junior colleges of two types in operation at each 3-year interval from 1900 to 1930, inclusive

### 3. PROPORTION OF STUDENTS IN FIRST COLLEGE YEAR

Data collected for the year 1931 from 127 public junior colleges and 30 State junior colleges furnished the basis for the remainder of this report. Nine of the public and none of the State units were 1-year schools. Some of these 1-year junior colleges were established in 1931 and probably added sophomore work in 1931-32. Only a very few schools of either public or State type offer courses beyond the sophomore year of college. In these schools only a small proportion of the students are enrolled in the advanced courses. Nearly all

## REORGANIZATION OF SECONDARY EDUCATION

the institutions are coeducational. In the schools (of both types) which contain two college grades, 67 per cent of the regular students in those grades are in the first college year. Thus the mortality is approximately 50 per cent from the first year to the second year of college work.

### 4. RELATION OF THE JUNIOR COLLEGE TO THE HIGH SCHOOL

*Housing of public junior colleges.*—Ninety-eight, or 77 per cent, of the 127 public junior colleges reporting are housed in the same buildings as high schools, 8 per cent are housed in separate buildings on the same school sites as those used by high schools, and 12 per cent are located on special junior-college sites. The types of housing of the few remaining units are various. The practice with respect to housing differs somewhat from one section of the United States to another. To illustrate, the per cent of the public junior colleges housed on special junior-college sites not used by high schools is 21 in the South, 4 in the Middle West, and 25 in the West.

*Housing of State junior colleges.*—Eighteen, or 60 per cent, of the 30 State junior colleges reporting are housed in the same buildings as the high-school departments, 13 per cent are located on the same sites as high-school departments but in separate buildings, 17 per cent are located on separate junior-college sites, and 10 per cent are housed in other ways.

*Organization of the junior college in relation to the high school.*—Thus, approximately seven-eighths of the public junior colleges and almost three-fourths of the State junior colleges are housed on the same sites as high schools, usually in the same buildings. Twenty per cent of the public junior colleges and 43 per cent of the State junior colleges are reported to be integrated with one or more high-school grades. If specific detailed responses with respect to *degrees* of integration had been requested in the inquiry form, the amount of integration probably would have been found to be greater than reported. Many schools may have reported the junior college organized separately from the high school because in certain respects the two units were organized separately, although in other respects the two units may have been integrated. The replies with respect to housing give credence to this view. This conclusion also seems warranted by the findings of an intensive investigation of degrees of integration

## NATIONAL SURVEY OF SECONDARY EDUCATION

between junior college and high school made by Kefauver and Bullard.<sup>1</sup> They obtained data from 48 public and State junior colleges and 56 private junior colleges. The institutions varied in size and were widely distributed. The relationship between junior college and high school was ascertained with respect to administrative heads, teaching staff, students in the same classes, students in extra-class activities, and housing. More integration was found in that study than is apparent from the single response called for in the short form sent out in connection with this project.

No State junior college reports a contemplated change in organization. Three public junior colleges report committal to a change from separate organization to integration with the high school, but no reply indicates contemplation of an opposite change.

### 6. SUMMARY OF CHAPTERS I AND II

State junior colleges are a diverse and relatively unstable group. The number of units in normal schools and teachers colleges has decreased steadily from 18 in 1922 to 3 in 1931. Most, if not all, of the decrease has been due to the institutions attaining a 4-year-college status. Other types of State junior colleges have much more than offset this decline. It may be noted especially that all 11 of the junior colleges in Mississippi have developed since 1922. Three-fourths of the public junior colleges are in city school systems and most of the others are in districts coterminous with one or more union high-school districts. A few are in township high-school districts.

Approximately seven-eighths of the public junior colleges and almost three-fourths of the State junior colleges are housed on the same sites as the high schools, usually in the same buildings. Other investigations reveal other ways in which junior colleges and high schools are rather commonly integrated.

The States with the greatest numbers of public junior colleges are California, Iowa, and Texas. In all three sections of the United States typified by these States the development of new public junior colleges has been rapid. The States

<sup>1</sup> Kefauver, Grayson N., and Bullard, Catherine. *The Organization of the Junior College as an Agency of Democracy*. Washington, D. C., Department of Secondary School Principals of the National Education Association, March, 1931. Bulletin No. 35, pp. 182-191.

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with the largest numbers of State junior colleges are Mississippi and Oklahoma.

Exclusive of those for Negroes and those which are lower divisions of universities and located on the same campuses, the number of public junior colleges known to be in operation in the United States in 1931 was 136, the number of State junior colleges was 39, and the number of private junior colleges was 273, a total of 448. In freshman and sophomore college grades and exclusive of students taking only extension courses, the enrollment was nearly 38,000 in public junior colleges, almost 10,000 in State junior colleges, and more than 36,000 in private junior colleges,<sup>2</sup> a total in excess of 83,000 students.

Almost all junior colleges operating under public auspices have been established as such during the past two decades. The momentum of the movement steadily increased until 1927. After that date the growth in number of institutions slackened somewhat but the enrollment mounted even more rapidly than earlier. The result has been larger institutions.

Four points stand out prominently. First, junior colleges operating under public auspices are commonly integrated in one or more ways with high schools or high-school departments. Second, private junior colleges are more numerous than public and State junior colleges combined, but typically have much smaller enrollments in the freshman and sophomore college grades. Third, in all three types of junior colleges the enrollment has grown more rapidly in recent years than has the number of institutions. The result has been larger units. Fourth, the phenomenal growth of the junior-college movement is evidence of a vitality which merits for the movement the serious consideration of those interested in education.

<sup>2</sup> Not including 11 private junior colleges for which enrollments were not reported.

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### PART III : SPECIAL REORGANIZATIONS OF SCHOOL SYSTEMS

BY LEONARD V. KOOS

#### CHAPTER I : REORGANIZATIONS TO SAVE TIME

##### I. THE CONCERN OF THE PROJECT

*The special reorganizations represented.*—With hardly an exception the “special reorganizations” represented in this project are the unusual reorganizations involving one or both junior-college years as well as the grades below. In the few systems represented that do not now actually include some portion of the junior-college period, it will be shown that the extension to include the additional years has at some time at least been contemplated. This presence of the junior-college problem is one respect in which the project differs from Chapter IV of Part I of this monograph (by Francis T. Spaulding and O. I. Frederick) dealing with “exceptional forms of organization,” although a few of the systems there dealt with will again come up for attention here. The concern of that chapter is with a much wider variety of patterns of organization. Because of its consideration of reorganizations involving the junior college, it is inevitable that this project would deal also with certain systems and schools represented in Part II of this monograph (by O. I. Frederick). In the present instance, however, the treatment is more individual and intensive and is less concerned with the mere numerical frequency of the different organizational patterns.

*The two main groups of reorganizations considered.*—In particular, the systems and schools considered in this project are those that have been set up (1) to economize time or (2) to work out an integration of junior-college years with the high-school years below. One of the accompaniments of integration is the lengthening of the units represented, at least of the junior-college unit. The plans to save time will be described in the current chapter and the plans to achieve integration in the second chapter, which is at the same time the closing chapter both of Part III and of the entire mono-

## REORGANIZATION OF SECONDARY EDUCATION

graph. The assumption is not that reorganizations of the first type have no other purpose than to save time, but that this seems to be a cardinal, if not *the* chief, feature of such plans. Similarly, integration is almost always a chief purpose of the lengthened units resulting from reorganizations of the second type, although the concept of integration must be broadened to incorporate all that is implied in the several reorganizations. It should be stated further that the separation into two groups does not signify that they are fully distinct. In fact, some of the plans to save time operate to integrate high-school and college education, while certain of the plans to integrate contain arrangements to economize time. The separate treatment recognizes both the dominance of one of the two purposes and the convenience in considering the plans of reorganization represented.

An important aim of this report is to present an analytical description of the plans of reorganization. The plans to save time to be treated at some length are those at Kansas City, Mo.; Joliet, Ill.; Salt Lake City, Utah; Concord, N. H.; Tulsa, Okla.; Baltimore, Md.; and in the Laboratory Schools at the University of Chicago. Most of the plans effecting integration to be described are those at Pasadena, Ventura, and Compton in California; Moberly, Mo.; Hillsboro, Tex.; at John Tarleton Agricultural College; at Stephens College; and at the University of Chicago in its newly projected 4-year college which includes the last two years of the high school. Other plans in this group will be dealt with more briefly.

### 2. THE EXPERIMENT IN KANSAS CITY

*General features.*—Kansas City, Mo., had for many years maintained an 11-grade school system—one of very few Northern cities doing so. In 1915 a junior college was added, which has been operated as a separate unit in a building formerly housing high-school work. In this system, therefore, the usual 14-year period carrying students through the second year of college work has been compassed in 13 years. In 1929 the authorities obtained permission of the North Central Association of Colleges and Secondary Schools to conduct an experiment looking toward the further reduction of the 13-year period to 12 years. The earlier economy of time had been effected in the lower school years.

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This statement is warranted by the maintenance before the advent of junior high school reorganization of 7-grade rather than 8-grade elementary schools. In the experiment being described it is proposed to save the additional year mainly by economies during the last four years of the present system, although certain readjustments are also taking place in the secondary-school grades below.

The experiment does not include the original separate junior-college unit, which is still being maintained. The experimental group is housed in the Northeast High School, one of the senior high schools of the city, and the students are drawn from the section served by this school. This group is a part only of the entire enrollment of the school, and a program is followed which is independent of that for the rest of the school. Registration in the group is voluntary and begins with the tenth grade, which may be understood to correspond roughly to the eleventh grade in a 12-grade system. The experimental program undertakes to carry the student in three years through the last two high-school and the first two college years. The courses of the first year of the 3-year program are referred to as high-school courses and those of the second and third years as college courses. A group has entered the experiment each September, beginning in 1930, and the first of these three groups is scheduled to complete the program in June, 1933.

*The age of students enrolled.*—The visitor acquainted with ages of students in typical freshman courses in college will be stimulated by the youthful appearance of students in the groups enrolled in this experiment to speculate on their ages. During his visits to classes the writer made inquiries of the students concerning their ages. The outcome of this type of inquiry may be illustrated by referring to one class in analytic geometry in which the students were found to be dominantly 16 and 17 years of age instead of 18 or 19 years, the typical ages of freshman students in this course in colleges generally.

The results of this type of inquiry prompted making a request to the school authorities in Kansas City for further evidence permitting more reliable, even if only simple, statistical measures. It was found that the median age of the first group (166 students) enrolling in the experimental group

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in September, 1930, was 15 years 6 months. The median age of students of the same classification in the nonexperimental group (juniors) in Northeast High School was 15 years 9 months—slightly older than in the experimental group. For all students in Kansas City of the same grade classification the median age was 16 years, which is 6 months older than in the experimental group. The median age reported for the experimental group explains the relatively young age of most of the students in the class in analytical geometry as reported.

A few additional figures concerning the ages of students of similar classification in other systems to those just entering the experimental group will give point to the ages just cited. For a random sample of students entering in September, 1931, the eleventh grade of the Pasadena system, which will be represented in the following chapter, the median age was 16 years 2 months. For all students in the same grade in the Ventura system it was 16 years 6 months. For all eleventh-grade students in certain smaller school systems of Minnesota in 1923-24 it was 16 years 10 months.<sup>1</sup> We may therefore predict that students in the experimental group in Kansas City moving through its 3-year period on schedule will be typically two years younger than students completing the second college year after having been promoted regularly through the conventional system.

*The ability of the students.*—From certain tests administered to the students of both experimental and nonexperimental groups in September, 1930, the date of inception of the new program, some notion of the relative competence of the students in the experimental group may be obtained. Among these was the Otis Self-Administering Test (Form A), which has been widely used as a test of intelligence. The median score on the test for the experimental group was 46.9. For other students of the same classification in Northeast High School the median was considerably lower, being 40.6. In another school in the city, Central High School, it was 45.7. For certain subject-matter tests given at the same time there were comparable differences in scores in favor of students in the experimental group. Although the

<sup>1</sup> Based on data on p. 67 in Leonard V. Koos, *The American Secondary School*. Ginn & Co., 1927.

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medians suggest a large extent of overlapping of the distributions of scores (which can not be reported here), they nevertheless indicate some superiority of students in the experimental group. The reader conversant with the typical superiority of younger students over older students of identical grade classification may have anticipated this conclusion from the evidence reported above concerning the younger age of students in the experimental group.

The superiority of the experimental group as illustrated in the evidence referred to is an outcome of the manner of approach in securing students for the new arrangement. The plan was described by the school authorities in charge before an assembly of all students nearing the end of the grade preceding the initial grade of the new plan. During the exposition only students were encouraged to volunteer for the new plan who had been successful in previous high-school work. At the same time mediocre students were not forbidden to register and a number of this type did actually enroll. A study of the degree of competence of such students in the new plan in comparison with those who had received higher marks during earlier high-school years should add to the means of appraisal of the whole program.

