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REORGANIZATION OF THE PUBLIC SCHOOL SYSTEM

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CONTENTS.

APPENDIX.

PREFACE.

A little more than two decades ago Charles W. Eliot, convinced that the age at which the college graduate completes his course and begins supporting himself was too high, put the question, Can school programs be shortened and enriched? This query precipitated a discussion which, while ranging over the entire field of educational theory and practice, centered particularly upon the purpose and place of the common school, the high school, and the institutions of higher learning. This critical examination of the principal parts of the system has set in clearer light their characteristics and has led to the belief that a proper regard for the distinctive functions of each makes imperative a reorganization, or at least a readjustment, of the chief divisions of the system with respect to articulation, to internal organization, to grade span, and to defined purpose.

Though the discussion started with a specific problem—the need of reducing the age of college graduates—the original question was quickly forgotten, and the discussion became wholly academic and so remained throughout the first decade. The opening of the second decade saw the discussion brought back to earth again by practical-minded administrators who sought a program of reorganization or of readjustment that gave reasonable promise of success. In consequence of this effort, plans for action emerged which are now being put to the test of practice. Thus the movement toward a functional reorganization of the school system may properly be said to have survived two of the stages through which every project, on its way from inception to practice, must necessarily pass: That of academic discussion, and that of a consideration of working plans. It is now entering the final stage, that of adoption and trial.

The following is an attempt to set forth in orderly manner the progress of the movement as it has developed from its beginning to the present time. There is also an attempt to show, in some detail, how a regrouping of the grades of the system lends itself to changes in the elementary and secondary curricula that seem to be demanded.

In treating the attempts which have been made to bring about this reorganization and the attendant effect upon courses of study, two alternatives were open: To describe, in as great detail as space would permit, a number of such efforts or to give a brief summary of the essential features of each, with a more detailed description of some

one experience. The latter alternative has been adopted, on the theory that a portrayal of the difficulties encountered in putting into operation a given plan, and a description of the effect upon the organization and curriculum of a single school department, even though such results fall short of the ideal, would prove more helpful.

Among those who have rendered material assistance in the task of organizing the materials for this study it is a pleasure to make special mention of Dr. Richard Gauss Boone, professor of education at the University of California. The study was begun in his seminar and progressed for a considerable time under his stimulating direction. Special thanks are also due to Profs. Thomas M. Balliet, Herman H. Horne, Robert MacDougall, James E. Lough, and Paul R. Radosavljevich, of New York University.

REORGANIZATION OF THE PUBLIC SCHOOL SYSTEM.

Chapter I.

THE RISE OF THE CHIEF DIVISIONS OF THE AMERICAN PUBLIC-SCHOOL SYSTEM.

CONTENTS.—The three divisions—Distinct sources—Elementary division; beginnings; rotating schools; school districts; Government aid; Northwest Territory; Horace Mann; Henry Barnard—Division of higher education; colonial colleges; preparation for the ministry; place of Latin and Greek; growth of the demand for higher education; modifications in curricula; departmental instruction; election of studies; period of internal development; preparatory schools—Secondary division; Latin grammar schools; the Renaissance; influence of local conditions; the academy; function; industrial development; free public high school; original purpose; later development.

The American public-school system now stands, after three centuries of growth, complete in form only. Its three divisions—elementary, secondary, and that embracing higher education—are joined together, end to end, forming a lineal whole. It is therefore now easy for a child of 6 to enter the elementary school, pass regularly from grade to grade, and finally to emerge, 16 or 18 years later, prepared as far as academic study is concerned to begin his life work, and without direct cost to himself or to his parents.

The story of the development of this system is the story of the conflict between two demands: That for a college preparation on the one hand, and on the other for a noncollegiate preparation extending beyond the elementary grades. As in every country developing a system of education, the colleges reached downward to find a means of preparation for the few, while the elementary schools reached upward in order to secure an extension of a general, practical education for the many. It has remained for America alone to develop an institution which has harmonized the two—the free public high school. Inasmuch, however, as each of the three divisions comprising the system sprang from separate and distinct sources and grew to considerable proportions independently of the others, and in response to the shaping power of different conditions, the whole which the fusing process of recent years has given us is complete in form only. In organic relation, in sharpness of province, and in dis-

tinctiveness of function, these divisions are not yet satisfactorily articulated.

The English colonists had scarcely set foot in the New World before they began planning for the education of their children. Within eight years after the founding of Boston a college with a system of preparatory schools was established, and within 17 years the foundation, in theory at least, of our entire American public-school system was laid. The acts of 1642 and 1647 (Massachusetts)[1] not only recognized each of the three divisions of our present system, but in addition enunciated the right of the State to compel proper provision for education, to determine the kind of an education which should be given, to provide such education by general tax and at public expense, and to provide opportunities for college preparation.[2] While legislation has added but two important principles to those set forth in these early Massachusetts acts—compulsory attendance and the making of free schooling mandatory—yet the educational system foreshadowed in the original principle has been exceedingly slow in unfolding, reaching a point in its development relatively complete only within the last half century.

Though from the first there was a demand by the masses for the rudiments of an education, yet such instruction during the colonial period was meager and haphazard. While the legislation of the time recognized the elementary school and made its support by public tax permissive, yet, except in the larger towns, such education was badly neglected. In some towns the parents instructed their children at home, or clubbed together and employed a young man or woman to give a start in reading and writing. In one town the children learned to write on birch bark and were taught in rotation by the men of the village who could read.[3] In other places the minister became the schoolmaster. Even as late as 1817 the school committee of Boston denied a petition, signed by 160 inhabitants, asking that primary schools be established at public expense, defending their denial on the ground that the establishment of such schools would be too expensive; and, furthermore, "that most parents have some leisure, and that with us few are unequal to the task of teaching the elements of letters."[4]

Much of the elementary instruction which was provided in that day was given in vacant carpenters' shops, in spare rooms in old dwellings, in unoccupied barns, in basement rooms, and in such other

[1] For early Massachusetts statutes see Rep. U. S. Com. Ed., 1892–93, vol. 2, pp. 1225–1239.

[2] See Martin, *The Evolution of the Mass. Pub. Sch. System*, pp. 12–17; Hinsdale, *Horace Mann*, pp. 2–8.

[3] Martin, *Evolution of the Mass. Pub. Sch. System*, p. 68.

[4] See the report of the committee in full: Wrightman, *Annals of the Boston Primary School Committee*, pp. 32–37.

places as chance presented.[1] The scope of the work offered in these schools before the Revolution was limited merely to writing and the rudiments of reading. Spelling and arithmetic as separate subjects were not required until well into the next century. The support of primary schools, as indeed of the grammar schools of the period, was various and uncertain. By lotteries, by land rentals, by private subscription, by licensing houses of entertainment, by tuition paid in money or in kind, as well as by general tax levied upon all people of a given community, these schools were maintained for brief periods during the year.[2] As changing economic and social conditions operated to disperse the hitherto compact settlements, the school was often rotated from place to place within the community to meet the demands of those who settled at some distance from the center.[3] In some towns it was kept for a third of the time in each end and a third in the middle; in other places it remained four months in each of three places; and in still others the school was shifted among five places within a single school year. Gloucester probably holds the record for the number of changes required, for in this community, in 1751, the grammar school rotated among so many places that the children at a given locality secured but one and a half months of schooling once in every three years.[4] As with Massachusetts, so with the other New England States, elementary education remained until the beginning of the nineteenth century informal, intermittent, unsystematic, voluntary in respect to both parents and community, and hence inefficient.

The first real advance was made when the rotating school was superseded by the establishment of permanent schools at the several points comprising the itinerary of these "moving schools." Attendance lines were drawn and a proportionate share of the school money was given to the people within the limits thus formed, to expend as they desired. In 1789 this division of the scattered community into districts was recognized by law, but the act of 1789 gave no power to the district. If a schoolhouse was to be built, for instance, it could be done only through subscriptions voluntarily given by the people. By 1827, however, through successive legislation, the district changed from a unit created for mere social convenience to a political institution with power vested in its inhabitants to levy taxes, to hold meetings, to choose a clerk, to select a school site, to erect a building thereon, to enforce contracts, and to employ teachers.[5]

[1] See U. S. Bu. of Educ., Contr. to Amer. Ed. Hist., No. 18, p. 21.
[2] Ibid., pp. 20, 21.
[3] For a discussion of the causes producing the moving school see Updegraff, *The Origin of the Moving School in Massachusetts.*
[4] Martin, *Evolution of the Mass. Pub. Sch. System*, pp. 75–77.
[5] Ibid., pp. 90-118.

Simultaneously with this movement in New England toward free public common schools the rapidly developing Northwest Territory was taking advanced ground in the same respect. One of the wisest as well as one of the last acts of the Congress of the Confederation was to provide a comprehensive plan for the government of the territory lying to the northwest of the Ohio River and for its future subdivision into States. In this act (the "Ordinance of 1787") Congress declared:

> Religion, morality, and knowledge being necessary to good government and the happiness of mankind, schools and the means of education shall forever be encouraged.[1]

Ten days after this ordinance was passed Congress adopted a supplementary act relating to the disposition of public lands that had a far-reaching effect in accelerating the rise of the common school and later of the State university. This act decreed that in every State formed out of the public domain the sixteenth section of each township therein should be set apart for the support of the common schools, and that not more than two complete townships were "to be given perpetually for the purposes of a seminary of learning [university], to be applied to the intended object by the legislature of the State." In 1803 the provisions of this ordinance were extended to the States of the Mississippi Territory, and in 1848 Congress enacted that in States thereafter formed the thirty-sixth section, in addition to the sixteenth section, should be reserved for the support of the common school.[2] In consequence of this generous provision 67,000,000 acres of land have been granted for common-school purposes.[3]

The final stage in the evolution of the modern highly organized and highly graded elementary school began, roughly dating, from the time when Horace Mann and Henry Barnard began their educational work—the one in Massachusetts (1837) and the other in Connecticut (1837) and later in Rhode Island (1843). For a time education had in considerable degree been neglected. The War of Independence, the formation of new States, the reclaiming of new territory, the building of canals and railroads diverted attention from the schools. The old laws making education compulsory were forgotten. Immigration was bringing many poor and ignorant families into the country. In consequence illiteracy was rapidly gaining ground. Under the leadership of Horace Mann and Henry Barnard, and largely through their personal efforts, a reaction set in. Associations to foster education were everywhere formed; journals for the discussion of educational questions were founded in great numbers;

[1] See *An Ordinance for the Government of the Territory of the United States Northwest of the River Ohio*, Third article, found in McMaster, *Hist. of the People of the U. S.*, Vol. III, ch. 16; also in *Old South Leaflets*, No. 13.

[2] See Swett, *Amer. Pub. Schools*, pp. 37–44.

[3] Thwing, *A. Hist. of Higher Ed. in Amer.*, p. 188.

many distinguished men visited Europe, examined the best systems, and returned to publish their observations and scatter them broadcast among the people. Henry Barnard, intrusted with the task of reforming the schools of Rhode Island, merely preliminary to securing legislative reforms, went twice to all the towns in the State; talked personally with more than 400 teachers about their work, besides visiting their schools; wrote a thousand letters to persons best able to suggest valuable ideas; delivered more than 500 addresses upon the needs of the schools; published a journal which was gratuitously distributed throughout the community and organized everywhere local associations to foster and spread the interest which he awakened. What Henry Barnard did in Rhode Island Horace Mann was doing in Massachusetts, with the result that apathy in educational matters was changed to an enthusiasm that rapidly took on the characteristics of a popular movement.

In the 75 years which have since elapsed a remarkable development of the functions and organization of the elementary division of the public-school system has taken place. Within the last three decades have come professionally trained instructors, expert supervision, grouping by grades, supervision of the pupils' health, enrichment of courses, and the segregation of and special instruction for defectives, besides many other notable features, to which the present-day educator points with confidence and pride.

In the rise of the college and university, together comprising the division of higher education, the demand of the American people for an education suitable for general culture and for the professions found its expression. The response of these institutions to the expanding needs of a rapidly growing country has not always been prompt. Nevertheless as the want increased and the demands became insistent, the college and university have slowly accommodated themselves thereto. At first it was the ministry only for which a college education was desired. Now the universities of this country provide a training for entrance to all of a host of professions that the development in science, industry, and statecraft has created.

The colonial colleges were dominated by the religious and ecclesiastical influences of the time. Harvard was founded in part out of a "dread to leave an illiterate ministry to the churches when our present ministers shall lie in dust."[1] For 60 years it was little more than a training school for ministers. The application for a charter permitting the founding of William and Mary was supported by the declaration that Virginians had souls to be saved as well as their English countrymen and that the institution was needed to prepare young men for the ministry.[2] While there was nothing in Yale's

[1] Mass. Hist. Collections, Vol. I, p. 243.
[2] Boone, Educ. in the U. S., p. 34.

charter requiring a religious test for trustees, rectors, or tutors, yet those instrumental in its founding planned that it should be controlled by a synod of churches, and that it should be called the "School of the Church."[1] Though this plan was not fully executed, the initial steps in founding the college were taken by a body which comprised the principal clergymen of New Haven Colony. Of the six remaining colleges established before the Revolution, only one (Philadelphia Academy, merged into the University of Pennsylvania) was nonsectarian.

Princeton was founded primarily to secure a supply of ministers for the Presbyterian Churches of Maryland, Virginia, and the middle Colonies. While it was controlled by Presbyterians, there was a larger lay membership in its governing board than had obtained at Harvard, William and Mary, or Yale.[2] The Philadelphia Academy embodied in its constitution the idea of Benjamin Franklin. In this constitution there is no mention made of religion, of the church, or of the ministry,[3] and in this respect the institution expressed a significant modern note. Two-thirds of the first board of trustees of King's College (now Columbia) were communicants of the Church of England, and, while the college was founded nominally as a civil institution, the condition was exacted that the president of the college should be a member of the Episcopal Church and that the religious service of the college should be from the liturgy of that church.[4] Brown College (Providence, R. I.) was founded in response to definite and formal action taken by the Baptist Association of Philadelphia. Its charter opened the doors of the college to all denominations of Protestants, expressly prohibiting any religious test for its members or students, yet affirming its connection with the church by requiring the president to be a member of the Baptist Church and placing the governing board under its control.[5] Dartmouth College was the outgrowth of a plan projected by Rev. Eleazar Wheelock to train Indians of both sexes in religious and secular learning, and to send them back to their tribes to be teachers and preachers.[6] One-half of the first board of trustees were Congregational ministers and the other half civil authorities of Connecticut Colony. The charter makes emphatic the original purpose of the institution—namely, "the spread of the Redeemer's Kingdom"—but it also makes clear that no one shall be excluded from its benefits because of denominational

[1] Boone, *Educ. in the U. S.*, pp. 38, 39.
[2] Thwing, *A Hist. of Higher Ed. in Amer.*, pp. 109–112.
[3] Ibid., p. 113.
[4] Ibid., pp. 117, 118.
[5] Ibid., pp. 120, 121.
[6] U. S. Bu. of Educ., Contr. to Amer. Ed. Hist., No. 23, p. 187. An excellent account of the work of Rev. Eleazar Wheelock in *Memoir of Rev. Eleazar Wheelock, D. D.*, by William Allen, *American Quarterly Register*, Aug., 1837, vol. 10, pp. 2–31.

affiliations or because of religious beliefs.[1] Queens College (now Rutgers) was founded by the Hollanders—who were adherents of the Reform faith—with a double purpose, to promote learning and to train clergymen for service in the New World.[2]

The period during which these colleges were founded was profoundly concerned with ecclesiastical questions. The Protestant Reformation had but recently swept over northern Europe, arousing men's passions and hatreds, but giving to the people the free circulation of the Scriptures and the right to interpret them. For a century the struggle to worship God according to the dictates of conscience had been on. It had led to exile from home and from native land, and to the founding of the Colonies themselves. It is difficult for people of to-day to realize how fully ecclesiastical matters filled the minds of our forbears and how profoundly the institutions which they established were influenced thereby. Even the occupations for which the young men of the time prepared were chiefly ecclesiastical, as has been noted. More than one-half of the graduates of Harvard during the seventeenth century entered the ministry, and of the first 33 graduates of Yale 25 became preachers.[3] An examination of the names of those who are listed as students in the Boston Latin School between the years 1635 and 1734 will show that, of those whose life occupation is mentioned, one-half belonged to the clergy.

It came about naturally, therefore, that religious instruction was the main aim of the colonial college, and that, since Latin and Greek were among the "holy tongues," especially enabling the pupil to get a closer acquaintance with the Bible, the classics were the chief aids to the attainment of this end. Luther expressed the esteem in which Latin and Greek were generally held when he said:

> For a time no one understood why God had revived the study of the languages (Latin and Greek); but now we see that it was for the sake of the Gospel, which He wished to bring to light and thereby expose and destroy the reign of antichrist.[4]

While 24 colleges were founded prior to 1800,[5] the most remarkable growth of the institutions of higher learning came in the nineteenth century. At the beginning of that century not more than 100 professors and instructors or more than 2,000 students were to be found in all the colleges then existing, and $1,000,000 would cover the aggregate value of college property. A century later (1902) there were 638 institutions of higher learning, with a faculty of more than 18,000 men and women and a student body exceeding 100,000. Furthermore, the combined property value of the colleges had increased

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[1] U. S. Bu. of Educ., Contr. to Amer. Ed. Hist., No. 22, p. 141.
[2] Thwing, *A Hist. of Higher Ed. in Amer.*, p. 136.
[3] Thwing, *The American College in American Life*, p. 3.
[4] Luther, *Letters to the Mayors and Aldermen of all the Cities of Germany.*
[5] For table see Boone, *Educ. in U. S.*, p. 77.

during this 100 years from $1,000,000 to over $230,000,000, with productive funds besides amounting to $186,000,000.[1]

This pronounced interest of the nineteenth century in higher education, though due to the expanding activities of the people and of the several fields of knowledge, was greatly stimulated by two provisions which the National Government made for the founding and support of higher education. The Ordinance of 1787 provided that two complete townships in each State formed from the public domain might be set apart for university purposes. Under the operation of this act every State admitted into the Union since the year 1800, with the exception of Maine, Texas, and West Virginia, has received not less than two townships for the purpose of founding a university. The grants for institutions of higher learning, under this law, have aggregated more than a million acres.[2]

The second provision by which the National Government encouraged the founding of such institutions was that called the Morrill Act, passed by Congress in 1862. This act provided for a grant of 30,000 acres of land for each Representative and Senator in Congress. The grant conveyed in all 9,600,000 acres, and the amount raised from the sale of this land, varying in different States from $50,000 to $750,000, was to be applied to institutions at which technical and agricultural branches should be taught. As a result, within 20 years, every State in the Union had established such a school, either in connection with an existing college or as a new institution.[3] Besides these grants, Congress gave to the several States (1850) certain swamp lands, aggregating nearly 48,000,000 acres. Some States—California for instance—appropriated their share to the university; others turned the proceeds into their general school fund.[4] In consequence of the Federal aid so generously given, colleges and universities multiplied with unprecedented rapidity. So rapidly, indeed, were they founded, that in a single century—

> while the population of the country increased 6 times, the number of such institutions increased 20 times, the number of instructors 170 times, the number of students 47 times, and the property and productive funds 200 times.[5]

This awakening of interest in higher education, which began to be felt in the first decades of the nineteenth century, was accompanied by a significant enlargement of the courses of study offered in the colleges and universities, and, down to the present time, this development has been constant, though slow. For almost 200 years after

[1] See Rep. of U. S. Commis. of Ed., 1902, Vol. II.
[2] Thwing, *A Hist. of Higher Ed. in Amer.*, p. 189.
[3] Dexter, *Hist. of Ed. in U. S.*, pp. 282, 283.
[4] Dexter and Snedden, *Administration of Pub. Ed. in U. S.*, p. 32.
[5] Dexter, *Hist. of Ed. in U. S.*, p. 289.

the founding of Harvard College, its course of study, except in minor details, remained unchanged. Philosophy, including physics, logic, ethics, and politics, occupied one-third of the time; Greek, with special attention to the study of the New Testament, was second in importance; rhetoric was third, with much time given to "disputations" and debates upon philosophical subjects; oriental languages came next, including the study of Hebrew, Chaldee, and Syriac; mathematics occupied but a small place, and, down to the middle of the eighteenth century, was of the most elementary character.[1] These subjects, with the catechism and a little botany, comprised the typical course of the colonial college that every student was compelled to pursue for the prescribed collegiate period without regard to vocational plans.[2]

The first important addition to the subjects studied was that of chemistry, which came in response to the rapid discoveries made in this branch of science. Though first introduced in the medical school of the University of Pennsylvania in 1768 as a part of the instruction given in materia medica, its claim to a place in college curricula was not generally recognized until well toward the middle of the nineteenth century. From the beginning, the study of history had formed a small part of the course of study, but had been associated with classical or theological subjects. The first chair of history was established at William and Mary in 1822; the second came 17 years later at Harvard. It was not until 1865 that Yale created such a professorship. The study of economics as a differentiated subject began at Harvard in 1820, and was rapidly taken up by other colleges of the time, in quick response to the commercial and industrial activity of the period. The study of modern languages, inaugurated by Bowdoin in 1825, came slowly into general recognition.

As the studies offered increased in number and as college enrollments grew, two important changes in organization were necessitated: Departmental instruction and election of studies. In the early years of the American college one instructor taught a given class in all subjects, but by 1766 the attendance had increased at Harvard to such a degree as to compel a change to the present plan of teaching by subjects. When the number of subjects offered increased beyond what a single student could carry, the problem of selection arose. The first step toward meeting this difficulty was taken by William and Mary in 1779, but the first institution which was frankly founded on the principle of free electives was the University of Virginia (1825). This institution, the "child of Thomas Jefferson," was the embodiment of his ideas on higher education. In its elective system it ex-

[1] See discussion, Tuwing, *A Hist. of Higher Ed. in Amer.*, pp. 25–32.
[2] Dexter, *Hist. of Ed. in U. S.*, pp. 325, 326.

emplified its founder's thought as expressed in a letter of his to George Ticknor:

> I am not fully informed of the practices at Harvard, but there is one from which we shall certainly vary, although it has been copied, I believe, by nearly every college and academy in the United States. That is, the holding of the students all to one prescribed course of reading, and disallowing the exclusive application to those branches only which are to qualify them for the particular vocations to which they are destined. We shall, on the contrary, allow them uncontrolled choice in the lectures they choose to attend, and require elementary qualification only and sufficient age. Our institution will proceed on the principle of doing all the good it can, without consulting its own pride or ambition; of letting every one come and listen to whatever he thinks may improve his condition of mind.[1]

Though profound changes in the organization of the colleges and in the courses of study offered by them were effected before the Civil War, yet during the 50 years which have since elapsed a greater internal development has taken place than during the entire history of the college prior to that struggle. Indeed, the last three or four decades comprise a time of unparalleled educational activity in every field. New subjects have been given places in college curricula, and old subjects have been broken up into many parts; entrance requirements have been revamped and new plans for matriculation have been devised; new educational conceptions have forced their way into the foreground and have shifted emphasis and alignment; questions of free electives, or group electives, or no electives, with attendant efforts to apply in practice the opinion held, have broken up the traditional arrangements; the demand for preparation for professional and industrial vocations, in contrast with the older demand for general culture, has forced recognition. These among many other questions have aroused an interest and commanded an attention in these later years without parallel.

Under the influence of college and university, a host of schools that are directly preparatory in purpose have grown up. In consequence, the content of the work of such schools has been shaped by the college ideal. As the college changed, so the school changed. As the college took on more work, it raised its admission standards and crowded more of its work back into the preparatory school. At the other end of the ladder stands the elementary school, at first satisfied merely with securing but a small degree of literacy, but becoming more ambitious and effective as time passed. Expanding knowledge and enlarging occupations and more generous support developed the elementary school. As it grew in efficiency a desire developed for a schooling that should be more advanced and yet not necessarily pre-

[1] For a general discussion of the foregoing matters relating to the course of study, also for the above extract from Jefferson's letters, see Thwing, *A Hist. of Higher Ed. in Amer.*, pp. 13. Jefferson's letter is in Adams's *Thomas Jefferson and the University of Virginia*, pp. 123, 124.

paratory to college. The fact that the institution of higher learning sought a means of preparing its prospective students, while the elementary school was seeking to broaden its work produced two opposing tendencies. The conflict that has resulted within the field of secondary education has been sharp and long continued, but out of it has come a distinctively American institution, the free public high school.

The secondary schools of the Colonies, the so-called grammar schools, closely resembled the Latin schools of England, after which for the most part they were modeled. They were religious in character and distinctly classical in content. They were founded primarily to fit the youth of the time for college—Harvard and Yale in the North and William and Mary in the South. The training given was such as would meet the demands of the colleges.

The requirements for admission to Harvard, first formulated near the middle of the seventeenth century, are typical of the college demands of this early period:

> When any scholar is able to read Tully or any like classical Latin author, ex tempore, and make and speak true Latin in verse and prose (suo ut aiunt Marte), and decline perfectly the paradigms of names and verbs in the Greek tongue, these may be admitted to the college; nor shall any claim admission before such qualification.[1]

As already noted, the times in which the Colonists lived were profoundly affected by religious questions. The "holy tongues" (Latin and Greek) were thought to have peculiar value in religious training. In consequence, the content and subject matter of the colonial grammar schools were little more than a prolonged drill in Latin grammar, supplemented by some attention to Greek; a detailed grammatical and rhetorical study of selected Latin texts, such as Cicero, Ovid, Terence, and Virgil; and the daily reading in Latin of portions of the Bible, of catechisms, and of creeds, and, in the upper classes, of New Testament epistles in Greek. Thus these schools remained, until well toward the Revolution, college preparatory in specific purpose, narrowly classical in the content of instruction, permeated by the pietistic spirit of the times, and adapted to the needs of a small part of the community only.

While the dominant educational thought of the Colonists took form in the college and its preparatory schools, there was a growing undercurrent of dissatisfaction with both their content and purpose.

A broad view of the complex educational activities of the Renaissance period will show that each is related to one or to the other of two antagonistic tendencies. On the one hand, there was the tendency to fix the "Golden age" in the past, among the ancient Greeks

[1] *New England First Fruits*, in Old South Leaflets, No. 61, p. 2.

and Romans. This worship of the past led to a wider and more intensive study of the Latin and Greek languages; to a devotion to the classic literature of both languages; to a search for the manuscript remains of this literature, to a passion for collecting them; and, finally, through the discovery of printing, for their general dissemination.[1] The immediate effect of this devotion to the study of classical literature was the introduction into the schools of a new and enriching content, one which stood in strong contrast with the abstract, metaphysical, and unreal content of the scholastic education of the Middle Ages. It was not long, however, before the educational effort of the time shifted from content to that of the mastery of form alone. This conception of education placed little value on preparation for social activity; it provided no place for the study of nature or of history; it ignored almost completely the physical training of the youth; it gave no consideration to the world, its people, and their problems; in short, the dominant educational practice of the sixteenth century had degenerated to a condition little less formal and profitless than the narrow scholastic type of the fourteenth.[2]

The tendencies antagonistic to this narrow classical education likewise had their beginnings in the period of the Renaissance. Erasmus, Rabelais, John Milton, Montaigne, Mulcaster, Comenius, and other great educational lights of the fifteenth, sixteenth, and seventeenth centuries were the speakers for the opposition. These men were a unit in criticism of the narrow, formal, linguistic teaching of the time. They all respected the classics, and as a means to an end each of these men in a measure grasped the modern conception that education should be a training for social service in church, state, city, and family, and that this need must affect the content of education.

Erasmus, in his System of Studies, wrote:

> Knowledge seems to be of two kinds—that of things and that of words. That of words comes first, and that of things is the more important.

Rabelais, though advocating the study of languages—Greek, Latin, Hebrew, and even Chaldee and Arabic, violently condemned the old linguistic and formal education. While he believed that almost the whole of education was to be gained through books, he would have their content mastered because of its bearing on other problems of practical life.[3] The famous Tractate on Education, wherein Milton "sets down in writing that voluntary idea, which hath long in silence presented itself to me, of a better education, in extent and comprehension far more large, and yet of time far shorter, and of attainment far more certain, than hath been yet in practice," arraigned the edu-

[1] Monroe, The Hist. of Ed., p. 354. [2] Ibid., ch. 6. [3] Ibid., p. 447.

cation of the times, and in addition expressed his own conception, which is summarized in the notable definition of education which he formulated:

> I call therefore a complete and generous education that which fits a man to perform justly, skillfully, and magnanimously all the offices, both private and public, of peace and war.

Montaigne had much to say in criticism of the "custom of pedagogues to be eternally thundering in their pupils' ears, as if they were pouring into a funnel, while the business of the pupil is only to repeat what the others have said."

Mulcaster bemoaned the "imperfection at this day [of elementary instruction], so that we can hardly do any good, the groundwork of their entry being so rotten underneath."[1] Finally, the position of Comenius is briefly indicated by the following passage in The Great Didactic:

> I call a school that fulfills its functions perfectly one which is a true forging place of man—in a word, where all men are taught all things thoroughly.

Though this slowly evolving conception, due primarily to the growing stores of knowledge and the expanding activities of the times, that education must take into account the needs which life imposes, was the chief source of dissatisfaction with existing conditions, the prevailing use of classical authors to provide the content of instruction was attacked on an ecclesiastical ground, namely, the belief that, inasmuch as such authors were non-Christian, their teachings and that of the Bible were in conflict. This view, which was Puritan in its inception, was forcibly expressed by William Dell, master of a college in the time of Cromwell. He said:

> My counsel is that they [children] learn the Greek and Latin tongues especially from Christians, and so without the lies, fables, follies, vanities, whoredoms, lust, pride, revenge, etc., of the heathens, especially seeing neither their words nor their phrases are meet for Christians to take in their mouth.[2]

This view never became dominant even among the Puritans, the majority of whom held firmly to the position that the classics were helpful in religious instruction, which to them was the chief aim of education.

While these insurgent views of the Old World found zealous exponents among the American colonists, the narrow humanistic conception of education was for the time in the ascendancy. Indeed, it was under the dominance of this view that Massachusetts Bay Colony in 1647 ordered, under penalty of a fine, that whenever any town within the colony should increase to the number of 100 families a school should be established which would fit the youth for college.

[1] Quoted in Watson, *The English Grammar School*, p. 133. [2] Ibid., p. 535.

The colony, however, failed in enforcing the order to any considerable degree; for, in addition to the views of distrust which many of the Colonists shared with the people of Europe, there were local causes at work. The several communities were very poor and could ill afford the expense; the tax for the support of such a school fell upon all, whereas only a few could avail themselves of its advantages; the competition of the elementary school for maintenance, the rise of towns and cities, the increase of trade, the rise of a political life, the struggle to conquer the ever-widening frontier, were other factors as well. In short, the social, economic, and political conditions under which the Colonists lived operated in the same direction, and in consequence a secondary education which prepared for but a single vocation became a matter of indifference to an increasing number of people, and a general apathy toward the grammar schools resulted. An institution more closely adjusted to the changed conditions was needed. The academy, which was not long in coming, was the immediate, though not final, answer to this need.

The colonial academy, like the colonial grammar school, was of English ancestry, and in its inception in both England and America it primarily expressed religious dissent. The establishment of the academy in England was chiefly an attempt to provide the children of nonconformist clergymen and of other nonconformists with an education in free imitation of the university. At first, for obvious reasons, these schools were established secretly, but under the Toleration Act of 1689 conditions became somewhat easier, so that such schools multiplied rapidly, and later became an integral part of the English educational scheme.