*The methods of appraisal of the new plan.*—The plans for appraisal of the new plan include (1) the administration at the end of courses and of the 3-year period of tests that have been used with students in institutions conventionally organized and (2) comparison of the success of graduates of this plan who later transfer to higher institutions with students who have traversed the customary route in the customary number of years. Because of the time required for the accumulation of evidence along both lines no conclusive proof of the practicability of the new arrangement is at hand at this writing.

### 3. THE JOLIET EXPERIMENT

*The purpose and plan of the experiment.*—Another of the experiments significant for reorganization at the high-school and junior-college level authorized by the North Central Association of Colleges and Secondary Schools is being carried on in the Township High School and Junior College at Joliet, Ill. The specific purpose of this experiment is to

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eliminate the duplication found in high-school and college courses. The plan of experimentation involves the offering of college courses to both high-school seniors and college freshmen. The complete plan of the experiment includes carrying it into a number of subject fields, but work on it was first undertaken in the field of chemistry. In consequence, most of the evidence available relates to chemistry and more will be reported here about that phase of the experiment than about other subjects in which the work has not been carried as far.

*The experiment in college chemistry.*—Fortunately a complete report of the experimentation in chemistry is available at this writing, a report prepared by the head of the department, R. L. Frisbie, and the superintendent of the Joliet Township High School and Junior College, W. W. Haggard.<sup>2</sup> The authors reiterate that the purpose of the experiment "was to remove, if possible, duplication found in high-school and college courses in general inorganic chemistry."<sup>3</sup> Expanding this statement, they go on to say—<sup>4</sup>

In the beginning the experiment was organized to answer, if possible, the two following questions: (1) Should the content of a course in high-school chemistry be principally cultural, or should it be comprehensive and thorough? (2) Need there be any difference between the course in general chemistry taught to seniors in high school and the course taught to freshmen in college?

The authors call attention to the two main objections that have been raised to the advisability and possibility of teaching college courses to high-school seniors. The first is the belief held by some that high-school pupils are not mature enough to undertake such a course or that they are not serious-minded enough to carry it to completion—

in other words, that the pupil must not and can not do college work until three months have elapsed after his graduation from high school and he finds himself on a college campus in the so-called "college atmosphere."<sup>5</sup>

The second objection is that, even if such a course could be given successfully, it would benefit only the small proportion

<sup>2</sup> Frisbie, R. L., and Haggard, W. W. *College Chemistry in High School*. *School Review*. 41:50, January, 1933.

<sup>3</sup> *Op. cit.*, p. 41.

<sup>4</sup> *Loc. cit.*

<sup>5</sup> *Op. cit.*, pp. 41-42.

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who plan to attend college, more especially those who expect to take advanced courses in chemistry.

On the nature and interests of the group from which most of the students in the experiment are drawn, Frisbie and Haggard have the following to say:<sup>6</sup>

In a study of the plans of these pupils it was found that more than 80 per cent contemplate attending college or university and that almost as large a percentage will probably continue the study of chemistry in college for at least one year. From 12 to 20 per cent of these classes are composed of boys completing the industrial-arts curriculum, preparing for skilled trades rather than for professional careers. Certainly all the fundamental chemistry they can acquire is none too much for this group. In fact, several of these boys have become so absorbed in the subject that they have gone on to college and specialized in the various fields of science.

*The outcome of the experiment in chemistry.*—Two tests in chemistry have been administered to the students taking the course in inorganic chemistry. Both were tests that have been given to students completing courses in general inorganic chemistry in higher institutions. The first of these was the University of Iowa Chemistry Training Test, Revised, Form A. Cornog and Stoddard<sup>7</sup> have reported the results of administering this test to 474 freshmen completing the course in general chemistry at the University of Iowa, Purdue University, the University of Illinois, and the Oklahoma Agricultural and Mechanical College. The second test is the Noll Achievement Test in General Inorganic Chemistry used with students at the University of Minnesota.

There is no need to repeat here all the measures of comparison reported by Frisbie and Haggard. It will suffice to state that the median scores for each high-school group from 1928 to 1932, inclusive, on the Iowa test are all higher than the median reported by Cornog and Stoddard—some of them much higher. The median scores for 1931 and 1932—the only years in which the test was given—of high-school seniors on the Noll test were higher than that of freshmen at the University of Minnesota, but not strikingly so.

These high-school seniors actually did better on the tests than the junior-college students taking the course. The authors explain the superiority by the selection represented

<sup>6</sup> Op. cit., p. 42

<sup>7</sup> Cornog, Jacob, and Stoddard, George D. The Chemistry Training of High-School and College Students. *Journal of Chemical Education*, 6: 85-92, January, 1929.

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in those at the high-school level taking the course. They report that "it has been a most difficult task to bring the junior-college freshmen up to the high-school level of achievement,"<sup>8</sup> especially as most of these students were taking chemistry as their required science, and consequently "could not be expected to show profound interest in the subject nor aptitude for it."

The evidence here summarized and the experience of the authors in connection with the experiment prompts them to make the following summary of the advantages of the plan.

1. It serves as an incentive for a higher grade of work in high-school chemistry.

2. It aids materially in bringing before high-school pupils the nature of a collegiate grade of work and thus enables them to begin their college programs with a better idea of what is before them and with the right type of study habits largely formulated. In brief, it helps hasten their educational maturity.

3. It does away with unnecessary repetition in general chemistry, which is deadly to the better students.

4. It enables the students to secure thorough courses of a year's length in both general chemistry and qualitative analysis prior to the sophomore college year, at which time quantitative analysis or organic chemistry or both are usually included in a college chemistry program. The writers believe that the year courses mentioned constitute a necessary foundation for any chemistry or closely allied curriculum.

5. Finally, the course thoroughly covers and fits in with the wide variety of courses in the two branches of chemistry named which are in operation in different colleges and universities.

The committee of the North Central Association delegated to observe and report on the experiment made the following recommendation:<sup>9</sup>

The present recommendation is that whenever individuals submit [for admission] the specific requirement in Carnegie Units set up by a given university with a full unit of chemistry in addition, they may receive university credit for the chemistry taught at the twelfth-grade level, to be counted as credit toward the bachelor's degree, and as accredited chemistry, *pari passu* with university freshman credit in equivalent courses.

The committee further suggested that the plan be extended to other subjects, those named in the report being physics, American history, mathematics, foreign language, and English.

<sup>8</sup> Op. cit., p. 49.

<sup>9</sup> North Central Association Quarterly, 5:195, September, 1930.

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*Application of the plan to American history and English.*— An experiment analogous to that carried on in chemistry has been begun in American history, but has not yet had time to yield results as unequivocal as in the first experiment. To selected high-school seniors was administered a general college course in this subject. Certain obstacles have arisen that did not present themselves in the conduct of the experiment in chemistry. One of these is the infrequent appearance of a general course in American history in colleges and universities. Although such a course was formerly often given, recent years have seen a notable shift toward courses dealing with certain periods, so that it has turned out all but impossible for the authorities at Joliet to find higher institutions giving the course that would at the same time be willing to join in giving the tests used in the experiment. Another obstacle emerges in the tests to be used. With the colleges abandoning the general course, there has been little attention to the development of tests usable in such a course. Besides, the development of satisfactory tests in the field of the social studies, because of the nature of the outcomes desired, is a more difficult task than in a physical science like chemistry.

The approach in English has not proceeded as far as that in American history. In the spring of 1932 it was planned to administer at the opening of school in September to a group of selected high-school seniors the course in English required of freshmen in the University of Illinois. Steps were taken to identify the persons who were to take it, but so many of those who were selected were already planning to take the college course in chemistry that administrative difficulties were encountered in endeavoring to make up a class of suitable size for experimentation.

The proposal in this field merits actual trial, and we may hope that a later attempt will find the experiment feasible. We may hope, too, that the whole experiment will be extended to a wide range of basic college courses. Extending the concept of the plan, it is not unthinkable that a group of pupils might be selected as early as in the first year of the 4-year high school at Joliet and moved through the six years of high school and junior college in a 5-year period. If this were done, it would be desirable to select those who are fairly assured of being financially, as well as scholastically,

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able to continue their education beyond the junior-college level, so as to avoid their being forced out of school to seek employment at too young an age.

### 4. SAVING A YEAR IN SALT LAKE CITY AND CONCORD, N. H.

*Working out the plans to save a year.*—The description above of the reorganization in Kansas City, Mo., began by referring to the system there as an 11-grade system. Two other systems in States with schools typically on a 12-grade basis which are operating 11-grade systems are Salt Lake City, Utah, and Concord, N. H. Because of certain obvious similarities of the organizations in operation, the systems will be dealt with in direct comparison with each other.

After working at the reorganization for several years, the Salt Lake City system graduated its first classes completing the 11-grade organization in 1929. In that year, the schools graduated two groups of classes, one group having been on the 12-grade and the other on the 11-grade basis. In this system the saving was effected during the elementary-school period. At the same time that reorganization to save a year was being accomplished, the schools were shifting to a basis involving junior and senior high schools. The distribution of grades into units toward which the first steps were taken in 1925 was the 7-2-2, not including the kindergarten, and this is now the prevailing arrangement of the system. However, there are exceptions, one being the inclusion of small groups of mid-year ninth-grade pupils in the senior high schools. Thus, the full range of work offered in these senior high schools is two and one-half years. In effecting reorganization, the eighth grade became the first high-school year and it is still so designated in the published program of studies.

The 11-grade plan in Concord has been in operation much longer than in Salt Lake City, as it began in 1910. This system also early effected junior high school reorganization, claiming to be among the first in the country to be committed to reorganization. The plan of organization at present is the 6-2-3. Thus it differs from that in Salt Lake City by having 6-year elementary schools and a 3-grade senior high school.

*The ages of pupils.*—Because the saving of time seems to be the salient consideration in plans like those at Salt

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Lake City and Concord, it is quite to the point to note the ages of pupils at various stages in their progress through the schools. To aid in this, certain measures of ages have been computed which are introduced in Tables 1-4, on which comments will next be made.

TABLE 1.—*First quartile, median, and third quartile ages (as of September 1, 1931) of pupils entering the first grade of one elementary school in Salt Lake City and two elementary schools in Concord, N. H.*

Measure	Salt Lake City			Concord		
	Boys	Girls	Both	Boys	Girls	Both
1	2	3	4	5	6	7
First quartile.....	6.1	6.0	6.1	5.9	5.9	5.9
Median.....	6.5	6.3	6.4	6.1	6.2	6.2
Third quartile.....	6.9	6.7	6.7	6.5	6.6	6.5

The first of these tables reports the first quartile, median, and third quartile ages of pupils entering the first grade of certain schools in Salt Lake City and Concord. The pupils on whose ages these measures were computed were enrolled in schools regarded by the local authorities as representative of conditions in the systems. The median age of both boys and girls entering the first grade in Salt Lake City was 6.4 years. For Concord it was 6.2 years. This is indicative of ages of admission approximately the same as for the usual 12-grade system. For example, the median age of first-grade pupils at Lynn, Mass., in September, 1926, was 6.1.<sup>10</sup> This is practically the same age as was just reported for Concord, but it is about a third of a year younger than for Salt Lake City. It may be that the authorities in this Western city, having put their system on an 11-grade basis, apply somewhat more rigidly than the typical system the age of 6 years as the age of entrance to the first grade. However, the difference is hardly a notable one and is not large enough to suggest a policy, sometimes applied in Southern 11-grade systems, of discouraging entrance before the seventh year of age.

The same measures of the ages of pupils in these systems near the point of transfer from elementary-school to high-

<sup>10</sup> Computed from age-grade distribution on p. 166 of the Report of the Survey of the Schools of Lynn, Mass. George D. Strayer, director, Bureau of Publications, Teachers College, Columbia University, New York City, 1927. 368 pp.

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school grades are shown in Table 2. For Salt Lake City data are available for grade 7 which would be the last elementary-school grade in schools on the 7-4 plan. For Concord, the data are for grade 8, or the first high-school year in such a plan. The query that is likely to arise concerning the claims of the saving of time in 11-grade systems is whether pupils move forward on schedule, that is, by one grade each year. The assumption of progress at the rate of a grade per year is easily tested. The method of testing for the seventh grade in Salt Lake City is to add 6 years to the median age of first-grade pupils as reported in Table 1. This would bring 12.4 years, whereas the median age reported in Table 2 is 12.7. This discrepancy of 0.3 year is no larger than that found in many systems operating 12-grade systems. The analogous test applied to grade 8 in Concord (adding 7 years to the median age of first-grade pupils) brings the same difference of 0.3 year. The median age of eighth-grade pupils in Lynn, Mass.,<sup>11</sup> in 1926 was 13.5 years, which is 7.4 years more than the median age of 6.1 years reported above for the first grade in the same city; the difference of 0.4 year is approximately the same as in the systems designed to save a year.