It was easy for the founders of these schools to accept and act upon the suggestions which were being made by the leaders of the time in educational reform. Preparation for ecclesiastical offices in nonconformist congregations was a prominent though not an exclusive purpose of these schools, and therefore an important place in the course of study was given to the classical languages and to the Scriptures. To the study of these, however, many subjects were added which were excluded from the grammar schools of the time. These newer subjects gradually came to be taught in the mother tongue, the study of which was emphasized in all these schools. Inasmuch as the nonconformist children were denied the university, these academies were designated as finishing schools, in consequence of which we find them extending their curriculum beyond the grammar schools and including the elements of some of the subjects taught in the universities, and also attempting to incorporate in their courses studies that had a closer relation to the practical duties of life than those traditionally pursued. The departure from the grammar

schools of the time is best shown by an enumeration of the subjects treated, varying with the school. These included French, Italian, Hebrew, logic, rhetoric, ethics, metaphysics, history, economics, oratory, theology, natural philosophy, anatomy, geography, geometry, algebra, surveying, trigonometry, conic sections, celestial mechanics, and even shorthand.[1]

In so far as the academy in England was the result of forces other than religious dissent, it had its counterpart in the Real Schools (*Realschulen*) of Germany. There the rise of cities, the growth of trade, the development of technical sciences, and the rapid expansion of the industrial world created a demand for a course of instruction suited to these modern needs which the Real Schools sought to supply.[2]

Though a school called an "academy" was founded in Pennsylvania in 1726, the first American school really expressing this new spirit was established at Philadelphia in 1751, through the efforts of Benjamin Franklin. Franklin's idea, expressed in his *Proposals Relating to the Education of Youth in Pennsylvania*, was widely circulated, and exercised a profound influence, for it helped to give to the academy, as developed in America, its distinctive features. Concerning the content of instruction, he wrote in his "Proposals":

> As to their studies, it would be well if they could be taught everything that is useful and everything that is ornamental. But art is long and their time is short. It is therefore proposed that they learn those things that are likely to be most useful and most ornamental, regard being had to the several professions for which they are intended. All interested for divinity should be taught the Latin and Greek; for physics, the Latin, Greek, and French; for law, the Latin and French; merchants, the French, German, and Spanish; and, though all should not be compelled to learn Latin, Greek, or the modern foreign languages, yet none that have an ardent desire to learn them should be refused; their English, arithmetic, and other studies absolutely necessary, being at the same time not neglected.[3]

As originally organized, Franklin's Academy, which eventually developed into the University of Pennsylvania, comprised three departments—the Latin school, the English school, and the mathematical school. Later a department of philosophy was added, which, together with the Latin school, was called the "college," while the name "academy" was retained by the English and mathematical departments.[4]

By the time the Revolution began a number of schools similar in character had been established in the middle and southern Colonies, and before the close of the war the founding of an academy in Mas-

[1] Monroe, *Hist. of Ed.*, p. 499.
[2] See Paulsen, *German Education*, ch. 2.
[3] Sparks, *Works of Franklin*, Vol. I, pp. 572, 574.
[4] Brown, *The American High School*, p. 18.

sachusetts (Andover) and one in New Hampshire (Exeter) gave fresh impetus to the movement of protest.[1] The academy met with popular favor, and after the Revolution ended and the country became quiet, schools of this kind multiplied with great rapidity until the middle of the century, when their influence began to wane. Eventually they, in turn, were forced to give way to another type, which was better fitted to the changed needs of a rapidly expanding people.

For the American people the first half of the nineteenth century, the period of the ascendancy of the academy, was a period of intense internal expansion. The population of the country at the beginning of the century was confined to the narrow strip lying between the Appalachians and the Atlantic seaboard, while the territory stretching away to the west was left to the Indians. Fifty years later the frontier had been pushed to the Mississippi; the intervening territory had been dotted with settlements; many people had gone still farther westward, spreading out over the plains facing the Rocky Mountains; and a sufficient population had settled on the Pacific coast to entitle that district to two States. Within a single half century the center of population shifted from a point near Washington, D. C., to one near the middle of Ohio.

This enormous movement of population, with all that such a movement in a virgin country means—the clearing of forests; the building of homes and villages; the construction of turnpikes, canals, and railroads; the development of factories; the creation of banks and courts and schools—was a prodigious change to be made within the space of one generation.[2] The War of 1812 marked the beginning of this period of industrial reorganization. With the coming of the final struggle with the mother country there came the realization that the weak American Nation must shift for itself among the nations of the world, and along with the recognition of utter isolation came the determination that the needs of the people should be met through the development of the resources of their own country. For the first time since the founding of the Colonies the people of the United States turned their faces away from Europe—which they had looked upon as the source of their civilization and their institutions, as well as a market place where they could exchange their raw stuffs for manufactured articles—to their own country and its possibilities.[3] The period of 50 years thereafter, terminating with the Civil War, was a time, therefore, when new occupations were opening for the young man on every hand; when new demands were being made on his intelligence and his resource; when new problems in law, in

[1] Brown, *The Making of Our Middle Schools*, ch. 9.
[2] Day, *A History of Commerce*, ch. 48.
[3] Webster, *General History of Commerce*, pp. 355–387.

statesmanship, in business, in the professions, were rapidly rising; when everything was in flux and little had taken permanent shape.

It was during this period of industrial reorganization and economic change that the academy flourished. It was founded as a protest against the narrow, pedantic training of the Latin grammar school. It was seized upon by the American people in the hope that it would provide a way for securing that kind of training which the problems of the New World demanded. So rapidly did these schools grow that by 1850 there were more than 6,000 such institutions in the United States, with an enrollment of 263,000 pupils and comprising a teaching force of more than 12,000.[1]

Though the academy was founded partly in protest against the narrow, classical training of the early schools, and, though it was looked upon originally as a "finishing" school with the twofold object of providing a general culture and a preparation for life, yet, because it was a private institution under private control, and because it relied, in part, on tuition fees for its support, attendance was restricted to the children of those parents who were fairly prosperous.[2] This tendency toward exclusiveness was not in accord with the growing spirit of democracy, as evidenced by the fact that very early in the period of the academy there can be detected a demand, which became increasingly insistent, that the opportunity for an education beyond that afforded by the elementary school should be denied no one because of poverty. In consequence, even in the first days of the academy, not infrequently some financial assistance was rendered by city and State. Still later, in response to this demand, in not a few cases, the academy was taken over by the city or town and maintained by taxation. But, in general, the problem of carrying at public expense a pupil who did not wish a college course beyond the elementary school was solved by the creation of a distinctively American institution—the free public high school.

The first of these schools was founded at Boston in 1821, but up to the middle of the century their growth was very slow, due largely to the fact that the theory that the State is responsible for supplying at public expense an education for all had been generally accepted for elementary education alone. By 1850, however, the demand for schools which were higher in grade than the elementary schools, and which should be accessible to the poor as well as to the rich, had grown into an irresistible movement. In consequence of this demand there is now scarcely a town in the United States of any considerable size in which a public high school, comprising a three or four years'

[1] Table showing status of the academy of 1859, in Dexter, *A Hist. of Ed. in U. S.*, p. 96.
[2] See Brown, *The American High School*, p. 21.

course, is not to be found, and, indeed, many rural communities are quite as fortunate.

As originally planned, the high school sought to serve only those who did not want to go to college,[1] but it was not long before these schools introduced a college preparatory course. Thus, by a process of natural development, the high school took over the functions originally performed by both the Latin grammar school and the academy—that is, preparation for college and preparation for life. With the advent of the State university and the conception of a complete State-supported, State-controlled educational system, and with the rapidly growing demand of recent years for higher education, this work of preparation for college has become one of far-reaching importance. In thus adding to its original function of a "finishing" school that of fitting for college, the high school has become, by process of growth, the connecting link between the elementary school and the college. The free public high school alone could serve the rich and the poor, those who prepared for college as well as those who did not, and, in so doing, it stands as one of the few distinctly American products.

As originally established, the high school sought only to extend the education given in the district school. The popular conception of the function of the high school held during the first half century of its growth is expressed by Henry Barnard in his fourth annual report to the Connecticut Legislature (1842). After describing the low state of education in Connecticut he offers numerous remedies, among them being the establishment of primary, intermediate, and high schools. In discussing the latter, he says:

> This school should receive such pupils as are found qualified in the studies of the secondary (intermediate) schools, on due examination, and conduct them forward in algebra, geometry, surveying, natural, moral, and mental philosophy, political economy, the history and Constitution of Connecticut and the United States, bookkeeping, composition, and drawing with reference to its use in various kinds of business. Whatever may be the particular studies, this school should afford a higher elementary education than is now given in the district school, and, at the same time, furnish an education preparatory to the pursuits of commerce, trade, manufactures, and the mechanical arts. All that is now done in this way for the children of the rich and educated should be done for the whole community, so that the poorest parent who has worthy and talented children may see the way open for them to a thorough and practical education.[2]

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[1] See Brown, *The Making of Our Middle Schools*, p. 295.

[2] See detailed review of Henry Barnard's *Fourth Annual Report* (1842), in Am. Jour. Ed. (1856), Vol. I, p. 703.

Chapter II.

THE RISE OF THE GRADED SCHOOL.

CONTENTS.—The beginning—German influence on foreign systems—German influence on American systems—Adams's letters on German schools—Action of the Free School Society of New York—Charles Brooks and the Prussian system—John D. Pierce and the report of Cousin—A. D. Bache's report—Calvin Stowe's report—Henry Barnard's influence—Dr. Stephen Olin's journals—Horace Mann's visit to Germany—John D. Philbrick—Joseph Kay's publication—Graduate students in Germany—Debt of American educational pioneers to Germany; compulsory school attendance; training teachers; system of supervision; reasonable salaries; personnel of school committee—The grading of schools; early steps; Quincy School (Boston); in primary schools; variation in divisions; struggle to secure; union schools; progress by 1870; length of periods; grouping taken from Prussia; duration of elementary period traced to early church practices; Hall's view of significance of church rites; fourteen attractive, as being twice the sacred number seven.

The practice of segregating children of the same age and of the same attainments into "grades" or "years" and grouping together the first eight to form the elementary division had its beginning with us in the third and fourth decades of the nineteenth century. In its essential features the plan was borrowed from Germany, where, at the time of its introduction into America, it was rapidly becoming the universal plan of school organization, and where it had been evolved during three centuries of educational discussion and practice.

So well organized had the school system of Germany become that in every civilized country educators who were seeking light were turning with critical interest to an examination of its details. France sent (1831) M. Victor Cousin, one of the most profound and gifted writers of the time, to make a study of the German system. He pronounced the school law of Prussia "the most comprehensive and perfect legislative measure regarding primary instruction" with which he was acquainted.[1] In 1850 Italy sent a commission to study the schools of the principal States of Europe, which prepared a voluminous report on the state of public instruction in Germany, with particular reference to the improvement of the public schools

[1] For copious extracts from Cousin, *Report on the Condition of Public Instruction in Germany, Particularly in Prussia*, see Am. Jour. Ed. (1870), vol. 20, pp. 231–238; 237–244. Footnote, *Cochrane's Foreign Quarterly*, Vol. I, No. 2, p. 269, says the English translation of the above was republished in New York, and "The committee of the legislature has recommended its distribution to all the towns." This book was read by John D. Pierce before he planned the Michigan school system (1836).

of every grade in Italy. This report led to a revision of the school laws of the latter country, whereby primary schools of a higher and lower grade, secondary schools, including classical and technical schools, and a new organization of the universities were instituted.[1] In 1774 Austria appointed the Augustine monk, Felbiger, director of the normal schools in all the Austrian dominions. Felbiger, after spending several years at Berlin, to obtain an intimate knowledge of the methods of instruction practiced there, opened a school in Silesia (then belonging to Prussia) for the training of teachers. His work in Silesia was so noticeable that it led to the Austrian appointment, and, with it, to the partial reorganization of the common schools of that country.[2] The influence of Germany on the Austrian school system was again felt, when, in 1805, was published the Constitution of the German Common Schools, which to this day is the basis in large part of the school law of Austria.[3] England, too, recognizing the supremacy of the German system of the period, dispatched from time to time Government commissioners to Germany, who, in turn, submitted to Parliament elaborate reports on the German plan of organization.

In America, during the period when our schools were being molded into the semblance of a system, German influence in shaping the structure was much more direct and potent than has been generally recognized.

John Quincy Adams, in a series of letters, published in Philadelphia in 1803, describing the educational system of Silesia, which he had been examining, said:

> The arrangements and regulations of the trivial schools, as they are here called—schools destined for that elementary instruction which ought to be diffused over the whole mass of the people—particularly deserve your attention, because you may, perhaps, as a native of New England, entertain the prejudice that your own country is the only spot on earth where this object is rightly managed and where the arts of reading and writing are accomplishments almost universally possessed. Probably no country in Europe could so strongly contest our preeminence in this respect as Germany, and she, for this honorable distinction, is indebted principally to Frederick II.[4]

In 1821 a committee of the "Free School Society of the City of New York," which took the initiative in organizing the first schools of that city not supported by denominations, was instructed to cor-

[1] See *Public Instruction in the Kingdom of Italy*, in Am. Jour. Ed. (1870), vol. 20, pp. 146–147; also, *Public Instruction in Sardinia*, by Botta, in Am. Jour. Ed. (1857), vol. 3, pp. 513–530.

[2] See John Quincy Adams, *Educational Reform in Silesia by Frederick II*, in Am. Jour. Ed. (1867–68), vol. 17, pp. 126–127; also *Public Instruction in Austria*, in Am. Jour. Ed. (1866), vol. 16, p. 9.

[3] See *Public Instructions in Austria*, in Am. Jour. Ed. (1866), vol. 16, p. 15 (article gives a summary).

[4] For Adams's letter on *Educational Reform in Silesia by Frederick II*, in full, see Am. Jour. Ed. (1867–68), vol. 17, pp. 125–128.

respond with distinguished educators in Europe and in the United States, to procure information respecting schools.[1]

Charles Brooks, a man whose influence in Massachusetts was great, and who may be said to have prepared the way for the work of Horace Mann, did very much to disseminate knowledge respecting the Prussian system. He was primarily interested in establishing a normal school after the Prussian model, yet, during the campaign which he carried on for this purpose between the years 1835 and 1838 he did not limit himself to the consideration of the normal school alone, but sought to acquaint the people with the details of the German system of elementary education as well. His account of the return trip from England, which he made in company with Dr. H. Julius, of Hamburg, then on his way to America to study our schools, indicates the esteem in which he held the Prussian system:

A passage of 41 days from Liverpool to New York (with Dr. Julius) gave me time to ask all manner of questions concerning the noble, philosophical, and practical system of Prussian elementary education. He explained it like a sound scholar and a pious Christian. If you will allow the phrase, I fell in love with the Prussian system, and it seemed to possess me like a missionary angel. * * *

When the doctor came to visit me at Hingham I told him I had been studying the Prussian system for six months, and that I felt called of God to try and introduce it into my native State. He rose from his seat, seized my hands, after the Hamburg custom, and said: "My friend, you are right; and I will help you all I can." He consented to give an account of the Prussian system before the committee on education in our legislature. His delineations were clear and judicious, but so brief as led to no action.

I opened communication with M. Victor Cousin, the first scholar in Paris, with whom I had become acquainted in 1833. He approved most heartily of my plans, and sent me his histories of the Prussian, Hollandaise, and Bavarian systems of education, and especially normal schools. * * *

I studied his books thoroughly, and though I preferred the Holland system of governmental supervision, I concluded to take the Prussian system of State normal schools as my model and guide, and began my public lectures on the whole system in 1835.

Much depended on a right beginning. I knew that the common people would be more moved by one practical fact than by a bushel of metaphysics. I therefore wrote three enormously long lectures—namely, two hours each. In the first I described minutely the Prussian State system, its studies, books, classification, modes of teaching, government, rewards, punishments, etc.; a perfect catalogue of interesting *facts*. In my second I showed how this new system could be adopted in Massachusetts, and how it would affect every town, every school, and especially every family in the State; yes, I took it in my hands and carried it from house to house, showing the parents how it would benefit their son John and their daughter Mary. In my third I showed that all these great, practical Christian results could be realized by establishing State normal schools, and could not be realized without them; and therefore the proposed school reform must begin with introducing such normal schools.

[1] *Subjects and Courses of Public Instruction in Cities*, in Special Report of the Commissioner of Education (1870), in Am. Jour. Ed., vol. 19, p. 509.

In his first public lecture on the establishment of the normal school Mr. Brooks made the following statement, which is in point: "From what I have learned, it is now my opinion that the Prussian system is to make a *new era in the public elementary education of the United States.*" And, again, in a review of the History of the Introduction of State Normal Schools in America (1864), Mr. Brooks concluded by saying:

> The Prussian system, with its two central powers, a board of education, and normal schools, was not known in New England when I first described it, in public, in 1835; but on the 19th of April, 1838, Massachusetts, the banner State, adopted State normal schools by statute. Remembering well how the good leaven spread in 1835–1838, I say it was the Prussian system which wrought out the educational regeneration of New England.[1]

Just at the time that Charles Brooks was laboring so diligently to incorporate in the Massachusetts system the results of Prussian experience, another man, John D. Pierce, in Michigan, also an enthusiastic believer in the preeminence of the Prussian organization, was laying the foundation for an educational system in his own State and building into it the best features of Prussian practice. It was mainly because of his suggestions to the chairman of the committee on education in the convention that framed the State government in 1835 that the article in the constitution respecting education was framed and provision made for the office of superintendent of public instruction. Mr. Pierce was appointed to the superintendency in 1836 and at once began the work of preparing a plan for a complete school system.

Before framing his recommendations, which were submitted in 1837 and which were approved for the most part, he visited the schools of New England, New York, and New Jersey. Prior to this, however, he had learned of the Prussian system through an English translation of Cousin's report. This report of Cousin's was first made known to the English-speaking people by Sir William Hamilton, who, in the Edinburgh Review, July, 1833, commended the report highly and quoted at considerable length therefrom. The next year (1834) that part of the report which treated of Prussian practice was translated into English by Mrs. Sarah Austin and appeared in London. A New York edition of the same translation was issued in 1835 and widely distributed.[2] It was a copy of this edition which, falling into Mr. Pierce's hands, profoundly influenced him in framing the system he later submitted to the Michigan

[1] For the foregoing extracts, and for his discussion in full, see Charles Brooks, "History of the Introduction of State Normal Schools in America." A pamphlet, printed 1864 (Boston), in *Pamphlets on Education* (U. C.), vol. 4, No. 4. Extracts given in Albree, "Charles Brooks and His Work for Normal Schools" (Medford, 1907).

[2] Stowe, *The Prussian System of Public Instruction and its Applicability to the United States* (Cincinnati edition, 1836); preface.

Legislature.[1] In describing his entrance into public life Mr. Pierce speaks of this circumstance:

> About this time (1835) Cousin's report of the Prussian system, made to the French minister of public instruction, came into my hands and it was read with much interest. Sitting one pleasant afternoon upon a log on the hill north of where the courthouse at Marshall now stands, Gen. Crary (chairman of the convention committee on education) and myself discussed for a long time the fundamental principles which were deemed important for the convention to adopt in laying the foundations of our State. The subject of education was a theme of special interest. It was agreed, if possible, that it should make a distinct branch of the government, and that the constitution ought to provide for an officer who should have this whole matter in charge and thus keep its importance perpetually before the public mind.[2]

Mr. Pierce's indebtedness to Prussia for many of the ideas which he worked out in the system which he organized is thus set forth by a later superintendent of the Michigan system, Francis W. Shearman, who, writing in 1852, said:

> The system of public instruction which was intended to be established by the framers of the constitution (Michigan), the conception of the office, its province, its powers, and duties were derived from Prussia. That system consisted of three degrees: Primary instruction, corresponding to our district schools; secondary instruction, communicated in schools called *Gymnasia;* and the highest instruction communicated in the universities. The superintendence of this entire system (Prussia), which was formed in 1819, was entrusted to a minister of state, called the minister of public instruction, and embraced everything which belonged to the moral and intellectual advancement of the people.[3]

In the same year in which Mr. Pierce was made superintendent of public instruction in Michigan (1836), the trustees of Girard College, Philadelphia, commissioned its president, A. D. Bache, "to visit all establishments in Europe resembling Girard College, or any others which promise to afford useful information in organizing it," and to prepare a report covering his observations. After two years spent in a careful examination of the schools of Great Britain and Europe, he submitted a voluminous report (1839). Those who were interested in such matters found in this report a wealth of detail relating to the educational practices of Great Britain, France, Switzerland, Italy, Holland, Belgium, and Germany. Respecting the system of Germany, and particularly that of Prussia, he wrote:

> Prussia is at present decidedly in advance of the other larger German States in the education of the people, especially in the manner and matter of instruction. As the various accounts which have been given of public instruction in Prussia have, in general, referred to the system more particularly than to the schools, I shall in this report touch more briefly upon the former and go more

[1] Hoyt and Ford, *John D. Pierce, Founder of the Michigan School System*, p. 19.
[2] *Michigan Pioneer Collections*, vol. 1, p. 88.
[3] Shearman, *Public Instruction and School Laws of Michigan* (1852), pp. 18, 19.

into detail in regard to the latter. By reference to their spirit and minute arrangements it is easy to see where they would apply as perfectly in a republic as in a monarchy.[1]

In the same year (1836) the General Assembly of Ohio requested Calvin E. Stowe, professor of biblical literature, Lane Seminary, Cincinnati, who was about to visit Europe, to formulate a report upon the educational systems of the countries through which he might pass, and to present it to the general assembly. In accordance with this request his observations were laid before the thirty-sixth general assembly (1837), which ordered the report published and a copy sent to every school district in the State. In addition, the report was republished and extensively circulated by the Legislatures of Michigan, Massachusetts, North Carolina, Virginia, and Pennsylvania. The legislature of the last-named State alone printed and distributed 5,000 copies in the English language and 2,000 in German.[2] In this report, entitled "Report on Elementary Public Instruction in Europe," particular attention was given to a description of the primary schools of Germany, especially to those of Prussia and Wurttemberg. It is interesting to note that at the time when Horace Mann and Henry Barnard were taking up their work of arousing the American people from their indifference toward the common school this report on the German plan of organization almost exactly sketches the American system as it subsequently developed.[3]

Henry Barnard in 1836 also visited Germany and spent several months in the examination of schools. As commissioner of education in Rhode Island, and later in Connecticut, and also as United States Commissioner of Education, he did more perhaps than any other person to make known to the American people the fruits of the educational experience of European countries. Through his official publications, and particularly through the columns of his educational journals, he disseminated the facts pertaining to German practice very widely.

On account of his health Dr. Stephen Olin, later president of Wesleyan University, went to Europe in 1837 and spent three years in travel and in the examination of schools and other institutions. His journals and letters are filled with comments upon what he saw. Relative to the Prussian school system he wrote:

> The Prussian system of education is certainly the most perfect in existence, whether the higher, the intermediate, or common grades of learning be considered.[4]

In 1843 Horace Mann visited the schools of Germany and of other European countries. An account of his visit is given in his seventh

[1] Bache, *Report on Education in Europe* (1839), pp. 6, 7.
[2] See the Harrisburg edition (1838), p. 4.
[3] This description is quoted, p. 86.
[4] *The Life and Letters of Stephen Olin*, vol. 1, p. 234.

annual report to the board of education of Massachusetts (January, 1844). In this report he commended the organization and grading of the German schools in the following words:

> I do not hesitate to say that there are many things abroad which we at home should do well to imitate—things, some of which are here as yet mere matters of speculation and theory, but which, there, have long been in operation and are now producing a harvest of rich and abundant blessings. Among the nations of Europe Prussia has long enjoyed the most distinguished reputation for the excellence of its schools. In reviews, in speeches, in tracts, and even in graver works devoted to the cause of education, its schools have been exhibited as models for the imitation of the rest of Christendom.[1]

And again he said, under the caption "Classification":

> The first element of superiority in a Prussian school, and one whose influence extends throughout the whole subsequent course of instruction, consists in the proper classification of the scholars. In all places where the numbers are sufficiently large to allow it the children are divided according to ages and attainments, and a single teacher has the charge only of a single class or of as small a number of classes as is practicable. I have before adverted to the construction of the schoolhouses, by which, as far as possible, a room is assigned to each class. Let us suppose a teacher to have the charge of but one class, and to have talent and resources sufficient properly to engage and occupy its attention, and we suppose a perfect school. But how greatly are the teacher's duties increased and his difficulties multiplied if he have four, five, or half a dozen classes under his personal inspection. While attending to the recitation of one his mind is constantly called off to attend to the studies and the conduct of all the others. For this very few teachers amongst us have the requisite capacity, and hence the idleness and the disorder that reign in so many of our schools, excepting in cases where the debasing motive of fear puts the children in irons. All these difficulties are at once avoided by a suitable classification, by such a classification as enables the teacher to address his instructions at the same time to all the children who are before him, and to accompany them to the playground at recess or intermission without leaving any behind who might be disposed to take advantage of his absence. All this will become more and more obvious as I proceed with a description of exercises. There is no obstacle whatever, save prescription, and that vis inertiæ of mind which continues in the beaten track because it has not vigor enough to turn aside from it, to the introduction at once of this mode of dividing and classifying scholars in all our large towns.[2]

In John D. Philbrick, whose name will always be associated with the schools of Boston, of which he was made superintendent in 1856, the German schools had another influential champion. In 1847, as principal of the Quincy Grammar School of Boston, Philbrick organized, after the German model, what was probably the first city graded school in America. His reports as superintendent abound in references to German practice, and many of the innovations which

[1] Mann, Seventh Annual Report, p. 21; also Report for 1843, in *Life and Works of Horace Mann* (Lee & Shepard edition), p. 240.

[2] Mann, Seventh Annual Report, p. 84; also Report for 1843, in *Life and Works of Horace Mann*, pp. 302, 303 (Lee & Shepard edition); also in Am. Jour. Ed. (1860), vol. 8, p. 808.

he made in the organization of the Boston schools were undoubtedly suggested by the information then current concerning the German system.

In 1850 there was published a book written by Joseph Kay, an Englishman, and entitled "The Social Condition and Education of the People of England and Europe," which was widely read by school people in America. It gave much space to a description of the Prussian organization; condemned the practice, then common in New England, of breaking school districts up into increasingly smaller units; and, by contrast, laid particular emphasis on the German practice of uniting districts to secure the conditions necessary to grading the children. On this point he wrote:

> Instead of creating a great number of small schools in different parts of the town, each containing only one or two classes, in which children of very different ages and very different degrees of proficiency must be necessarily mingled and taught together, to the manifest retarding of the progress of the more forward as well as of the more backward, several schools (in Prussian towns) are generally combined, so as to form one large one, containing five boys' classes and five girls' classes. In these classes the teachers are able to classify the children in such a manner that one teacher may take the youngest and most deficient, another the more advanced, and so on. In this manner, as each teacher has a class of children who have made about the same progress in their studies, he is enabled to concentrate his whole energies upon the instruction and education of all his scholars at the same time, and for the whole time they are in school, instead of being obliged to neglect one part of his class whilst he attends to another, which is necessarily the case where children of different degrees of proficiency are assembled in one classroom, and which is always necessarily the cause of considerable noise and confusion, tending to distract the attention of both teachers and children.[1]

Besides the educational leaders of America who visited Germany during the first half of the nineteenth century, a steadily increasing number of American students turned to Germany for all or a part of their graduate work. Prior to 1850 the number of such students had reached nearly a hundred, and comprised such men as Edward Everett, George Ticknor, George Bancroft, and Henry W. Longfellow. These men, returning to positions of influence, many to college professorships, helped, more or less directly, in their respective communities, to create a public sentiment favorable to educational progress and to disseminate information concerning German practice.

Just at the time, therefore, when the American system of education was in the forming, Germany's influence was peculiarly potent. Indeed, to such degree was the influence felt that not only educational leaders, but educated people as well, came to recognize

[1] See *Subjects and Methods of Instruction in Prussia*, containing extracts from Kay, *Social Condition and Education of the People in England and Europe*, in Am. Jour. Ed. (1860), vol. 8, pp. 413–434.

that the German schools were the best in the world and that America could well afford to profit by Germany's experience. In fact, one finds that Henry Barnard, Horace Mann, and the other stalwart educational pioneers of the time fought for nothing which had not already found a permanent place among the practices of the progressive States of Germany. They strove for compulsory school attendance; but compulsory school attendance had been provided for by law in Saxe Gotha in 1643, in Saxony and Wurttemberg in 1649, in Hildesheim in 1663, in Calemberg in 1681, in Celle in 1689, in Prussia in 1717, and in every other German State before the beginning of the nineteenth century.[1] They saw clearly that school conditions could never be greatly improved until the teaching body was specially trained for its work; and so they sought to have normal schools and seminaries established for the training of teachers. Prussia, however, organized a seminary for teachers in 1735; and in the 1738 decree for the regulation of the schools of Berlin it was provided that teachers should be regularly examined by properly authorized officials before being allowed to teach. By the close of the century the principle of the special training of teachers was a cardinal provision of the school system of Prussia, and by 1833 there were in Prussia alone 43 normal schools, with an attendance of 2,036 students and an annual output of nearly 800 trained teachers.[2]

The American leaders sought also to bring about an efficient system of supervision, one which should touch every locality and every school. This, too, had been worked out in Europe long before the first State superintendent in America was ever appointed.[3] Two radically different types of supervision had been evolved—that of Prussia, which was highly centralized, allowing considerable latitude in individual schools, while all were subject to the central authority, and that of Holland, in which the system began with the authorities of the smallest school unit and terminated, after progressive degrees of representation, in the highest authority of the land.[4] The American pioneers insisted, furthermore, that the teacher should be paid a reasonable salary, and that the office should be one of dignity and honor in the community. This, too, had been provided for by Frederick II, who, by ordinance (1765), declared that a school

[1] See *History of Primary Education in Germany*, in Am. Jour. Ed. (1860), vol. 8, pp. 348–359; also *Translator's Preface* (Sarah Austin) to Cousin's *Report on the State of Public Instruction in Prussia* (Lond., 1834), p. XII.

[2] Bache, *Report on Education in Europe* (1839), pp. 222, 229.

[3] The first State to establish the office was New York, in 1813, later abolished for a time; Pennsylvania (1833) was the first to establish and continue the office without break.

[4] Bache, *Report on Education in Europe* (1839), pp. 171, 172.

should be kept in every village (Silesia), that a competent subsistence should be provided for the schoolmaster, and that, as the ordinance runs, "the gentry, as well as the common people, must not consider or treat the teacher as a servant but as an officer whose duty it is to form good tenants for landlords and children for parents."[1] Even in the personnel of the school committee, comprising, as it did, in the early period of Massachusetts school history, the clergyman, the magistrate, and two citizens of the district, there existed a remarkable similarity to a provision in the decree of Elector John George (1573) authorizing the appointment of school committees of superintendence, each in charge of the smallest school unit, the parish, and consisting of the parish clergyman, the local magistrate, and "two notables."[2]

Perhaps no detail of the great work of school regeneration under way in the thirties and forties was urged with more determination by the progressives than the need for graded schools. Over and over again in the reports and publications of the period occur statements condemning the tendency toward dividing the school district into progressively smaller units and, on the other hand, commending the counterplan of consolidating the same in order to secure the conditions essential to a graded system. And yet in this particular, as well as in the plan of school organization which subsequently evolved, American leaders of the period found in the practice of Germany both a precedent and a model.

The first step in America toward segregation within a given building was that which classified the teachers of grammar schools according to the subjects taught rather than the children upon the basis of their ages and attainments. The following arrangement, drawn up by a committee of which Samuel Adams was a member and adopted by Boston in 1789, will illustrate:

IN TOWN MEETING, *October 16, 1789.*

Voted, That there shall be one writing school at the south part of the town, one at the center, and one at the north part; that in those schools the children of both sexes be taught writing, and also arithmetic in the various branches of (it) usually taught in the town schools, including vulgar and decimal fractions.

That there be one reading school at the south part of the town, one at the center, and one at the north part; that in those schools the children of both sexes be taught to spell, accent, and read both prose and verse, and also to be instructed in English grammar and composition.

That the children of both sexes be admitted into the reading and writing schools at the age of 7 years, having previously received the instruction usual at women's schools; that they be allowed to continue in the reading and writing schools until the age of 14, the boys attending the year round, the girls from

[1] Quoted by Bache, *Report on Education in Europe* (1839), footnote to p. 224.
[2] Ibid., pp. 221, 222, where Bache points out this similarity.

the 20th of April to the 20th of October following; that they attend these schools alternately, at such times and subject to such changes as the visiting committee, in consultation with the masters, shall approve.[1]

By this singular arrangement each grammar school had two departments, called the reading and writing departments. Each of these departments had its own rooms, its own set of studies—the program of studies being divided for this purpose, not horizontally by grades, but vertically by subjects—and its own master and corps of assistants, usually two or three in number. The pupils attended each department in turn, changing from one to the other at the end of each half-day session.[2]

This "double-headed" organization of grammar schools remained until the Quincy School (Boston) was established in 1848. With the erection of this school, Philbrick, then principal, changed the plan of administration; and, in addition, introduced a new type of school architecture, which he thus described:[3]

1. It was large. Up to this time a grammar school with 400 pupils was considered very large. This building had 660 seats in its schoolrooms, exclusive of the hall.

2. It contained a separate schoolroom for each teacher, 12 in all, and, of course, recitation rooms were not needed.

3. It contained a hall large enough to seat comfortably all the pupils that could be accommodated in its schoolrooms, and even more.

4. It contained a clothes room attached to each schoolroom.

5. It contained a separate desk and chair for each pupil, this being probably the first grammar schoolhouse, here or elsewhere, so far as I know, into which this feature was introduced.

6. It was four stories high—the first of this height—the hall covering the whole of the fourth story.

All the grammar schoolhouses since built in this city are of this type. Modifications and improvements, more or less important, have been from time to time introduced, but the type has not changed.

Before the erection of the Quincy School the typical grammar building of Boston was a two-story structure, one story being used by the writing department, the other by the reading department. Each story contained but one hall or schoolroom, which was generally large enough to accommodate about 180 pupils. In each room there were usually three teachers, carrying on recitations at the same time. The first modification of the type came with the addition of a third story, the two upper being used as before, but the lower floor being used as a primary school. The next step was that of adding two recitation rooms to each of the two large halls or schoolrooms,

[1] Quoted by Barnard, *Subjects and Courses of Instruction in Cities*, in Am. Jour. Ed. (1870), vol. 19, p. 475; also in a pamphlet in the Boston Public Library, *The System of Public Education Adopted by the Town of Boston*, issued by the school committee of Boston.

[2] Philbrick, *Twenty-ninth Semiannual Report* (Sept., 1874), pp. 10–12.

[3] Ibid., pp. 106–107.

thereby avoiding the confusion due to having the three teachers in one room. This was the point reached in the development of the city graded system when the establishment of the Quincy School virtually inaugurated the modern scheme of organization, as well as the modern type of building.[1]

The arrangement of this building enabled Mr. Philbrick to work out the details of what, in its essential features, is now the typical plan of organization for city schools of elementary grade (grammar and primary schools). Mr. Philbrick, in a report to the General Assembly of Connecticut (May, 1856), described the plan for grading schools which he introduced in the Quincy School, and which might, with minor modifications, be taken as a description of the plan upon which city schools of to-day are organized.[2]

Prior to the date of this report (1856) primary schools in Boston, from the time of their establishment (1818), had been conducted on the "ungraded plan"—that is, the unit group taught by each teacher was a separate and independent organization occupying a separate building, usually of one room. The course of instruction was divided into six steps or classes, but each teacher had all the six classes in her room at the same time.[3] She was fitting a class for the grammar school, teaching a class of A–B–C–darians, and carrying on the intermediate stages of the course, simultaneously. This arrangement was gradually changed by carrying down into the primary schools the "graded plan" of the grammar schools. This led to the promotion of pupils every six months from one primary teacher to another; which, at that time, meant transferring from one primary building to another. The primary schools of a given attendance district came to have an organic connection with each other, which made it necessary that some one should be charged with the responsibility of supervising the group with respect to the admission of pupils, their proper classification, and their qualifications for promotion. This need became apparent about the time the shift from the "double-headed" to the "single-headed" plan of organization in the grammar schools took place (1848, Quincy School). The solution of the twofold problem was at once obvious—namely, to relieve the grammar-school master of his teaching duties, and require him to exercise the duties of a principal throughout his district, both in the grammar school and in the primary schools tributary to it. By this arrangement a higher degree of unity, harmony, and efficiency throughout the entire system was secured.

[1] See Philbrick Report (1867–68), pp. 522–23; also in his Twenty-ninth Semiannual Report, Sept., 1874, pp. 104–108.

[2] See Philbrick, Report of the Superintendent of Common Schools to the General Assembly (Connecticut, May, 1856), in Am. Jour. Ed. (1856), vol. 2, pp. 469–472.

[3] In 1821 the course provided for four classes. For the detailed "course" of this date, see Am. Jour. Ed. (1870), vol. 19, p. 471.

Naturally the next step taken was that of combining the six separate primary school buildings, which were one-room affairs, built according to no recognized standard or model plan, and erecting one structure of six rooms, comprising a completely organized and classified primary school. The first building in accordance with this plan was erected in Boston in 1864.[1]

While in Boston the primary and grammar schools covered the entire period of elementary education, in several other cities the elementary period, as the school organization developed, came to be made up of a union of three, and in some instances of four divisions, each separately designated, and varying in the time required for its completion. For example, in Concord, N. H., before 1860, the schools had been graded into "primary," "intermediate," and "grammar" schools. The primary and intermediate schools were scattered in small buildings in different parts of the district, while the three grammar schools gathered their pupils from wider districts and the high school from the entire city.[2] In Harrisburg, Pa., the school divisions below the high school were designated "primary" and "secondary."[3] In Hartford, Conn., the divisions were called "primary," "secondary," "intermediate," and "grammar."[4] In Indianapolis, Ind., the elementary division compassed the "primary" and "intermediate" divisions, each four years in length.[5] In Kingston, N. Y., the terms "primary," "junior," and "senior" were applied to the three divisions into which this period was broken, while the high-school period was called the "academic" division.[6] In Madison, Wis., to mention but one more instance, the designations were "primary," intermediate," "grammar," "senior grammar," and "high schools," each of two years.[7]

At first these divisions, which were due to various local causes, were pretty definitely separated, promotion from one to another in many instances being based upon formal examination, but gradually the lines of demarcation fell away, leaving the designating terms for the several divisions without significance other than that of indicating their distinct origins. From time to time various changes in nomenclature have been made, usually in the direction of simplification, until now the common practice applies the term "elementary" to all grades below the high school, "primary" to the first four or five years or grades, and "grammar" to the upper three or

[1] For most of the facts respecting primary school organization, see Philbrick, Twenty-ninth Semiannual Report (Sept., 1874), pp. 84–88; 108–111.
[2] Henry Barnard, in Am. Jour. Ed. (1870), vol. 19, p. 86.
[3] Ibid., p. 94.
[4] Ibid., p. 95.
[5] Ibid., p. 96.
[6] Ibid., p. 97.
[7] Ibid., p. 100.

four. Occasionally, however, the term "intermediate" is used in its early sense, referring somewhat loosely to the fourth or fifth grades, or perhaps to the fourth, fifth, and sixth grades. In recent discussion, it should be noted, the term "intermediate" is sometimes employed to designate the seventh, eighth, and ninth grades, though this will probably give way to either the "lower high school" or the "junior high school."

To secure any semblance of grading in the schools of the rural communities and of the villages proved exceedingly difficult. In 1839 Henry Barnard wrote that "there was hardly an instance of the gradation of schools [in Connecticut] by which the evils of crowding children of different ages, of both sexes, in every variety of study and schoolbook, under a single teacher, were avoided."[1] And again he wrote, in *Principles of School Architecture:*[2]

> To enable children to derive the highest degree of benefit from their attendance at school they should go through a regular course of training in a succession of classes and schools arranged according to similarity of age, standing, and attainments, under teachers possessing the qualifications best adapted to each grade of school. The practice has been almost universal in New England and in other States where the organization of the schools is based upon the division of territory into school districts to provide but one school for as many children of both sexes and of all ages, from 4 to 16 years, as can be gathered in from certain territorial limits, into one apartment, under one teacher—a female teacher in summer and a male teacher in winter. The disadvantages of this practice, both to pupils and teachers, are great and manifold.

On the same theme Horace Mann wrote, 1842:

> There is but one class of persons in the whole community—and that class not only small in number, but the least entitled to favor—who are beneficially interested in the establishment of small and feeble districts. This class consists of the very poorest teachers in the State, or of those who emigrate here from other States or countries in quest of employment as teachers, who are willing to teach for the lowest compensation, and for whose services even the lowest is too high. These teachers may safely look upon the small and feeble districts as estates in expectancy. Such districts, having destroyed their resources by dividing them, must remain stationary from year to year amidst surrounding improvement; and hence, being unable to command more valuable services, they will be compelled to grant a small annual pension to ignorance and imbecility, and this class of teachers stands ready to be their pensionaries.[3]

In 1842, to quote another writer of the time, Alonzo Potter, in discussing the unnecessary multiplication of school districts, particularly in the State of New York, said:

> In 1813, when the system (of New York State) was organized, the whole State contained but 2,756 districts. These have since been divided and sub-

[1] Henry Barnard, *First An. Rep.* (to Connecticut Legislature), extracts in *Am. Jour. Ed.* (1856), vol. 1, pp. 369–376.
[2] In Proc. of the Am. Ed. Conventions (1849–1852).
[3] Mann, *Fifth An. Rep.* (1842), p. 50; also in Potter, *The School* (1844), pp. 211–212.

divided till they number now 10,769. The present average rate of attendance appears, from the reports of the visitors (school inspectors) in 1840 and 1841, to be less than 35. It must be evident that such a school is not sufficiently large to fully occupy or remunerate the services of a first-rate teacher; and hence instead of multiplying districts still further, as is often the disposition at present, it is very important to diminish their number. The process of uniting two or more adjacent districts or of forming two out of three ought to be commenced at once, and it might be carried on through our smaller villages and the more thickly settled rural districts with the greatest advantage. The schools, being larger, would admit of a more thorough classification of the scholars; being kept throughout the year, the organization would be more permanent and effective, and the manifold evils growing out of the constant change of teachers might be obviated.[1]

The first step taken in the direction of grouping children of the same ages or attainments in rural schools appears to have been that of merely separating the older from the younger children and employing a man to teach the former and a woman the latter. In his fourth annual report to the Connecticut Legislature (1842) Henry Barnard wrote:

The evils of crowding children of different ages in a great variety of studies, and in different stages of progress in the same study, under one teacher, have been obviated in more than 100 districts by employing a female teacher for the younger children and primary studies and a male teacher for older and more advanced scholars, and in a few instances by the establishment of a central or union school for the older children of a society, or of two or more districts.[2]

As the school attendance of a given district increased, either through growth of population or through the consolidation of districts, the segregation was carried further by removing the older children to a point central to the joint district, while the younger children were left behind to attend at their several schools. In describing this arrangement, Henry Barnard, in the report just referred to (fourth), said:

Provision is made (in the law) for the union of two or more districts, for the purpose of maintaining a union school for the older children of the associated districts, while the younger children are left to attend in the several districts under female teachers.

The union of school districts thus authorized obviates many of the difficulties and evils of common schools as they are, and secures a much higher degree of improvement with the same means. In a large portion of the district schools the ages of the scholars range from 4 to 16, or, rather, from 3 to 18. The studies extend from the first rudiments to the branches of an academical education; the classes are as numerous as the various studies,

[1] Potter, *The School* (1846, Harper & Bro.), pp. 210-212.
[2] Am. Jour. Ed. (1856), vol. 1, p. 718.

increased by the variety of textbooks in the same branch; and the teachers are constantly changing, from male to female, and from season to season.

Now the plan of union districts, leaving the younger children by themselves, and including the older children together, cuts down by one-half the variety of ages, studies, and classes. It enables the teacher to adopt methods of classification, instruction, and government suited to each grade of school.[1]

This plan of consolidating districts and forming union schools was the first step taken in the movement, not completed at the present day, toward unifying and standardizing the school organization. It was the first effort in opposition to the tendency toward decentralization, which arose naturally under the conditions which prevailed in the days when population was sparse. Each cluster of families found it more convenient to establish a separate school than to send their children to a more remote population center. The region contributing to such a school formed the school district, which, in Massachusetts, was without legal rights until 1789. The act of this date gave to the district privileges so extensive as to lead Horace Mann, in his tenth annual report, to declare the provision to be "the most unfortunate law on the subject of common schools ever enacted in the State." The most disastrous legislation came, however, in 1801, when the district was granted the authority to raise money for the support of its schools by taxation—a right heretofore vested in the town. The district proved to be too small to be intrusted with the tax-levying power, and insufficient support of the school resulted.

In one form or another the district school system still exists in most of the States, though there is a growing tendency, where conditions will admit, to replace the district with the township unit and the incorporated city. Massachusetts abolished the district plan of organization in 1882; New Hampshire in 1886; Vermont in 1892; and Maine in 1893.[2]

The movement toward graded schools developed slowly at first, but by 1860 nearly every city and town of any consequence in the country, as well as many populous rural communities, had its own unified system of schools organized on a graded basis and with a defined course of study, embracing definite time limits, the whole sanctioned and protected by legislative enactment. The following table, compiled mainly from the *Special Report of the Commissioner of Education on the Condition and Improvement of Public Schools in the District of Columbia* (1870)[3] gives the significant facts respecting the status of the movement between the years 1860 and 1870 in the principal cities of the United States.

[1] Am. Jour. Ed. (1856), vol. 1, p. 712.
[2] For discussion of the Unit, see Educ. Bull., 1914, Nos. 30 and 44.
[3] In Am. Jour. Ed. (1870), vol. 19.

Legal school age and school courses in certain cities.[1]

Cities.	Legal school age.	Length of elementary-school course.	Length of high-school course.	Earliest age of admission to high school.
	Years.	*Years.*	*Years.*	*Years.*
Boston, Mass.	5	9	(2)	10
Cambridge, Mass.			4	
Chicago, Ill.	6	10	4	
Cincinnati, Ohio.	6	8	4	
Cleveland, Ohio.	6	8	4	
Columbus, Ohio.		9	4	
Dayton, Ohio.		9	4	
Detroit, Mich.			(2)	13
Dubuque, Iowa.			3	13
Fond du Lac, Wis.			4	
Fort Wayne, Ind.	6		1	
Hartford, Conn.				13
Indianapolis, Ind.		8	4	
Kingston, N. Y.		9	3	
Louisville, Ky.	6		4	13
Lowell, Mass.	5		4	13
Madison, Wis.	5	8	2	
Manchester, N. H.	4		4	
Milwaukee, Wis.	4			
Nashville, Tenn.	4			13
New Bedford, Mass.		9	4	
Newburyport, Mass.			4	
New Brunswick, N. J.		8	3	
New Haven, Conn.	6	7	3	13
New Orleans, La.	6			13
New York, N. Y.	6	(4)		14
Newark, N. J.	6	6	4	
Niles, Mich.			(5)	
Oswego, N. Y.	6	9	3	
Philadelphia, Pa.	6	8	4	
Portsmouth, N. H.			4	
Providence, R. I.	5	9	4	
Rochester, N. Y.	5	7	4	
Rutland, Vt.	4		4	
Sacramento, Cal.		7	3	
San Francisco, Cal.	6			
Springfield, Ill.	6		3	13
Springfield, Mass.		8	4	
St. Louis, Mo.	7	7	4	
Syracuse, N. Y.	6	9	3	
Terre Haute, Ind.	6	8	4	
Toledo, Ohio.	4	8	3	
Troy, N. Y.		9	4	
Washington, D. C.	6	8	4	
Worcester, Mass.	5		4	

[1] See Rept. of U. S. Commis. of Educ., 1871, for list of over 600 secondary schools with length of high-school courses given.
[2] English high school, 4 years (1854); Latin high school, 6 years.
[3] English course and classical course, 3 years each; both, 4 years.
[4] Seven years, with two years' extension of the course.
[5] English course, 4 years; classical course, 3 years.

By 1860 it became clear that the length of the elementary-school course was to be either seven, eight, or nine years, beginning at the age of 7, 6, or 5, with the preference for the arrangement which is now so general as to be typical—namely, an eight-year course, the child entering in his sixth year and completing the course in his fourteenth year. The organization of the elementary course in this final form was so nearly identical with the plan evolved among the German States and fully established therein prior to the inauguration of a graded system in any American State as alone to make probable the indebtedness to Germany, even though no account be

taken of the eagerness with which the American leaders of the period sought knowledge respecting German practice or of the high esteem in which the school system of that country was held by them. The tendency of Americans of this period to turn to Germany for suggestions attracted the attention of Francis Adams, an English writer, who made a study of the schools of the United States in 1875. He wrote:

> It is the habit of American educationists, ungrudgingly and with sincere admiration, to give the palm to Germany. Nor is this a mere complimentary recognition of excellence. It is shown to be genuine by the manner in which they are accepting from Germany not only lessons in the details of educational science, but vital principles like compulsion.[1]

As early as January, 1836, just at the beginning of the agitation to secure compulsory attendance and graded schools, the plan which had been developed in Prussia and which has been followed somewhat closely, by us, was described by Prof. Stowe, who took his material largely from Cousin's report, in an address before a convention of teachers assembled at Columbus. The address, entitled *The Prussian System of Public Instruction and its Applicability to the United States*, was brought to the attention of the General Assembly of Ohio and was ordered printed and circulated by that body. It was also published independently in the same year (1836) and widely distributed.[2] Doubtless it was this address which lead the general assembly to request Prof. Stowe to present a formal report on the European trip which he was then about to make.[3] In this report of his visit to the schools of Europe, prefacing a detailed description of the course outlined for each grade of the Prussian and Wurttemberg schools, he sketched the plan as follows:

> The whole course comprises eight years and includes children from the ages of 6 till 14, and it is divided into four parts of two years each. It is a first principle that the children be well accommodated as to house and furniture. The schoolroom must be well constructed, the seats convenient, and the scholars made comfortable and kept interested. The younger pupils are kept at school but four hours in the day—two in the morning and two in the evening—with a recess at the close of each hour. The older, six hours, broken by recesses as often as is necessary. Most of the schoolhouses have a bathing place, a garden, and a mechanics' shop attached to them to promote the cleanliness and health of the children and to aid in mechanical and agricultural instruction.[4]

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[1] Francis Adams, *The Free School System of the United States* (1875), p. 239.

[2] See the Truman & Smith edition, Cincinnati (1836), in the Boston Public Library.

[3] See the account given, p. 24.

[4] Stowe, *Report on Elementary Public Instruction in Europe* (Boston edition, 1838), pp. 27, 28. A detailed summary of the report in *Western Literary Institute, Transactions* (1837), pp. 204–228; also *Course of Instruction in the Primary Schools of Germany*, in Am. Jo. Ed. (1860), Vol. VIII, pp. 371–382.

Prof. Stowe strongly urged the adoption of the Prussian plan, as the concluding lines of his report show:

> The above system is no visionary scheme emanating from the closet of a recluse, but a sketch of the course of instruction now actually pursued by thousands of schoolmasters in the best district schools that have ever been organized. It can be done, for it has been done; it is now done and it ought to be done. If it can be done in Europe, I believe it can be done in the United States; if it can be done in Prussia, I know it can be done in Ohio. The people have but to say the word and provide the means and the thing is accomplished, for the word of the people here is even more powerful than the word of the king there, and the means of the people here are altogether more abundant for such an object than the means of the sovereign there. Shall this object, then, so desirable in itself, so entirely practicable, so easily within our reach, fail of accomplishment? For the honor and welfare of our State, for the safety of our whole Nation, I trust it will not fail, but that we shall soon witness in this Commonwealth the introduction of a system of common-school instruction fully adequate to all the wants of our population.[1]

Except for the fact that in certain particulars our schools have not yet reached the development which Prof. Stowe reports, the foregoing description would fit remarkably well our elementary school system as it now exists.

An examination of the school codes of the German States will show that, in almost every case, the laws provided that the child should enter school in his sixth year and remain in attendance, if a Catholic, until time for his first communion, or, if evangelical in his church affiliations, to the time of confirmation, the two rites usually occurring at the same age—namely, in the fourteenth year. Thus, for example, in Saxony, the village schools were attended by the children of the parish from their sixth to their fourteenth or fifteenth year—full eight years—whereupon they were, after from three to six months' instruction in religion by the parish clergyman, "confirmed" as Christians, and after that, for the first time, admitted to the Lord's table.[2] In the Duchy of Coburg the children were admitted in their sixth year, and excused from attending the schools only on taking their first communion.[3] In Saxe-Meiningen boys and girls in the country were obliged to attend school eight years, from their sixth to their fourteenth year, while boys living in the city had to remain one year longer. The discharge from school coincided with admission to the first communion.[4] In Wurttemberg the obligation resting upon the children to attend school began for both boys and girls with

[1] Stowe's *Report*, p. 53.

[2] Dr. Hermann Wimmer, *Public Instruction in Saxony*, in *Am. Jo. Ed.* (1870), Vol. XX, p. 554.

[3] Dr. Eberhard, *Public Instruction in Saxe-Coburg-Gotha*, in *Am. Jo. Ed.* (1870), Vol. XX, p. 602.

[4] Barnard, *Public Instruction in Saxe-Meiningen*, in *Am. Jo. Ed.* (1870), Vol. XX, pp. 608, 609.

the seventh and terminated with the fourteenth year. Well-developed children, however, were received in their sixth year, though no one could be discharged from school until after confirmation or the first communion.[1] In his report, as special commissioner to an English parliamentary commission (1861), Prof. Mark Pattison, of Oxford, pointed out that the corner stone of the system of primary education throughout Germany was compulsory school attendance; that it was all but universal among the German States, though its mode of enforcement was variable; that the usage of the several States varied but little respecting school age, the Prussian code fixing the end of the child's fifth year as the time when attendance should begin; that in some provinces attendance was not compelled until the end of the sixth, though permitted at the end of the fifth; that the duration of compulsory school attendance in most of the States was eight years, though in some parts of Prussia usage extended it to nine, and in one instance cited it was reduced to seven years; and that "much less by law than by the manners of the people, school time is universally terminated by confirmation—a rite which, with its accompanying first communion, obtains in the Lutheran population the same social importance as in the Roman Catholic."[2]

It seems clear that the duration of the period devoted to elementary education was determined originally by the church, and that the practices thus begun were subsequently sanctioned by legal enactment. Pattison points out[3] that when, in the beginning of the eighteenth century, Frederick Wilhelm began to issue royal ordinances for the regulation and improvement of elementary schools, these ordinances assumed universal school attendance of all unconfirmed persons. He adds:

> The usage, as part of the duty of a Christian parent, had even survived the ruin of the Thirty Years' War. In Wurttemberg it has existed by legal enactment ever since the year following the peace of Westphalia (1649). The edict of 1716, which is popularly regarded as the source of the Prussian compulsory system, does really nothing more than give the sanction of a royal ordinance to an existing practice. The Allgemeineslandschulreglement of 1763 for the first time exactly defines the age, viz, from 5 to 14; but this was only defining an obligation universally admitted as one of the first duties of the citizen and the member of the church.

Prof. G. Stanley Hall considers the rites of confirmation and the first communion as the objective recognition given by the church to the advent of puberty. He holds that the pubic initiations among savage peoples, the ephebic educational ceremonies of the ancient Greeks and Romans, the inspiring observances practiced at the knighting of the medieval youth, and the ceremonies attendant upon

[1] Barnard, *Public Instruction in Wurttemberg*, *Am. Jo. Ed.* (1870), vol. 20, pp. 661.
[2] See digest of Pattison's report, in *Am. Jo. Ed.* (1870), vol. 19, pp. 617, *et seq.*
[3] Ibid., p. 620.

religious confirmation among the Jews, Catholics, Russians, Episcopalians, and Lutherans all testify to the recognition by the race of the critical nature of the period thus ushered in. Thirteen and 14 or 14 and 15 are the customary ages at which these rites of the church are administered, the former prevailing in the Episcopal Church of England and America and the latter among the Lutheran Churches of Europe. Prof. Hall points out, however, that in Italy the lowest age at which confirmation may take place is 7, in France and Belgium 10, while in the Greek Russian Church confession, which takes the place of first communion and confirmation, occurs at about the age of 8. The explanation of these variations, he thinks, lies in this, that they are among pubescent customs which have gradually moved forward to an earlier time in the child's life, thereby losing much of their original significance. Respecting the tendency to fix the age formally at 14, Prof. Hall gives a suggestive excerpt from Leopold Löw,[1] who states that in early times 'puberty was determined by individual signs of ripeness"; that later, legalistic tendencies operated toward establishing a definite age, and that in fixing the same 14 was attractive, in being twice the sacred number 7.[2]

[1] Löw, *Die Lebensalter in der Judischen Literature*, Szegedin, 1875, p. 457.

[2] For a survey of the field referred to in this paragraph, see Hall, *Adolescence*, vol. 2, Ch. XIII.

Chapter III.

EFFORTS TOWARD A FUNCTIONAL REORGANIZATION—THE FIRST DECADE OF THE DISCUSSION.

CONTENTS.—Attempts at reform—The demand for a reorganization—The universality of the tripartite arrangement; ancient Greeks; Roman youths; Melancthon's plan; Comenius's divisions; in the American States; theories as to origin—President Eliot's attack; efforts of the Harvard faculty; the discussion taken up by colleges and universities—The studies made under the auspices of the National Education Association; the report of the Committee of Ten; the report of the Committee of Fifteen; the report of the Committee on College Entrance Requirements—The influence of President Butler—Summary of the first decade of the discussion.

The educational discussions and the educational practices of the last two decades show the existence of tendencies toward abandoning the present arbitrary divisions of the public-school system for a system wherein natural function shall determine the parts and their relations. The extending of the election of studies from university and college down through the high schools, and, in some instances, into the upper grades of the elementary schools; the adoption of departmental teaching in the high school and in the older elementary grades; the endeavor to secure greater flexibility in grading and in promotion; and the introduction of industrial and vocational training into the schools are the directions in which effort has been expended to make more effective a system based largely upon tradition. While these tendencies express a recognition that the present system is imperfect, the reforms contemplated do not necessarily imply a reorganization of our grouping by years, but suggest, rather, an improvement within the confines of our traditional scheme. The discussions, however, ranging over such questions as shortening and enriching the elementary curriculum, the six-year "high-school college," the extension of the field of secondary education both upward and downward, the shortening of the time for colleges, the establishment of the "junior college," and the substitution of a triennial classification for our present quadrennial arrangement, go further and squarely demand that our school system be reorganized.

The threefold arrangement, elementary, secondary, and higher, which comprises our school system, is a form of organization that has become universal among the countries providing a systematic education, though wide differences obtain respecting the years em-

braced in each division, the closeness of the articulation of the divisions, and the types of schools which have been evolved to provide instruction. This arrangement was characteristic of the educational practices of ancient Greece.[1] The first period beyond infancy, extending from the beginning of the sixth or eighth year to the end of the fourteenth or sixteenth year, was the period of school education; the second, extending from the beginning of the fourteenth or sixteenth year to the end of the twentieth or twenty-first (in Sparta, the thirtieth), was that of college education; and the third, from about the twentieth on, was devoted to university education.[2]

The education of the Roman youth also came to be broken into this threefold arrangement a century or more before the Christian era. Upon reaching his sixth or seventh year the Roman child began his elementary instruction either at home or in a *ludus publicus*, where he learned reading, writing, and simple calculation. At about the age of 12 the boy passed into the school of the *grammaticus*, where he was instructed in grammar, in the narrower sense, learned portions of Homer and other poets by heart, and began the critical study of literature and composition. At the age of about 16 the boy exchanged the *toga praetexta* for the *toga virilis*, a ceremony which marked the assumption of the responsibilities of manhood. His education thenceforth depended upon his future occupation. Those intended for a farmer's life went to live at some farm station; those intended for the army passed into the service; and those intended for public life or for pleaders and jurists went to the rhetorical schools, and thereafter attended the forum, the *comitia*, and the senate, attaching themselves to some admired orator or jurist.[3]

In modern times the beginning of an articulated system of education was faintly foreshadowed in the school plan of Philip Melancthon (1528). After visiting the churches and schools of Thuringia, at the instance of the Elector, he recommended that children be arranged in three distinct groups, the first consisting of those who are learning to read; the second, those who have learned to read and are ready for grammar; and the third, comprising those who, having become proficient in grammar, are ready to take up prosody and advanced work in the classics.[4] Crude attempts were made by Melancthon's contemporaries, Sturm (1537)[5] and Trotzendorf (1531),[6] to develop a school organization. The schools of these men,

[1] Davidson, *Aristotle and Ancient Educational Ideals*, p. 36.
[2] Ibid., pp. 173–183.
[3] Laurie, *Historical Survey of Pre-Christian Education*, Chs. II–III.
[4] Copious extracts from Melancthon, *Book of Visitation* (1528), in Am. Jour. Ed. (1857), Vol. IV, pp. 749–751.
[5] Sturm's course of study is given in detail, in Am. Jour. Ed. (1857), vol. 4, pp. 169–182.
[6] The monitorial system of Trotzendorf is described by Karl Von Raumer, in Am. Jour. Ed. (1858), vol. 5, pp. 107–118.

in turn, formed the general model upon which the German schools of the sixteenth century were organized, instanced by the school codes of Wurttemberg (1559) and Saxony (1580), the purpose of which was stated in the preamble to the former, as follows: "To carry youth from the elements through successive grades to the degree of culture demanded for offices in the church and state."[1] However, the first formulated plan for a system of education, comprehensive in scope and articulated in its parts, was not made until it was proposed by Comenius.

Comenius's plan comprised three divisions, following infancy, corresponding to the three periods of childhood, adolescence, and youth.[2] For the period of childhood, beginning at 6 and continuing to 12, Comenius would provide the "vernacular" or elementary school. For the period of adolescence, which he places between the years of 12 and 18, there is to be organized the "Latin" or secondary school. Finally, his scheme provides that during the period of youth from 18 to 24 the university (academia) and travel shall afford the means for higher education. So far behind theories, however, do practices lag that two and a half centuries elapsed before such an organization of schools as that suggested by the great Moravian reformer became common among the civilized nations of the world.

While the American arrangement of a tripartite division of education and of schools, therefore, conforms to the practice of all progressive countries and is based upon psychological as well as physiological facts,[3] yet in respect to the quadrennial grouping that comprises each of its divisions America stands alone. Among the States and localities until within a very few years great variation in the length of each division has obtained. The elementary division has ranged in length from 6 to 9 and in a few places to 10 and even 11 years.[4] Some localities when establishing high schools provided for but two years of secondary work, others for three, and still others for four. As late as 1888 so great was the variation in the time allotted to high-school courses that the department of secondary education of the National Education Association adopted a formal resolution demanding that the high-school period be made uniformly four years.[5] Upon the founding of Harvard it was provided, in imitation of English usage, that the degree of bachelor of arts could be secured in three years. Before the beginning of the eighteenth

[1] *Early School Codes of Germany*, by Karl Von Raumer, in Am. Jour. Ed. (1859), Vol. VI, pp. 426–434.

[2] Comenius *Didactica*, Chs. XXVII–XXXI; also Monroe, *Comenius*, pp. 103–106.

[3] See discussion by Hinsdale, Sch. Rev. (1896), vol. 4, pp. 518–522.

[4] Nat. Ed. Assoc., 1888, pp. 403–4.

century, however, in view of deficient preparation the course was lengthened to four years. In 1850 Brown University defined the amount of study for the degree of bachelor of arts as "something that may be accomplished in three years, but which may, if he pleases, occupy the student profitably for four years." In 1876, when Johns Hopkins University was thrown open, the undergraduate course for the degree of bachelor of arts was three years, though the admission requirements were somewhat higher for such students.[1] Now eight years constitute the elementary course, four years the secondary, and four years the collegiate in the States, except in New England and the Southern States, where for the most part the elementary course embraces nine years in the one and seven years in the other.

Some have tried to trace this arrangement back to the medieval quadrivium, but that should lead to four great subjects rather than to a quadrennium.[2] Others have tried to show, with poor success, that this grouping has evolved naturally and in response to the operation of social forces which are irresistible in their operation.

The first public utterance of weight that called into serious question the organization of the school system was that of President Eliot, at the Washington meeting of the Department of Superintendence of the National Education Association in 1888. In this address, entitled "Can School Programmes be Shortened and Enriched?"[3] President Eliot asserted that for the past 60 years the average age of college admission has steadily risen, reaching 18 years and 10 months at Harvard, and that the period beyond college graduation required for professional training had lengthened to three or four years, with the result that "the average college graduate who fits himself well for any one of the learned professions, including teaching, can hardly begin to support himself before he is 27 years old." In this epoch-making address he maintained the desirability of condensing school courses to gain time and of increasing the efficiency of instruction in order to secure as high an admission standard as formerly. He also asserted that this was entirely possible by improving the teaching force of the schools through a better tenure of office and by raising the proportion of male teachers in the schools; by the improvement of school programs, making them substantial and interesting; by diminishing the number of reviews, and by never aiming at the kind of accuracy which reviews, followed by examinations, are intended to enforce; by developing means which will insure a normal rate of promotion from grade to grade; and by securing a longer school day and term.