TABLE 2.—*First quartile, median, and third quartile ages (as of September 1, 1931) of pupils in grade 7 of a junior high school in Salt Lake City and in grade 8 of a junior high school in Concord, N. H.*

Measure	Salt Lake City, grade 7			Concord, grade 8		
	Boys	Girls	Both	Boys	Girls	Both
1	2	3	4	5	6	7
First quartile.....	12.3	12.3	12.3	13.1	13.0	13.0
Median.....	12.7	12.7	12.7	13.5	13.4	13.5
Third quartile.....	13.4	13.3	13.4	14.1	14.0	14.1

The next point at which ages are considered is the eleventh or final grade of these 11-grade systems. The same measures are reported for this grade in Table 3 as were computed for the grades represented in earlier tables. This table also makes possible a comparison of ages of pupils in the eleventh grade of systems not committed to saving a year, namely,

<sup>11</sup> Computed from the same source used in ascertaining the median age of first-grade pupils as reported above.

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those in Pasadena and Ventura, Calif. These two systems are represented in the descriptions of the following chapter.

TABLE 3.—First quartile, median, and third quartile ages (as of Sept. 1, 1931) of pupils in grade 11 of schools in Salt Lake City, Concord, N. H., and Pasadena and Ventura, Calif.

Measure	Salt Lake City, <sup>1</sup>			Concord			Pasadena			Ventura		
	Boys	Girls	Both	Boys	Girls	Both	Boys	Girls	Both	Boys	Girls	Both
1	2	3	4	5	6	7	8	9	10	11	12	13
First quartile.....	16.0	15.9	15.9	16.2	16.0	16.1	15.7	15.5	15.6	15.9	15.8	15.9
Median.....	16.5	16.4	16.5	16.8	16.4	16.5	16.4	16.1	16.2	16.6	16.4	16.5
Third quartile.....	17.2	17.0	17.1	17.8	16.9	17.2	17.2	16.7	17.0	17.4	17.1	17.3

<sup>1</sup> East High School.

The median ages for all pupils represented in the measures for Salt Lake City and Concord as shown in this table are identical, being 16.5 years. For Salt Lake City the difference between this age and the median reported in Table 2 is 0.2 year less than the 4 years that might be expected if pupils progressed at the rate of one grade each year. For Concord the difference in age is 3 years, which corresponds exactly with the three grades intervening between the eighth and the eleventh.

Turning to the measures for Pasadena, we find the median there lower by a few tenths of a year than in the 11-grade systems, suggesting progress at almost exactly the normal rate of one grade per year. The medians for Ventura are practically identical with those for the shortened systems. The general impression from the group of comparisons made possible in Table 3 is that, as measured by chronological age, the systems at Salt Lake City and Concord appear to have saved approximately a calendar year.

This conclusion is borne out also by a comparison from within the Salt Lake City system alone. The comparison is made possible by the fact that in 1929 two classes were graduated from the high schools, (1) the first one to complete the work of the 11-grade plan and (2) the last one to traverse the complete 12-grade route. The measures computed are reported in Table 4 and are given separately for East and West High Schools. Small differences are found

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for the two high schools, the measures being slightly greater for West High School than for East High School. These differences are probably explained by the difference in the populations served by the two schools. However, the differences between the eleventh-grade and twelfth-grade graduates are the really significant differences in the table, and these are so close to a full calendar year as to bear out the claims of authorities in the system that a year has been saved.

TABLE 4.—*First quartile, median, and third quartile ages (as of June, 1929) of eleventh-grade and twelfth-grade graduates of East and West High Schools of Salt Lake City*

Measure	Eleventh-grade graduates						Twelfth-grade graduates					
	East High School			West High School			East High School			West High School		
	Boys	Girls	Both	Boys	Girls	Both	Boys	Girls	Both	Boys	Girls	Both
1	2	3	4	5	6	7	8	9	10	11	12	13
First quartile...	16.8	16.6	16.7	16.8	16.8	16.8	17.6	17.5	17.6	17.9	17.6	17.8
Median.....	17.2	17.1	17.1	17.3	17.2	17.2	18.2	17.9	18.0	18.4	18.3	18.3
Third quartile..	17.7	17.5	17.6	18.0	17.7	17.8	18.7	18.4	18.6	19.2	18.7	18.9

*Comparative success in higher institutions of eleventh-grade and twelfth-grade graduates.*—One test of the efficacy of the training in the 11-grade system as compared with the 12-grade system is the subsequent success in higher institutions of the graduates of these two types of organization. To be sure, it should by no means be regarded as the sole test, and complete appraisal of the plan that aims to save a year requires that it pass muster on other criteria as well. A worker in the Salt Lake City system, Arthur E. Arneson, has applied this criterion in a careful investigation comparing the success of the eleventh-grade and twelfth-grade graduates of 1929 in the University of Utah during the academic year 1929-30. The study is deserving of more than the brief description of its method and statement of findings that can be accorded to it here.<sup>12</sup>

Before turning to the comparisons made by Arneson it is desirable to give some impression of the proportion of the

<sup>12</sup> The full study is reported in Arthur E. Arneson, *Accomplishment During the Freshman Year at College as Affected by a Shortening of the Period of Elementary and Secondary School Education*. Master's dissertation, The University of Chicago, 1932. 42 pp.

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graduates of the high schools of Salt Lake City in 1929 who continued their education in the University of Utah. The facts are presented in Table 5, the numbers of graduates being based on lists supplied to the present writer by the school authorities of Salt Lake City<sup>13</sup> and the numbers attending the university being taken from Arneson's report. The total number of graduates of both plans in 1929, not given in the table, was 1,326, while the total number entering the university was 384, or less than 30 per cent.

TABLE 5.—Numbers of eleventh-grade and twelfth-grade graduates of East and West High Schools in Salt Lake City in 1929 and the numbers of these graduates continuing their education in the University of Utah in the autumn quarter of 1929

High school and grade	Graduated from high school	Entering the University of Utah
East:		
Eleventh.....	299	123
Twelfth.....	428	139
West:		
Eleventh.....	254	44
Twelfth.....	345	78
East and West combined:		
Eleventh.....	553	167
Twelfth.....	773	217

The facts cited from Arneson's study of the success of graduates going on to the University of Utah are presented in Table 6. These facts relate to age, percentile scores on the Ohio Psychological Test, and the median marks earned in the university. Two medians are reported under each of these headings for each group of students, one for the group attending during the autumn quarter and the other for students remaining for three quarters.

The median measures for the "autumn-quarter" and "full-year" groups of Table 6 may be first compared. As concerns age, the medians reported are identical for these two groups. Certain of the medians of the full-year group as reported in Arneson's thesis are slightly smaller than for the autumn-quarter group, but this is because he reports fractions of months; when reported correct to the nearest month, as is done in this table, the slight differences disappear. Such slight differences as appeared were in favor of the full-year

<sup>13</sup> Through the courtesy of George A. Eston, Assistant Superintendent of Schools.

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TABLE 6.—Median ages, median percentile scores on the Ohio Psychological Test, and median marks of eleventh-grade and twelfth-grade graduates of East and West High Schools of Salt Lake City in 1929 attending the University of Utah during the autumn quarter and for the full year

Measure	Eleventh-grade graduates			Twelfth-grade graduates		
	East High School	West High School	Both	East High School	West High School	Both
1	2	3	4	5	6	7
Median age:						
Autumn quarter.....	17-2	16-11	17-1	17-11	18-3	18-0
Full year.....	17-2	16-11	17-1	17-11	18-3	18-0
Median percentile score on Ohio Test:						
Autumn quarter.....	66.6	48.3	60.4	62.5	51.3	60.5
Full year.....	66.6	48.0	62.1	62.3	49.4	60.4
Median mark:						
Autumn quarter.....	1.34	.90	1.26	1.19	1.03	1.14
Full year.....	1.43	.90	1.33	1.26	1.24	1.25

<sup>1</sup> Correct to nearest month.

<sup>2</sup> Correct to nearest tenth.

group; that is, the median ages for this group were slightly younger. The sets of median percentile scores on the Ohio test for autumn-quarter and full-year groups are also rather strikingly similar. One notes that, contrary to expectancy in relation to additional selection between the first quarter and the full year, the scores for both eleventh-grade and twelfth-grade graduates of West High School are lower for the full-year group than for the autumn-quarter group. Almost all the median marks are slightly higher for the full-year group than for the autumn-quarter group, which is in line with expectation, since students surviving to the third quarter would comprise a somewhat more selected group than all students enrolled in the autumn quarter.

We may turn now to the comparison for which the table was chiefly compiled. It may be noted that the difference between the median ages of eleventh-grade and twelfth-grade graduates in both high schools is 11 months—only a month less than the full calendar year that might be expected. The differences for the two schools separately are not the same, the difference for East High School being 9 months and that for West High School being 16 months. Notwithstanding this difference in age, the median percentile scores on the Ohio test of eleventh-grade and twelfth-grade graduates are

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strikingly similar. The reader will note that for East High School the score is higher for the eleventh-grade graduates than for twelfth-grade graduates, while for West High School the relationship is reversed. The median mark of all eleventh-grade graduates is slightly higher than that of all twelfth-grade graduates. A similar relationship exists between median marks for eleventh-grade and twelfth-grade graduates of East High School. However, the relationship is reversed for West High School, the median mark of twelfth-grade graduates, which is slightly higher than that of eleventh-grade graduates. In explaining this reversal, Arneson directs attention to the higher percentile rank on the Ohio test of the twelfth-grade graduates. By means of standard formulas applied by Arneson he computed measures from which he concludes that the differences between the median marks, although dominantly in favor of the eleventh-grade graduates, are not statistically significant. However, the upshot of the evidence is clear: *The eleventh-grade graduate did fully as well in his first year of work at the University of Utah as did the twelfth-grade graduate.*

Although no such systematic comparison of the success of eleventh-grade and twelfth-grade graduates of the Concord High School as that made for Salt Lake City has been possible, the authorities in the New England city have received assurance of the relative success in higher institutions of graduates of the shortened program. We are permitted, without citing names, to quote from a letter received by the school administration at Concord from the dean of an estimable college near at hand.

I have recently made a study of the grades made at ——— College during the first semester of the freshman year of the classes which entered during the period 1915-1926 and I am sure that you will be interested in the results. When we consider only those schools which have sent us at least 25 men during the above period, first honor goes to the Concord High School, which has sent us 39 men with the remarkable average of 2.404 out of a possible 4. Here it should be noted the average of the entire freshman class is approximately 1.820.

It may be recalled from the foregoing description that the Concord system was on the 11-grade plan throughout the period mentioned and that the graduates of this system were in competition with students graduated from 12-grade systems.

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*The junior college a part of the complete picture.*—Doubtless many critical readers, while considering the significance of the evidence in Table 5 concerning the numbers of high-school graduates in Salt Lake City in 1929 and the proportions of these graduates who continued their education in the University of Utah, wondered about the more than 70 per cent who were not included among the students at that institution. To be sure, certain other students went on to other higher institutions, but because the University of Utah is in the Salt Lake City community, the total number of these must have been smaller than the group attending the local institution. These readers might concede the advantage of saving a year for most students continuing their education through a college or university, but they would direct attention to the great body of graduates who under the new plan are forced out to seek employment a year earlier than in the 12-grade system. This criticism is given point in these days of unemployment even for a large proportion of the adult population. The readers might at once concede the argument of immediate financial economy in the system put forward by advocates of the shortened period of education, but would be more concerned over what they regard as serious social losses.

Toward justification of the new plan in Salt Lake City it may be said that as completely envisaged it comprehended two years of junior-college work. The recommendation by the administration of the introduction of junior-college work is a matter of record. That this upward extension of the system was contemplated may be seen in the fact that the senior high schools as now operating include only two or two and a half grades. The administration was under no illusion that a completely satisfactory final unit in secondary education could be limited to this brief period of training. That the upward extension has not been made may be explained by the date by which the plan of saving the year was achieved: by 1929 we were already experiencing the first serious effects of the depression.

Judging by correspondence with Superintendent Rundlett, of Concord, upward extension to include junior-college years has been in the mind of the administration as a desirable next step in rounding out the plan in that community.

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### 6. OTHER PLANS TO SAVE TIME

*Other reorganizations aiming at the saving of time.*—Three other plans of organization to save time will be considered in the remaining portions of the current chapter. Limitations of space make it necessary to deal with these plans more briefly than has been done for those represented in earlier sections of the chapter. The three plans referred to are those in the school system of Tulsa, Okla., in certain high schools of Baltimore, Md., and in the Laboratory Schools of the University of Chicago.

This report will not deal with experiments being carried on in certain higher institutions which are admitting selected high-school juniors. It does not take up again a significant plan of economy of time in operation in Little Rock, Ark., which is described in Chapter XI (Section 6) of Part I of this monograph. Nor does it attempt to draw on the highly significant Report of the Commission on Length of Elementary Education,<sup>14</sup> although it contains a great deal of evidence germane to the issues involved in the present report.

*The experiment at Tulsa.*—Two experiments in the interests of the saving of time which have been authorized by the North Central Association of Colleges and Secondary Schools have already been described in this chapter, namely, those at Kansas City and Joliet. A third experiment in the same direction, although somewhat differently conceived, was authorized to be conducted at Tulsa, Okla. This experiment involves the shortening to 12 years, for the more competent students, of the 14-year period of general education extending from the first grade of the elementary school through the junior college. The complete program includes a careful study, classification, and grouping of students and a complete rewriting of courses of study to achieve enrichment for all, the enrichment for the superior group to include at the top the first two years of college work. Because of the special concern of this chapter with programs of reorganization to save time, this description can not do justice to the whole plan in Tulsa as one aiming to enrich and vitalize the work of pupils of all abilities, the less capable of, whom will move through the program at an average rate of one grade per year

<sup>14</sup> Supplementary Educational Monograph, No. 34, November, 1927. The University of Chicago. 167 pp.

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while pupils at the other extreme of ability will compass the 14 years of work in 12 years.

The arrangements being worked out aim to carry the more capable pupils through the 6-year elementary school in 5 years. This leaves 7 years for the work normally included in the remaining 8 grades of the junior high school (3 grades), the senior high school (3 grades), and the junior college. Thus, according to the plan, the selected pupils will begin the work of the junior high school at an age at which the normal pupil is entering the sixth grade and he will complete the second year of junior-college education while the normal pupil is about ready to enter the first year of college work.<sup>15</sup>

It is entirely logical that the first approach in such an experiment would be an attack on the problem of classifying and grouping pupils. Following progress toward solving this problem, the staff at Tulsa has been able to set at work on the problem of differentiated curriculums for the different groups. A recent letter from Superintendent Prunty reports that the work on the curriculum is this year (1932-33) going forward under two different committees of the faculty, one for retarded pupils and the other for accelerated pupils. The elementary-school curriculum has been revised in the fundamentals where, in addition to the enlargement of the testing program, the staff began, during the second semester, to select pupils for the entering 7-B grade in the junior high schools to be carried through the secondary school on the new program. In connection with the work, the personnel records developed by the American Council on Education have been installed in the junior high schools and similar records will soon be installed in the elementary schools.

Adequate appraisal of the feature of the experiment that involves the saving of two years cannot, of course, be accomplished until the pupils have been carried through the period of school grades included in the plan.

*The plan in Baltimore.*—The plan of saving time which is in operation in Baltimore is essentially one of acceleration by permitting capable pupils to take an increased number of subjects. Plans of this kind are described in Chapter I,

<sup>15</sup> The program of studies tentatively proposed for the group doing 14 years of work in 12 years, as well as a brief description of the whole plan will be found in the Report of the Committee Appointed to Supervise the Tulsa Experiment. North Central Association Quarterly, 6:264-266, December, 1931.

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of Part III of Monograph No. 13 of the National Survey, Provisions for Individual Differences, Marking, and Promotion. It is unnecessary to present here more than the briefest description of the arrangement.

The plan has been in operation in Polytechnic High School in Baltimore since 1901. The pupils enrolled in the plan carry enough subjects to cover in four years not only the high-school work, but the first year of college work as well. A number of higher institutions of unquestioned standards admit the graduates of the accelerated program to sophomore standing. The fact that they have done so over a long period of years must be indicative of the success of the plan. In 1930-31, 776 boys were enrolled in the accelerated curriculums, 113 of these being graduated.

The plan is operative also in City College, another high school in Baltimore, and graduates are similarly admitted to sophomore standing in higher institutions. The number of boys enrolled in 1930-31 was 180, of whom 16 were graduated.

*The plan in the Laboratory Schools of the University of Chicago.*—This plan is the only one of those described in this chapter which has been worked out under private auspices. Going directly to the introduction of the plan, without depicting the background in President Harper's early advocacy of a shortened period of general education, we may record that the University Elementary School had been reduced from 8 to 7 grades in 1913, only four years after Charles H. Judd was placed in charge of the School of Education. Four years later, that is, in 1917, the first class was graduated from the University High School which included pupils who had completed the 7-year elementary school. The 6-5 plan in operation at this writing was instituted in 1919 by making the seventh grade of the elementary school the "junior high school" or "subfreshman" class of the high school.

The fact that the University High School admits pupils who have finished the University Elementary School and pupils from other elementary schools who have completed 8 grades of work makes possible a comparison of a group of graduates of the high school who have had (exclusive of kindergarten) 11 years of school training with a group who have had 12 years. Such a comparison has been made by

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John C. Mayfield.<sup>16</sup> This study compares the two groups in various ways, but our concern will be only with intelligence, as indicated by the intelligence quotient, age, and scholarship. For the sake of brevity, comparisons will be restricted to measures of central tendency or to other equally simple indices.

(1) The median intelligence quotients of the two groups of graduates of the University High School classes from 1922 to 1927, inclusive, were, respectively, University Elementary School (236 graduates) 115, non-University Elementary School (351 graduates) 112. This represents a small difference in favor of the group continuing from the University Elementary School.

(2) The median ages in months of pupils at graduation from the high school (classes of 1918 to 1927, inclusive) were: University Elementary School (332 graduates) 206; non-University Elementary School (465 graduates) 211: The difference between the medians is five months; that is, the median graduate of the University Elementary School group is 5 months younger than the median graduate of the other group. The difference is not a full year, but a month less than a half year. It is interesting to compare these median ages with those for Salt Lake City reported in Table 4. To make the comparison, it is necessary to reduce the ages in months just reported to years and tenths of years, with the following results: University Elementary School group, 17.2; non-University Elementary School group, 17.6. The medians for the eleventh-grade graduates in the two situations are virtually identical. However, the medians for the twelfth-grade graduates are greater by from 0.4 to 0.7 year than those of the corresponding group in the University High School. It may be that the difference is in part owing to greater selection among pupils transferring from other elementary schools to the University High School than among pupils promoted from an elementary school to a high school in a city system.

(3) Comparisons of scholarship were made by Mayfield for two periods because of the use during these periods of different plans of marking. From figures worked out by him it is possible to report that for the period 1918-1923 the per-

<sup>16</sup> A Comparative Study of Two Groups of Pupils in the University High School of the University of Chicago. Master's dissertation, The University of Chicago, 1928. 147 pp.

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centage of marks of 85 or higher given to the University Elementary School group was 34.8 and for the non-University Elementary School group, 29.3. Beginning with 1923 a system of designations, in which "R" and "N" were the two highest, was used. For the period 1923-1927 the percentages of these received by the two groups were, respectively, 8.2 and 7.2.

The conclusion drawn by Mayfield from these and related types of evidence is that "the shorter University Elementary School course enables pupils to graduate from the University High School at an earlier age and fits them as successfully for a high-school career as do 8-year elementary schools."<sup>17</sup>

Since practically all graduates of the University High School continue their education in some higher institution, the criticism could not lodge against this 11-grade plan that might be raised against such a plan, the graduates of which are thrust out to seek employment, at an age a year younger than graduates of 12-grade systems.

All plans to save time described in this chapter have in some way or another taken account of the junior college. This is no less true of the plan in the laboratory schools of the University of Chicago with which we are here concerned. As early as 1918-19, superior students in the University High School were permitted to take certain junior-college courses of the university for credit toward the bachelor's degree. The first courses so taken were in English. By 1922-23 the list of courses so taken had been extended to include also junior-college history, junior-college mathematics, junior-college French, economics, and business administration. During that year 68 high-school seniors earned a total of 157 majors of college credit.<sup>18</sup> In this way certain students were saving more than the one year represented in the difference between a 12-grade and an 11-grade plan of organization.

Before leaving consideration of the situation in the laboratory schools at the University of Chicago it is pertinent to mention a further step in reorganization authorized by the board of trustees of the university in January, 1933. Because this is in the nature of an integration of high-school and college years, it is described in the next chapter.

<sup>17</sup> Op. cit., p. 146.

<sup>18</sup> Statement based on evidence reported on p. 12 of Studies in Secondary Education, II. Supplementary Educational Monographs, No. 28. February, 1925. University of Chicago. 202 pp.

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## CHAPTER II: REORGANIZATIONS TO ACHIEVE INTEGRATION

### I. THE REORGANIZATION AT PASADENA

*The concern of the chapter.*—It was to be expected that, with the introduction into public-school systems of an 8-year period of secondary education above the elementary school, certain systems would undertake a simplification of the arrangement which includes a long succession of four school units, namely, the elementary school, the junior high school, the senior high school, and the junior college. The effort at simplification brought on the organizational pattern to which several systems shortly committed themselves, the 6-4-4 and 5-4-4 plans—that is, the plans that include 6 or 5 grades in the elementary school, 4 grades in the junior high school, and 4 grades in the combined senior high school and junior college.

The examples of the type are not numerous. They are fewer now, at least nominally, than might have been reported three or four years ago. The fact is that, without knowledge of the changes which would be involved in a reorganization aiming at actual integration of the junior college with the upper high-school years, certain systems were enthusiastically committed to the plan but subsequently abandoned it. However, it may be doubted whether these school systems ever went farther than the first steps, and none of those abandoning the plan can be said to have done more than take on a few of the superficial characteristics of an integrated upper 4-year unit.

The public-school systems represented in the reorganizations emphasized in the analytical description of the current chapter were mentioned near the opening of the chapter immediately preceding. A few other public units will be more briefly described. As stated at the point referred to, the experimental integrations in two private institutions—Stephens College and the University of Chicago—will also be considered.

In the statements made concerning the plans, attention will be directed chiefly to reorganization in the upper portions

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of the extended period of secondary education, the portion including the later high-school and the junior-college years. This practice is followed for the most part because of the greater emphasis on the lower portions of the full period of secondary education in Part I of this monograph, and also because of the limited resources and time available for the investigations connected with this project.

*The 6-4-4 plan at Pasadena, Calif.*—The best known of the 6-4-4 reorganizations is that at Pasadena. In the spring of 1928 the board of education in that city formally committed the schools of the system to this plan of organization. Previously there had been considerable discussion of the plan and perhaps some preliminary steps toward it without official committal. Following this action of the board, features of the plan were worked out during the remaining months of the school year and during the summer. The actual initiation of the plan was accomplished at the opening of the new school year in September, 1928.

Prior to the reorganization to achieve the 6-4-4 arrangement, the dominant organizational pattern of the system included 6-year elementary schools; junior high schools enrolling grades 7, 8, and 9; and a combined senior high school with grades 10, 11, and 12 and a junior college with both years of junior-college work. After the reorganization has been effected the dominant pattern included 6-year elementary schools; junior high schools enrolling grades 7, 8, 9, and 10; and a junior college enrolling grades 11, 12, 13, and 14. An exception to these dominant patterns before and after rearrangement was the Muir Technical High School, a smaller high school enrolling grades 7 to 12, inclusive. Pupils who complete the work of this school and continue in the system transfer to junior-college work in the central plant.

The description and analysis here of the 4-year junior college resulting from this rearrangement deal with only a few main features and relate chiefly to progress toward integration of high-school and junior-college years. The reader interested in further details of this reorganization should examine other descriptions that have been made available in print.<sup>1</sup> The degree of integration will be shown by draw-

<sup>1</sup> One of the best of these, from the standpoint of its exposition of the plan and the considerations in its favor, is an article by Dr. John W. Harbeson, principal, bearing the title, *The Pasadena Junior College Experiment*. *Junior College Journal*, 2:4-10, October, 1931.

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ing on evidence relating to the administration, the teaching staff, the extracurriculum, the curriculum, and the rate of progress of students through the new 4-year unit.

*Administration.*—The work of administering the 4-year unit at Pasadena is that of a single staff responsible for the entire period. This applies also to the organization for guidance.

*Teaching assignments of the staff.*—A significant criterion of the degree of integration of high-school and junior-college years in a 4-year unit like the junior college at Pasadena is the extent to which the conventional line of separation is disregarded in assigning instructional responsibilities to members of the teaching staff. The tradition of separation of high-school and college work operates in the direction of assigning as few individual instructors as possible to teaching responsibilities at both levels, while standards and standardizing agencies in the junior-college field lean toward encouraging separation. The efforts at separation seem prompted by a fear of "contamination" of college standards of work by too intimate an association of high school and junior college.

The facts concerning teaching assignments of members of the staff of the 4-year junior college at Pasadena are shown in Table 7. The "lower" and "upper" divisions of this table refer, respectively, to the first and second pairs of grades in the new junior college; that is, the eleventh and twelfth grades and the thirteenth and fourteenth grades (or first two college years). A glance at the lowest row of figures indicates that two-thirds of all who teach in the institution give instruction in both divisions, while only about an eighth give all their time to the lower division and about a fifth, all their time to the upper division. The proportions differ somewhat for teachers of academic and of special subjects, but it is seen that in both groups those with responsibilities at both levels far outnumber those teaching in a single division only. It is clear that great progress has been made in this aspect of integrating high school and junior college. The process is aided in California by the fact that the "General Secondary Credential", which is a certificate to teach in secondary schools, requires a full year of training beyond the bachelor's degree and authorizes teaching at either level.