[1] Wright, Sch. Rev. (1897), vol. 5, pp. 696–709.
[2] See statement by Gilman, Educ. Rev. (Jan., 1891), vol. 1, p. 6.
[3] For address in full, see Eliot, *Educational Reform*, pp. 151–176; also in Nat. Ed. Assoc., 1888, pp. 101–118, printed in Bu. of Educ. Circulars, 1888.

This question of the steadily increasing age at which students enter college was one that had seriously concerned the Harvard president and his faculty for many years. As far back as 1872–73 this tendency had been publicly noted. In his report of that date, President Eliot, in discussing certain changes which had been made in the admission requirements of Harvard, pointed out that, while these had been essentially modified, they had not been made more difficult, and he added:

> The average age of admission has gradually risen until it is now a little over 18 years, and the college faculty, thinking that age to be high enough, do not wish to require for admission anything more than a boy of 18 of fair capacity and industry may reasonably be expected to have learned.[1]

In his report of 1885–86 President Eliot again referred to this matter, asserting that three years of the discussion of admission requirements by the college faculty had resulted in the adoption of a compromise measure, which was expected to assist in bringing down the average age of admission to 18 or thereabouts. He added:

> At present about two-fifths of the freshmen are over 19 at entrance—a condition of things which the faculty views with concern.[2]

This situation, which was observed with growing alarm by the Harvard faculty, led to remedial efforts of four kinds: (1) Modifying college entrance requirements; (2) urging the parents of prospective college students to send their sons to college as soon as the latter were qualified; (3) shortening the college course from four years to three years; and (4) persuading the elementary and secondary schoolmen generally to condense their courses.

The first of these movements, as has already been noted, can be traced back to the academic year 1872–73, when the Harvard faculty introduced a greater variety in the list of Latin and Greek authors from which selection was to be made; diminished the amount of Latin to be read, substituting therefor a book on Roman history; added a requirement in English composition; and permitted the candidate to take an examination on one-half of his preparatory work a year before his prescribed secondary work was completed.[3] From time to time modifications were made, both in the subjects required and in the manner and time of conducting the examinations; such changes operating to secure greater flexibility, and yet being intended to maintain a standard of proficiency which the faculty deemed a youth of 18 could properly be expected to attain. Though options had been granted within the limits of given subjects, it was not until 1882 that the faculty took up the serious discussion of the extent to which options among different subjects should be allowed

[1] Harvard Reports, 1872–73, p. 10.
[2] Ibid., 1885–86, pp. 7–9.
[3] Ibid., 1872–73, pp. 47–51.

in the examination for admission to college.[1] Three years later, 1885–86, this discussion was brought to a conclusion by the adoption of a measure which provided that secondary schools might submit three programs: (1) The classical program then in force, comprising in the main Latin, Greek, and mathematics; (2) a program retaining the elements of Greek and developing modern languages, mathematics, and physical science; (3) a program retaining the elements of Latin and developing English, modern languages, science, and history.[2]

The second of these movements grew out of a consideration of the results of the entrance examinations of 1888, which were held under the new plan of optional requirements announced two years before. These showed that between 6 and 7 per cent of the freshman class had passed their admission examinations one or more years before entering college, and that the parents were keeping many of their sons back, thinking that they were too young to begin their college work.[3] In 1890 the board of overseers, upon the recommendation of the college faculty, authorized the president to send the following letter to the parents of high-school graduates:[4]

To parents and teachers of boys who intend to enter Harvard College:

In the opinion of all the college authorities the present average age of freshmen entering Harvard College (19 years) is undesirably high.

While recognizing the fact that unfavorable circumstances necessarily retard, beyond the most advantageous age, the preparation for college of many young men who derive great benefit from a college course, the faculty believes that boys who have regularly attended a good school ought to be fully prepared to enter with profit upon their college course by the time they are 18 years old, or even before that age. The faculty thinks it unwise, as a rule, for parents or guardians to keep in school boys who are really prepared for college, or to keep out of college boys who have passed the admission examinations, unless because of ill health or of unusual immaturity of character.

The faculty respectfully requests the cooperation of all teachers who prepare boys for Harvard College, in the effort to reduce the average age of admission.

The third plan which was proposed by the Harvard faculty, that of shortening the period of college education, was the most radical method suggested of lowering the age at which students might take up their professional work. It aroused vigorous discussion, as well as vehement protest, both among the Harvard faculty and among college teachers generally. The discussion was precipitated by a resolution of the academic council, voted in November, 1887—

that with a view to lower the average age at which bachelors of arts of Harvard College can enter the professional schools and the graduate department, the college faculty be requested to consider the expediency of a reduction of the college course.[5]

[1] Harvard Reports, 1882–83, pp. 16, 17.
[2] Ibid., 1885–86, pp. 7–9.
[3] Ibid., 1887–88, p. 7.
[4] Ibid., 1889–90, pp. 8, 9.
[5] Ibid., 1887–88, pp. 12, 13; see also Report of the College Dean, ibid., pp. 81–88.

A year later, in discussing the matter, President Eliot said:

> Wherever the fault and whatever the remedy, it is clear that the degree of bachelor of arts is taken in the United States later than in any other country in which the degree is used, and too late for the best interests of the individuals who aspire to it and of the institutions which confer it.[1]

In 1889–90, when the proposal was given full consideration, the college faculty recommended, "in the nature of a cautious experiment," certain provisions which would place the requirement of college work about halfway between the regular work of the first three years and that of the whole four years.[2] Finally, in April, 1891, the proposals were acted on by the board of overseers, which refused its consent, it being clear that the steps proposed had not yet fully commended themselves to a sufficient number of the teachers of the university.[3]

In 1902, on the initiative of the board of overseers, the faculty reformulated their requirements for the degree of bachelor of arts, providing a means whereby students of diligence and ability could complete their work in three years, or in three and a half years at most. In commenting on this action President Eliot expressed the end to which the faculty had consistently held, in the following words:

> The faculty of arts and sciences has now done what it can to combat the great evil of too late entrance upon the professional careers or the business career. It has expressed its preference for the age of 18 as the age for entering the college and its conviction that boys can be well prepared for college by that age, and it has made it possible for any diligent student to get the degree of bachelor of arts in three years. These two measures combined should enable parents to get their well-trained sons into the learned professions by 24 or 25 years of age, and into business careers much earlier. To effect these improvements, however, the cooperation of parents, schools, and the community at large is essential.[4]

The fourth of the measures employed to meet the problem of the increasing average age of college intrants was that of seeking to arouse among the school men of the country a willingness to condense their elementary and secondary courses. This movement was set in motion by President Eliot through his famous address of 1888, already alluded to. This address met with an immediate response, so immediate, indeed, that it led its author to say before the National Education Association four years later:

> On reviewing the progress of this reform since I had the honor of discussing the question, "Can school programs be shortened and enriched?" before this

[1] Harvard Reports, 1888–89, pp. 20–21.

[2] For a full and valuable discussion, see Report of the College Dean, in Harvard Reports, 1889–90, pp. 103–107.

[3] For a full discussion of the progress of the movement, see Harvard Reports, 1890–91, pp. 7–8.

[4] Harvard Reports, 1901–2, pp. 24–28; and the Report of the Dean of the Faculty of Arts and Sciences, ibid., pp. 100–102.

department of superintendence four years ago, I see many evidences that a great and beneficent change in public-school programs is rapidly advancing. The best evidence is to be found in the keen interest which superintendents and teachers take in the discussion of the subject. Through them the proposed improvements will be brought out in detail; their influence will be successfully exerted on parents, committees, and the public press; and their reward will be, first, the daily sight of happier and better-trained children, and, secondly, the elevation of their own profession.[1]

These proposals, advanced by the Harvard faculty as hopeful methods of solving a specific problem which was becoming increasingly serious, started discussions among educators that quickly carried the participants into a critical examination of the entire range of the educational system, developing thereby, during the last two decades, a body of educational comment of great brilliancy and worth. Influenced partly by Harvard's example and partly by the fact that the problem was common to all, the faculties of practically all the American colleges and universities took up the discussion of the problems that concerned each, arriving in course of time at the conclusions and plans of procedure which the local needs and traditions respectively determined. An examination of the files containing the proceedings of such organizations as the Association of Colleges and Preparatory Schools of the Southern States, the Association of Colleges of the Middle States and Maryland, the North Central Association, and the New England Association of Colleges and Preparatory Schools, shows that much of the time of the annual conferences of these organizations held during the nineties was likewise given over to a discussion of similar questions. The first organization of national prominence, however, to take up this examination was the National Education Association. Through the National Council, the Department of Superintendence, and the Department of Secondary Education, it made scholarly contributions to the literature of the discussion.

At the suggestion of President James H. Baker, University of Colorado (then a high-school principal), the National Council appointed in 1892 a committee of 10 persons, of which President Eliot was made chairman, to arrange a series of conferences between the school and college teachers of each of the principal secondary subjects in order to determine the limits of each, the best methods of instruction, the most desirable allotment of time to the several subjects, and the best method of testing the pupil's attainments therein. Nine conferences on as many different secondary-school subjects were held, each in charge of a committee of 10. While the conferences were ostensibly held to discuss the period of secondary education, it was inevitable that many suggestions should be made

[1] See address, *Shortening and Enriching the Grammar-School Course*, in Eliot, *Educational Reform*, p. 208.

respecting the program of the elementary schools and of the college period. In consequence, the Report of the Committee of Ten covers in many significant respects the entire range of the school system.

While the grouping of eight years in the elementary division and four years in that of the high school, now generally followed in the United States, had been sharply attacked prior to the publication of the committee's report,[1] yet in all of the discussions comprising the report, the traditional grouping is assumed, although several of the subcommittees demanded an earlier introduction of secondary-school studies, and all desired to see given in the elementary schools broad surveys of their respective subjects. The Latin conference compared the age at which Latin is begun in Europe and in this country, and expressed the hope—

> that such a modification of grammar-school courses can be made without delay as to render it possible that the high-school course—and with it the subject of Latin—may be begun not later than the age of 14.[2]

The Greek conference voted to concur with the Latin conference in its recommendations as to the age at which the study of Latin should be begun,[3] and asserted that the average age at which pupils now enter college should be lowered rather than raised.[4] The conference on modern languages recommended that elective courses in German and French be provided in the grammar schools, beginning with the fifth grade.[5] The conference on mathematics recommended that a course of instruction in concrete geometry be introduced into the grammar schools, and that some familiarity with algebraic expressions and symbols should be acquired in connection with the course in arithmetic.[6] The conferences on physics, chemistry, and astronomy, and on natural history would have the elements of those subjects begun in the first years of the elementary division and continued throughout. The conference on history, civil government, and political economy "especially recommends such a choice of subjects as will give pupils in the grammar schools an opportunity to study the history of other countries."[7] In the spirit of the foregoing recommendations relating to an earlier beginning of secondary subjects the Committee of Ten concurred, in the following language:

> In preparing these programs the committee were perfectly aware that it is impossible to make a satisfactory secondary-school program limited to a period

[1] See Shinn's discussion of Hill's paper, "What can be done to bring pupils further on in their studies before they leave school to go to work?" in Nat. Educ. Assoc., 1892, p. 660.
[2] Report of the Committee of Ten, p. 81.
[3] Ibid., p. 85.
[4] Ibid., p. 73.
[5] Ibid., p. 96.
[6] Ibid., p. 108.
[7] Ibid., p. 200.

of four years and founded on the present elementary-school subjects and methods. In the opinion of the committee several subjects now reserved for the high schools, such as algebra, geometry, natural science, and foreign languages, should be begun earlier than now, and therefore within the schools classified as elementary; or as an alternative, the secondary-school period should be made to begin two years earlier than at present, leaving six years instead of eight for the elementary-school period. Under the present organization elementary subjects and elementary methods are, in the judgment of the committee, kept in use too long.[1]

Not only did the committee take advanced ground in respect to the relation of the secondary schools to the elementary schools, but it set forth, with even greater emphasis and distinctness, its conception of the relation which should obtain between the secondary schools and the colleges, and in so doing it condemned, by implication at least, much of our present practice. The committee declares:

The secondary schools of the United States, taken as a whole, do not exist for the purpose of preparing boys and girls for colleges. Only an insignificant percentage of the graduates of these schools go to colleges or scientific schools. Their main function is to prepare for the duties of life that small proportion of all the children in the country—a proportion small in number, but very important to the welfare of the Nation—who show themselves able to profit by an education prolonged to the eighteenth year and whose parents are able to support them while they remain so long at school.[2]

And, again, the committee says:

A secondary-school program intended for national use must therefore be made for those children whose education is not to be pursued beyond the secondary school. The preparation of a few pupils for college or scientific school should, in the ordinary secondary school, be the incidental and not the principal object.[3]

In short, the committee believes that the college should take the high-school student who has had four years of strong work where it finds him and without regard to the particular subjects which have comprised his curriculum, and that this "close articulation between the secondary schools and the higher institutions would be advantageous alike for the schools, the colleges, and the country."[4]

This unusually able and suggestive report was taken up immediately by the newspaper and magazine press, by the pulpit and platform, and by the foremost writers on education. In consequence the report commanded from the first an interest so widespread as to become national in its extent. It is interesting to observe, too, that this study of the secondary division of the American public-school system, made by the Committee of Ten, came at a time when the same division in each of the French, German, and English school systems was undergoing sharp scrutiny.

[1] Report of the Committee of Ten, p. 45.
[2] Ibid., p. 51.
[3] Ibid., pp. 51, 52.
[4] Ibid., p. 58.

In 1890 both France and Germany appointed national commissions to study the work of the secondary school, and simultaneously with the final sitting of the Committee of Ten there convened at Oxford the first national meeting of schoolmasters and university professors ever held in England. It is significant that the questions foremost in debate at Paris, Berlin, Oxford, and New York were the same,[1] and that independently of one another the conclusions reached were in remarkable accord in important particulars.

A few months before this report of the Committee of Ten was published (1893), the Department of Superintendence of the National Education Association appointed a committee of 15 on elementary education that frankly raised for discussion the traditional division of eight years elementary and four years high school and departmental teaching in the upper grammar grades. The members of this committee were divided into three subcommittees—one on the training of teachers, one on the correlation of studies in elementary education, and one on the organization of city school systems. Each subcommittee prepared and sent a questionnaire to representative school men and women throughout the country, and from the returns a report was prepared that was finally presented before the Department of Superintendence in 1895 at the Cleveland meeting.

The only subcommittee which developed a discussion bearing on the function of the elementary division and on its relation to the secondary schools was the subcommittee on the correlation of studies, under the chairmanship of William T. Harris. Seventeen questions were submitted by it, of which four bore more or less directly on function:

> (1) Should the elementary course be eight years and the secondary course four years, as at present? Or should the elementary course be six years and the secondary course six years? (2) Should Latin or a modern language be taught in the elementary school course? If so, why (part of question No. 3)? (3) Should any subject, or group of subjects, be treated differently for pupils who leave school at 12, 13, or 14 years of age, and for those who are going to a high school? (4) What considerations should determine the point at which the specialization of the work of teachers should begin?[2]

The responses to these questions, with a few exceptions, showed hesitation at departing in any marked way from current theory or practice. The objection to shortening the elementary course to six years, held commonly by those replying to the first question, was the fear that such a step would cause many children to leave school. Indeed, several would have had the course lengthened to nine years.

[1] Mackenzie, in Sch. Rev., vol. 2, pp. 146–147, discussing the report of the Committee of Ten.

[2] Report of Committee of Fifteen on Elementary Education, pp. 10–12.

instead. In respect to beginning Latin or a modern language in the grades the responses were about equally divided between those who considered language study profitable and those who hold that the mind is not "mature enough to profit by classical training, as now pursued, until high-school age."[1] The question whether or not a subject should be treated differently for pupils having different objectives was answered almost unanimously in the negative. The tenor of the replies was that "the high school must be made to fit the boy; the boy should not be made to fit the high school."[2] In the replies to the question relating to departmental teaching, no enthusiastic proponents were developed, but on the contrary some expressed strong opposition.

The subcommittee reflected, in its report, the same hesitancy and conservatism. In referring to the questions relating to shortening the elementary course to six years and the earlier introduction of secondary studies, the committee reported as follows:

> Your committee is agreed that the time devoted to the elementary school work should not be reduced from eight years, but they have recommended, as hereinbefore stated, that in the seventh and eighth years a modified form of algebra be introduced in place of advanced arithmetic and that in the eighth year English grammar yield place to Latin. This makes, in their opinion, a proper transition to the studies of the secondary school and is calculated to assist the pupil materially in his preparation for that work. Hitherto the change from the work of the elementary school has been too abrupt, the pupil beginning three formal studies at once, namely, algebra, physical geography, and Latin.[3]

In recommending this earlier introduction of algebra and Latin the committee was brought face to face with the question of the difference between elementary and secondary subjects. The committee pointed out that whereas those subjects which current practice has assigned to the secondary division of study have been so assigned partly because of tradition, partly because of admission requirements of higher institutions, and partly because of the intrinsic difficulties of the several subjects, yet there is a psychological factor which should determine the division in which a given subject is classed, namely, that whatever deals with the particular instance is relatively elementary, whatever deals with the general form is relatively secondary, and whatever has to do with the higher correlations of the facts and relations of natural and spiritual phenomena belongs to the division of higher education.[4]

As to the question whether or not pupils who leave school early should have a course of study different from the course of those who

[1] Report of Committee of Fifteen on Elementary Education, p. 196.
[2] Ibid., p. 178.
[3] Ibid., p. 95.
[4] Ibid., pp. 78–84.

are to continue on into secondary and higher work, the committee was not able to agree. Some contended that those who leave early should have a more practical course, and that they should dispense with studies of a preparatory character, while others held that it was best to have one course in the elementary schools for all. This position was urged on the grounds that any school education is at best but an initiation into the art of learning, and that, wherever the pupil leaves off in his school course, he should continue his studies in the public library and at home; and, furthermore, that a brief course in higher studies, such as Latin and algebra, instead of being useless, is of more value than any elementary studies that might replace them.[1]

In its discussion of the question respecting the introduction of departmental work in the elementary school the committee, while not enthusiastic in its favor, went further than did the majority replying to the committee's questionnaire, and recommended that specialization of the teacher's work should not be attempted before the seventh or eighth year, and then in not more than one or two studies.[2]

The third important study under the auspices of the National Education Association during the nineties was made by the Committee on College Entrance Requirements, and bore directly on the articulation of the secondary division with that of higher education. This committee was appointed by the Department of Secondary Education in 1895, and submitted its final report at the Los Angeles meeting in 1899. The committee consisted of five from the Department of Secondary Education and five from the Department of Higher Education, increased at a later time by two from each department; and it called in for cooperation four committees of three each, appointed respectively from the New England Association of Colleges and Secondary Schools, the Association of the Middle States and Maryland, the Southern Association, and the North Central Association. At a later date, the national committee called upon the Philological Association for a report on Latin and Greek; upon the American Historical Association to prepare a report on the scope and place of history in the secondary schools; upon the Modern Language Association of America for a report on German and French, with model courses of study for secondary schools; and upon the American Mathematical Association for a report on the subjects in which it was interested.[3]

The report submitted by the committee is positive in general tone; it expresses convictions rather than doubts. In respect to the length

[1] Report of the Committee of Fifteen, p. 87.
[2] Ibid., p. 95.
[3] Report of the Committee on College Entrance Requirements, pp. 5–12.

of the elementary and secondary periods, the committee makes the following recommendation:

> In our opinion it is important that the last two grades that now precede the high-school course should be incorporated in it, and, wherever practicable, the instruction in those two grades should be given under the supervision of the high-school teacher.[1]

Again, concerning the high-school course, the committee recommended a six-year course, beginning with the seventh year, on the grounds that the seventh grade, rather than the ninth, is the natural turning point in the pupil's life; that an easier transition can thereby be made from the one-teacher regimen to the system of special teachers; that a larger percentage of students would, through this arrangement, be retained in school; and that the final result would be a more closely articulated system, with a larger percentage of graduates from the high school.[2]

On this plan the advisory committee on modern languages reported as follows:

> There appears to be strong argument in favor of this plan. It is urged by thoughtful schoolmen that our American high school has become congested; that the increased requirements of the colleges and the pressing demands of new subjects for "recognition" have given to the secondary school more work than it can do thoroughly in the traditional allotment of time. When, as sometimes happens, the colleges are blamed for this state of affairs, and it is suggested that they reduce their requirements for admission, they are able to reply with much force that present requirements, even where they are highest, are none too high, unless we are willing to fall far below the standard of the Old World. The average graduate of an American high school is of about the same age as the average graduate of a German gymnasium, but the latter is further along in his studies and better prepared for higher work. We have therefore to consider the problem of strengthening the preparatory course, while recognising that the ordinary four-year curriculum can bear no further burdens, and should, if anything, be simplified. Of this problem the obvious solution is to begin the proper work of the high school at an earlier date. Instead of dividing our educational years into eight primary, four secondary, and seven or eight higher, we should divide them into six primary, six secondary, and six higher.[3]

Regarding the function of the secondary school in relation to the college period the committee expresses its position clearly and forcibly in the semiofficial preliminary report of the chairman, Dr. A. F. Nightingale. He says:

> Throughout the course of secondary instruction, surely, there must be no Procrustean bed which every pupil by some process of dwarfing or stretching must be made to fit; but natural endowments, as soon as discovered, should have full scope, within certain limitations. College courses ought to be so adjusted that every pupil at the end of a secondary course recognized as ex-

[1] Report of the Committee on College Entrance Requirements, p. 28.
[2] Ibid., pp. 30–32.
[3] Ibid., p. 98.

cellent, both in the quality and quantity of its work, may find the doors of every college swing wide to receive him into an atmosphere of deeper research and higher culture along the lines of his mental aptitudes.[1]

Again, Dr. Nightingale says:

The public high school can become a link in the golden chain of our American system of education only when the colleges begin where the best high schools leave off; otherwise the gap between the common school and the college must be filled by the private schools, patronized by the children of the rich, and the sons and daughters of the great middle class must be deprived of the benefits of a higher education, because, forsooth, they have failed to fulfill some specific requirement of the college they would otherwise enter. I have faith, however, that the conflicting requirements will be harmonized, their incongruities removed, so that we may in the near future have a unified system of education, from the kindergarten to the graduate school of the university, which will give to every child, without let or hindrance, the right of way for such an education as will best develop the power with which, in a plastic state, he has been endowed by the Infinite Architect.[2]

Besides the discussions carried on during this period, under the auspices of the various educational organizations, many individuals of prominence added materially to the growing interest which the movement aroused. Chief among these, in prestige and personal force, was Nicholas Murray Butler, president of Columbia University, who very early in the decade energetically championed the cause, and through the press and from the platform unremittingly urged a functional reorganization of our school system. Near the end of the decade (1898), in a notable address relating to the scope and function of secondary education,[3] President Butler, in seeking to define the scope of secondary education and its purpose, gave an illuminating characterization of both the elementary and secondary periods of school life. This characterization, in part, follows:

Elementary education I define as that general training in the elements of knowledge that is suitable for a pupil from the age of 6 or 7 to the period of adolescence. It is ordinarily organized in eight or nine grades, each occupying an academic year. Nine grades are too many and are distinctly wasteful. To spend so much time on these simple studies leads to that arrested development which is so often the bane of the elementary school period. I have never known a child who needed more than six years' time in which to complete the elementary course, and I have known but few who have, as an actual fact, ever taken longer than that. * * *

The secondary school period is essentially the period of adolescence, of what may be called active adolescence as distinguished from the later and less violent manifestations of physical and mental change that are now usually included under the term. The normal years are, with us, from 12 to 16, or from 13 to 17. The normal boy or girl who is going to college ought to enter at 17 at the latest. * * * It is in the elimination of elementary studies from the

[1] Report of the Committee on College Entrance Requirements, p. 7.
[2] Ibid., p. 8.
[3] Educ. Rev., June, 1898.

secondary school and the frank recognition of the paramount advantage of the elective system that I see the way of highest usefulness opening before the secondary school.

This address by President Butler and the report of the Committee on College Entrance Requirements, with the debate which the positive recommendations of the latter aroused, closed the first decade of the discussion looking toward a functional articulation of the parts of the school system. The searching analysis and keen criticism which the decade brought to bear on the Harvard proposals and the National Education Association's recommendations served to set in clearer light than ever before the several parts of our school system in respect to function and relationship. Inasmuch as the reports and recommendations dealt primarily with the field of secondary education, the discussions which these precipitated centered about the high school, and for the first time in the history of the rise of this distinctively American institution, we find a body of discussion directed to the internal economy of the high school, to its proper place as an institution in our school system, and to its relation to the social and civic needs of the people. Prior to the address of President Eliot (1888), already cited, as marking, roughly, the beginning of this period of sharp examination to which the school system was subjected, the high school was almost wholly occupied with a struggle for existence. In every community the fight between the progressive and the conservative forces, in respect to supplying at public expense an education of secondary grade, was keen, and in many communities a long and bitter contest was waged before the high-school idea was generally accepted. Even as late as the early eighties the educational literature dealing with the high school is filled with discussions relating to the question, whether or not the high school, as an institution, should be supported by public tax. By 1888, however, the fight was won, and the question of the right of these schools to exist at all had pretty nearly disappeared from view.[1] Self-preservation had ceased to become the all-absorbing issue and, in consequence, the proponents of the high school could turn from an attitude of defense to one of constructive criticism. President Eliot's proposal to shorten and enrich our school courses, and the illuminating suggestions contained in the reports of the committees working under the auspices of the National Education Association, therefore, served to accelerate the process of adjustment and of reconstruction from which our high school has not yet emerged.

[1] Thurber, Nat. Educ. Assoc., 1887, p. 428.

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Chapter IV.

EFFORTS TOWARD A FUNCTIONAL REORGANIZATION—THE SECOND DECADE OF THE DISCUSSION.

CONTENTS.—The Chicago University conferences; Dewey's paper; Harper's proposals; the report of the commission of twenty-one—The discussion of the Kansas City plan—The report of the committee on the culture element and economy of time in education—The reports of the standing committees on the division of time between the elementary and secondary periods—The report of the committee of nine—The new Harvard plan for college admission—The new Chicago plan for college admission—The report of the committee of the High School Teachers' Association of New York City—The investigations by the New York and Brooklyn teachers' association—The report of the Lange committee to the California council of education—Summary of the second decade of the discussion.

Early in the second decade of the movement toward a functional reorganization the University of Chicago and the academies and high schools affiliating and cooperating with this institution took it up, and through the initiative and personal force of President Harper the discussion was carried on with great vigor. At the general session of the fifteenth conference, held during November, 1901, Prof. John Dewey read a paper on "Current Problems in Secondary Education," in which he declared that among the problems of first importance were those relating to the articulation of the secondary school in the educational system. In this address he pointed out that the elementary school and the college represent distinctly different forces and traditions, historically; that the one was created by a broad democratic movement, while the other is a response to the desire to pass on to a privileged class the wisdom and enlightenment of the past; and that the high school is the product of the meeting of these two forces, and upon it, more than upon any other part of the school system, rests the responsibility of making an adjustment.[1]

The year following (1902) the conference discussed reorganizing the system of education on the basis of an elementary school of six grades, followed by a secondary school of six grades. The discussion was summed up by President Harper in the following form:[2]

A PROPOSITION.

1. To connect the work of the eighth grade of the elementary school with that of the secondary school.

[1] For paper in full, see Sch. Rev. (1902), vol. 10, pp. 13–28.
[2] Sch. Rev., vol. 11 (1903), pp. 1–3.

2. To extend the work of the secondary school to include the first two years of college work.

3. To reduce the work of the seven years thus grouped together to six years.

4. To make it possible for the best class of students to do the work in five years.

Such a plan would fit in with—

1. The necessity, so widely recognized, of lifting the standard for admission to the professional schools.

2. The general feeling that in some way or other time must be saved in the preliminary stages of educational work in order that men and women may enter upon their life work at an earlier age.

3. The practice, recognized in other countries, of drawing a sharp line between the work of the gymnasium or lycée and that of the university.

4. The practice, now in common vogue, of making the first two years of college work only an extension of the work in the secondary school.

5. The contention, which seems to be well founded, that much of the secondary work of to-day was college work 30 years ago.

6. The tendency already manifesting itself in some quarters in accordance with which high schools are offering postgraduate work and universities are accepting this work in lieu of the work of the first two years.

7. The principle that the line of separation at the close of the second college year is much more clearly marked, pedagogically, than the line at the close of the present high-school period.

8. The tendency, everywhere apparent, to extend the scope of the educational work offered by the State or municipality.

9. The tendency, already beginning to be noticed among smaller colleges, to limit the work offered to that of the preparatory school and the first two years of college.

10. The opinion, not infrequently expressed, that the work of the eighth grade is in some measure superfluous for certain classes of pupils and in some measure injurious to certain other classes.

11. The belief, more and more generally accepted, that the work of the school must be adapted to the needs and possibilities of the individual pupil, rather than that pupils should be treated in mass.

12. The principle that a pupil giving evidence of ability to do the highest grade of work may profitably be excused from doing the same amount of work required of the pupil of lower grade.

In opposition to such a plan there may be suggested:

1. The inclination to regard any system actually in use as better than a system or policy still to be tested.

2. The feeling that the reduction of time can be gained only by a loss of thoroughness.

3. The general lack of interest in any proposition to substitute a well-ordered educational system for the present lack of system.

4. The difficulties involved in adjusting the lower work to the higher, on the ground that the great mass of pupils receive only the lower, and that the public-school system is intended primarily for them.

5. The belief that the State has already gone too far in providing public education of a high character.

6. The opinion that the present college policy, although it is the result of a gradual development, has now reached a position which it must always occupy.

7. The fear that the college idea would be injured by the rivalry of the new high-school colleges.

8. The desire to see specialism begin at a very early age.

9. The hesitation with which many would regard the transfer of the eighth grade from the realm of elementary to that of secondary work.

10. The failure, even in these times, to accept the doctrine of individualism in the field of pedagogical work.

This report closed with a recommendation that the conference establish three committees of seven each to consider the general problem; the first committee, from the point of view of the elementary work; the second, from the point of view of the secondary school; and the third, from the point of view of the college; these three committees to form a joint committee of 21. The conclusions reached by these committees were received by the general conference during its seventeenth annual session, November, 1903.

The committee on elementary schools reported that there were reasons outside those resulting from a desire to adjust the curriculum to the college which make the shortening of the course of the elementary school to seven years desirable.[1] In this connection the committee submitted the following: (*a*) That the possibility of finishing the elementary school in less than the traditional eight-year period might induce many who would otherwise leave school to finish the entire course; (*b*) that the necessary condensation of work due to the adoption of the seven-year course would be beneficial, forcing, as it would, an elimination of nonessential matter; (*c*) that inasmuch as experience has shown better results to have been secured where the eighth grades are congregated at central points and taught by teachers who have specialized in their training, the advisability of limiting elementary school work to seven years and combining eighth-grade classes with the high school is suggested; and (*d*) that taking the eighth grade into the high school will still further increase the elevating influence which the high school is exerting on the elementary school.

The committee, in discussing the further question whether or not such a change is feasible, referred to the satisfactory experience of Kansas City, Mo., which for a number of years has had a seven-year elementary course, and urged that the shortening of the course should be effected, not by the transfer of the studies of the last year to the high school, but by the sifting of the present work of the elementary schools and its redistribution over seven years.

The committee on secondary schools reported in favor of the general proposition to shorten the school course,[2] on the ground that such an arrangement would tide the pupil over the period of adolescence,

[1] For the report of the committee in full, see Educ. Rev., vol. 12 (1904), pp. 15–19.
[2] Ibid., pp. 19–22.

when he tends to think his education completed, and when, under our present arrangement, he is tempted to leave school on the assumption that he no longer needs it; and that extending the high-school course upward would give an opportunity for a more extended education to many who, were they forced to leave their home town, would be unable to afford it.

The committee on colleges reported that the advantages accruing to the people were of such character and such magnitude as to warrant the adoption of the plan suggested. In this report the committee gave consideration in some detail to the unfavorable comments on the plan made by the presidents of several of the colleges with whom the committee was in correspondence.[1]

The foregoing reports were referred back to the three committees, sitting as a body, and known as the *Commission of Twenty-One*, President Harper, chairman. This commission was instructed to report a year later at the eighteenth annual conference, to be held in November, 1904. At the appointed time the report, which follows, was submitted:[2]

> Your commission finds, as a result of their study of the subject connected with these propositions, that among other questions the following require to be investigated, namely:
>
> 1. Is the present policy of differentiation between the elementary and secondary schools desirable; or, should an effort be made toward greater unification in method and organization?
>
> 2. Should the elementary school correspond to the period of childhood, and therefore should it provide for six years of school work from the ages of 6 to 12 years, instead of eight years as at present?
>
> 3. Should the secondary school correspond to the period of youth, and should it therefore provide for six years of school work from the ages of 13 to 18, instead of four years as at present?
>
> 4. What revision of the curricula of the elementary and secondary schools and what changes in methods of teaching can be made that will contribute to economy of time and efficiency of work?
>
> 5. In order to secure a well-balanced development and at the same time to contribute to the economy of time, can the school year be lengthened advantageously and minor vacations be more equally distributed?
>
> 6. Under what limitations should high schools undertake to do the work of the first two college years?

The committee recommended that a new commission of 15 persons be appointed to carry on the investigation of these questions, the report of the same to constitute, in part, the basis of the nineteenth educational conference, to be held November, 1905.

While the report of the Commission of Twenty-One received attention, the chief topic of interest before this eighteenth conference was that of the upward extension of the high school to include the

[1] For the report of the committee in full, see Sch. Rev., vol. 12 (1904), pp. 22–25.
[2] See report, Sch. Rev., vol. 12 (1905), pp. 23–26.

first two years of college work.[1] This topic had been discussed at both the sixteenth (1902)[2] and seventeenth (1903)[3] conferences, in the form, originally, of a proposal to add to the present four years' course in the high school two years of college work from above and one year of elementary work from below, and to reduce the seven years thus grouped together to a period of six years.[4] Very early the discussion assumed that two years were to be added from below, making a secondary period of eight years which was to be condensed to six years.[5] In the discussion held during the eighteenth conference, however, the question turned not on the idea of condensing a seven or eight year secondary period, but rather on the conditions that would justify the high schools in undertaking to do the first two years of college work in addition to their regular four years' course, and on the basis on which the colleges would credit the work thus given. In this connection Supt. J. Stanley Brown asserted that the idea was being practically carried into effect in different sections of the country and in different ways and in varying degrees. He cited Philadelphia, Pa., Muskegon, Mich., Saginaw, Mich., St. Joseph, Mo., Goshen, Ind., and Joliet, Ill., as examples,[6] and stated that in each instance the extended secondary school had come about in response to demands from parents who could not afford to send their children to distant points for advanced schooling.

This examination of the various proposals suggested for shortening the course of study, carried on by the schools in relation with the University of Chicago, was influenced by the knowledge that since 1867 the elementary schools of Kansas City, Mo., have been organized on a seven-year basis, and that the arrangement was reported to be entirely satisfactory.[7] The interest which these discussions aroused centered attention for a time upon the Kansas City plan. The National Education Association, through its Department of Superintendence, responded to this general interest in 1903 by inviting James M. Greenwood, superintendent of the Kansas City schools, to describe the plan at the Cincinnati meeting.

In his address Supt. Greenwood contended that all the essentials of an eight years' course can be compressed into seven years; that Kansas City had never found it necessary to change to eight years

[1] See Sch. Rev., vol. 13 (1905), p. 14.
[2] Ibid., vol. 11 (1903), pp. 1–20.
[3] Ibid., vol. 12, pp. 15–28.
[4] See proposals by Harper, *The High School of the Future*, Sch. Rev., vol. 11 (1903), p. 1.
[5] See statement of the plan, Seldan, *Shortening the Years of Elementary Schooling*, Sch. Rev., vol. 11 (1903), p. 6.
[6] See condensed statement by Brown, *Present Development of Secondary Schools According to the Proposed Plan*, Sch. Rev., vol. 13 (1905), pp. 15–18.
[7] See the reference to the Kansas City plan made by the Committee on Elementary Schools, mentioned on p. 58 and found in Sch. Rev., vol. 12 (1904), pp. 15–19.

in order to cover the required work; that the mean average age of a class completing a ward-school course was a false standard by which to judge of the time in which a pupil should cover the work; and that such an arrangement materially increased the percentage of enrollment in the high school.[1] This address brought out vigorous discussion, but no steps were taken at the time by other cities toward putting the Kansas City plan into more extended effect.

Beyond the discussion of Supt. Greenwood's address, the Department of Superintendence of the National Education Association has taken, during the past decade, little or no part in the discussions of this general problem of articulating the parts of our school system. On the other hand, the interest taken by the National Council of Education and the Department of Secondary Education during the first decade of the discussion continued unabated during the second half of the period, though the results have not been as noteworthy. Each of these departments appointed committees to carry on investigations, which, as the details worked out, came to cover essentially the same field.

The first of these investigations was started by the council in 1903, when, upon the suggestion of President Baker, a committee was appointed to report upon the desirability of an investigation of The Culture Element and Economy of Time in Education. In 1905 the committee recommended that the council appoint a committee of five persons, partly college men and partly school men, to prepare a report on the following topics: (1) The best period for the high school, whether four years, from 14 to 18, or six years, from 12 to 18; and (2) the devices already in use for shortening the college course, or the combined courses of college and professional school.[2] Nothing immediate came of the proposal, but at the 1907 meeting of the council the suggestions were revived through a report by the committee on investigations and appropriations to the effect that the board of directors appropriate the sum of $500 to make a "preliminary inquiry into the contemporary judgment as to the culture element in education, and the time that should be devoted to the combined school and college course," and that a committee of five be appointed to make a report on the same.[3] President Baker was asked to prepare a preliminary report upon the desirability of making the suggested investigation; which report was presented by him before the council at the Cleveland meeting in 1908.[4]

[1] For address in full, see Nat. Educ. Assoc., 1903, pp. 247–260; also in Education, vol. 23, pp. 455–466; 538–545.
[2] For report of committee, see Nat. Educ. Assoc., 1905, pp. 55, 56.
[3] See Nat. Educ. Assoc., 1907, pp. 48, 49.
[4] Ibid., 1908, pp. 466–478.

In preparing his report, President Baker sent to certain men, carefully selected from every field of education, an inquiry embracing such questions as the following:

> At what age should formal general and special education end, as normally marked out for attaining a professional degree or the Ph. D. degree? If the entire period of general and special education should be shortened, where should time be saved? Is there important waste of time in elementary education? Should the period of elementary education be shortened? Where and how? Should the high-school period be shortened or should it be extended in either direction? What should be the length of the college course? How does the whole problem of culture and time elements in education relate itself to the demands of business and society to-day or to the ideals of our civilization?

In discussing the replies to his questionnaire, President Baker said, in part:

> The first impression is that there is a real and widespread dissatisfaction with the results of education, especially as related to the time expended; that there is a growing consciousness of the need of adjustment to new ideals; that there is a demand for reinvestigation and reorganization. The people are ready for the leadership of any representative body that will attempt to reduce to some degree of order educational theories, methods, and standards. It is a surprise to me to learn that two-thirds of the correspondents believe the period of formal education should be shortened, and that very many would place the age limit at 24 or earlier. All ask for a shorter limit or better results for the time, or both. They recognize that since the early New England college education has added eight years, the high school has taken the place of the college, four years have been set apart for the higher degrees; that the college to-day occupies an anomalous position, without a well-defined function; that each unit of the system is yearly increasing its demands; that quantity is the ideal rather than quality. There is a disposition to call a halt along all the line and have an inspection.

President Baker, furthermore, pointed out that the opinion that much time is wasted in elementary education is nearly unanimous; that a large majority claim that the elementary period should be shortened; that a majority favor a high-school period of six years, extending from the age of 12 to the age of 18; and that one-half of the correspondents would have university work begin at the junior year, with groups leading to various professional degrees, and would complete the professional work, or Ph. D. work, in two years more, or six years after college entrance. In conclusion, he recommended that the council should proceed with its proposed investigation through a committee representing elementary education, the secondary, the collegiate and university, the field of social science, and the science of education; and that this committee should cooperate with any other national organization pursuing similar inquiries, formulate results, and unite in a final report, with practical recommendations.[1]

[1] For preliminary report, together with a condensed summary of replies to the questionnaire, see Nat. Educ. Assoc., 1908, pp. 466–478.

The recommendation respecting the desirability of continuing the investigation was approved by the council, which increased the committee to five, retaining President Baker as chairman. In 1909, at the Denver, Colo., meeting, the chairman presented a brief report, covering the steps which the committee was taking in pursuing its investigation and stating the thesis of the committee to be "that in the entire period of general education two years can be saved without loss of anything essential in culture, efficiency, or character making, this thesis to be proved or disproved." In this report President Baker also sketched the line of inquiry pursued by the committee respecting the college, which a number of correspondents had recommended to the committee the year before and which follows:

1. To end college work with the sophomore year, but allow four years, as now, for the A. B. degree.
2. To let university work begin at the junior year, with groups leading to the various professional degrees or the Ph. D. degree, the last two years of college counting toward these degrees.
3. To require two years of college for admission to all professional schools.
4. To complete the professional work, or Ph. D. work, in two years more, or six years after college entrance.
5. To let the college do the first two years of the professional work, instead of allowing the professional school, as now, in many cases, to do the last two years of college work.
6. To consider the possibility of advantageously building the engineering school upon the first two years of college.[1]

In connection with the foregoing report by the chairman, a member of the committee, William H. Smiley, principal of East Side High School, Denver, Colo., submitted a brief discussion of the progress of an investigation in the field of secondary education.[2] He stated that the consensus of opinion is that time can be saved, both in the elementary and in the high school. He referred to the division of time suggested by Principal Armstrong, of the Englewood High School of Chicago, who would divide the periods on the basis of function, having four typical schools: The play type, or kindergarten, from 5 to 7; the motor type, or elementary school, from 7 to 12; the intermediate type, from 12 to 14; and the secondary-school type, from 14 to 18 years. He quoted Mr. Armstrong's comments on his suggested intermediate type of school:

> Children at 12 to 14 should be isolated from the younger and from the more mature pupils in order to accord them proper environment for their peculiar condition. I believe this can be done in all our city schools by creating an intermediate school that would include the eighth grade and the first year of high school. I would not have them taught in separate buildings remote from the other sex, for then the social influence would be lost.

[1] For report, see Nat. Educ. Assoc., 1909, pp. 373–376.
[2] For the supplementary report, see Nat. Educ. Assoc., 1909, pp. 377–380.

In respect to the function of the high school Mr. Smiley quoted at some length from a communication by Prof. Alexis F. Lange, of the University of California, who said, in part:

> The question is no longer, Shall the high school live unto itself; but, How shall it live with its neighbors on either side? Of what sort must the interschool railway be that all may travel for their health, some to the end, others to intermediate terminals, always with stop-over privileges? Education must become more continuous, not mechanically, but organically. The 16 or more grades of our school system must come to stand approximately for as many adaptations to unbroken growth. The educational edifice erected by the nineteenth century still resembles too closely an irregular pyramid of three boxes, the tops and bottoms of which are perforated in order that the more acrobatic pupils may vault from the known to the unknown, and their teachers above and below may exchange maledictions. The twentieth century can not accept this arrangement as final. The structure, as seen from the outside, may well remain intact; but the provisional tops and bottoms inside must be refitted, if not removed. Now, one essential in preparing for this task is to realize that adolescence begins at least two years earlier and ends about two years later than the inherited accidental high-school period. Divested of artificial meanings, secondary education is seen to cover not less than eight grades, instead of four. Another essential is, of course, to act on this insight. A high-school section is a physiological anachronism until its circumference is extended to include teachers of the upper grammar and of the first two college grades.

No further report was made by this committee beyond the statement at the Boston meeting, 1910, that progress was being made, until the San Francisco meeting, 1911, when President Baker presented the conclusions which he himself had reached. These will be found in full in the proceedings of the association, under the caption, The Reorganization of American Education.[1] The time scheme which he recommended therein follows:

	Age in years.
Elementary education	6–12
Secondary education (two divisions—four years and two years)	12–18
College	18–20
	or 16–20
University (graduate school and professional schools)	20–24

In the discussion of this grouping President Baker wrote:[2]

> The tools of education can be acquired at the age of 12, and there are reasons why high-school methods should begin at about that age, when so many pupils leave the elementary schools. The division of the secondary period into four years and two years lends itself to the plan for industrial education, as will be seen later. Moreover, smaller high schools can end at 16; larger high schools at 18 and 20. Small colleges can take pupils from 16 to 20, thus maintaining a four-year course. The universities can retain two years—namely, from 18 to 20.
>
> Let us see what are the essential consequences of this time scheme in terms of pedagogy. Many processes of mental training are easier in the earlier years. Beginning high-school methods at 12 will meet the need of pupils who at that

[1] Nat. Ed. Assoc., 1911, pp. 94–108.

[2] For the complete report of the committee, see Educ. Bull., 1913, No. 38, *Economy of Time in Education*.

age are restless and are seeking larger and more varied interests. Twenty is a better age to begin genuine university work than later, when the mind is less elastic, energetic, and adaptable. Elimination of useless material will stimulate the interest of pupils and result in harder and better effort; the time would be filled with important work. It lessens the period of work that to the pupil appears void of purpose. It makes a better division of time between receptive study and the larger motor activities.

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

Under the auspices of the Department of Secondary Education, during the second decade of the discussion, two valuable contributions were made, the one dealing with the relation of the elementary and secondary periods, and the other considering in particular the articulation of the high school and college.

The first of these grew out of a paper by Dr. E. W. Lyttle, State inspector of high schools for New York, on the subject, "Should the Twelve-Year Course of Study be Equally Divided Between the Elementary School and the Secondary?"[1] This led, in 1905, to the appointment of a standing committee to consider the question of dividing the 12 years equally between elementary and secondary schools. Dr. Lyttle advocated, in the paper just referred to, such a division, on the grounds that the eight-year grade course is the result of a desire to attain "perfection in the fundamentals"; that there is a pedagogical point where secondary education should begin, which occurs when the child has acquired the tools of an education, and at a point coinciding with the dawn of adolescence; that this period is characterized by a marked mental change, which should be recognized in both the content and method of instruction; and that a six-year high-school course would lend itself in the eleventh and twelfth grades to a differentiation along lines of business, mechanical arts, and professional preparation.

The standing committee reported in 1907, at the Los Angeles (Cal.) meeting, that the trend of competent opinion strongly favored a six

[1] See paper in full, in Nat. Ed. Assoc., 1905, pp. 428–436.

and six division, and enumerated reasons for an equal division.[1] A summary of the reasons advanced follows:

1. The plan would give the pupils the advantage of teachers specially trained for the different branches, securing thereby better teaching, because the teacher does the work for which he is best fitted and for which he has made special preparation.

2. The plan makes possible the extension of departmental work into the seventh and eighth grades, which is desirable, because it gives the children daily contact with several personalities instead of that all-day association with one teacher, which often breeds an artificial psychic atmosphere that savors of the abnormal.

3. It would give the pupils laboratories in which elementary science might be begun earlier than at present.

4. If the upper-grade pupils were in the high school, the manual training shops could be employed to start them in their work without scattering the pupils among the schools in various parts of the city.

5. The work in the modern languages could thereby be begun earlier and continued longer than at present, making it possible to learn the language conversationally and naturally.

6. It would check the loss of pupils due to the abruptness of the transition from the elementary to the high school.

7. It would cause more pupils to enter the ninth grade than under the present plan, as it would remove the notion held by parents that the eighth year is the natural stopping place.

8. In comparison with the schools of Germany and England, which introduce secondary subjects earlier, we are losing two years of valuable time.

9. It would give the pupil more time and leisure to prepare for college, hence the preparation would be more thorough.

10. The addition of two years to the high school would give the leisure necessary to normal growth, and would tend to solve the problem of crowded curriculum.

Against these advantages the committee pointed out that lengthening the high-school course would call for a greater proportion of high schools, and, as high-school maintenance cost is greater than that of elementary schools, the tax rate of a given locality would be somewhat increased.

The standing committee next reported at the Cleveland meeting, 1908.[2]

In the report submitted the chairman sketched the progress of the discussion held by the Department of Secondary Education in the following words:

In 1893 the Committee of Ten, representing subcommittees of 90, chosen for the most part from secondary and higher institutions, presented its report on secondary-school studies.

So far, at least, as public high schools were concerned, that report was valuable mainly as establishing ideals, and ideals only for those subjects then deemed acceptable for college preparation. From this report we quote one sentence:

Anyone who reads these nine reports consecutively will be struck with the fact that all these bodies of experts desire to have the elements of their several subjects taught earlier than they now are.

[1] For report in full, see Nat. Ed. Assoc., 1907, pp. 705–710.

Eleven years later, at the St. Louis Exposition, it became painfully evident that the United States was almost the only considerable civilized nation that prolonged its system of elementary education to eight or nine years.

Since 1900 two of the most progressive nations of the world, France and Japan, have revised their national programs, and both have virtually limited the term of elementary study to six years.

In 1905, at a meeting of the secondary department of the National Education Association, held at Asbury Park, it was voted to appoint a standing committee on six-year courses of high-school study, of which committee Gilbert B. Morrison, principal of the William McKinley High School, St. Louis, was chairman.

It is well to note that within the present year Mr. J. Edward Swanstrom, for some time president of the Board of Education in Brooklyn, and later a member of the Board of Education of Greater New York, published in the Brooklyn Eagle an argument for the adoption of the six-year course of elementary study, to be followed by three years of work in the lower high schools, plus three years in the upper grade, or specialized high schools. In that article Mr. Swanstrom argues forcibly that his plan would not only increase the educational efficiency of the schools, but would be highly economical for the city of Greater New York.

At least 10 cities in the United States have, for several years, employed the proposed six-year division and believe it to be more economical.

Working along the lines indicated by growing educational opinion, your present committee has decided as follows:

1. To outline what may reasonably be required of pupils at the end of the sixth school year as essential to a preparation for high-school work.

2. Suggest for the seventh and eighth grades a minimum practicable course of study based on the experience and practice of the civilized world, to consume perhaps 70 per cent of the pupils' time, and to advise, for the other 30 per cent, those electives which the best pedagogical thought and practice approve.

3. To recommend further careful investigation in regard to fixing points for vocational differentiation in accordance with local conditions and individual characteristics.

4. To recommend that promotions be by units of work accomplished rather than by years, thereby permitting the shortening or the lengthening of the time in which the course, nominally of six years, may be completed by pupils of varying ability.

There follows, in the report of the committee, a detailed outline of what should be expected of pupils at the end of the sixth school year, and a list of studies for pupils of the seventh and eighth grades.

The third report of the committee,[1] presented at Denver, Colo., in 1909, said:

1. The committee, in reporting progress, wishes to express a further indorsement of the leading points and suggestions of preceding committees on six-year courses.

2. The sentiment for the six and six division is growing. By an extensive correspondence through private and circular letters we note that there is a freedom of discussion and a hospitality in the entertainment of the idea of a new division of the 12 years in the public schools not noticed in the former correspondence. Almost everyone who has given any expression seems to

[1] For the report in full see Nat. Ed. Assoc., 1909, pp. 498–508.

believe in some departure from the eight and four division, and several cities report these departures. In some cities six-year courses in the high school have been in vogue for several years.

The committee further referred to an inquiry made during the year by the New York and Brooklyn teachers' associations and directed toward determining the length of elementary-school courses in the United States, the basis on which promotions are made, to what extent departmental teaching is employed therein, the proportion of college graduates among the teachers of the seventh and eighth grades, and whether or not grouping the ninth grade with the seventh and eighth grades is favored.

The committee, in concluding its report, said:

There is a general impression revealed by the correspondence that the whole course of instruction, both elementary and secondary, should be simplified; that the differentiation of pupils' work should begin at the end of the sixth grade; that time is wasted on nonessentials and on impractical topics; that there should be greater flexibility in the promotion of pupils; that the whole system should be reorganized.

A study of the schools of Great Britain and Germany within the past year discloses that differentiation begins in both countries at the point corresponding to the end of our sixth grade; that the elements of the "higher" mathematics, of science, and the study of the foreign languages are begun at that point, and in many of the best schools even earlier; that the secondary period is six to eight years in length; that in the best schools in Great Britain, notably those of Birmingham and Leeds, work corresponding to the high schools of this country is completed at about the age of 16.

The committee is of the opinion that while we may not expect or hope for any sudden or extensive change in the general scheme of organization from the eight and four year division to the six and six division, nevertheless we feel certain not only that the change is inevitable, but that it is already in progress and is taking place in different ways to meet local conditions. We further believe that the reorganization of the public-school system along the lines of this discussion is of fundamental importance, and that every reasonable measure that can be taken to overcome the inertia of the established system and to make for an organization more in consonance with advanced educational opinions and with the needs of modern society should be employed. The problem involves not only division by years, but a well-digested curriculum of both the elementary and secondary branches. This curriculum should (*a*) provide the content of the work, including vocational studies; (*b*) establish the points of differentiation; (*c*) consider methods of teaching and plans for promotion of pupils.

The second of the studies undertaken by the Department of Secondary Education related especially to high school and college. This study grew out of resolutions adopted at the Boston, Mass., meeting, 1910, which requested the colleges to discontinue the entrance requirement of two foreign languages and to recognize as electives all subjects well taught in the high school. The resolutions, furthermore, declared that, until such modification was made by the colleges, the high schools would be greatly hampered in their attempts

to serve the best interests of the boys and girls.[1] The discussion of the resolutions led to the appointment of a committee of nine to prepare a statement of the work that the high school should do. The report of the committee, presented at the San Francisco meeting in 1911, is the most notable contribution to the discussion which has been made during the second decade of the movement.[2] In small compass it expresses the highest point reached in the discussion of the functional articulation of the upper divisions of the public-school system. It may be looked upon as a summary of the best recent thought on the relation of the high school and college. The tenor of this report is clearly indicated in the first of the three chief divisions into which the report is divided and which we quote:

SOME PRELIMINARY CONSIDERATIONS ON THE FIELD AND FUNCTION OF EDUCATION IN THE HIGH SCHOOL.

1. Dr. Henry S. Pritchett, in his annual report as president of the Carnegie Foundation, finds that American education, from elementary school to college, is suffering from the attempt to teach too many subjects to the same student at the same time. He believes that students taking the newer subjects should not be required to carry all the older subjects. He asserts emphatically that this is no argument against the enriched curriculum of the high school, but that, on the contrary, the high school must enrich still further its curriculum, and that it is the duty of the college to adjust itself to the high school thus broadened.

2. It is the duty of the tax-supported high school to give every student instruction carefully designed to return to society intelligent, able-bodied, and progressive citizens. To this end certain work should be included in the course of every student, whether he contemplates entering a higher institution or not. The responsibility of the high school in this matter can not be delegated to the college, because there is no guaranty that the particular student will actually go to college.

3. It is coming to be recognized that in a democratic society the high school has a distinct function. The high-school period is the testing time, the time for trying out different powers, the time for forming life purposes. Consequently the opportunity should be provided for the student to test his capacity in a fairly large number of relatively diverse kinds of work.

In the high school the boy (or girl) may very properly make a start along the line of his chosen vocation, but a final choice should not be forced upon him at the beginning of that career. If he makes a provisional choice early in the course there should be ample opportunity for readjustment later in the high school. For this reason the requirement of four years of work in any particular subject, as a condition of admission to a higher institution, unless that subject be one that may properly be required of all high-school students, is illogical and should, in the judgment of the committee, be immediately discontinued.

4. Not only is it the duty of the high school to lay the foundation of good citizenship and to help in the wise choice of a vocation, but it is equally important that the high school should make specific contribution to the efficiency of the individual along various broad lines. In our industrial democracy the development of individual aptitudes and unique gifts is quite as important as

[1] For resolutions in full see Nat. Ed. Assoc., 1910, p. 448.
[2] For the report in full see Nat. Ed. Assoc., 1911, pp. 559–567.

the development of the common elements of culture. Moreover, hard work is to be secured not by insistence upon uniformity of tastes and interests, but by the encouragement of special effort along lines that appeal to the individual. Our education would gain in power and in virility if we made more of the dominant interest that each boy and girl has at the time. It would seem that some have come to believe the oft-repeated statement that the liberal should precede the vocational, but an organic conception of education demands the early introduction of training for individual usefulness, thereby blending the liberal and the vocational, for only then does the liberal receive its social significance and importance. In other words, the boy who pursues both the liberal and the vocational sees the relation of his own work to the work of others and to the welfare of society, whereas the liberal without the vocational leaves him a mere spectator in the theater of life, and the boxes in this theater are already overcrowded.

5. Mechanic arts, agriculture, or household science should be recognized as rational elements in the education of all boys and girls, and especially of those who have not as yet chosen their vocation. Under the authority of the traditional conception of the best preparation for a higher institution, many of our public high schools are to-day responsible for leading tens of thousands of boys and girls away from the pursuits for which they are adapted and in which they are needed to other pursuits for which they are not adapted and in which they are not needed. By means of exclusively bookish curricula false ideals of culture are developed. A chasm is created between the producers of material wealth and the distributors and consumers thereof.

The high school should in a real sense reflect the major industries of the community which supports it. The high school, as the local educational institution, should reveal to boys and girls the higher possibilities for more efficient service along the lines in which their own community is industrially organized.

Our traditional ideals of preparation for higher institutions are practically incongruous with the actual needs and future responsibilities of girls. It would seem that such high-school work as is carefully designed to develop capacity for and interest in the proper management and conduct of a home should be regarded as of importance at least equal to that of any other work. We do not understand how society can properly continue to sanction high-school curricula for girls which disregard this fundamental need, even though such curricula are planned in response to the demand made by some of the colleges for women.

In addition to the report of the Committee of Nine on the articulation of high school and college, it should be noted that at the same meeting and before the same department there were presented two other reports on the same problem: "The new Harvard plan for college admission" [1] and "The new University of Chicago plan for college admission." [2] The latter plan, like the plan recommended by the Committee of Nine, recognized that the high school has a function other than college preparation, and that, in the articulation of the two institutions, this distinctive function must be preserved. The report says on this point:

The university recognizes the obligations which the high schools are under to serve their own communities in the most efficient possible way without primary regard to college-entrance requirements. It therefore desires to render

[1] Nat. Ed. Assoc., 1911, pp. 567–571.
[2] Ibid., pp. 572–575 (a condensed account only).

as flexible as possible the conditions under which students may come to the university, and it proposes to set up only such requirements as seem indispensable to enable the university to continue with advantage the educational work begun in the schools. With this principle in mind the university faculty has replaced the former schedule of requirements, designating a considerable number of specific subjects in which the student must have been prepared, with a plan which, save for a requirement in English, lays emphasis not so much upon specific subject matter as upon a certain amount of concentrated and continuous work in subjects selected by the student or the school from among the standard academic subjects taught in all high schools. The quantity of the work required is specified in the paragraphs below. The quality of the work the university expects to test by the record of the student after he comes to the university.

It is believed that sufficient flexibility has been introduced (1) to permit the schools to meet every reasonable demand of their own communities in the arrangement of their curricula, (2) to enable the student to enter college even though he decides late in his course to do so, and, at the same time, (3) to make it justifiable for the university rigidly to require of each student a full 15 units of entrance work. There will, consequently, be no admissions with condition under the new plan.

The chief features of this new program of entrance requirements, put into effect October 1, 1911, follow:

ENTRANCE REQUIREMENTS.

Students applying for entrance to the University of Chicago present by certificate from approved schools or by examination 15 units of entrance credits. Among these must be 3 units of English and, in addition, 1 principal group of 3 or more units, and at least 1 secondary group of 2 or more units. These additional groups may be selected from among the following subjects:

1. Ancient languages (Greek and Latin), it being understood that to make a group of 2 or of 3 units the work must be offered in a single language.
2. Modern languages other than English; to make a group of 2 or of 3 units the work must be offered in a single language, as under group 1.
3. Ancient history, medieval and modern history, English history, United States history, civics, economics.
4. Mathematics.
5. Physics, chemistry, botany, zoology, general biology, physiology, physiography, general astronomy.

In group 5 not less than 1 unit may be offered in either physics or chemistry. Any combination of the subjects within each group is permitted.

Of the 15 units offered for entrance, at least 7 must be selected from the subjects in groups 1 to 5. Not less than one-half unit may be offered in any subject.

The remaining 5 units may be selected from any subjects for which credit toward graduation is given by the approved school from which the student receives his diploma; but Greek, Latin, French, German (or any language other than English), mathematics, physics, and chemistry, if offered, but not as above under 1 and 5, must each consist of at least 1 unit. Latin may not be continued in college unless at least 2 units be offered.

SUMMARY OF ENTRANCE REQUIREMENTS.

Three units of English.
Three or more units in a single group, 1–5.
Two or more units in another single group, 1–5.

Two units in subjects selected from any of the groups 1–5. (Total 10 units in English and groups 1–5.)

Five units selected from any subjects accepted by an approved school for its diploma.

Not less than one-half unit will be accepted in any subject.

Entrance with conditions not permitted.

Still another discussion of the articulation of high school and college, that by a committee of the high-school teachers' association of New York City, published in pamphlet form, November, 1910, is worthy of note because of its content and because it prepared the way for the notable report of the committee of nine. The high-school committee made a detailed study of the entrance requirements of a number of colleges, and drew up a statement setting forth the impossibility of wisely meeting the needs of high-school pupils, on account of the college requirements. The committee suggested two plans for improving the situation:

1. By the first, college entrance would be based upon the simple fact of graduation from a four years' course in a first-class high school. This method would give complete satisfaction to the high school. If supplemented by competent examination into the efficiency of each school, we believe this method would tend to develop within the high school that independence, breadth, and judgment required to produce the best results. The improvement in the high schools would result in better preparation and more students for the college.

2. The second plan, not as radical as the first, was proposed in order that the high schools might derive as soon as possible some measure of relief from present conditions.

This second method calls for—

(*a*) The reduction in the number of so-called "required" subjects, together with—

(*b*) The recognition of all standard subjects, as electives.

The requirement of two foreign languages from every student is regarded as particularly objectionable.

The committee reported its conclusions at the annual meeting of the association, May 7, 1910. The association ratified its report and instructed the committee to send it out and to invite correspondence upon the matters involved.

The committee wrote to the presidents of 115 colleges, to each State superintendent of public instruction, and to a number of city superintendents and high-school principals. The replies to these letters are given in the pamphlet,[1] and comprise an excellent body of discussion bearing on the problems growing out of the relationship between high school and college.

Another investigation bearing on the same general problem, of bringing about an adjustment of the parts of our public-school sys-

[1] *Articulation of High School and College*, issued by the High School Teachers' Association, New York City, 1910.

tem, was made under the auspices of the New York and Brooklyn teachers' associations by Charles S. Hartwell. In October, 1906, Mr. Hartwell sent out a questionnaire[1] on (1) Flexibility in promotion, and (2) Should the 12-year course of study be equally divided between the elementary school and the secondary school?

In commenting upon the returns from the questions relating to a division of the course of study, Mr. Hartwell summarized the trend of opinion as follows:[2]

1. School education should be divided into two periods of six years each. The subdividing into three-year courses depends on local conditions.
2. Secondary education should be extended downward to the sixth year.
3. Departmental teaching should extend throughout the six years of secondary education.
4. During the seventh and possibly the eighth year, or the first and second years of the second six, a semidepartmental system, i. e., one in which each teacher takes two subjects instead of one, may suffice.
5. Promotions should be made by subjects throughout the six years of secondary education.

The most recent proposal is that made by a committee of the California Council of Education appointed to formulate recommendations relating to a readjustment of the courses of study for the schools of the State. This report was presented to the council in December, 1912, and was formally approved by that body.