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TABLE 7.—Numerical and percentage distribution of instructors of academic and special subjects in the Pasadena Junior College according to their assignment to teach in the lower division only, the upper division only, or in both divisions. (Data for 1932-33)

Subject	Lower division only		Upper division only		Both divisions		All	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
1	2	3	4	5	6	7	8	9
Academic <sup>1</sup> .....	16	9.9	25	15.5	60	37.3	101	62.7
Special.....	4	2.5	9	5.6	42	29.2	60	37.3
Total.....	20	12.4	34	21.1	107	66.5	161	100.0

<sup>1</sup> The small number of individual instructors giving instruction in both academic and special subjects have been tabulated as teachers of academic subjects.

*The extracurriculum.*—A major test of integration in the realm of the extracurriculum is the extent to which membership in student organizations disregards the traditional line of division between high school and college. Facts concerning the vertical spread of membership in student organizations in the Pasadena Junior College are presented in Table 8. By examining the lowest row of figures the reader will note that for more than three-fourths of the 86 organizations, student membership is from both below and above the traditional line of separation of high school and college. About a sixth of the organizations include members from the upper division only and an even smaller proportion include members from the lower division only. Here again we have evidence of a high degree of vertical integration of the 4-year junior college.

TABLE 8.—Numerical and percentage distribution of extracurriculum organizations of the Pasadena Junior College according to membership in them of students in the lower division only, in the upper division only, or in both divisions. (Data for 1931-32)

Membership by sex	Lower division only		Upper division only		Both divisions		All organizations	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
1	2	3	4	5	6	7	8	9
Men's.....			4	4.7	20	23.3	24	27.9
Women's.....	1	1.1	2	2.3	25	29.1	28	32.6
Coeducational.....	4	4.7	8	9.3	22	25.6	34	39.5
Total.....	5	5.8	14	16.3	67	77.9	86	100.0

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*The curriculum.*—Concerning the offering of the Pasadena Junior College, it may be said that in general it is broad and generous. This breadth has been prompted by the viewpoint to serve the diverse interests and needs of a large student body. One finds work in both high-school and junior-college years suited to those who will continue to higher levels of education and to those whose formal training will be concluded within the period included in this 4-year unit. On the score of vertical integration of the curriculum, however, it is not possible to speak with as much assurance as on integration through assignment of instruction to the staff and through membership in student organizations. One reason for this is that facts pertinent to curriculum integration were more difficult to gather, especially within the limits of resources available for this project. Another reason is the fact that standards of accreditation and standardizing agencies, reflecting the traditional organization as they do, operate as obstacles to curriculum integration.

Nevertheless, it is safe to say that, even under these conditions, *some* progress toward integration of the curriculum has been made. As one discusses the problem with members of the staff who teach in the same subject fields at both high-school and junior-college levels, it soon becomes apparent that these teachers are working out a more effective articulation of courses given at the two levels. Because they teach at the high-school level, they know what has been covered there. They are thus better able than teachers who do not have such contacts to avoid some of the usual repetition in courses at the junior-college level of what is comprehended in courses at the high-school level, and besides better able to achieve a more acceptable sequence of content and method than is possible where the work is given by different teachers or in separate institutions. Conversation with counselors, too, who advise students concerning their curriculums for the full 4-year period discloses that they tend to recommend against the taking of courses in which repetition of content is obvious—for example, the taking of both the high-school course in general chemistry and the college course in general inorganic chemistry.

*Economy of time.*—Consideration of the problem of curriculum integration and improved articulation requires that

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some reference be made to the possibilities of economy of time in the longer 4-year unit as compared with shorter separate units. It might be expected that economy of time would result through the covering of more content in the more advanced of a sequence of courses because of reduction in the amount of repetition or through the more rapid progress of brighter students that might be encouraged in the longer unit as compared with separate shorter units. That economy of the first type can to some extent be achieved is suggested by the outcome of conferences with instructors as already reported. Whether economy through more rapid progress has been accomplished may in part be determined from consideration of the ages of students. Certain measures of the ages of students entering the Pasadena Junior College were presented in Table 3 of the foregoing chapter. A comparison of the same measures for students in their first year of college work in the Pasadena Junior College reported in Table 9 shows a difference of two years or more, a fact which does not suggest that any considerable proportion of students were during their first two years in this 4-year unit moving through it at a rate of more than one grade per year. This absence of acceleration is to be expected from what was said above concerning standards and standardizing agencies in their relationship to high-school and college levels of work. The evidence concerning ages of freshmen at the University of Minnesota included in Table 9 tends to emphasize the fact that progress through the Pasadena Junior College is not at a rate greater than one grade per year. Of the two groups represented for the University of Minnesota, the group from the Twin Cities and suburbs is more nearly comparable to the Pasadena group because most students in both these groups could live at home while attending their respective institutions. It must be partly on this account that the corresponding measures of ages are greater for non-Twin City than for Twin City students.

The fact that traditional standards have operated as obstacles to economy of time in the Pasadena situation is made clear by a recent development there in the relations of the junior college and the University of California. By virtue of a recent cooperative agreement it will be possible to capitalize to a greater extent on the form of organization main-

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TABLE 9.—*First quartile, median, and third quartile ages, in years and months, of students in the first college year in Pasadena Junior College and of freshmen in the University of Minnesota*<sup>1</sup>

[Ages computed as of September 1]

Measure	Pasadena Junior College			University of Minnesota					
	Men	Wom-en	Both	Twin Cities and suburbs			Outside Twin Cities and suburbs		
				Men	Wom-en	Both	Men	Wom-en	Both
1	2	3	4	5	6	7	8	9	10
First quartile.....	18-5	17-7	17-11	17-8	17-5	17-6	18-4	18-1	18-2
Median.....	18-10	18-5	18-7	18-5	18-0	18-3	19-1	18-8	19-0
Third quartile.....	19-10	19-1	19-7	19-2	18-11	19-1	20-2	20-6	20-3

<sup>1</sup> The evidence concerning the ages of freshmen at the University of Minnesota (in 1921) is quoted from Table LX, p. 170, in Leonard V. Koos, *The Junior College*. Minneapolis, The University of Minnesota, 1924. 682 pp.

tained in Pasadena. The agreement gives permission to enroll students who are in the second semester of their twelfth year in upper-division or freshman college classes for degree credit before they have actually been graduated from the twelfth grade. In other words, all students who either have finished or are in the process of finishing the requirements of graduation from the twelfth grade and have time left for additional courses, may make elections from the curriculum of the upper division instead of taking a light program or electing courses of lighter content from high-school years. As a result of this change in policy it is believed that from 10 to 15 per cent of the students will be able to finish the eight semesters of the 4-year junior college in seven semesters.<sup>2</sup>

3. THE REORGANIZATION AT VENTURA

*Development of the 6-4-4 plan at Ventura, Calif.*—The junior college at Ventura first emerged just as have most other public junior colleges—as a 2-year upward extension of a 4-year high school. The high school was the Ventura Union High School, which, like other union high schools of California, was underlaid by a number of elementary-school districts. In 1929, the year following committal to the new plan by Pasadena, the 6-4-4 plan was adopted. To accomplish this it was necessary to arrange for the withdrawal of grades 7 and 8

<sup>1</sup> This statement based on portions of a letter from Dr. John W. Harbeson, principal of the Pasadena Junior College, dated January 21, 1933.

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from all elementary schools, bringing them together with all pupils of grades 9 and 10 in the plant used up to the time of working out the reorganization by both the Union High School and the junior college. In the meantime a new plant had been completed for the new 4-year junior college, to which, when it was ready for occupancy in 1930, all students in grades 11 to 14, inclusive, were transferred. In 1932 a shop building was added to the new plant, and complete plans include the further addition of a gymnasium and auditorium. The enrollment in the 4-year unit in February, 1932, was 746, with 418 in the lower division and 328 in the upper division. The full enrollment for the entire school year 1931-32 was somewhat larger. Although this enrollment does not compare with the more than 3,000 junior-college students at Pasadena, it is large enough to make for a strong institution with a generous curriculum and to offer excellent possibilities for integration. Considering the brief period this 4-year unit has been in existence, much progress has been made toward integration.

*Administration.*—Administrative control in the Ventura Junior College is by the same staff over the entire range of four school years.

*Teaching assignments of the staff.*—Inquiry concerning the assignments of individual teachers to instruction in both lower and upper divisions finds this to have been carried even farther proportionately than in the junior college at Pasadena. This fact is shown in Table 10, in which it may be seen that 36 of 40 teachers gave instruction in both divisions, only 3 teachers and 1 teacher, respectively, giving instruction in the lower and upper divisions only.

TABLE 10.—Numerical distribution of instructors in academic and special subjects in the Ventura Junior College according to their assignment to teach in the lower division only, the upper division only, or in both divisions. (Data for 1931-32)

Subject	Lower division only	Upper division only	Both divisions	All
1	2	3	4	5
Academic.....	3	1	17	21
Special.....			19	19
Total.....	3	1	36	40

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*The extracurriculum.*—The integration of the student body, as measured by the membership of students from both lower and upper divisions in extracurriculum activities, is also even more marked in this junior college than in Pasadena. The number of organizations is both totally and proportionately smaller than at Pasadena, but in all the 13 organizations reported, membership includes students from both divisions.

Integration in other respects will not be reported, but may be assumed to have made considerable progress during the few years of operation of this 4-year unit.

### 3. THE REORGANIZATION AT MOBERLY

*Steps in the reorganization at Moberly, Mo.*—The junior college at Moberly was established in 1927. It was founded as a 2-year institution separate from the high school. Classes were at first conducted in rooms above a store not far from the high school, and the only facilities the high school and the junior college used in common were the laboratories. The destruction by fire of the high-school building in 1929 called for a building program and, preliminary to the program, a building survey was made.<sup>3</sup> The report of this survey recommended the adoption of the 6-4-4 plan. The junior-college building called for in the recommendation was ready for occupancy in September, 1931,<sup>4</sup> when most of the features of the new organization became effective. The chief exception is that as late as the spring of 1932 the eighth, ninth, and tenth grades only were included in the lower secondary-school unit, although the rounding out of the plan includes bringing the seventh grade also into this unit.

*Teaching assignments of the staff.*—The assignment of the staff to instruction in the lower and upper divisions in the 4-year junior college may be noted in Table 11. The proportion of individual teachers giving instruction in both lower and upper divisions is much smaller than in the junior colleges at Pasadena and Ventura, as reported above, being less than a third. An explanation of the difference is to be found in the different standards of minimum preparation for high-school and junior-college teachers in Missouri and Cali-

<sup>3</sup> Neale, M. G., A School-Building Program for Moberly, Mo. University of Missouri Bulletin, 30, No. 16. Education Series, No. 28. Columbia, Mo.

<sup>4</sup> See Carpenter, W. W., New Building for Moberly Junior College. Junior College Journal 1:119-124, December, 1930.

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ifornia. In Missouri the standard is higher for the junior college than for the high school. For the lower unit in this State the bachelor's degree is the minimum, whereas, in California, as already reported, the "General Secondary Credential," applicable to both high-school and junior-college levels, requires a year of work beyond the bachelor's degree.

TABLE 11.—Numerical distribution of instructors in academic and special subjects in the Moberly Junior College according to their assignment to teach in the lower division only, the upper division only, or in both divisions. (Data for 1931-32)

Subject	Lower division only	Upper division only	Both divisions	All
1	2	3	4	5
Academic.....	5	6	4	15
Special.....	3	1	2	6
Total.....	8	7	6	21

*Integration in other respects.*—However, integration of the 4-year junior college at Moberly had been carried much farther in 1932 than is indicated by the proportion of teachers giving instruction in both lower and upper divisions. The progress toward integration is indicated in the following quotation from a report submitted in 1932 by M. A. Spohrer, dean of the junior college.

The faculty meets and acts as a unit. The students upon entering usually expect to take a 4-year course. The sophomore year [of the new 4-year unit, which corresponds to the last high-school year] is no longer as much of a breaking point as formerly. The students use the same library, reading rooms, laboratories, and classrooms. They are not segregated in any way from this point of view. . . . The students hold joint assemblies and all mingle there. Clubs and organizations are open to all. Perhaps the most potent factor for unification has been athletics. Students from both divisions are eligible for both the varsity and second teams. The students cheer a united team.

Dean Spohrer indicates that least progress has been made in reorganizing the curriculum to achieve integration, but that at least a beginning along desirable lines can be reported.

There has been but little reorganization in the curriculum. Here there is still a distinct division between the upper and lower groups. Students in the lower division are not permitted to enroll in upper

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division classes, except in physical education, when the groups are combined. There is still a duplication of courses in certain fields. However, the distinction is probably no greater than that which any college or university makes between its lower and upper years. Steps are being taken to better conditions. First, present and future plans call for the elimination of much of the duplication. A committee of English teachers has already eliminated duplication in the four years, except where repetition is advisable. Committees in other fields will act in a similar manner soon. In addition, a 4-year guidance program is being formulated. The program of each individual student will be arranged so that duplicating courses will be avoided. Second, terminal courses will be added after surveys have determined the courses of greatest utility. Finally, the present curriculum will be revised, when and where advisable.

### 4. REORGANIZATIONS IN OTHER PUBLIC JUNIOR COLLEGES

*The organization at Hillsboro, Tex.*—Another of the reorganizations to effect integration of high-school and junior-college years is to be found at Hillsboro, Tex. The present organization is the 5-4-4 plan, the 5-grade elementary-school unit reflecting the 11-grade system characteristic of Texas and certain other Southern States. The junior college in this system was established in 1923. The 4-year junior-college plan was subsequently instituted. According to a published exposition of the institution by one who made a special study of this junior college, William G. Campbell,<sup>5</sup> integration has been accomplished in some respects, while in others the two college years are still kept separate from the two high-school grades. The four grades are housed in the same structure, but to some extent the two pairs of grades—that is, what have been referred to in this chapter as lower and upper divisions—have the bulk of their class work on different floors. Although the teachers of the upper two years are heads of departments for all four years of the school, instructional assignments do not seem to disregard the line of separation between high-school and junior-college years. Student organizations are for the most part open to students of both levels, but, because of the organization of institutions with which athletic competitions are carried on, two sets of athletic teams are maintained. The integration of the curriculum seems to lag in this junior college as it lags in the other institutions so far described in this chapter. The impression gained from read-

<sup>5</sup>The Hillsboro 4-Year Junior College. *Junior College Journal*, 2: 263-268, February, 1932.

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ing Campbell's report is that integration has not been carried as far at Hillsboro as at Pasadena, Ventura, or Moberly.

*The more recent reorganization at Compton, Calif.*—The present plan of organization at Compton is the 6-4-4, but the development has been sufficiently unique to make both this development and the plan now in operation deserving of special attention.<sup>6</sup> The junior college was established in 1927. At that time it was housed with some effort at separation in the plant of the Compton Union High School, which was, like most of the union high schools of California, a 4-year institution. The Compton Union High School district contains five elementary-school districts. Through the exercise of unusual leadership, the elementary districts were committed to releasing control to the high-school district of pupils in the seventh and eighth grades, to the end that junior high school reorganization might be effected. Five junior high schools were built, one in each elementary district. These were opened in September, 1930. During the year 1931-32 the central unit was a 5-grade institution, inclusive of the 3-grade senior high school and the junior college. The 6-4-4 plan was put in operation in September, 1932, at which time the tenth grades were retained in the five junior high schools, leaving only the last two high-school and the first two college years for the integrated 4-year unit to be maintained in the plant formerly occupied by the 4-year high school and junior college. No evidence concerning the extent of integration achieved in the new unit has been gathered during this first year of its operation.

*The plan at Salinas, Calif.*—At Salinas, as at Compton, the first development of a secondary school was a 4-year high school in a union high-school district. Junior-college work was begun in 1928. In the present administration this 6-grade period has been divided into two units of three grades each, both units being housed in a single plant, but with some separation between the two units. Thus, the schools of the area served by the high school and junior

<sup>6</sup> The reader interested in a more extended statement concerning the plan at Compton, including a brief explanation of its development, a description of the external features, and emphasis on the peculiar advantages of the plan in a situation like that at Compton, is referred to an article by O. Scott Thompson, principal and superintendent of the system, entitled "The Union High School District and the 6-4-4 Type of Organization." *California Quarterly of Secondary Education*, 8: 154-168, January, 1933.

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college may be said to be maintained on an 8-3-3 basis. A few years ago unsuccessful efforts were made to secure control for the union high-school district of the pupils of seventh and eighth grades so as to make possible a more fundamental reorganization involving the introduction of the junior high school plan. The objective at that time was the 6-4-4 plan. The present plan of uniting the last year of the high school with the two junior-college years appears to be an effort to secure some of the advantages of integration that are assumed to accrue from the more fundamental reorganization.

*The plan at Iowa Falls, Iowa.*—The superintendent of schools at Iowa Falls reports that system to be on the 6-4-4 plan. The last four grades of this 14-grade system are housed in the same set of buildings and make use of a plant formerly used by a small private college, Ellsworth College. The junior college is on this account known as Ellsworth Junior College. A letter from the superintendent indicates that "practically all of the faculty teach both high-school and college classes," but separate administrative officers have charge of the high-school and junior-college years. The general impression left by the report is that less integration has been accomplished in this unit than in the other 4-year units previously described.

*The John Tarleton Agricultural College.*—Two institutions on State foundations in Texas, the John Tarleton Agricultural College and the North Texas Agricultural College, are reported to be maintained as 4-year junior colleges, which, like most of the units described in this chapter, begin with the third year of the 4-year high school and end with the second college year. The nature of these institutions may be indicated by describing briefly only the first one of these as just named. Description is aided by a recent article dealing with this particular college.<sup>7</sup>

The John Tarleton Agricultural College is under the control of the board of directors of the Agricultural and Mechanical College of Texas, and is referred to as a "branch" of the parent institution. This connection makes John Tarleton a State institution. It serves two main objectives, the first of which is to provide—

<sup>7</sup> Davis, J. Thomas, John Tarleton Agricultural College. *Junior College Journal*, 2: 188-190, January, 1932.

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terminal or finishing courses for those young men and women who desire specific training for specific purposes and yet who do not expect to continue through the field of advanced education. These courses are provided especially in the field of agriculture, home economics, mechanics of all kinds, engineering, business administration, and such other vocational lines as may be desired on the part of the student.<sup>5</sup> The second objective is to provide preparatory education for students who plan to continue beyond the junior-college level. A special virtue of the school pointed out by its friends is the fact that maturer students who have not had the advantages of a high-school education can here continue their education without the embarrassment they would feel in a local public high school on account of association with immature children.

.Such an institution can unquestionably render a useful service. As may be judged from the main consideration in this chapter, however, the concern here is not this more general issue of usefulness, but the degree of integration of high-school and junior-college years. The trend of the discussion in the article already drawn upon is toward an integrated institution. Integration is suggested also in the classification of students in the 4-year arrangement as freshmen, sophomores, juniors, and seniors. The data on enrollment presented in Table 12 are not as reassuring. The number of freshmen—students in the third high-school year—reported was only 10 and the number of sophomores was only 90. By contrast, the number of juniors—students in the freshmen college year—jumped up to 445 and the number of seniors was 274. Another way of putting this contrast is to say that the enrollment in the first two years of this institution was 100 while that in the last two years was 719, or more than seven times as large. The difficulty of working out a fully integrated 4-year unit is emphasized also by the evidence concerning the number of students completing the work of the sophomore year who enter the junior class. In a communication to the writer on this subject, Dean J. Thomas Davis reports 65 students finishing the work of the sophomore class in 1930-31, and 46 of these students entering the junior class the following year. This means that those entering from the second-year class in 1931-32 made up only about a tenth of all students in the third-year class. The obstacles to working out a fully integrated 4-year junior college in such a situation are too apparent to require elaboration.

<sup>5</sup> Op. cit., p. 188.

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TABLE 12.—*Distribution by sex and classification of students enrolled in John Tarleton Agricultural College, 1931-32*

Sex	Freshmen	Sophomores	Juniors	Seniors	Specials	Total
1	2	3	4	5	6	7
Men.....	6	38	305	107	75	531
Women.....	4	52	140	167	32	395
Both.....	10	90	445	274	107	928

The difficulty does not arise in the unwillingness of authorities in such an institution to admit students at the lower level; it is a result of the availability of local public high schools which goes far to set aside the need of providing high-school education in State institutions. It will be surprising if an increased availability does not, in the years to come, decrease rather than increase the possibility of maintaining an integrated four-year unit.

### 5. REORGANIZATIONS IN PRIVATE INSTITUTIONS

*The experiment at Stephens College.*—In line with the policy in other projects of the National Survey of Secondary Education, attention in this project has been focussed chiefly on special reorganizations in *public* school systems. Similarly, in line with the policy of the survey, inquiry has been made among *private* institutions in order to discover innovations suggestive of desirable lines of progress for public schools. In the junior-college field, notwithstanding private units of this type far outnumber public units, much less of organizational experimentation appears to be going forward in private than in public institutions. Outstanding exceptions are the experimental program at Stephens College, Columbia, Mo., and in the new college being projected at the University of Chicago. Accordingly, discussion in this section will be mostly of these two programs, although some reference will be made also to the frequency among private junior colleges of 4-year and other integrated units.

The experiment at Stephens College was authorized by the North Central Association of Colleges and Secondary Schools in 1927. The full text of the resolution authorizing the experiment is as follows:<sup>2</sup>

<sup>2</sup> North Central Association Quarterly, 5:196, September, 1930.

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Voted that Stephens College be permitted to carry on an educational experiment for a period of five years involving the downward extension of the junior college into the fields of junior and senior high-school education and contemplating the obliteration of the lines of demarcation now existing between the last year of the usual 4-year high school and the first year of the junior college; provided that in order to assure the maintenance of proper junior-college standards the president of Stephens College be required to report annually on the progress of the experiment to a committee of three persons appointed by the chairman of the Commission [on Institutions of Higher Education].

As worked out, the experimental program was to include, among others, three major elements, namely, (1) the study of groups of students during their progress through the full 4-year period, beginning with the third high-school year and extending through both years of the junior college; (2) the development of a 4-year curriculum suitable for young women; and (3) comparison of the success of students at the upper high-school and the junior-college levels in the same courses.

Experience and results in certain phases of the experiment have proved highly helpful and illuminating. This has not been true of the element that involved carrying students through the full 4-year course. The obstacle here was that, in spite of conscientious effort on the part of the authorities in charge, it turned out to be impossible to recruit a large enough number of students at the level of the third high-school year who would continue through to the end of the fourth year of the experimental unit. As many as 30 to 40 students would enter, but never more than a few of these would continue into the junior-college period proper. Thus, for almost all the students in the groups at this level, the institution was never more than a 2-year school. In fact, many remained only a single year. In the meantime the enrollment at the level of the freshman and sophomore college years was always large and unquestionably ample for all comparisons involved in the experiment. The explanation of the difficulty in the way of developing a 4-year unit determined in this way must be similar to that mentioned above in discussing the John Tarleton Agricultural College: In the area served by Stephens College the facilities of public high-school education are so generally available that students of the type that will enter an institution at the level of the third high-school year away from home and continue through

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junior-college years are so uncommon as to discourage efforts at achieving an integrated 4-year unit of the kind projected.

From the standpoint of outcome the two other elements of the experiment were more successful. The new courses developed are suggestive of desirable reorganization at the same level in other institutions. Particularly is this true of four orientation courses in vocations, social science, natural science, and the arts and æsthetics. The phase of the experiment undertaking to compare the success of high-school and of junior-college students in the same courses, proved that, in general, when the factor of intelligence was controlled by matching students on scores on an intelligence test, the students at the high-school level did about as well as freshman and sophomore college students. Such evidence goes far to prove that the traditional line between high school and college is an arbitrary one.

*Four-year and other integrated units among private junior colleges.*—Examination of recent annual directories of junior colleges compiled by Prof. Doak S. Campbell, secretary of the American Association of Junior Colleges, finds more private than public junior colleges reported as 4-year units. This difference in favor of private institutions persists in the last of these directories, that for 1933.<sup>10</sup> To be sure, the degree of integration represented varies from institution to institution, but it may be assumed that in most instances it has not been carried far. It usually begins by designating the respective classes, beginning with the third high-school year, as freshman, sophomore, junior, and senior. In some institutions integration will go little further than this. Two chief obstacles hinder. One of these is the restrictions on enrollment in high-school years found above to apply to John Tarleton Agricultural College and Stephens College. This obstacle seems not to apply in all private 4-year units, although it does apply in most of them. The other obstacle is omnipresent. This is the same factor found in earlier portions of the chapter to apply to the 4-year public units: It is the traditionally different standards brought to bear on all high schools and junior colleges irrespective of the purposes in some to obliterate the line of separation between them.

<sup>10</sup> Campbell, Doak S., *Directory of the Junior College, 1933*. *Junior College Journal*, 3:217-231, January, 1933.

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The record of integrated units at the high-school and junior-college levels would not be complete without a brief statement concerning still another type of institution maintained under private auspices in this country. Reference here is to a group of 10 institutions in various States known as "Concordia Colleges" and fostered by the Missouri Synod of the Lutheran Church. Certain of these institutions date back to the middle of the last century. In effect, they are transplantations to this country of the German *Gymnasium*, offering a curriculum following rather closely the pattern of that institution. From the beginning they served as preparatory schools to the theological seminaries which gave training for the Lutheran ministry. It is probably within the truth to say that these transplanted *Gymnasias* were the first institutions in this country in which high-school and college levels of training were integrated.