The discussion which was held during the first decade of the movement (1888–1900) comprised an examination of the purpose and place, in our educational system, of the common school, the high school, and the institutions of higher learning. To a large degree this discussion was unrelated to anything concrete. While it started with a tangible problem—the need of lowering the age of college graduates—it speedily drifted away from this question and became academic in character. The second period (1900–1912), however, opened with a series of specific proposals, formulated by President Harper, 1902, bearing directly upon a reorganization of the entire school system. This brought the discussion back to where it has remained during its subsequent progress. The investigations by the National Council of Education and by the Department of Secondary Education, both under the auspices of the National Education Association, as well as that carried on by the New York and Brooklyn teachers' associations, attempted to devise plans of operation which would work. For the most part the men who conducted the inquiries made during this decade were in administrative positions, and naturally, therefore, applied the test of workability to every proposal submitted. The same practical end was sought by

[1] See Sch. Rev., vol. 15 (1907), pp. 314–316; tabulation of results, ibid., pp. 454–456.
[2] Sch. Rev., vol. 15 (1907), pp. 184–196.

Harvard and Chicago in their recommendations respecting the articulation of high school and college. In general, then, it may properly be said that the movement toward a functional reorganization of the school system has survived two of the stages through which every movement of consequence, on its way from inception to practice, must of necessity pass—that of academic discussion and that of the consideration of working plans.

The movement has now entered upon its third stage, that of actual adoption and trial. The future only can disclose the result. The experiments which have already been made, however, are sufficiently numerous to point the way.

Chapter V.

EFFORTS TOWARD A FUNCTIONAL REORGANIZATION—THE PRACTICE.[1]

CONTENTS.—The grouping of grades among American cities—Tendencies toward uniformity of grouping—Departures from the typical grouping; Boston Latin School; college preparatory schools of Chicago and Providence—The movement toward reorganization, as exemplified in Peabody, Webster, Marshalltown, Aurora, Selma, Muskegon, Kalamazoo, Roanoke, Saginaw, Jacksonville, New Albany, Alameda, Baltimore, Olean, Ithaca, Rahway, Richmond, Concord (N. H.), Los Angeles, Berkeley, Minneapolis, the State of New York, the Philippine Islands, the Argentine Republic, Japan.

A canvass made in 1911 of the 669 American cities then listed by the United States Commissioner of Education as having a population of 8,000 and over disclosed the following facts respecting the length of public-school courses and the years embraced in each division: Four hundred and eighty-nine have a course of eight years elementary and four years secondary; 48 have a course of seven years elementary and four years secondary; 86 have one of nine years elementary (not including the kindergarten) and four years secondary; 7 have the usual eight years elementary, but offer only three years in the high school; 4 have a course of eight years elementary and five years secondary; 3 have organized on the basis of seven years elementary and five years secondary; 8 are represented in the plans calling for six years elementary and four years secondary, seven years elementary and three years secondary, and nine years elementary and three years secondary; and 24 have made or are making significant departures from the foregoing types.

With a few exceptions the cities having a nine-year elementary course are among the New England States. This arrangement dates back to 1872, when the school superintendents of New England, in formal session at Worcester, Mass., fixed the age of entrance at 5 and adopted a program of studies for primary and grammar schools to cover nine years.[2] Among the Southern States, the typical elementary course is one of seven years, probably adopted because of the poverty of the people and their inability to make further provision for school work when their school systems were established.

[1] For later information than is contained in this chapter see Repts. of U. S. Comr. of Ed. for 1914, Vol. I, Ch. VI, and 1915, Ch. II and V.

[2] The Massachusetts Teacher, October, 1873.

Leaving out of consideration, for the moment, the cities which are consciously seeking to bring about a functional reorganization of their systems, certain tendencies are to be noted among the other groups. First, among the cities whose elementary period is nine years, several are shortening their courses to eight. This change is being effected in two ways: By eliminating one year entirely from the elementary division, beginning the school period at 6, instead of 5 years; and by transferring one year of the elementary division to the high school, making the course of the latter five years in length, an arrangement limited to those New England cities which find the task of preparing for college too great for four years. Second, among the cities in the South having but a three-year high-school course a decided tendency is apparent to add a year and thus secure a closer adjustment to the colleges. Third, many cities are making their systems so flexible that the exceptional child is enabled to shorten the time necessary for completing the public-school course. These tendencies may be fairly summarized by saying that the movement, which has been under way since city school systems were first established, is strongly in the direction of uniformity through adopting the eight-four arrangement; also toward securing, within the limits of such a grouping, means for enabling the pupils who possess marked ability to pass through their grades more rapidly than their fellows. It should be noted, furthermore, that, for the most part, in cities having a nine-year elementary period, the children enter at 5 years of age; in cities having a seven-year course, the age of enrollment is usually fixed at 7; and in cities whose elementary course is eight years children must have reached the age of 6 before enrollment is permitted. In these three groups, therefore, the age at which the pupil normally completes his elementary course and enters upon high-school work is practically the same, 14 or thereabouts. In consequence, it may be said that, in this country, custom and law have fixed the years from 5, 6, or 7, to 14, as the period for elementary schooling; from 14 to 18, inclusive, as the period for secondary education; and from 18 to 22, inclusive, as the period for college work, the termination of which is marked by the granting of the bachelor of arts degree or its academic equivalent.

Before discussing the departures from the typical grouping which are now deliberately being made, two interesting modifications, not yet mentioned, should be noted: That of the Boston Latin School and that of the college preparatory schools of Chicago, Ill., and Providence, R. I.

The Boston Latin School, founded in 1635, is of interest in this connection because, for more than 50 years, it has had a course of study covering six years, to which boys of 10 or 11, who have satisfied certain scholastic requirements, are admitted. The school is a sur-

vival of the colonial grammar schools that were founded primarily as college fitting schools, but which rapidly disappeared in the face of the demand for an education suited to the needs of the masses.[2] These schools, in respect to defined aim, character of curricula, length of courses, and even the regulations governing the conduct of the pupils, were transplanted direct from England and at a time when the colleges were dominated by the idea that the classics were necessary to a complete education. In specific purpose, the Boston Latin School was established to prepare boys for Harvard College. All efforts which have been made toward compelling it to recognize, in its course of study, the nonpreparatory functions of the public high school, have been successfully resisted. In 1868 an attempt which sought to merge the school with the Boston English School was defeated. In 1877 a proposal was made to secure the admission of girls, and several hearings were given to the matter; but the decision of the school committee was adverse to the petitioners.[3] One of its early head masters wrote:

> The work of the Latin School is to prepare the student to enter college with the kind of instruction which shall best enable him to pursue a college course. In a word, its work is to feed the professions; and so long as Boston needs clergymen, doctors, and lawyers, it is right and proper that she should see to it that a *free* school is provided, so that her humblest citizen may secure to his children a classical, college education, and that poverty may be no insurmountable obstacle to talent.[4]

Except during an interval of some six years about 1870,[5] it has steadfastly held to the aim of its founders. Even in the school regulations of the city of Boston (1910) the school is not called a high school, as is shown by the chapter heading, "Regulations for Latin and High Schools." To this day it stands out in striking opposition to the dominant conception that those institutions of secondary rank which are maintained at public expense shall minister to the needs of all rather than to the demand of a particular class that intend to enter college.

In the Chicago experiment of founding college preparatory schools, and in the "junior course" organized in several of the high schools of Providence, R. I., similar efforts have been made to segregate prospective college students. It is interesting to observe, furthermore, that these attempts were made because of the direct influence of the Boston Latin School.

A graduate of the Boston Latin School and of Harvard University, Hon. Charles S. Thornton, as a member of the board of education of Chicago, in March, 1894, proposed the following resolution:

[1] Rules of the School Committee of Boston (1910), pp. 95–97.
[2] See p. 11.
[3] Jenks, *Catalogue of the Boston Latin School*, p. 185.
[4] Ibid., p. 77.
[5] Ibid., pp. 69–71.

Resolved, That a school, to be called "The Chicago College Preparatory School," with a course of study and upon conditions substantially as hereinafter set forth, be organized; that a competent corps of instructors be employed; and that the same begin with the commencement of the next school year.

This resolution was accompanied by a tentative six-year course of study, which provided that pupils should enter upon the work after the completion of the first six years of the elementary course. In May of the same year (1894) the plan was adopted, and an amount not exceeding $5,000 was set aside for the expenses of the first year of trial. The original hope of those proposing this plan was to establish an independent school, in a separate building, the whole modeled after the Boston Latin School. However, sufficient funds were not available, and in consequence vacant rooms, wherever they could be found, were pressed into service, with the result that in September, 1894, classes with an aggregate enrollment of 150 pupils were organized in three of the high-school buildings. Two years later (September, 1896) the number of pupils in these classes had fallen to fewer than one-half of the original enrollment. This loss was due to long distances, poor accommodations, incompetent instruction, and to other adverse circumstances. The pupils entering the regular high-school course from these classes, at the beginning of their ninth year, were scattered about among 14 schools; hence no satisfactory conclusions could be drawn respecting their progress. One class, however, that at the Hyde Park High School, was kept intact, and made such excellent progress as to warrant the continuance of the experiment. In July, 1895, on petition of over 1,200 families, the board established some 30 class centers for the accommodation of pupils who wished to take the course. Before the close of the year, however, upon recommendation of one of its committees, the board abolished these centers and schools.[1]

A plan having the same object, as well as the same defect, was inaugurated in Providence, R. I., in 1898. In each of four high schools the "junior course" was formed for those pupils who wished to specialize at college in classics or modern languages. Besides the regular studies of the seventh and eighth years of the grammar schools, somewhat modified, this course included French in the first year and French, Latin, and some algebra, along with arithmetic, in the second. The work in French, Latin, and algebra was regarded as additional to the regular work of the seventh and eighth years rather than as a substitute for it, and in consequence the course was limited to those pupils whose scholarship in the lower grades was superior. After a trial of one year the course was abandoned in

[1] For an account of this experiment, see Nightingale, Sch. Rev. (1898), vol. 6, pp. 179–202.

three of the four high schools because of light attendance and because "the difference in results seemed of questionable value," though, in response to the desire of a particular section, the course was retained in one of the schools. However, stringent regulations restricting admission, the burden of carrying additional subjects, and the indifferent attitude to the plan of those in authority resulted in such a reduction of the number taking the work that the course, though still maintained, "has now become a matter of small significance."

The weakness of the Chicago and Providence plans, which is doubtless the real reason for the failure of the arrangement in both instances, is clearly set forth in the comment of Dr. Nightingale, who was superintendent of the Chicago high schools at the time the experiment was tried. Commenting upon the Chicago plan, he said:

> Ideally beautiful and fascinatingly unique as these separate and distinct institutions may seem for the select 400, we must not lose sight of the essential fact that it is the underlying purpose of the schools of the people and for the people to give our youth a preparation for life and for citizenship rather than for college, and it is our duty to give all the children, stop where they must, the best education possible to the limit of their privilege.[1]

Among the cities in which the school authorities are making a definite and deliberate effort to readjust their school systems on a functional basis, one finds many stages and gradations of development, as well as much variation in form, because of local causes and differing educational conceptions held by those in authority. A sufficient number of examples can be given to indicate the trend of the movement and the proportions which it has already reached. The facts respecting the following city systems have been provided, in most instances, by the superintendents:[2]

Peabody, Mass. Albert Robinson, superintendent.—The system now comprises eight years in the elementary division and five years in the secondary. The ninth grade was transferred to the high-school building in 1905, "partly for educational reasons and partly because of local conditions." The superintendent added:

> The change was made for the reason that the work [of the ninth grade] could be done better in the high schools than in the grammar schools. Perhaps the strongest reason for adding the year to the high-school course is that many pupils found it difficult to prepare for some colleges in four years.
>
> The course of study pursued by the ninth-grade pupils is an integral part of the high-school course, which now covers five years. The grammar-school course is eight years in length, and has not been materially modified by the transfer of the ninth grade to the high school. This shift may, perhaps, be in the direction of a six-year secondary period, but probably it signifies nothing beyond a response to the pressure of college-entrance requirements. If the latter be

[1] Nightingale, Sch. Rev. (1905) vol. 13, pp. 337–8.

[2] For further illustrative statements, see An. Repts. Commrs. of Ed., 1914, Vol. I, ch. 6, especially pp. 155–157, and 1915, Vol. I, ch. 5, p. 112. A list of junior high schools is given in the report of 1914.

the explanation, the city should properly be classed with the group mentioned on page 76, wherein is to be found a movement from a nine-year elementary period toward the eight-four plan.

Webster, Mass. E. W. Robinson, superintendent.—This city is another illustration of a shift from a nine-four grouping to an eight-five through the pressure of university demands. The superintendent wrote:

> Nine years ago I found a nine-year elementary course which seemed inflated and a congested four-year high-school course which was not properly equipping students for eastern colleges. Many of the grammar-school boys were dropping out at the end of or during the eighth-grade course. By absorbing the ninth grade into the high-school course as a preparatory year, under the control of the high-school principal, I stiffened up the entire high-school course, and also offered inducement for boys and girls to remain in the eighth grade for their diplomas, which came a year earlier by this method.

Marshalltown, Iowa. A. Palmer, superintendent.—The eighth grade of this city was transferred to the high school, primarily on account of the fact that the ward buildings were crowded and room was desired in each for a kindergarten. The eighth-grade course has not yet been included in the high-school course, nor has the transfer changed the course pursued by the eighth grade, except in this, that the work is now carried on departmentally. The course of the first seven grades has not been modified by reason of the transfer.

Aurora, Ill. O. M. Bardwell, superintendent.—The school department offers in the high school four courses, each four years in length; and two courses, the "Latin" and the "general," each of five years. The latter entitles pupils "to advance credit in some of the colleges and saves from one-half to a whole year on their college course." Besides, several high-school subjects are studied in the seventh and eighth grades; elementary geometry in the seventh grade; elementary algebra in the B eighth and A eighth grades; and the history of Greece in the A eighth. In another year, the superintendent hopes building arrangements will be such as to enable him to introduce in the upper grammar grades industrial and vocational work, with opportunity for electives.

Selma, Ala. Arthur F. Harman, superintendent.—At the beginning of the fall term, 1909, the change was made from the eight-four grouping to the seven-five, by transferring the eighth grade to the high school and making it a regular part of the high-school course. The change was made partly because of expediency and partly because of the educational advantages of the new arrangement. It enabled the work of the eighth grade to be conducted departmentally, and it was also thought that problems of discipline would thereby be lessened. Says the superintendent:

> Experience has verified the correctness of the belief. The eighth-year pupils also enjoy under the new plan whatever advantages there are under departmental teaching. Local conditions are such that we can not yet have departmental work in the upper grammar grades. We were also convinced that placing eighth-year pupils in the high school would be the means of increasing the enrollment in the secondary division. Without knowing just what part of the increase must be attributed to increased population, I may mention that the enrollment in the high school during the past session was 20 per cent larger than the enrollment of 1908–9. Indications are that the enrollment will be materially increased during the current session.

Muskegon, Mich. Joseph M. Frost, superintendent.—This city is now organized with the tenth, eleventh, and twelfth grades grouped in the high school proper; the eighth and ninth in the high-school annex; the seventh grades of the entire city congregated in one school for departmental work; and the first six grades occupying ward buildings. This plan was adopted in 1904, in order to give the children an opportunity to take work in manual training earlier than the ninth year.

The superintendent, in commenting upon the plan, says:

The departmental work in the seventh grade is conducted very much as the work in the high school, except that the students are kept under closer supervision, and we are able to give them special instruction along the lines of their interests. The present arrangement is very satisfactory and is a great improvement over the old plan. When it was adopted a large number of people petitioned the board of education to have the old eighth-grade system reestablished. They said they would rather have their children have the old-fashioned eighth-grade system than a complete high-school course. They did not want their children sent to the high school at such an immature age. I felt that the opposition was due entirely to the fact that the parents did not like any system that was different from the one employed when they went to school. We have continued this plan and now I think that the community at large is entirely in sympathy with it. In fact, it keeps the children in school, and makes the transition from the grades to the high school easier. It also gradually introduces the student to the freedom of the high school by having the close supervision in the seventh grade and less close when in the eighth and ninth, and greater freedom in the tenth, eleventh, and twelfth. I could cite many instances showing how boys have been kept in school by getting them properly started in their high-school work in the eighth year. If a boy does not like academic work, we give him more manual training and try to show him the need of having academic work along with it.

Kalamazoo, Mich. S. O. Hartwell, superintendent.—The eleventh and twelfth grades of this department are congregated at one school; and the eighth, ninth, and tenth are at departmental schools, which are studied at points convenient to the several sections of the city. The first seven grades occupy, in one instance, a separate building and in the others the lower floors of the departmental schools. While local conditions have brought about this arrangement, yet a recognition of its educational possibilities is clearly evident.

In the eighties the eighth grades of the entire city were congregated in a building near the high school. In 1902 the need for additional room for the upper grades developed. It was also seen that the high-school building would soon be overcrowded. To meet these difficulties, an eight-room addition, for the lower grades, was made to the building formerly occupied by the eighth grades and the older part was given over to a departmental school embracing the eighth and ninth grades. When these pupils were ready for the tenth year they were retained at the school and not transferred to the high school until the beginning of their eleventh year. The results in increased enrollment, in efficiency of work, and especially in the growth of the ninth grade, through the familiarity of the eighth grade with the work and methods of the ninth, caused the adoption of the same plan when a new building was erected (1906) in another part of the city. This building was designed to provide ten rooms on the lower floor for the lower grades; and an assembly and recitation rooms on the upper floor for the work of the eighth, ninth, and tenth grades. So satisfactorily did this arrangement work that three years ago, when a new building was required in a third section of the city, it was planned on the same lines.

In the departmental schools promotion is made by subjects as in the high school. Before an eighth-grade pupil has completed the whole of his work, he may begin high-school studies, and an increasing number are availing themselves of this opportunity. The superintendent adds:

While we have not departed very largely as yet from the traditional lines of work in the grammar grades, we have secured, I think, this result, the teaching force of the departmentals has been brought near high-school standards in scholarship, and the quality of the work done has been improved.

Roanoke, Va. Harris Hart, superintendent.—The school department is being changed from the eight-four grouping to a five-three-three system. The primary

divisions will embrace five grades; the intermediate division, the sixth, seventh, and eighth grades; and the high-school division the ninth, tenth, and eleventh grades. The chief change to be made in the course of study for the present is the elimination of one year of work, the whole course to be covered in 11 years instead of 12. The chief reasons which have led the superintendent to urge this reorganization are: The desirability of separating the older and younger children; the need for providing optional studies for older pupils; and the wish to secure a number of male instructors in the sixth, seventh, and eighth grades. Through the operation of this plan, the superintendent hopes to secure, as he says:

> A better course of training in 11 years than I now have in 12 and a larger percentage of boys held in school beyond the sixth grade. The mere idea of going to a different school building of a higher grade will be an incentive to those students who weary of the same school and the same teachers, and particularly of the same system of discipline for seven or eight years. And by doing some of the high-school work in the intermediate building I expect to so far pave the way into the high school as to eliminate any break.

Saginaw, Mich. E. C. Warriner, superintendent.—In June, 1898,[1] upon the recommendation of the former superintendent, A. S. Whitney, now of the University of Michigan, a six-year high-school course of study was adopted for the six upper grades of the Saginaw schools. This was probably the first effort made in the North Central States to provide a high-school curriculum covering six years. Two courses were offered, a "language" course, providing a broad literary culture with preparation for colleges and universities, and a "general" course leading toward business pursuits. Except in the seventh and eighth years of the "language" course, some electives were offered, ranging from 8 hours per week in the ninth year to 34 per week in the twelfth. Pupils, therefore, who pursued either course intensively for the six years were enabled to shorten their university course by one year. A year after the adoption of the plan Supt. Whitney resigned, and the plan which he inaugurated seems to have been modified gradually, until to-day about the only items which remain are the departmental plan of instruction and the option of German, which is offered to the pupils of the seventh grade. Inasmuch as the community contains a large percentage of Germans, it has not been difficult to retain the study of the language, which so many in the community speak.

Jacksonville, Ill. W. A. Furr, superintendent.—This city is in a transition stage from the eight-four grouping to some form of the six-six division. Supt. Furr writes:

> A failure to erect a building has delayed a final consummation of our plans for a six-year high-school course. I think we shall have a straight six-six course. We have been talking this plan for a couple of years and have taken steps toward reorganizing our course preparatory to a change in the grouping.

New Albany, Ind. H. A. Buerk, superintendent.—Supt. Buerk has gathered all of the eighth-grade pupils of the city into one building and is conducting the work therein by departments. He proposes, through expanding it, eventually to make the school serve as a transition stage between the grades and the high school.

Alameda, Cal. W. C. Wood, superintendent.—The Alameda plan illustrates an attempt to work out a functional readjustment rather than a reorganization. The elementary division of these schools comprises eight years and the high-school division four years. Without segregating the pupils of the upper grammar grades, however, the effort is being made to shape the course of study in

[1] For Supt. Whitney's course see Appendix, pp. 160–162.

the light of the conception of preadolescent and adolescent stages in the psychophysical development of the child. Supt. Wood writes:

We should define elementary education as preadolescent education and secondary education as adolescent education. Elementary education should concern itself chiefly with putting the child into possession of the working tools of knowledge and the development of those faculties and powers which may rightly be developed during childhood. Secondary education should concern itself chiefly with the general adjustment of the individual to the physical, social, and spiritual environment.

With the half-hour period as a basis for assignment, the time allotment under the Alameda plan follows:

Time allotment under the Alameda plan.

SEVENTH YEAR.

Courses.	Recitation periods.	Study periods.
Prescribed courses:		
English—		
Literature	2	2
Grammar	2	2
Composition; spelling	2	1
Arithmetic	4	4
History and civics	3	3
Geography	3	3
Physiology	2	0
Drawing	2	0
Manual training or domestic science	3	0
Music	2	0
Total	25	1
Elective courses:[1]		
French	5	5
German	5	5
Everyday English	5	0

EIGHTH YEAR.

Prescribed courses:		
English—		
Literature	2	2
Grammar	2	2
Composition; spelling	2	1
Commercial arithmetic or elementary mathematics	5	5
History and civics	3	3
Geography	3	3
Music	2	0
Total	19	16
Elective courses:[2]		
Manual arts	5	0
French	5	5
German	5	5
Everyday English	5	0
General science	5	5

[1] The student should elect one of these. [2] The student should elect two of these.

Baltimore, Md. James H. Van Sickle, formerly superintendent.—The Baltimore plan, as worked out by Supt. Van Sickle, permits pupils who have done strong work in the sixth grade to take up extra studies of high-school grade while doing the regular work of the seventh and eighth grades of the elementary schools. These studies are Latin, German or French, advanced English, and, with some classes, part of the mathematics of the high-school course. The pupils who wish to take this work are transferred to a convenient center at which sufficient pupils may be congregated to allow the instruction to be organized on the departmental plan. Supt. Van Sickle, writing in 1910, says:

We started in 1902 with one center and 173 pupils, and that year we admitted pupils of the eighth grade as well as of the seventh. In 1903 and later admission was limited to pupils just entering the seventh grade. We now have four centers, with an enrollment of 571 pupils in these preparatory seventh and eighth grade classes. For three years one of these centers has been allowed, by way of experiment, to keep selected pupils for an extra year. Such pupils spend but two years in the high school. Other preparatory pupils ordinarily spend three years in the high school, but in either case the time required for high-school gradnation after the sixth elementary grade has ordinarily been five years for the preparatory-class pupils, whereas six years would have been required had it not been for the high-school credits earned by these pupils in the elementary schools.

Two hundred and thirty-six preparatory pupils will have been graduated from the high schools in the four years ending in June, 1910. This is not a large showing when we consider that in these four years the same high schools (three out of five in our city) have graduated 1,342 pupils, but the plan is very new compared with the usual one, and a number of obstacles must yet be overcome. Some parents do not fully understand the plan. Not all teachers can be quite impartial in their attitude toward a scheme of work which takes away from the regular classes some of the more desirable pupils. Furthermore, many pupils entering the seventh grade are timid about going to a strange school located at a point somewhat distant from their homes, and so it happens that only about one-third of those recommended as capable of taking up the extra preparatory work avail themselves of the opportunity offered. If the work were carried on in every large school so that pupils could enter upon it without being transferred away from the home school, doubtless more would attend; but unless there are enough enrolled at one point to form at least three classes the teaching can not be economically provided for. For this reason we are using for the preparatory classes only selected centers, and for the further reason that our plan enables us to utilize schoolrooms in portions of the city where the population is decreasing and where consequently some schoolrooms have become vacant.

There are now enrolled in our preparatory classes in the elementary schools 571 pupils; and in the high school, exclusive of students to graduate in June, there are now 223 students who were promoted from preparatory classes. The belief that ability, or even genius, is not restricted to any rank of life is confirmed in the case of our preparatory pupils by the interesting fact that in these classes are to be found boys and girls representing every rank of the social order and wide variety of home conditions. Judging by the energy and enthusiasm that these selected pupils put into their work, and the marked success which they have so far attained, as measured by school standards, we are quite certain that they will display somewhat more of energy and efficiency in whatever field of life effort they enter than if, during their school days, they had become contented with a lower level of effort and attainment.

Olean, N. Y. S. J. Slawson, superintendent.—All pupils in the school department of this city, upon completing their seventh-grade work, enter the high school. The entire eighth grade and the beginning ninth are assembled in the same study hall, with the exception of the senior class; and the remaining classes, the upper ninth, the tenth, and the beginning twelfth, are broken into sections and distributed about the building, without reference to grade. By this arrangement an elementary period of seven years and a secondary period of five years are secured. Says the superintendent:

During the past four years the course of study for the elementary grades has been so modified as to enable us to complete in seven years what formerly required eight and a half or nine years. For instance, four years ago we were giving eight and one-half years to arithmetic, whereas the subject is now covered in seven years. Geography, now completed in seven years, required eight full years. History, now completed in seven and one-half years, was given, formerly, nine years. The work in elementary English, which formerly required eight and one-half years, has been modified by eliminating the nonessentials of technical grammar and establishing therefor a quantity of literature. We still give eight years to the study of the subject.

Ithaca, N. Y. F. D. Boynton, superintendent.—The department of this city is now organized on the six-six plan. The change which has finally resulted in the present arrangement has been underway in this city for a number of years. The study of geography, as such, is discontinued with the sixth grade. In the seventh, or first high-school grade, the formal study of history is begun; an option in Latin is offered; and two hours of work per week is required in each of the following subjects: Music, drawing, and manual-training. In the eighth grade, options are offered in German, biology, elementary algebra, ancient history, and literature. The superintendent writes:

> Our chief difficulty was in getting properly trained teachers, principally because the salary of the old seventh and eighth grades was not attractive. We now have these grades on the same salary schedule as the high school. In consequence, our eighth grade is now taught by college graduates alone, and our seventh grade either by college graduates or college trained teachers who are normal graduates.

Rahway, N. J. William J. Bickett, superintendent.—In September, 1910, a change was made from the eight-four grouping to the six-six. The reorganization led to the introduction of German, French, Latin, and algebra as electives in the seventh and eighth grades; to promotion by subjects; and to the giving of credit for work in music, woodwork, cooking, and sewing. The superintendent says:

> This has been the most successful change ever made in our school system. Formerly a large proportion of our pupils were leaving school at the end of the eighth year, thinking that an eighth-grade education was sufficient. Furthermore, pupils entering the high school were not remaining, the loss in the freshman class, largely due to a change in the methods of teaching employed, amounting to about 30 per cent. The marked increase in high-school attendance under the present plan is evidence of its success.

Richmond, Ind. T. A. Mott, superintendent.—Since 1896 the seventh and eighth grades of this city have been congregated in a separate building, centrally situated, where the work is carried on departmentally, as in the high school. Promotion in this school is made by subjects and credits, rather than by classes. For the past 10 years the department has offered three lines of work in this school, each of which leads to the high school—a Latin course, a German course, and one in which the study of English predominates. The great majority of the pupils divide between the Latin and German courses, for each of which they may receive two or three high-school credits for their work, thus enabling them either to complete their high-school work in a shorter time or to elect additional subjects. Furthermore, pupils in the eighth grade who have done strong work in the seventh are permitted to take high-school algebra in addition to their regular work; thus the pupils of exceptional ability are provided for. "We are more than pleased," the superintendent wrote, "with the plan. We do better grammar-school work than under the old arrangement, and more pupils go on to the high school from the eighth grade than formerly." The size of the building used for the intermediate grades determined that two of the grades only should be assigned to the lower high school and that four should be congregated at the upper high-school building. Had the buildings permitted, the ninth grade would have been kept with the seventh and eighth grades.[1]

Concord, N. H. L. J. Rundlett, superintendent.—In September, 1910, the old plan of eight years elementary and four years secondary was changed to six years elementary and five years secondary, and the latter division was broken into two groups, one of two years (lower) and the other of three

[1] For course of study see Appendix, p. 184.

years (upper), each in separate buildings. By this plan a year's time is saved, for it was thought that the year could readily be compensated for through carefully conserving the recitation periods, where it was believed much time was being wasted. The superintendent also urged, among other merits, that the plan would enable the child of the laborer to remain in school longer; that it would enable poor students to enter college earlier; and that it would eliminate what, under the old plan, would be the freshman class from the athletic and social dissipations of the high school.

In effecting the reorganization the plan was submitted to the board of education and then to the people through the press. The superintendent addressed several meetings of the citizens on the details of the proposal. The chief obstacle to its adoption, however, was not with the people, but with the teachers of the high school, who seemed to shrink at the thought of breaking with tradition.

The superintendent is pleased with the results. He writes:

> This arrangement has accomplished all the things hoped for it, and besides has cemented more closely the courses of study in the elementary and high schools; has fitted more closely the textbooks and methods of teaching to the ages of the pupils; has also enabled the teachers to accomplish more with the old first year in the high school than was ever accomplished before in the history of our schools. Furthermore, it has enabled pupils to choose from high-school courses earlier and with better guidance, and to raise the standard of scholarship in all grades below those conducted on the old high-school plan.[1]

Los Angeles, Cal. J. H. Francis, superintendent.—In September, 1910, the seventh and eighth grades of several schools in one section of Los Angeles were congregated at the San Pedro Street School (B. W. Reed, principal) for departmental work, in which certain optional subjects were offered and in which promotion was made by points. So well did the experiment succeed that in September, 1911, four buildings, situated at points central to important attendance districts, were cleared of lower-grade children and filled with the seventh, eighth, and ninth grades, who were drawn from the schools which they formerly attended. The department is also committed to the plan of extending the high school upward two years as well as downward. Ultimately, when all details have been worked out, the school department will comprise the following groups: An elementary division, beyond the kindergarten, of six years; an "intermediate-school" division of three years; and a "high-school" period, covering five years and giving work which is the equivalent of that to be had in the freshman and sophomore years of college curricula.

Supt. Francis, in speaking of the organization, writes as follows:

> This grouping is necessary from physiological, psychological, and sociological viewpoints.
>
> Physiologically and psychologically the content of things taught and the method of presentation should differ with the preadolescent and the adolescent child. The principles involved are too well known to the teacher to justify discussion. With the facts so patent and well known, the marvel is we have tolerated the present grouping so long.
>
> From the sociological viewpoint we hope to benefit greatly the child who will attend high school, the child who will not attend high school, the pupils who will go to the university, and the pupils who will not go to the university. Of these groups we regard the second and last as of greatest importance. A fifth thing, and no less important, we hope to accomplish is that of holding boys and girls in school through the only logical and rational means, that of interest in the work they are doing.
>
> I have no doubt but that the new grouping will result in—
>
> (1) A saving of time. All that is meritorious that we are accomplishing in our 16 years of school work can be done better in 14 years, under proper

[1] For course of study see Appendix, p. 168.

organization. There is enough that we are not doing, and that should be done, to occupy the other two years.

(2) A conservation of right ideals. The attitude of the average pupil toward scholarship and mental attainments is not sound, and as a result our schools are not producing thinkers. I believe the content and methods of instruction in seventh and eighth grades under the old plan to be responsible in part for this undesirable condition.

(3) A larger number and better class of students in the high schools and universities. Both to-day are carrying many who should not be there, for they lack purpose and will not make adequate returns to society for the money and the effort expended upon them. On the other hand, there are countless numbers who should be in attendance in these schools and are not because of discouragements due to courses of study and the time and money necessary to get what they desire.