*The integration at the University of Chicago.*—The last of the programs of integration of high-school and junior-college years to be referred to in the present report is the one recently announced by the University of Chicago. Among the releases for publication after the January, 1933, meeting of the university's board of trustees was the following brief and modest statement:

In order to permit the extension of the benefits of the new educational plan of the University of Chicago to students in the University High School, the last two years of that school have been placed under the jurisdiction of the college. Students in these years of the high school will receive instruction from the college faculty, which, beginning next fall, will be augmented by the addition of certain members of the faculty of the high school.

As heretofore, registration in the high school will be limited to day pupils. Graduates of other high schools will continue to enter the college as freshmen on the usual basis.

This announcement is a logical sequel to published discussions by President Hutchins of the reorganization of the American system of education which he deems desirable.<sup>11</sup> This reorganization would include a 6-year elementary school, a secondary school of "three or four years," another unit of the same length above this secondary school, and at the top of this structure the university. The integration of the last two years of the University High School with the present

<sup>11</sup> See Hutchins, Robert M., *The American Educational System*. *School Review*, 41:95-100, February, 1933.

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College (corresponding in length with the typical junior-college unit) which seems to be contemplated in this action will provide what will be for most students traversing both periods a 4-year college underlying the University proper. We are justified in anticipating, however, that this latest development will afford students in the downward extension of the college the opportunity for progress through the new unit at a rate more rapid than one grade per year, so that considerable proportions may complete the new unit in less than four years. Some should be able to complete it in three years. The expectation would be that, with the economy already effected in the University Laboratory Schools as this was described in the foregoing chapter, individual pupils beginning their education in the University Elementary School might complete the work of this elementary school (of 6 grades), of the University High School (of 3 grades), and of the new college in 12 years, the period usually required to complete the work of the elementary school and high school. Little more can be said in further description of the new development at this writing because detailed plans are just being made and have not yet been announced.

The school situation of the country is at a stage where satisfactory development of this downward extension of the University's college can exercise a signal influence on the organization of school systems and higher institutions. The evidence of the foregoing part of this monograph reports that about three-fourths of the large number of local public junior colleges are housed with high schools. In most of the remaining fourth the junior colleges are housed in buildings near at hand. At the same time, out of respect for tradition and standards of accrediting agencies, those in charge are typically trying to keep the high school and the junior college apart. By demonstrating the feasibility of a college that integrates two levels of education which are essentially one, the University of Chicago will provide school authorities with what will appeal to them as a logical solution of a perplexing problem.

We are encouraged in the expectation of constructive influence of the projected development at Chicago by the instances of integration already undertaken in the schools

of the country as these have been described in this chapter and the one immediately preceding. The freedom of an institution like the University of Chicago should make it possible to add new meaning to this period of education, a period believed by many to be less significant now than most other levels in the system. It seems entirely appropriate to look forward to the new unit in the American system that will emerge from this integration as the new college. The history of collegiate education in this country, including the established fact of the depression into high-school years of the college curriculum, also provides an justification for dropping the qualification "junior" from the names of such institutions and calling them simply "colleges." To those who are concerned over whether the period of education represented is collegiate or secondary it may be pointed out that it corresponds in level and function with the later years of the secondary schools in the countries of continental Europe which directly underlie their universities.

#### 6. AN OVERVIEW

*The special reorganizations considered.*—The chief concern of this monograph is the reorganization of secondary education in this country represented in the advent of the junior high school and of the junior college. One of the policies of the National Survey of Secondary Education calls for the study chiefly of innovations, and even though both reorganizations have proceeded at a rapid rate during the last 20 years or more, junior high schools and junior colleges are still sufficiently novel as compared with the great body of schools to justify including in the survey the study that has been made of them. Even more in line with this policy is the more intensive study of individual schools attempting the unusual, represented in Chapter IV (Section 1) of Part I of this monograph prepared in collaboration by Francis T. Spaulding and O. I. Frederick, and in the two chapters of this concluding part dealing with "special reorganizations."

Almost a score of reorganizations have been dealt with in this concluding part of the monograph. The treatment has divided them into two groups, (1) the reorganizations to save time, considered in Chapter I, and (2) the reorgani-

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zations to achieve integration of high-school and junior-college years, considered in the present chapter. The special reorganizations considered under the heading of reorganizations to save time are the experiments or realignments in the public schools of Kansas City, Mo.; Joliet, Ill.; Salt Lake City, Utah; Concord, N. H.; Tulsa, Okla.; Baltimore, Md.; and in the University of Chicago Laboratory Schools. Those considered under the heading of reorganizations to achieve integration are the rearrangements in public schools at Pasadena, Ventura, Compton, and Salinas, Calif.; Moberly, Mo.; Hillsdale, Tex.; Iowa Falls, Iowa; in the John Tarleton Agricultural College in Texas; in Stephens College; and the College of the University of Chicago. With two exceptions the reorganizations examined involve the work of the junior college, and in the case of the exceptions, extension of the system to include the junior college was at least contemplated.

The approaches to the saving of time in the first group are varied. In most of the group the usual 12-grade system has been shortened to 11 grades. The saving has been effected chiefly in the elementary grades. The first of the Northern systems to go on this basis was Kansas City. Others of the group now on this basis are Salt Lake City, Concord, and the laboratory schools at the University of Chicago. Kansas City is now carrying on an experiment aiming to save another year in high-school and junior-college grades. At Joliet the procedure is to enroll selected high-school seniors in freshman college courses. At Tulsa the approach is through a careful classification of pupils and the preparation of differentiated curriculums; the curriculum of superior pupils will be planned to carry them through the second year of college work in 12 years. In Baltimore capable high-school pupils carry additional subjects and do five years of work in four years, subsequently entering higher institutions as sophomores.

With the exception of a single institution, the reorganizations to integrate set up a 4-grade institution including the last two years of high school and the two years of the junior college. The exception is Salinas, where only the last high-school year has been joined with the junior college. With two exceptions, all such of these reorganizations as are in

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local school systems, namely, Pasadena, Ventura, Compton, Hillsboro, and Iowa Falls, include junior high school units of four grades. One of these exceptions is Salinas, with a 3-grade high school comprehending the ninth, tenth, and eleventh grades, and the other is Moberly, where the junior high school now includes only the eighth, ninth, and tenth grades but will later include also the seventh grade. The degree of integration in these reorganizations varies. Integration begins with the housing of high-school and junior-college years in a common plant. It often includes some assignment of individual staff members to teaching at both high-school and junior-college levels and membership of students at both levels in the same extracurriculum organizations. The integration does not as often affect the curriculum; in this respect much more progress is desirable.

*A comparison of the two groups.*—The reader is warned against assuming that the reorganizations in each of the groups as they have been described have no other special purpose than those implied in the grouping—in the first group, to save time, and in the second group, to integrate high-school and college work and thereby to work out a better articulation in the school system. The grouping aims merely to bring out what appears to be *the* or *a* major purpose of the special reorganization. Additional purposes in certain individual reorganizations were expressed or implied in connection with the statement concerning each above.

The fact is that no hard and fast line separates the two groups. On one hand, the experiments at Kansas City, Joliet, and Tulsa all involve the integration of high school and college in one way or another. On the other hand, certain of the plans in the second group have aimed or are aiming at saving time for the student: The reorganization in Pasadena by the new cooperative arrangement with authorities at the University of California by permitting students in the upper half of the twelfth grade to take college courses; the reorganization at Stephens by an arrangement for students to begin college courses while still in high school years; the projected college at the University of Chicago by extending the features of its new plan, which includes opportunity for accelerated progress, into the last two high-school years.

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Even the remainder of the second group may be assumed to be effecting something in the way of economy of time, because individual staff members in the integrated units who give instruction in identical subject fields on both sides of the arbitrary line separating high-school and junior-college work will be aware of the large amount of overlapping in the usual courses at these levels as these are ordinarily taught, and will tend to work out a better articulation of courses than obtains in institutions in which the levels are separately administered. This will give time for the addition of content to the courses represented. Also, guidance workers in integrated units will more often advise individual students against taking both of two courses covering much the same ground given at the two levels, for example, the high-school course in general chemistry and the college course in general inorganic chemistry, the high-school and college courses in economics, etc. Such students will, instead of going over ground they have already traversed, make contact with what is to them new content in further courses in these or in other subject fields.

The foregoing discussion directs attention to the two possible methods of economizing time. One of these is the obvious procedure of reducing the length of time required to traverse a given period of education. Reorganizations of the first type here considered obviously belong in this category. The other procedure is to enrich the period of education without shortening it, as is possible in reorganizations of the second type. Advocates of reorganizations of the first type can, however, contend with some justification, that their procedure achieves both types of economy of time, more especially for students continuing to higher levels of education.

The argument for economy through shortening the period of training is a potent one as it applies to students destined for professional or other advanced training at the university level. It is somewhat weakened when applied to systems that do not include junior-college years or do not afford other facilities for continuance of education. Pupils who complete the shortened programs of elementary-school and high-school education and who do not continue their education are thus thrust out to seek employment at earlier ages than are

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characteristic of youth completing systems not effecting this type of economy of time. Such an outcome might be acceptable when and where opportunities for employment are at hand for those who complete the shortened programs. The present economic crisis has accentuated the danger of shortening the period of elementary-school and high-school training without, at the same time, extending the period of education to include junior-college years, but it has also helped to bring home to us the significance for education of the decrease over a long period of years in the proportion of young people in employment and the need of making some type of provision in the schools for increasing proportions not employed. The argument for economy of time in this sense must now be accompanied by a proposal for upward extension of the system to include junior-college years. Otherwise, the formerly exceedingly powerful positive argument of financial saving by means of the shortened system will be offset by an even more telling negative argument arising out of the economic and social losses entailed from the presence in society of vast numbers of disorganized unemployed youth.

The second group of reorganizations, on the other hand, with their longer integrated units, should, more often than they do, provide arrangements for moving pupils through the schools more rapidly than at the traditional rate. This can be done at the same time that training programs throughout the period represented are enriched. The pupils undertaking the shortened programs should, however, be carefully selected in order that only those who can and should continue their formal education beyond the junior-college level are admitted to them. The criteria of selection should include not only promise of scholastic proficiency at the higher level, but also the practicability from the financial standpoint of the individual student's continuing his education. The work of selection must be the responsibility of guidance workers in these reorganized institutions.

*The need of continuous study and appraisal of these special reorganizations.*—The foregoing analytical description of the special reorganizations considered has been accompanied by a partial attempt at appraisal, sometimes factual and sometimes speculative. Although the brief examination that has been possible finds most, if not all, to be promising innova-

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tions, no one of them has reached a stage that it does not require further scrutiny and further improvement in the light of results of such scrutiny. The present brief report brings together for the first time information concerning practically all such reorganizations in order to facilitate comparison so that similarities and differences may be made to stand out, to make more apparent certain important issues involved, and to stimulate more investigation in such a fruitful field.

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## APPENDIX A

### A LIST OF SECONDARY SCHOOLS (SUPPLYING DETAILED INFORMATION FOR USE IN CONNECTION WITH PART D) WHICH REPORT EXCEPTIONALLY COMPREHENSIVE ORGANIZATIONS

School administrators interested in increasing the comprehensiveness of their schools' organizations will frequently find it of value to study the organization of schools which are already somewhat outstanding in comprehensiveness. The following list of schools may be of service in this connection. The schools included in the list are those submitting detailed reports on their organization for use in this study, whose scores for at least five of the nine major features of organization equaled or exceeded the upper-quartile scores for all schools of equivalent size.<sup>1</sup> The schools marked with a star (\*) attained the standard adopted for consistency of organization as well: In all the major features their scores equaled or exceeded the median scores for schools of equivalent size. The list thus comprises schools reporting exceptionally comprehensive organizations in a majority of their features; the starred schools combine exceptional comprehensiveness with a high degree of consistency of organization.

The schools are classified under two main heads: Those whose reports showed unusual comprehensiveness in the junior high school grades, and those whose reports indicated unusual comprehensiveness in the senior high school grades. The grades represented in each school are shown in parentheses after the name of the school. Undivided 5-year and 6-year schools (indicated by the figures 7-11 or 7-12) and junior-senior high schools (indicated by the figures 7-9:10-12; or 7-8:9-12) appear in both junior and senior high school divisions in cases in which the reports from these schools show unusual comprehensiveness of organization in both school units.

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<sup>1</sup> For an account of the method of scoring used, see Ch. I. Certain of the schools listed submitted reports too late for inclusion in the group comparisons presented in the body of this study. The reports from these schools have, nevertheless, been scored, and the schools have been listed on the basis of the scores obtained.

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For convenience in reference the schools are listed according to sections of the United States, with the schools arranged alphabetically by States and cities under each section.