(4) A grouping and presentation of subjects that will enable us to do for the intermediate pupil what the high school to-day is doing for its pupils.

(5) A grouping and presentation of subjects that will enable our 14-year high schools to produce technically trained men and women in music, art, commerce, industry, agriculture, and home economics.

(6) Allowing the university to occupy its legitimate field and do real university work.

I thoroughly believe that the reorganization of the school system along these lines is the largest and most significant educational movement in modern times.[1]

Berkeley, Cal. Frank F. Bunker, formerly superintendent.—In December, 1909, the board of education authorized the reorganization of the schools on the basis of a six-three-three grouping. The plan proposed that, at or near the center of each geographical quarter of the city, there should be erected a separate building, adapted particularly to the needs of the seventh, eighth, and ninth grades of the section. At the center of the city stood the high-school building, which, it was proposed, should be reserved for the tenth, eleventh, and twelfth grades. In January, 1910, three lower high schools were opened and the necessary transfers made. In August, 1911, the fourth school of the same character was opened, which date marked the end of the transition period, during which time the change from the old to the new system was being brought about. The plan, in respect to the form of organization, is now in full operation. A detailed description, together with a discussion of the difficulties which arose in its inauguration, are to be found in the next chapter.[2]

Minneapolis, Minn. Charles M. Jordan, superintendent.—The effort which is being made in Minneapolis by one of the civic clubs to secure the adoption of an educational plan wherein the divisions shall be based on function, and the discussion which this effort is arousing, will be helpful to other communities which are seeking to bring about a similar reorganization. The educational committee of the Minneapolis Commercial Club took up a careful consideration of the whole question of the reorganization of the public-school system of Minneapolis. After a discussion covering a year and a half the committee submitted in April, 1910, a report to the public-affairs committee of the club, with the request that, if it met with approval, the committee be authorized to present the plan to the board of education and urge its adoption. By unanimous vote the public-affairs committee approved the report and authorized the educational committee to lay it before the board of education and shortly thereafter this was done. The board referred the committee's plan to Supt. Jordan, with the request that he present his objections to its adoption. More recently the board has appointed a committee of 20 grade-school principals to examine the proposals at greater length. Because the Minneapolis discussion

[1] For course of study in intermediate schools see Appendix, p. 167.
[2] For course of study see Appendix, pp. 169–172.

goes to the heart of the matter and, therefore, is of general interest, it is here given in full:

A PLAN FOR THE REARRANGEMENT OF THE PUBLIC SCHOOL SYSTEM OF THE CITY OF MINNEAPOLIS.

I. THE PLAN.

A. We recommend that intermediate schools be established comprising the seventh, eighth, and ninth grades. This involves—

(*a*) The housing of these grades together in buildings exclusively devoted to that purpose.

(*b*) The establishment of such administrative relations between each high school and the intermediate schools in its district as to avoid any hiatus between them, any duplication of work, or any lowering of the standard in such high-school subjects as may continue to be offered in the ninth grade.

We would suggest that this end may be most surely attained by making each high-school principal the supervisor of the intermediate schools in his district.

B. We further recommend that differentiation begin at the seventh grade, at least to the extent of offering two parallel courses, one containing much handwork and intensive training in practical branches, the other emphasizing preparation for high school.

C. Finally, we recommend that promotion in the intermediate schools be by subjects in place of by grades.

II. THE REASONS.

In our opinion the foregoing provisions are all equally essential to the success of the plan. The reasons for this conclusion are, in brief, as follows:

1. A thousand pupils drop out of school every year in Minneapolis during or at the end of the eighth grade, and another thousand during or at the end of the ninth grade; that is, before being in high school long enough to accomplish anything worth while. If this combined army of 2,000 children who now leave school every year in Minneapolis prepared for doing nothing in particular could be given a unified course, under one roof, beginning at the seventh grade, the effect would be—(*a*) to hold in school through the ninth grade many of those who now leave during or at the end of the eighth grade; and (*b*) to give them all a far more valuable preparation for practical life than is now possible.

2. At about 12 years of age, which usually marks the beginning of adolescence, children begin to differ markedly in their tastes and capacity; and to attempt longer to teach them all everything offered in these grades, or which may profitably be offered there, is in our opinion a grievous waste of the pupils' time, the teachers' energy, and the people's money.

3. In the face of these growing differences between pupils, to compel them to repeat subjects which they have mastered, merely because they have failed in other subjects in the same grade, is to cultivate apathy and distaste for school.

4. A large percentage of those who leave school during the eighth and ninth years are boys, and it is well known that many of these now lack interest and energy in school work. We believe that such changes as are recommended would tend to hold their interest and increase their energy during these years. Moreover, if interest in school work is once aroused many who would otherwise drop out at the first opportunity are likely to continue through the entire high-school course.

5. By concentrating the work of these three grades in relatively few centers, yet so placed as to be within walking distance for children 12 to 15 years of age, it would be possible to provide assembly halls, gymnasiums, and ample facilities for handword of all kinds. Such rooms and facilities are imperatively needed for children in these grades, yet can not be provided on an adequate scale for all school buildings except at prohibitive cost.

6. By such concentration it would also be possible to equalize classes, avoiding both very large and very small sections. In this way the efficiency of the work could be notably increased.

7. By concentration of these grades it would likewise be possible to have teachers devote themselves to whatever line of work they can do best, thus reducing the pressure on teachers and improving the quality of their work.

8. By separating the larger from the smaller children the problem of discipline would be materially simplified, since the methods suited to one age are not suited to another. In this way the principals would be freed from many needless annoyances and enabled more effectively to supervise the work of teaching.

9. It is impossible, and it would be undesirable if possible, to train boys of 12 to 15 or 16 years of age for definite trades; but it is possible and highly desirable to give them such general training of the hand and eye as shall enable them readily to adapt themselves to the requirements of whatever occupation they finally enter. This we regard as one of the most important ends to be obtained by the provisions of a unified course under one roof for grades 7, 8, and 9.

10. Finally, the plan proposed would in our opinion make for economy as well as efficiency.

In the first place, assuming the number of children to remain the same, it would involve merely the rearrangement of certain district boundaries and the provision of assembly halls, gymnasiums, and workshops. But some schools already have certain of these facilities, and we understand that others are clamoring for them. Even supposing that the expense of equipping the intermediate schools would be greater than the expense for such other schools as would obtain these facilities anyway, it would still be true that the saving achieved by equalizing classes and by using the equipment for handwork up to its full capacity would in the end more than offset such additional expense of equipment.

In the second place, if the intermediate schools should render school work not only more effective but also so much more attractive as to hold in school many who now drop out and thus increase the number of children to be educated, we have full confidence that the people of Minneapolis would rejoice in the fact and consider money so spent well spent.

Respectfully submitted.

E. V. ROBINSON, *Chairman.*

SUPERINTENDENT JORDAN'S REPORT TO THE BOARD OF EDUCATION.

My opinion is asked by the board concerning the feasibility of the plan for intermediate schools submitted to the board by the educational committee of the commercial club.

While there are some excellent suggestions in the plan with which schoolmen have long been familiar, I am opposed to its adoption by the board of education for the following reasons:

1. It would involve an entire reorganization of the school system, which would necessarily extend over several years.

2. It would, in my judgment, involve a large expenditure for suitable buildings and would increase instead of diminish the cost of maintenance.

3. It would make a natural stopping place for boys and girls of the ninth grade, and would diminish instead of increase high-school attendance.

4. It would largely reduce the attendance in the high schools, although at the present time the board has already made arrangements to largely increase their capacity.

5. The so-called "bridge" between courses by which a pupil could pass from one course to the other is not feasible if the courses be as radically different as I understand the plan of the club contemplates.

6. There is no evidence whatever to show that the proposed arrangement will hold in school the boys and girls who now leave.

7. While I believe in extending as far as possible industrial work in the schools, I do not believe that at the beginning of the seventh grade it is usually possible for the children or teachers to decide which of two entirely distinct courses—one largely literary and the other largely industrial—the pupils should pursue.

I would suggest in place of this plan a general plan as follows, which, however, will be only an experiment:

That in the location and erection of new buildings for the coming year the board have in mind the idea of massing the seventh and eighth grades as far as possible. In this case, if it were desirable to have two courses, a change could readily be made in the high-school courses so that either grade course could easily articulate with the corresponding course in the high school.

So far as departmental work is concerned, which is so strongly recommended by the committee, it has been in use in many of the Minneapolis schools for years. Promotion by subjects instead of by grades need involve no change of system.

I take the liberty of adding that the difficulty, in my judgment, is not in the seventh, eighth, and ninth grades, but in the grades below. The primary grades especially are so crowded that it is impossible for the teacher to properly prepare the large number of children which she has under her charge for the next higher grade, and for this reason retardation, of which we hear so much, is most in evidence in the lower grades. With the number of children per teacher reduced, with a helper in each building for the children who are behind in their work, and with a few ungraded rooms in different parts of the city to which abnormal children might be sent, I think the problem of retaining pupils in school through the seventh and eighth grades, and even through the high schools, would be practically solved.

State of New York, Department of Education. Andrew S. Draper, late commissioner.—Perhaps the most significant and far-reaching step toward reorganizing the school system on a functional basis which has yet been made in the United States was that taken by the school authorities of the State of New York under the distinguished leadership of Andrew S. Draper, late commissioner of education. Speaking upon the significance of this step, Dr. De Garmo, of Cornell University, recently said:

Unless my perspective is wrong, this New York reorganization, whereby we can keep and even emphasize our democracy and at the same time make the European efficiency in secondary education possible, and can, moreover, establish a type of industrial education of the masses suitable to our conditions, so different from those of Europe, will spread to the other States of our Union and will ultimately become the accepted type of organization of education in all countries that are at bottom democratic. I therefore consider this the best piece of constructive educational statesmanship since the time of Horace Mann.

The plan which was adopted in September (1910), and which is being rapidly accepted by the schools of the State, proposes that, from the standpoint of the content of school work, the entire school period below the college be broken into three groups: The elementary group, embracing the first six years of school life; the intermediate group, comprising the seventh and eighth years; and the high-school group, covering the usual ninth, tenth, eleventh, and twelfth years. Ultimately, it is thought, the ninth grade may be added to the intermediate course, though at the present time, owing to the physical organization of the schools, the condition of the buildings in cities and villages, and other local difficulties, it seems impracticable to make the shift. The character and scope of the change which was proposed were briefly set forth in the following statement, introductory to the "Course of Study and Syllabus for the Elementary Schools" (1910):

In determining the work of the elementary schools a six-year course has been prepared. This course is general in character and adapted to all children until that period of their development when they manifest different interests, mental powers, and tastes, which is usually at the age of 12.

This six-year course is followed by an intermediate course of two years covering the usual seventh and eighth grades and rounding out the elementary course. In this two-year course the work begins to differentiate. Work is planned which leads to the long-established high-school courses, to commercial courses, and to industrial courses. Certain work previously done in the high-school course has been brought down in this two-year course to economize the pupils' time, to reduce the pressure and strain under which high-school students have labored during their first years in high school, and to interest pupils in work which will induce them to remain in school for a greater number of years.

There are, therefore, the following courses:

I. Six-year elementary course.

II. Intermediate course, seventh and eighth years.

When, in 1905, the educational department of the State was reorganized, a syllabus for the elementary schools, then comprising eight grades, was adopted, but with the expressed belief that it should be revised at the end of five years. One year prior to the expiration of this five-year period Mr. Draper expressed his conclusions respecting the lines along which the revision of the elementary course should be made.[1] In brief, his conclusions were: That the next syllabus should cover a period of six years instead of eight; that the instruction given all pupils during the first period should be the same, irrespective of the courses pursued thereafter; that near the age of 12 there should begin a differentiation in course of study for different groups of children; that it must not be understood that all elementary work will cease at the end of the sixth grade; and that the proposed six-year syllabus will articulate with the elementary work between that of such six years and the regular academic work and lead to courses in trade schools, commercial schools, and high schools of the present standard.

The intermediate school, as it is developing in the State of New York, seems to afford a particularly fortunate opportunity, for localities desiring it, to introduce work of an industrial and vocational character. The progress of this tendency is sketched by Mr. Draper in the seventh annual report, issued by his department in 1911, under the caption "Intermediate Industrial Schools":

Those cities and union free-school districts which have availed themselves of the provisions of the education law, which provide for industrial education by establishing industrial or vocational schools, have admitted into such schools pupils who would nominally be in the seventh and eighth years of the elementary schools. These pupils in attendance upon vocational schools are taking work based upon the elementary syllabus. Special provision was made in the syllabus for such pupils by introducing commercial and industrial geography, industrial arithmetic, household economy, mechanic arts, and mechanical drawing. In developing the courses of study it was assumed that all pupils in the seventh and eighth years, irrespective of their future plans, would study similar English literature and composition, history, civics, and physiology. Discrimination need not be made in teaching these subjects in the seventh and eighth grades to the various groups of pupils. Facility in the intelligent use of the English language, knowledge of the civic duties and privileges of the citizen, and definite information regarding the functions and care of the body are essential qualities to the development of thinking boys and girls, irrespective of their probable vocations or the higher schools which they may attend.

Primarily these schools do the work preparatory to the trade schools, for, according to the law, one of the requirements for entrance to the latter schools is that the pupils should have completed the general industrial schools. There is, however, nothing to prevent the graduates of the two-year industrial course from entering the regular high schools, as pupils who take industrial work in the seventh and eighth years of the elementary school are also required to take English, history, geography, physiology, and arithmetic. While the treatment of subject matter is somewhat different from that given the regular pupils in the corresponding year of the elementary schools, there need be no doubt that the mental development attained is as great for one class of students as for the other.

At the same time it must be borne in mind that some pupils will wish to enter the regular secondary school. Some pupils are likely to discover that they have little aptitude for industrial vocations, and, furthermore, they may have ample means, both material and mental, to pursue the academic course and to postpone the time when they must think of their future vocations. Experience has already shown, however, that the majority of graduates of the intermediate schools do not desire to enter the regular high schools; but in order to provide for those who do wish to enter such schools the board of regents has made a regulation covering their case. It has been provided that students who have completed eight years in the elementary schools—six years of which have been in the regular elementary work as outlined in the syllabus, and two years of which have been in the intermediate industrial school work corresponding to the seventh and eighth grades—may enter the regular high school.

[1] Fifth An. Rep. Ed. Dept., State of N. Y. (1909), pp. 6–8.

There has been greater interest shown in the State in the establishment of these intermediate industrial schools open to pupils who are in the seventh and eighth years, or who are 14 years of age, than has been shown in the establishment of trade schools. This is in line with the natural development of the movement for industrial education. It is in the natural order of things to begin with those phases of a new system of education which are most needed and which are most logical in the complete development of an entire system. Everywhere it is recognized that one of the main arguments for industrial education is that it will provide educational facilities for children who would otherwise leave school at the fourteenth year and enter unskilled industries. Furthermore, the problem of holding children in school until they have attainments which can never be taken away from them is worthy of great consideration. Every child should remain in the elementary school until he is prepared to enter a higher school or until he has a training which fits him to know what he wants to do in life, some preparation for his chosen vocation, as well as a solid grounding in the fundamentals. Industrial training aims to meet these conditions, and as the intermediate industrial schools increase in number, and as their graduates clamor for advanced training for the industries, we may expect that the localities will provide for the other class of schools outlined in the law.

The Philippine Islands, Department of Education.—It is interesting to observe how nearly the men who shaped the educational system of the Philippines have approached the grouping toward which American cities are now tending. The bureau of education of the Philippines was established in 1900—

to give to every inhabitant of the Philippine Islands a primary—but thoroughly modern—education, to thereby fit the race for participation in self-government and for every sphere of activity offered by the life of the Far East, and to supplant the Spanish language by the introduction of English, as a basis of education and a means of intercourse and communication.

The beginning of the educational system was laid during the superintendency of Dr. Fred W. Atkinson, but assumed its present form of organization, which in its important features is doubtless permanent, under the direction of Dr. David P. Barrows, general superintendent of education (1903–1909).[1]

As originally planned by Dr. Barrows, provision was made for a school period covering 12 years, of which the elementary division embraced 6 years; the secondary period 4 years, with the last 2 years reserved for subjects of study usually found in a college course—the whole leading to the granting of the bachelor of arts degree. It was believed that the essentials of the academic courses, which in the United States require eight years, could be given in six years. Inasmuch, however, as the resources at the command of the department were not sufficient to guarantee to all of the children a schooling period of six years, this division was broken into two parts, of three years each, covered, respectively, by the "primary" and "intermediate" schools.

The work of the primary school, it was expected, would in the course of 10 years practically eliminate illiteracy among the children of the rising generation, and would give to those who could not afford to spend more than three years in school a knowledge of essentials and a moral, physical, and mental training "sufficient to equip them for the modest demands of a modest life." To fill the interval in the child's training between the primary school and the secondary courses of the high school, as well as to enable those who could afford to do so to continue their work beyond the brief course of the first three years, the intermediate schools, covering the last three years of the elementary division, were devised. It was found, however, that while the academic work deemed essential could be given in the six years covered by the primary and intermediate schools, it was impossible to give, in addition, as much attention to

[1] See reports of the secretary of public instruction and of the general superintendent of education in *Reports of Philippine Commission.*

preparation for industrial efficiency in the primary grades as the need required. In 1907, therefore, the course of study was revised and one year added to the work of the primary school.

As the length of the intermediate course was not changed, the elementary division now comprises a period of seven years, instead of six, as originally outlined, although it is possible for a child who is planning for a professional life to limit himself to the academic work of the elementary period and thus complete the course in six years. In other departments the original time scheme still holds, so that the entire period of schooling provides for 12 or 13 years, instead of the 12 only which obtained prior to 1907.

While provision has not yet been made, except in Manila, for the training corresponding to that given in the freshman and sophomore courses of American colleges, yet the scheme which has been planned provides that opportunity for work of this character shall ultimately be given in the high schools of the several territorial divisions. When this step shall have been taken the Philippine educational system will, in the essential features respecting the grouping of grades and their articulation, be in close correspondence with the arrangement which is coming rapidly to obtain in America—that of six years in the elementary division and six or eight years in the secondary division—the whole leading to the "junior certificate," or possibly, as some are urging, to the bachelor of arts degree.

It may be of interest to mention the school organizations of Argentina and of Japan, which, in many respects, are similar to that toward which the progressive movement in this country is growing.

Argentina, Department of Education.—For more than 50 years the National Government of Argentina has been actively engaged in reorganizing its educational system and practice. In its present form the system dates back to 1884, when the form of organization which now obtains was instituted. The elementary division covers six grades of one year each, and is well organized, especially in the city of Buenos Aires. The constitution of Argentina places upon the Provinces the obligation of maintaining primary schools, but, owing to the lack of resources which characterizes many of the Provinces, the Republic has been obliged to contribute to their support. The course of instruction among the secondary schools, which are known as *liceos* and *colegios*, covers a period of five years and articulates with the elementary division. The pupil enters at about the age of 12, and by the time he reaches 17 he is prepared for the professional courses, four years in length for the most part, of some one of the three national universities.[1]

Japan, Department of Education.—While the educational organization of Japan is of remote origin, extending back to the second century after Christ, it was not until 1871 that a department of education was created, and not until 1886 that the foundations of the present system were laid. Since 1886 very earnest and intelligent attention has been given to the improvement of the system then established. In consequence of these modifications the system, articulated in all of its parts, now embraces an elementary division covering a minimum of six years, a secondary division of six years, and a division of higher education which provides the opportunity for three years of college work and five years of graduate work, the whole leading to the doctor's degree.

The elementary schools, according to imperial ordinance, are designed "to give children the rudiments of moral education and of education specially

[1] For a survey of the educational progress in Argentina see Rep. of U. S. Commis. Ed. (1909), ch. 7.

adapted to make of them good members of the community, together with such general knowledge and skill as are necessary for practical life, due attention being paid to their bodily development." These schools are divided into groups, "ordinary" elementary schools with a course of four years, obligatory for all who have reached 6 years of age; and "higher" elementary schools, wherein the course may be of two years, three years, or four years, as the particular locality determines. Inasmuch as the two-year course articulates with the schools of secondary grade, and as provision is made whereby pupils from higher elementary schools having a three or four year course are given advanced standing in the secondary schools, it is correct to say that the Japanese system is built upon an elementary division of six years.[1]

The secondary education of the country is given in middle schools, girls' higher schools, and in some of the technical, commercial, and agricultural schools which have been rapidly established since the war with Russia. The middle schools provide for the boys and afford instruction in such arts and sciences as are necessary in the preparation for higher and special education. The course of study covers five years, but a supplementary course of one year may be added for further training in the branches already studied. The work in these schools is departmental. Only those students who have completed the four-year course of the ordinary elementary schools and the two-year course of the higher elementary schools, or the equivalent of such courses, and who are 12 years of age are admitted to the middle schools. Graduates of these schools of secondary rank are admitted to the "higher schools," corresponding to our colleges, only upon competitive examination, as these schools can accommodate no more than a fifth of the number of students who apply.

The higher education of Japan is comprised in the imperial universities of the country and in the so-called higher schools. The latter are predominantly preparatory in character. The courses of study therein cover three years, and three lines of work are offered, each preparing for particular departments in the universities. The imperial universities have for their object "the teaching of such arts and sciences as are required for the purpose of the State and the prosecution of original researches in such arts and sciences." Each university consists of a "university hall" and "colleges," the university hall being established for the purpose of pursuing original research and the colleges for instruction, theoretical and practical.[2]

[1] For courses of study see Appendix, pp. 173–176.

[2] For a comprehensive description of the system as it was in 1904 see *Education in Japan*, prepared by the Department of Education (Japan), 1904, for the St. Louis Exposition.

Chapter VI.

THE PLAN ADOPTED BY BERKELEY, CAL.

CONTENTS.—The American school system in contrast with European systems—The German system—The French system—The Italian system—The English system—The secondary schools of Ireland—The secondary schools of Scotland—The Swiss system—School mortality in the American system; the studies of Thorndike, Ayres, Strayer—The plan adopted in Berkeley, Cal.—The difficulties met in its inauguration; internal organization; principals and teachers; legal difficulties; congested schools—A campaign of publicity—Jurisdiction of departmental heads—The lower high school; a transition period—Results of the arrangement—Effect on school attendance—Opportunity for changing the content of the courses of study.

The public-school system, as it has developed in America, in respect to the grouping of years and the articulation of its chief divisions, is a system which is based, in the main, on remote practices of the church, sanctioned by custom, and formulated by legal enactment. In so far as it sought to provide a mechanism whereby a child may pass, by successive steps, from division to division, on his way from the kindergarten to the university, the system has done well. Indeed, in this respect the American child, until he ultimately leaves the system, is never off the main track. At no step of the way is it incumbent upon him or his parents finally to determine his career. Moreover, having determined it, he can, at any step of the way, without loss or waste, recheck and reformulate his judgment. A child is limited in his advancement only by his ability and his application. There are no derailing switches in the American system, and in this particular it stands out in striking contrast with the systems of the Old World.

In Germany the parent must decide before his child enters school whether he is to be some kind of a mechanic or small business man, or is to adopt for his vocation some one of the professions. If the decision favors the former, then he sends his child to the *Volksschule*, which carries the masses of both sexes to the age of 14. At this age the school education of the child ceases, except that in some Prussian cities "middle" schools (*Mittelschulen*) have been established for those who are able to pay a yearly tuition fee of from $10 to $25, and which offer a course nearly parallel to the eight-year course of the elementary school.[1] Some further instruction in direct preparation

[1] A brief characterization of the *Mittelschulen* of Prussia is given in *Rep. of U. S. Com. Ed.* (1910), vol. 1, pp. 477–479.

for various trades and business occupations can be secured, also, in certain localities among the German States, through "continuation" schools, which, though independent of both the elementary schools and the schools of secondary grade, seek to build on the foundation laid in the former.

If, on the other hand, the parent desires his child to prepare for a professional career, either among the learned professions or among those requiring technical preparation, he fits him to enter some school of secondary grade (*Gymnasium*, *Realgymnasium*, or *Oberrealschule*) by procuring private instruction or by sending him to the *Vorschule* for a preparatory course of three years.[1] When, at 9 or 10, the child is ready to enter a secondary school, to begin there a nine-year period of study, the parent must define still more narrowly the future of his child. If he decides upon the *Gymnasium*, the child's course will be a classical one, in which the study of Latin and Greek predominates; if the *Realgymnasium*, Greek will be replaced by the study of modern languages, supplemented by mathematics and science; and if the *Oberrealschule* be selected, French will be substituted for Latin, and only modern subjects taught, the main object being to prepare the pupil for doing original work in mathematics and the natural sciences. Having chosen among schools, the option is ended, for the curriculum in each is so heavy that the pupil never attempts to take studies outside the prescribed course. For parents who live in localities where but one kind of school is to be found there is really no choice.

In France also the universities and secondary schools are closely related, the two orders of institutions forming a continuous and complete system of liberal and professional education, in which the secondary schools embrace two cycles of work—one of four years, beginning at 11 years of age; the other of three, terminating with the granting of the bachelor's degree—and the whole being the necessary preliminary for admission to the specialized course of the universities and the great technical schools.[2] The elementary division, on the other hand, comprises the primary schools, covering the ages from 6 to 12, which terminate with an examination entitling the successful candidate to a certificate of primary studies that exempts the holder from the obligation to attend school. Beyond these primary schools lie the higher primary schools (12 to 16), with a course

[1] It should be noted that a relatively small number leave the elementary schools each year at 9 or 10 years of age to enter the various secondary schools. In 1908–9, of an enrollment in the elementary schools of 228,455 in Berlin, 2,234 made such change. See *Rep. of U. S. Com. Ed.* (1910), vol. 1, p. 469.

[2] See *Rep. of U. S. Com. Ed.* (1902), vol. 1, p. 686; also ch. 15 for a detailed account of the reforms of 1902 in secondary education; also Compayre, in Educational Review, Feb., 1903.

covering three years, to which a fourth may be added, open to candidates above 13 years of age, for pupils who have secured the certificate of primary studies or who can pass an examination. The only point of contact between the elementary division and that of the secondary school is that pupils from the higher primary schools can enter the section of the first cycle of secondary work (section B), in which neither Latin nor Greek is taught.

Inasmuch, however, as the secondary schools are not free schools and as the certificate of primary studies, originally granted to stimulate interest in the primary schools, is secured by many at the minimum age of 11, and as, furthermore, the compulsory education period does not extend beyond 13 and is not rigidly enforced, the masses drop out of school in great numbers, few availing themselves of the coordination of the two divisions. Recently, however, through the articulation of the higher primary schools and the colleges that are of secondary rank, but established by local authorities and maintained in part by the State, a gradual approach of the primary and secondary divisions is observable. Although these colleges follow the same official programs as the lycées (the typical secondary schools of France), few of them offer the full course of instruction, so that they have formed a sort of inferior order of secondary schools, or a preparatory stage to the upper cycle (or section) of the lycées.[1]

Secondary education in Italy also is lacking in coordination with that of the elementary division. It comprises two main subdivisions: First, those schools wherein education of a technical character is given; second, the classical schools (gymnasia), that articulate with the universities. Pupils enter the latter at 8 or 9 years of age. After a course lasting five years they are prepared for the lycée, which is simply a school in which the classical studies begun in the gymnasium can be continued for three years more, thus preparing the pupil for the university. Pupils enter the gymnasien with the equivalent of the first three years of work given in the elementary schools. This preparation is secured from private tutors or in private schools, as they rarely enter from the public elementary school itself. While elementary schooling in Italy is secular, obligatory, and gratuitous from the sixth to the ninth year, yet the apathy among the masses is so great that but a small percentage of those who complete the compulsory three-year period finish the sixth school year, which is the highest in the elementary schools.[2]

In England there are no free secondary schools, and but few where the charges are within the reach of any but well-to-do people. There

[1] See *Current Tendencies in Secondary and Higher Education in France*, in *Rep. of U. S. Com. Ed.* (1910), vol. 1, pp. 413–417.

[2] In 1906 only a trifle over 7 per cent, according to Monroe in *Rep. of U. S. Com. Ed.* (1906), vol. 1, p. 77.

is no English counterpart to the free public high school of America. In consequence a secondary education is beyond the reach of the great proportion of the poorer people. A small proportion of ambitious children from the public elementary schools, however, are enabled to secure secondary schooling in favored localities through a system of free scholarships obtained by competitive examination. However, the endowments which produce these scholarships are scattered over England capriciously, as the accident of the residence of ancient donors or the appreciation of landed property may have determined.[1] Moreover, the scholarships are often competed for and obtained by the rich and liberally taught children, who look upon the scholarship as an honor, and thus the poorer and less fortunate children are crowded out. Some school boards appropriate a sum of money sufficient to secure attendance of their brightest pupils at endowed schools, but this again is appropriated on competitive examination. So difficult is it for the poor boy to secure such education that the number to be found in the two great English universities—Oxford and Cambridge—who have secured their elementary preparation in these State-aided schools is but 1 per cent of the total university enrollment, and yet 85 per cent of the entire population depends upon these elementary schools for education. In other words, the 15 per cent of population that are financially able to dispense with State-aid schools contribute 99 per cent of the university enrollment.[2]

The intermediate (secondary) schools of Ireland, like the secondary schools of England, do not form a link between the public elementary and higher institutions. In both countries they offer distinct courses, parallel in a sense to the elementary school, but extending beyond it. Again, it is difficult for the children of poor parents in each to avail themselves of its advantages.

In Scotland, on the other hand, the secondary school, as a rule, may be said to be continuous with the elementary school, connecting the latter with the university, somewhat after the arrangement in America, though unlike in that children attending such schools are obliged to pay fees. It should be said, however, that there is no country in the world that is so well provided as Scotland with scholarships, or bursaries, as they are called, to enable the poor students to attend universities and secondary schools.[3]

The only system in Europe which is at all comparable to the American system, in respect to the important place granted to the primary school, is that which has been developed among the Cantons

[1] Sharpless, *English Education*, p. 78.
[2] Ibid., pp. 80, 81.
[3] *Rep. of U. S. Com. Ed.* (1910), vol. 1, pp. 585–587; gives an account also of the reform in the bursary system.

of Switzerland. As in America, the primary school, which every Swiss child must attend for from 6 to 8 or 9 years, is the common trunk from which all other schools branch. Like the American system, again, nowhere are found preparatory grades connected directly with secondary institutions. As a consequence, the child of the wealthy parent and the child of the parent who is poor attend the same school and mingle freely, without regard to pecuniary condition or social rank.

With the possible exception of Switzerland, the school systems of Europe[1] are broken into two great divisions, one comprising the elementary schools, the other the secondary schools and the universities. Both divisions reach down to the age of school commencement, and, within the scope common to both, are parallel to each other; yet, in respect to relationship, they remain practically separate and distinct. By their origin and history the universities and secondary schools of these systems are closely related, the two institutions forming a continuous and complete system of liberal and professional education. In these systems the secondary division of education is not regarded as a second stage in a continuous process, as with us, but rather as an order of education which, coupled with the university, is superior in rank to that embraced in schools of elementary grade. This distinction arises from the belief that those who are destined for professional careers and for leadership in the State should be educated from their earliest years in a different manner and in a different class of subjects from the laboring masses. Under such systems, moreover, the entire future of the the child must be determined at an age when little can be known of his tastes and aptitudes and long before he himself is competent to form a judgment. He is thus completely at the mercy of others, and in the event a mistake is made is without recourse.

The trend of education in America during the colonial period, and well down to the middle of the next century, was in the same direction. There were many indications that as school practices crystallized into organized systems in America the same lines of demarcation would be drawn. The relatively unimportant place held during these periods by the elementary school, the fact that education was looked upon as affecting the individual rather than as a matter of concern to the State, the length of time required to develop a feeling of nationality, the dominance of the university and its demand for institutions preparatory in character, the influence of European models and precedents—all tended to make America slavish in its imita-

[1] For administrative purposes there are three divisions: Elementary, secondary, and higher, or "superior" education.

tion of the school systems of the Old World. Fortunately, however, opposing influences were at work which culminated about the middle of the last century in a sharp but victorious struggle, out of which has come a public-school system completely democratized in respect to providing a direct connection between its two poles for every child who wills it, whether rich or poor.