It should be borne in mind that *this list is based upon only a sampling of the secondary schools of the country*. The omission of a given school from the list does not necessarily mean that that school fails to meet the standards for exceptional comprehensiveness of organization; it may mean simply that the school in question was not included among those which submitted detailed reports on their organization in connection with this project of the survey.

It should be borne in mind also that this list is based upon reports for the school year 1930-31. Changes in the organization of individual schools since that time may have altered their positions in the total list of schools considered.

### I. SCHOOLS REPORTING EXCEPTIONALLY COMPREHENSIVE ORGANIZATIONS IN THE JUNIOR HIGH SCHOOL GRADES

#### New England:

- Troup Junior High School (7-9), New Haven, Conn.
- Leominster Junior High School (7-9), Leominster, Mass.
- \*Milton High School (7-9:10-12), Milton, Mass.

#### Middle Atlantic States:

- \*Croton-Harmon High School (7-12), Croton-on-Hudson, N.Y.
- Estee Junior High School (7-9), Gloversville, N.Y.
- Central Junior High School (7-9), Allentown, Pa.
- \*Chadds Ford Junior High School (7-10), Chadds Ford, Pa.
- Cheltenham Township High School (7-9:10-12), Elkins Park, Pa.
- \*Southmont Borough High School (7-9:10-12), Johnstown, Pa.
- Independent High School (7-12), Milford, Pa.
- Manheim Township High School (7-9:10-12), Neffsville, Pa.

#### Southern States:

- \*Union Springs Junior-Senior High School (7-9:10-12), Union Springs, Ala.
- Lake Helen Junior High School (7-10), Lake Helen, Fla.
- Parker High School (7-11), Greenville, S.C.
- Zundelowitz Junior High School (7-8), Wichita Falls, Tex.

#### Middle Western States:

- Bloomington Junior-Senior High School (7-8:9-12), Bloomington, Ind.
- Emerson Junior High School (7-8), Muncie, Ind.
- Afton Junior-Senior High School (7-8:9-12), Afton, Iowa.
- Hays Junior-Senior High School (7-9:10-12), Hays, Kans.
- Salina Junior High School (7-9), Dearborn, Mich.
- \*Grosse Ile High School (7-12), Grosse Ile, Mich.

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Menominee Junior-Senior High School (7-9:10-12), Menominee, Mich.

Eastern Junior High School (7-9), Pontiac, Mich.

\*Aurora Junior-Senior High School (7-9:10-12), Aurora, Minn.

Boonville Junior-Senior High School (7-9:10-12), Boonville, Mo.

North Royalton High School (7-12), Brecksville, Ohio.

\*Orange High School (7-12), Chagrin Falls, Ohio.

Upper Sandusky Junior High School (7-9), Upper Sandusky, Ohio.

\*Eugene Field Junior High School (7-9), Tulsa, Okla.

Wilson Junior High School (7-9), Tulsa, Okla.

Wilson Junior High School (7-9), Appleton, Wis.

Janesville Junior-Senior High School (8-9:10-12), Janesville, Wis.

Two Rivers High School (7-12), Two Rivers, Wis.

Waukesha Junior-Senior High School (7-9:10-12), Waukesha, Wis.

Western States:

\*Claremont Junior-Senior High School (7-9:10-12), Claremont, Calif.

Hemet Junior High School (7-9), Hemet, Calif.

Burroughs Junior High School (7-9), Los Angeles, Calif.

\*Dana Junior High School (7-9), Los Angeles, Calif.

\*Eagle Rock High School (7-9:10-12), Los Angeles, Calif.

\*Jordan High School (7-9:10-12), Los Angeles, Calif.

\*King Junior High School (7-9), Los Angeles, Calif.

San Fernando High School (7-9:10-12), Los Angeles, Calif.

Van Nuys High School (7-9:10-12), Los Angeles, Calif.

Piedmont Junior-Senior High School (7-9:10-12), Piedmont, Calif.

La Jolla High School (7-12), San Diego, Calif.

South Pasadena Junior High School (7-9), South Pasadena, Calif.

Alamosa Junior-Senior High School (7-8:9-12), Alamosa, Colo.

South Junior High School (7-9), Colorado Springs, Colo.

Baker Junior High School (7-8), Denver, Colo.

\*Fountain High School (7-12), Fountain, Colo.

\*Lewistown Junior High School (7-8), Lewistown, Mont.

Beaver Junior-Senior High School (7-9:10-12), Beaver, Utah.

Sandy Junior High School (7-9), Sandy, Utah.

Laramie High School (7-12), Laramie, Wyo.

2. SCHOOLS REPORTING EXCEPTIONALLY COMPREHENSIVE ORGANIZATIONS IN THE SENIOR HIGH SCHOOL GRADES

New England:

Milton High School (7-9:10-12), Milton, Mass.

Middle Atlantic States:

Glen Ridge Junior-Senior High School (7-9:10-12), Glen Ridge, N.J.

\*Croton-Harmon High School (7-12), Croton-on-Hudson, N.Y.

Southside Junior-Senior High School (7-9:10-12), Elmira, N.Y.

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Central Rural High School (7-9 : 10-12), Sherburne, N. Y.  
Cheltenham Township High School (7-9 : 10-12), Elkins Park, Pa.  
Hazleton Senior High School (10-12), Hazleton, Pa.  
\*Southmont Borough High School (7-9 : 10-12), Johnstown, Pa.  
Stowe Township High School (7-8 : 9-12), McKees Rocks, Pa.  
Independent High School (7-12), Milford, Pa.  
Manheim Township High School (7-9 : 10-12), Neffsville, Pa.  
Reading Senior High School (10-12), Reading, Pa.  
Titusville Senior High School (9-12), Titusville, Pa.

### Southern States:

\*Union Springs Junior-Senior High School (7-9 : 10-12), Union Springs, Ala.  
Atherton High School for Girls (9-12), Louisville, Ky.  
Reynolds High School (8-11), Winston-Salem, N. C.  
Parker High School (7-11), Greenville, S. C.

### Middle Western States:

Evanston Township High School (9-12), Evanston, Ill.  
Oak Park and River Forest Township High School (9-12), Oak Park, Ill.  
Bloomington Junior-Senior High School (7-8 : 9-12), Bloomington, Ind.  
Afton Junior-Senior High School (7-8 : 9-12), Afton, Iowa.  
Cherokee County Community High School (9-12), Columbus, Kans.  
Hays Junior-Senior High School (7-9 : 10-12), Hays, Kans.  
Community High School (9-12), Norton, Kans.  
Ottawa Hills High School (7-9 : 10-12), Grand Rapids, Mich.  
\*Grosse Ile High School (7-12), Grosse Ile, Mich.  
Menominee Junior-Senior High School (7-9 : 10-12), Menominee, Mich.  
\*Aurora Junior-Senior High School (7-9 : 10-12), Aurora, Minn.  
Boonville Junior-Senior High School (7-9 : 10-12), Boonville, Mo.  
Wellston High School (9-12), Wellston, Mo.  
North Royalton High School (7-12), Brecksville, Ohio.  
\*Orange High School (7-12), Chagrin Falls, Ohio.  
\*Heights High School (10-12), Cleveland Heights, Ohio.  
Grandview Heights High School (7-12), Columbus, Ohio.  
Weathersfield Township High School (7-12), Mineral Ridge, Ohio.  
Enid Senior High School (10-12), Enid, Okla.  
\*Central High School (10-12), Tulsa, Okla.  
West High School (10-12), Green Bay, Wis.  
\*Janesville Junior-Senior High School (8-9 : 10-12), Janesville, Wis.  
Waukesha Junior-Senior High School (7-9 : 10-12), Waukesha, Wis.

### Western States:

Claremont Junior-Senior High School (7-9 : 10-12), Claremont, Calif.  
Union High School (10-12), Hemet, Calif.

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- \*Eagle Rock High School (7-9 : 10-12), Los Angeles, Calif.
- \*Jordan High School (7-9 : 10-12), Los Angeles, Calif.
- Roosevelt High School (10-12), Los Angeles, Calif.
- San Fernando High School (7-9 : 10-12), Los Angeles, Calif.
- \*Van Nuys High School (7-9 : 10-12), Los Angeles, Calif.
- North Hollywood High School (7-12), North Hollywood, Calif.
- Piedmont Junior-Senior High School (7-9 : 10-12), Piedmont, Calif
- La Jolla High School (7-12), San Diego, Calif.
- Santa Rosa High School (9-12), Santa Rosa, Calif.
- Torrance High School (7-12), Torrance, Calif.
- \*City and County Senior High School (9-12), Lewistown, Mont.
- Alsea High School (9-12), Alsea, Oreg.
- Grants Pass High School (9-12), Grants Pass, Oreg.
- Beaver Junior-Senior High School (7-9 : 10-12), Beaver, Utah
- Laramie High School (7-12), Laramie, Wyo.

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## APPENDIX B

### A LIST OF NEEDED INVESTIGATIONS OF SCHOOL ORGANIZATION REVEALED IN PART I

The present study of secondary-school organization has been subject to at least three major limitations. First, there has been no opportunity for thorough validation of the system of scoring used in judging the organization of individual schools. Second, a number of promising clues have had to be disregarded in the analysis of various types of organization and various sizes of schools, for want of the time and funds necessary to follow all such clues to a definite end. Third, the brief time interval covered by the study has prevented any long-term analysis of the effects of various types of organization under varying conditions.

The defects arising from these limitations may eventually be removed if certain further studies can be made. Schools of education or individual students of education will be interested, it is hoped, in adding to the investigations described in this report. The following list of possible further investigations is presented as a suggestion of types of studies which might prove fruitful.

This list does not pretend to be all-inclusive. Many investigations which are not specifically mentioned will occur to the thoughtful student as having direct bearing on the problems of school organization. The studies suggested are those which will most directly supplement the particular investigations already made, or which will provide desirable checks upon the conclusions set forth in the preceding pages.

A. Subjects suggested for further investigation for which data gathered in the present study may be used as a partial basis.

1. The validation of a system of rating the organization of an individual secondary school; in particular, the determination of relationships between—

- (a) Practice in detailed aspects of organization and pupil achievement.
- (b) Practice in general aspects of organization and pupil achievement.
- (c) Practice in general aspects of organization and the judgment of competent specialists as to effectiveness of organization.

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2. Analysis of the extent to which effectiveness in one major phase of organization is dependent upon special effectiveness in one or more other phases of organization.
3. More exact analysis of the typical organization of conventionally organized schools, as a means of gaging the effects of reorganization.
4. Detailed analysis of the organization of outstanding private schools, as contrasted with the organization of public schools.
5. Study of the organization of private secondary schools used as agencies of public instruction, as contrasted with the organization of comparable public schools.
6. Analysis of various special types of organization not sufficiently represented in the present study to allow detailed investigation; in particular, analysis of—
  - (a) The 4-year junior high school organization within unit enrollment groups.
  - (b) The undivided 5-year high-school organization within unit enrollment groups.
  - (c) Secondary-school organizations forming parts of 11-grade public-school systems.
  - (d) Secondary-school organizations which include junior-college units.
7. Detailed investigation of the factors which cause individual secondary schools either notably to exceed or notably to fall below the norms for organization of schools of their type and size. (Study of this problem may properly be a phase of the validation of norms. On the assumption that certain norms have been accepted as valid, it is here suggested as a problem in the determination of causal relationships.)
8. Detailed study of methods by which schools necessarily handicapped either in size or in type of organization may improve their organization.
9. Further evaluations of various types of organization in schools falling in enrollment groups not adequately represented in the present study; in particular, study of schools separately classified—
  - (a) In subdivisions of average grade enrollments below 30.
  - (b) In subdivisions of average grade enrollments above 333.
10. More exact analysis of the differences in organization between large and small schools by a segregation of schools in type groups and a determination of the differences between large and small schools common to all the type groups.
11. Investigation of the maximum effective size of school under various types of organization.
12. Study of the relationship between effectiveness of organization and per-pupil outlay for items immediately associated with organization.

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13. Recurrent studies of school organization, according to methods similar to those employed in the present investigation, to provide:
  - (a) Facts concerning the status of school organization on a nation-wide basis, in the light of which progress in organization may be determined periodically.
  - (b) Periodic data on the relationships of the various elements in the national program one to another.
- B. Subjects suggested for further investigation for which few or no data have been gathered in the present study.
  1. Study of the relative holding power of schools of various sizes and types over a period of years.
  2. Investigations of the relationship between differentiation in salary schedules among separate units of the school system, and
    - (a) Articulation between the units.
    - (b) Pupil achievement in the separate units.
  3. Study of the relationship between the sources of support for extracurriculum activities and the scope of the extracurriculum.
  4. Study of the relationship between the effectiveness of homogeneous groupings, and the use of—
    - (a) Semiannual as contrasted with annual promotions.
    - (b) Promotion by subject as contrasted with promotion by grade.
  5. Investigation of the effects of extreme departmentalization in the junior high school grades.
  6. Comparison of both the administrative and the educational effects of various types of curriculum organization.