Despite the fact, however, that America has developed a straight path between the elementary school and the university, recent studies of school attendance show that very few of those who enter the primary grades ever reach the university. The first serious study of school elimination, made in accordance with modern statistical methods, was that by Prof. Edward L. Thorndike, of Columbia University, in 1907.[1] This bulletin started a discussion which led to a number of important investigations in the same field, the two most valuable being that by Dr. Leonard P. Ayres, of the Russell Sage Foundation, published in 1909,[2] and that by Prof. George Drayton Strayer, of Columbia University, published in 1911.[3]

In attempting to determine what proportion of the children who enter our schools drop out before completing the course, and the points in our system where this elimination is greatest, a different method of estimating the number of pupils annually entering school was used in each of these three studies. Thorndike assumed that the average enrollment of pupils in the first three grades would approximate the number of pupils entering the first grade in a given year. Ayres held that the number beginning school each year is approximately equal to the "average of the generations of the ages 7 to 12" in the school membership of the system under consideration.[4] Strayer, on the other hand, built up his investigation on the assertion that—

> the generation of children entering school in any one year is best represented by the largest age group, which is precisely a generation of children, and since it is the largest, it probably approximates more closely than any other that generation which has entered the schools during the current year.[5]

In trying to determine the general tendency of the American public-school system respecting elimination, it will be instructive to compare the conclusions reached by these investigators. By way of explanation, it should be noted that Ayres and Strayer have not corrected for pupils who are repeating their work; further, that where the numbers exceed 100 in each case the presence of repeaters is

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[1] Thorndike, *The Elimination of Pupils from School*, Bu. of Ed., Bul. No. 4, 1907.
[2] Ayres, *Laggards in Our Schools*.
[3] Strayer, *Age and Grade Census of Schools and Colleges*, Bu. of Ed., Bul. No. 5, 1911.
[4] Ayres, *Laggards in Our Schools*, p. 52.
[5] Strayer, *Age and Grade Census of Schools and Colleges*, p. 12.

indicated. The school life of every 100 children annually entering the first grade follows:

Pupils remaining in each grade out of those entering first grade.

	Elementary grades.								High-school years.			
	First.	Second.	Third.	Fourth.	Fifth.	Sixth.	Seventh.	Eighth.	First.	Second.	Third.	Fourth.
Thorndike[1]	100	100	100	90	81	68	54	40	27	17	12	8
Ayres[2]	173	129	128	120	106	90	71	51	40	19	14	10
Strayer[3] Boys	150	120	115	110	100	85	65	50	35	20	14	10
Strayer[3] Girls	140	115	110	110	95	85	75	60	45	30	20	16

[1] Thorndike, *The Elimination of Pupils from School*, p. 11.
[2] Ayres, *Laggards in Our Schools*, p. 57.
[3] Strayer, *Age and Grade Census of Schools and Colleges*, p. 135.

Noting as an exception Thorndike's belief that school elimination begins early in the primary grades, it is possible to summarize the important conclusions these investigators reached respecting the general tendency of the system, thus: Of every 100 children annually entering the first grade of our schools, practically all will reach the end of the fifth grade. Between this point and the first year of the high school, from 60 to 67 per cent of those reaching the fifth grade will be lost, leaving but from 17 to 25 of the original 100 pupils who will reach the second year of the high school. Out of this number, only from 8 to 10 will finally complete the high-school course. Studies which have been made in California show that of the 8 or 10 who graduate from the high school, fewer than 3 enter normal schools, colleges, or other schools of a grade beyond that of the high school, and of this number fewer than 1.5 remain to the end of the course.

A system in which the divisions, elementary, high school, and college, are so articulated as to permit each division to possess a distinctive function and a distinctive content shaped to meet such dominating purpose, would go far toward holding in the system the great numbers who are now falling by the wayside. The common arrangement, of assigning eight years to the period of elementary study and four years to that of secondary instruction, offers no such opportunity. Eight years, in the life of the child, beginning with the age of 6, carries him beyond the time necessary to acquire the tools of an education, and beyond the first natural division in his life, viz, that which comes with the dawn of adolescence. Its expiration finds him, if he has made normal progress through the grades, fully two years advanced into a period where nature demands a very different content and treatment from that in the period when the rudiments of

education are being acquired. While the advent of adolescence brings no greater break than does the change of night into day, yet as night differs from day, imperceptible though the transition from one to the other may be, so the characteristics of the child differ from those of the youth. The school system, in its organic form, and in the articulation of its parts, completely ignores the significant physiological and psychical changes which are ushered in with the advent of adolescence. That this phenomenon in human development is ignored by the system accounts in a very large degree for the rapid elimination in the upper grammar grades; nor will this loss be greatly decreased until an intelligent attempt is made by the educators to shape the system and the content of the courses to meet the needs that demand satisfaction.

That the present arrangement is not adequately accomplishing this is clear furthermore, not alone from the loss in the upper grades, but from that in the first year of the high school as well. Ayres claims that more than half of those enrolling in the ninth year never enter the tenth year. Whether this proportion be exact or not, educators know that the loss at this point is very large, greater, in fact, than that between the eighth grade and the high school. The reason is obvious, namely, the articulation of the two divisions is an artificial one, and one that does not meet the need for a gradual transition. The teachers in the two divisions are different in type; the administrative methods are radically different; the subjects of study in the early years of the latter division are not such as appeal to the natural interest of the pupils; in short, no proper transition has been provided between the one and the other and, in consequence, the pupil frequently becomes disheartened and drops out, with the consciousness of having failed. In many instances it is a failure for which the system in its blindness is responsible. Limiting the elementary division to six years and throwing in a three or four year period between the termination of the elementary division and the beginning of the upper half of the secondary period, which would provide a careful transition from the one to the other, would surely go far toward holding in school those who, at this point, are dropping out on account of failure to make an adjustment to the new conditions that must be met in the high school. In the reorganization plan under which the school department of Berkeley, Cal., is now operating, an attempt is made to provide such a period of transition and, at the same time, to secure a grouping of the several grades which shall be based on function rather than upon chance.

This plan, which was inaugurated in January, 1910, proposed that the 12 grades, or years, be broken into three groups: The first, elementary, to comprise the first six years of school life; the second, the

lower high school, to comprise the seventh, eighth, and ninth years; and the third, the upper high school, to embrace all pupils of the tenth, eleventh, and twelfth years. In its ideal form, the plan required separate buildings for the elementary division, a separate building for the lower high-school grades at the center of each group of elementary schools, and an upper high-school building at the geographical center of the entire city, and thus at a point equally convenient to all. In practice, it was found that the buildings that were suited in size and equipment to the work of the lower high schools were not in every case situated at points altogether central and convenient to all of a given group of elementary schools; hence objection was at once made by some of the parents concerned.

When first suggested the plan contemplated transferring all of the children in the first six grades from the central or lower high-school buildings and distributing them among the elementary schools of the respective attendance districts. It was found, however, that such action would require that the little children who were living within the shadows of the central school would be obliged to attend schools situated at prohibitive distances. Two ways of meeting this serious objection to the plan were considered: First, retaining a sufficient number of rooms for the use of the first two or three grades and transferring the entire enrollment of the fourth, fifth, and sixth grades; second, retaining six rooms, one for each of the first six grades, to accommodate those children only who resided in close proximity to the school in question. The latter method was adopted, and has worked satisfactorily.

Another serious difficulty developed in carrying the plan into effect—namely, the attachment that the children of the upper grades had formed for their respective schools, and their disinclination to leave their home school and the teachers with whom they were acquainted until their eighth-grade course was completed. This difficulty was met by requiring only those children who had completed the work of the sixth grade in the outlying buildings to come in to the central school. The grades which had already entered upon the work of the seventh and eighth years were permitted to choose whether to remain in their home schools or be transferred to the central school, such decision to be determined by majority vote of the class, after conference with the parents, and after the educational advantages to be obtained at the lower high schools had been pointed out to them. In several instances classes chose to enter the central schools immediately, but in other instances the feeling for the home school was so strong that the children remained until the completion of their eighth year's work. A transition period of one and one-half years, or three terms, however,

brought them all into the central schools, and without the necessity of distasteful compulsion.

Various difficulties arose in connection with the internal organization, especially as it affected the personnel of the school corps. The plan required that the principals of the lower high schools should hold certificates of high-school grade, and that the teachers of such schools should also be teachers empowered by law to do high-school work. A further difficulty developed respecting the salaries of the principals of the elementary schools. The salary schedule under which the principals work bases salary upon the grade of the building, which, in turn, is determined by the number of rooms occupied. For instance, a 16-room building falls into one class, whereas a 15-room building is in the class below, in respect to the principal's salary.

The first was met by a transfer of principals, an arrangement that was made easy because of the fine spirit of the men concerned. In respect to the standard of certification required of the teachers, little difficulty was experienced in practice, because those teachers at the central schools who had been doing successful work in the seventh and eighth grades were retained in their positions, and the high-school requirement was made to apply to new teachers coming into the department, who for the most part were to be assigned to the ninth grade, which in accordance with California law is the first year of the high-school division. The salary schedule was so amended as to place all teachers of the lower high schools teaching on grammar-grade certificates on the grammar-school salary schedule, and all teachers teaching on high-school certificates on the salary schedule of the high school. The third objection from the corps was met by a liberal action on the part of the board of education to the effect that the principals of the elementary schools should not suffer a loss in salary on account of a decrease in attendance during the period of transition. In these ways the objections to the plan growing out of the personal interests of the school corps were met.

Still another objection was raised—namely, that such an arrangement would be in conflict with the State laws, which view the elementary-school district and the high-school district as two separate corporate entities, the one being represented by an elementary school board of education and the other by a high-school board. Although the personnel of the two boards is the same, yet, under the law, the bodies are separate and distinct. The law provides, furthermore, that funds used for the maintenance of the elementary schools, on the one hand, and the high school, on the other, must be kept separate, both as regards income and expenditure. Again, the school law provides that certain subjects shall be taught in the elementary school

and certain others in the high school; the State also has adopted a series of textbooks, which must be used in the elementary schools; furthermore, it decrees that no teacher who does not possess a high-school certificate issued by the State authorities shall teach a class of high-school grade. These objections proved not to be serious; for, by being careful to use the State textbooks in the seventh and eighth grades of the lower high schools; to keep the record of attendance of the seventh and eighth grades separate from that of the ninth grade, upon each of which the apportionment of the State school fund in part is based; and to assign to the ninth grade only those teachers in the lower high school who were teaching on high-school certificates, it was easy to carry the plan into effect, even under a law which did not contemplate such an arrangement.

A final difficulty arose, due to congestion at the central schools owing to the growth of the city. The capacity margin of the entire department has now become exhausted, and the people must take steps toward providing for the growth of the future. Recognizing that the plan proposed involved inconvenience, it was necessary to build up in the community a strong sentiment in support of it before the board of education could be expected to take affirmative action. A period of two months, therefore, prior to its adoption by the board was devoted to a campaign of publicity. Many meetings were held by improvement clubs, mothers' clubs, parent-teachers' associations, and other civic bodies for its examination. Even the churches cooperated in the effort to place before all of the people interested in the schools the details of the plan. A printed explanation of the contemplated scheme was placed in every home in the city. Descriptive articles appeared almost daily in the columns of the local press. More than 30 meetings were held among the citizens for a discussion of the plan, during each of which full opportunity was given for the presentation and frank discussion of the objections. In consequence of this period of discussion the objections were so far overcome that practically all of the organized bodies of citizens indorsed the proposed arrangement; whereupon, with complete unanimity, the board of education authorized its inauguration, knowing that the plan would be given sympathetic trial by the people.

The form of the organization under which the lower high schools were established was that commonly found in high schools throughout the country, embracing, so far as the corps of instructors is concerned, a principal and teachers selected to combine sympathy with children [illegible] the adolescent age, and a wider scholastic outlook than ordinari[illegible]is to be found among teachers limited to a preparation for gr[illegible]ar-school work. As in the upper high school, classes are orga[illegible]ed on the basis of subjects rather than upon the basis of

school age. Promotion, as in the upper high school, is likewise upon subjects and credits received, rather than by the class system which prevails in the grades. It is also possible in these schools, within limits, to elect courses, on the assumption that it is inadvisable to require all children entering the adolescent period to pursue the same studies.

To bring about an organic unity between the work of these lower high schools and that of the upper high school, the jurisdiction of the department heads of the latter has been extended downward, to include kindred lines of work begun there. Thus, for instance, the head of the history department supervises the work in the general field of history, from the seventh grade, inclusive, upward; so with the head of the department of mathematics, of science, of English, of foreign languages, of commercial work, and of mechanic arts. In two departments—those of drawing and household arts—the work throughout the entire department, including the three divisions, is under the same supervision, respectively. In music, the work of the supervisor of the elementary grades has been extended upward, to include that of the lower high schools. The elementary schools, except for the special subjects of music, drawing, and household arts, are under the general control of a supervisor of elementary grades, who is responsible for the work of the schools embracing the first six years. Aside from offering electives within certain limitations, a differentiation has been made in the work of the lower high schools themselves. In three of the schools courses are duplicated, but in the fourth school commercial and industrial courses are emphasized, as this particular school is situated in the industrial section of the city.

In this general arrangement the lower high school is viewed as providing a three-year period between the elementary school, on the one hand, and the upper high school, on the other, which should be looked upon primarily as a transition period from the one to the other in everything except the content of the school courses. Under the traditional organization the break between the elementary school and the high school is a distinct one for the child. Standards of scholarship, methods of instruction, and methods of administration are all different. In short, under the customary procedure, the child enters a new world, and in all of these important particulars without preparation for it. The lower high school provides a three-year period, during which the chief objective in matters pertaining to school administration is that of a gradual transition from the machinery of the elementary school to that of the high school.

This transition can be brought about in several ways. The teachers of the high school are of necessity specialists; they have come into the high school after having taken undergraduate and

graduate courses, but are, for the most part, without technical training in teaching. The methods which they tend to pursue are the only methods with which they are familiar, namely, those which are prevalent among university professors, and which, obviously, are poorly adapted to high-school instruction. The point of view of such teachers tends to be that wherein the subject and its content are of paramount importance, often overshadowing interest in the pupil himself. Such conditions and such teachers are bad enough for the older pupils, but positively harmful to those coming in from teachers of a totally different type respecting preparation, sympathy, outlook, and training. By selecting teachers for the lower high school who first of all have had successful experience in teaching in the grades, and who in the second place have taken enough advanced academic work to broaden their horizon somewhat beyond that of the grade teacher, the ideal combination is secured. Furthermore, by insisting that such teachers be assigned at least two different subjects rather than one, as often obtains in the larger high schools, the tendency toward undue specialization in those early years can be checked.

Again, in the handling of the study period a transition can be effected through graduating the degree of independence granted to the pupil. Thus in the first two years of the lower high-school course it has been found desirable for each child to devote one half of a given period otherwise employed in recitation work to study under the direction of the teacher and to give the other half to the usual methods of the recitation. To assume that a pupil accustomed to the close supervision of the grade teacher on entering the high school will immediately make proper use of his free time is clearly false and one which undoubtedly is accountable for a very large percentage of high-school mortality.

In another particular the grammar-grade pupil on entering the traditional high school finds himself in confusion, because of the number of teachers with whom he comes in contact daily. He misses the one teacher to whom he was responsible in the grades and to whom he could go for advice respecting the perplexities of his school life. This is clearly the chief danger which attends departmental work. It can be eliminated only through shaping up the machinery of the school with this objective specifically in mind. It is serious enough among older pupils of high-school age, but doubly so with those just coming in from the grades, accustomed as they are to a close personal contact with their teachers.

The transition from the one-teacher regimen to one wherein there are many can be effected in the lower high schools through insisting that the work of the seventh-grade classes shall be handled in each case by not more than two teachers, one of whom shall be designated

the "advisory teacher," and upon whom shall rest the final responsibility for the progress of the individuals committed specifically to her keeping. If too much home work is being given, it is her business to regulate the matter. If a given pupil is beginning to fall behind in the work of his class or subject, it is the duty of the advisory teacher to promptly modify conditions. By the arrangement, therefore, of limiting the number of teachers of each beginner to two and gradually increasing this number as the pupil becomes more mature and better adjusted to the requirements of the school, and by the further expedient of vesting the responsibility for his progress in an advisory teacher, the chief danger of the departmental method of school organization is eliminated.

Aside from providing a three-year period of transition from the elementary school on the one hand to the more highly specialized high school on the other, there are a number of significant possibilities growing out of this plan of school organization. First of all, in respect to the elementary division: By reducing the elementary-school course from eight years to six there is presented the opportunity of condensing a course which many educational leaders now contend contains much padding. The period of the elementary school, if viewed from the standpoint of function, should be that given over primarily to securing literacy. Observation of the best schools makes it clear that this can be secured in six years at most, if the work be properly systematized and handled under advantageous conditions. The tasks of learning to read, to write a legible and fairly rapid hand, to acquire the written forms necessary to express the oral vocabulary, and to acquire the simple elements of the arithmetic used in the household are not tasks which should in themselves demand the attention of the pupil beyond the first six years of his school life. Bringing together the prime essentials of the prevalent eight-year elementary course and organizing the same, shaping up thereby a six-year course, will strengthen the work of the elementary school. It will cause the children to feel that they are doing real work. Assuming that due regard is paid to health conditions, and assuming also the presence of efficient instructors, such a body of actual essentials can be given in six years to the ordinary normal child without strain.

Furthermore, by breaking our elementary and secondary divisions into three groups, or cycles, of work, the standards of accomplishment for the lower grades will be lifted. The history of school progress shows that the necessity of passing from a lower to a higher division has always tended to stimulate the work of the former. Thus, for example, the fact that high schools have been required to meet university standards has unquestionably raised the scholarship in the high schools. Likewise the fact that our grammar schools

have promoted to the high school, and that in the latter there is a separate and distinct body of experts, in a measure passing judgment upon the work of the schools of lower grade, has tended toward betterment; but in this instance too frequently the strain of improving the work has been limited to the last year immediately preceding the high school, rather than distributed over the entire eight-year period of elementary work. Even though no direct or specific demands be made, this arrangement of introducing a cycle of work, embracing the seventh, eighth, and ninth grades, will push further down the stimulating effect.

Congregating the seventh, eighth, and ninth grades in separate buildings removes the older boys and girls from the young children, which is a decided advantage to both. With the limited playground that unfortunately obtains in most of the schools of our land, either the older children are prohibited from playing the rougher games which their natures crave and their muscles demand, or else, through fear of bodily injury the little children are crowded to one side, and fail to secure that opportunity for free exercise without restraint that they most need. Again, through such segregation, the attention of the principal and teachers can be centered upon the needs of these young children without having to divert the same to those difficult problems of management, of instruction, and of control which the adolescent child of necessity raises. Too frequently the difficulties and problems of the older children absorb the attention of the principal and his faculty to the neglect of the younger children, and in consequence there is serious weakness in the first period of school life.

By increasing the number of children attending the first six years at the elementary school, incident to eliminating the same from the lower high-school building, it will frequently be possible to secure a sufficient number to permit the realization of the ideal classification in the elementary schools, or an approximation thereto. An attendance of 400 children in a given school of this character will justify the assignment of 12 teachers. This will give to each teacher not more than a single division of children. A teacher working under such conditions should properly be held responsible for highly satisfactory results.

Even more helpful and significant is this plan of organization in the work of the second cycle—namely, the seventh, eighth, and ninth grades. In a city of some size, through congregating the children of these grades, it is possible to collect at one point a sufficient number to justify offering a choice in the subjects of study. Obviously, it would be impossible to offer any option in the usual ward school, in which are to be found the full eight grades. Enrollment rapidly

diminishes as one proceeds upward in the grades of our public schools. The eighth grade is always very much smaller than preceding ones, and frequently, in a given school, is only large enough to maintain one or two classes. Therefore it would not be practicable, from the standpoint of expense alone, to offer such grades, scattered as they are among the several schools of a city department, any variety in subjects. Such opportunity can be provided only where a sufficient number are grouped together to make each class large enough to justify the assignment of a teacher. There can be little question that, by the time young people have reached the upper grades of the grammar school, their tastes, aptitudes, and abilities are sufficiently developed to warrant an opportunity for some selection of subjects. To force all children in the seventh and eighth grades, at a time when they are entering a period of school work which should be characterized by very different ideals and goals from those which obtain in the first division, to take the same work is clearly wrong. Uniformity is a curse under which the schools have too long been laboring, and should never be insisted upon beyond that period in which the "tools" of an education are given.

An organization of a school system whereby the upper grades of the grammar schools are brought together in numbers is the only arrangement, within reasonable limits of expense, through which variety can be secured.

Such an arrangement makes possible a greater flexibility in the methods of promotion, for it enables a school to evaluate the work of the pupil and his progress, in terms of the school course by subjects and points, rather than by the traditional class system of promotion. The "lock step" in education has been justly condemned as being mechanical and positively harmful to the individual pupil who varies necessarily from the theoretical average that the teacher establishes. In recent years different methods of promotion have been attempted in the interest of such pupils. The Batavia system, the Cambridge plan, the plan of ungraded classes, the arrangement in force in the Portland (Oreg.) schools, besides variations now in effect in Chicago, Ill.; North Denver, Colo.; St. Louis, Mo.; Oakland, Cal., and other cities, are all efforts toward bringing about greater flexibility, thereby rendering the schools more helpful to the individual pupil. Each of these plans contains excellent features, but none fully reaches the difficulty. Progress by subjects, however, goes further, and gives every individual a chance to move forward as rapidly as his abilities and his will determine. Under such a method some pupils may choose to take three subjects, some four, others five, thereby individually determining the length of the period necessary to complete the work of a given cycle.

By bringing together a number of pupils of the ages and attainments of those in the seventh, eighth, and ninth grades the school principal and his faculty have an opportunity of initiating a splendid work through the student-body organization that can be formed. Such a plan provides an opportunity for developing the social consciousness of the individual, and teaching him through it how to comport himself among his fellows, and at an age when the instinct for establishing social relationships runs high. Perhaps no lesson is of greater importance to the individual than that of developing the ability to get on with his fellows without making a compromise with his moral standards. The activities coming naturally through participation in a live student-body organization provide unusual opportunities for teaching such lessons concretely, naturally, and therefore effectively. Furthermore, by means of a student-body organization high standards of conduct and character can be secured and a general school morale developed as in no other way. It has been found that a measure of student government can thereby be introduced with decided advantage to those who participate in the work and with beneficial reaction upon the tone of the school. It has been observed that students who, in the lower high school, by means of such activities develop confidence in themselves very quickly and forcibly exert their influence upon the student body in the upper high school. In short, with such an internal organization of the students as this opportunity provides, an unsuspected and undeveloped field exists, wherein can be secured highly significant results of a very practical character.

Again, a segmentation of the parts of the public-school system in the manner here indicated fully justifies the paying of high-school salaries to all the teachers in this second division who have certificates of high-school grade. Where this is done it becomes possible to command the services of young men who are college graduates, and who are willing to enter these grades as teachers and to remain therein for a time. Already one-fourth of the total number of teachers in the lower high schools are young men of fine character and ability. As vacancies arise in the teaching force of the grades, the percentage of male teachers will be increased until the sexes are about evenly balanced. The customary arrangement, wherein the seventh and eighth grades are grouped with the elementary division, and wherein the elementary-school salary schedule only applies, offers no inducement to such men. In consequence, in most communities throughout the United States the sorry spectacle can be seen of generations of boys and girls passing through the first eight years of school life without at any time ever having come under the influence of a male teacher. It frequently happens that a child is never under the

instruction of a man until he reaches the high school, and, as half of the school population of the land never enters the high school, it is clear that the criticism that our school system is tending toward a feminization of the children is a just one.

Through a grouping of the grades into three cycles, it would seem that the work of the last, the upper high school, could be made more intensive than it usually is, with higher standards of scholarship and more rigid requirements than universally obtain, and this without working a hardship upon the young people who enter the school; for it would seem that, if the work in the lower high school be carefully and efficiently done, the incoming students will have developed a much more serious attitude toward their work, will have oriented themselves better so far as their subjects are concerned, and that the break will not be so great or so discouraging as with the plan under which we have traditionally worked.

Moreover, the students entering the upper high school will have developed in the lower high school a greater cohesion than now obtains. Under the customary plan, pupils dribble into the high school in small numbers and from many schools. They are lacking in anything approaching community feeling or a feeling of group responsibility. They have had no experience in organized action and are not conscious of their individual responsibility in contributing to the establishment of a student-body sentiment that shall be high and lofty in its purpose and in its influence. In consequence, it is difficult for the student body of the school to assimilate such pupils properly and completely, and if the existing school morale be low, these incomers are in no way fitted to lift it. With three years of community life at the centers wherein the administrative methods are shaped to develop this responsibility, the pupils would necessarily enter the upper high school at a much higher level with respect to school standards than obtains under the present procedure.

There remain two items of paramount significance not yet considered: First, the effect of such an arrangement in reducing school mortality; second, the opportunity which it provides for modifying our courses of study and making the work of each cycle distinctive in purpose and in accomplished result.

Ayres's study[1] of school mortality shows that the first break in school attendance comes at the close of the fifth grade or thereabouts; that between this point and the first year of the high school 60 out of every 100 pupils leave school; that of the remaining 40 who enter high school 19 reach the second year, a loss of over 50 per cent between the first and second high-school years; and that 10 only remain to complete the secondary course. In California, 2⅙, on the average, enter normal schools, universities, and schools of a grade

[1] Ayres, *Laggards in Our Schools*.

beyond that of the high school, and 1/10 graduate. While given localities will vary from this general average, and while, indeed, Ayres's figures may not be exact,[1] they unquestionably indicate a general tendency among the city school systems of this country.

The break which begins in the fifth or sixth grade and continues through the seventh and eighth grades of the grammar school is due in part to the fact that by the time the children who have made slow progress have reached these upper grades they have come to an age which marks the termination of the compulsory school period, 14 years in most States; besides, they are now old enough to command a recognized earning power in the business world. In consequence the temptation to quit school can scarcely be resisted, particularly if their school work has been discouraging in respect to promotions. Furthermore, the work of the seventh and eighth grades is in most places differentiated in no wise from that with which they have become familiar in the lower grades. The prospect of spending two or three years beyond the fifth grade in the mere amplification and review of the elements already covered can hardly be expected to furnish any great incentive to those who have developed no overpowering ambition for an education. By terminating a cycle of work with the sixth year, unquestionably the tendency will be to hold such pupils in school at least one year longer—namely, to the end of the sixth grade. It is entirely reasonable to believe that by making the work of the next cycle different from that of the first, thus introducing elements of fresh interest, children who have not yet reached the age of 14 and who thus have not passed out from under the operation of the compulsory school law will become sufficiently interested in the work of the cycle to remain in at least until its completion. Therefore, through this arrangement those who have been retarded in the lower grades will tend to remain at least one year longer, until the first cycle of work is completed, and those who have made normal progress through the grades but who otherwise would drop out at the end of the eighth grade, when the compulsory school period for them ends, will tend also to remain a year longer, until the ninth grade is finished and the second cycle terminated.

The explanation for the break in attendance between the ninth and tenth years, which experience shows to be a heavy one under the usual grouping of grades, lies largely in the fact that the pupil coming into the high school from the grades fails to make a proper adjustment. In consequence he begins to fail in his work, he becomes disheartened and discouraged, and quits before he reaches the tenth grade; and, worst of all, he quits because he has failed. Throwing the

[1] See studies by Thorndike, Strayer, Keyes, Jones, and others.

seventh, eighth, and ninth grades together in a second cycle of work which shall have distinguishing characteristics from that which precedes it as well as from that which follows, arranging everything connected therewith to make his work a three-year transition period from the elementary school to the upper high school, and yet shaping the work so that it is a unit in itself, which can be terminated, if necessary, at the end of the ninth year—these expedients will not only tend to hold a year longer the pupil who would otherwise drop out at the end of the eighth year, but will go very far toward insuring a complete adjustment to the conditions which prevail in the upper high school. They likewise offer at the end of the ninth year an opportunity for the pupil to check up his own judgment and to determine whether his circumstances, as well as his tastes, are such as to justify him in going on for three years more of secondary work. If, after making a careful survey of such matters, he decides to leave school, he leaves conscious of having succeeded rather than of having failed, and a very different reaction upon his character follows.

It is scarcely fair to the plan which has been inaugurated recently in Berkeley to judge of its results during the period of its establishment, but the indications, in respect to the effect of the arrangement upon this problem of school mortality, are already striking. Out of a total of 453 pupils who were enrolled in the ninth grade in 1910–11, and who should normally be found the next year in the tenth grade, 118 are missing. Of the 118 pupils who did not appear in 1911–12 in the tenth grade, 20 are repeating their work in whole or in part, and hence are still in the system; 22 have moved to other cities, and are known to have entered the schools therein; 17 are working; 3 are out on account of illness; 17 went to business schools, convents, and private schools; and 39 have disappeared without leaving any clue as to their reasons or intentions. Two of these groups, that repeating work and that which has entered other public schools, aggregating 42 pupils, can not be considered as a proper charge against the local system. For the remaining 76, representing an actual loss of 16.7 per cent of the total number enrolled, the system must assume responsibility. Unfortunately, data are not available to show what the school mortality was in the ninth grade in Berkeley in previous years. While, doubtless, it was less than Ayres's averages show, it certainly did not differ in any such degree as that which obtains under the reorganized plan now in force. The response, therefore, in lessening the mortality between the ninth and tenth grades through arranging our school work in three cycles has been so immediate and decisive as to admit of no doubt respecting the tendency.

Perhaps, however, the consideration of greatest significance which such a plan of school organization offers lies in the opportunity

that it gives of radically changing the nature and the content of the courses of study.

In the commendable effort to fashion a school organization so that the path from the kindergarten to the university may be made easy and straight, the assumption has prevailed that every child passing along this way most needs that content and training which will best prepare for each succeeding grade and ultimately, in turn, for the university. In their absorption in the task of keeping such a pathway accessible to all alike, educators have failed to hit upon the fact that specific preparation for successive grades and divisions is not essential to an open track. The traditional attitude is that of one seeking to learn what the high school and the university demand of their intrants; whereas, were the university and the high school to say, as they in reason should, "We shall take pupils of requisite school experience where we find them in point of learning," the educational way would remain unobstructed, and yet all would be getting that content and training that would best prepare for living. In the face of the facts that the masses go no further than the first five or six grades, that 80 out of every 100 leave during the next three or four grades, and that less than 3 per cent ever reach the university, a course of instruction which seeks, primarily, to prepare for successive institutions on up the grade line is absurd. Instead, the matter should be put in some such way as this: Assuming that every boy and girl leaves school at the end of the sixth year, what shall the schools give? Again, assuming that everybody leaves school at the end of the ninth year, what shall the schools give? And similarly for the third cycle of work terminating with the twelfth or fourteenth year of school life: Assuming that all are to leave school and that no one is to enter the university, what should they receive at the hands of the school on this third level? The answer to these questions will comprise that content and training which will be best for those who are leaving our schools, and likewise best for those who pass on from grade to grade, finally reaching the highest institutions in our system. Furthermore, a content selected on such a basis will tend more strongly to hold our pupils in school than one based upon the idea that the chief purpose of our schools is a preparatory one. The effect of this shift in the conception of the function of our school system will be momentous. The plan of organization which Berkeley has adopted lends itself to the effective application of this conception.

Chapter VII.

THE COURSE OF STUDY—THE FIRST CYCLE.

CONTENTS.—Contributions to a science of education from the fields of child psychology, social psychology, experimental pedagogy, and experimental didactics—Criteria for determining the content of a course of study; characteristic stages in child growth; the mind of the social group—Application of the criteria to the work of the first cycle; the "tools" of an education; the mother tongue; the birth and growth of our country; an interpretation of the environment of nature; a survey of the world and its peoples; home economics and manual training; the knowledge to conserve health and protect life; a provision against the ennui of leisure hours; the chief demand of this cycle is expressed in the term "literacy."

When the science of education shall have become fully formulated we shall have ready at hand complete and verifiable conclusions relating to three important aspects of the educative process: The child, the significant psychophysical characteristics which mark stages in its growth; the demands of the social group into which the child is born and in which he must live; and the teaching method, whereby economy of time and of effort in teaching and learning is secured. In the selection of the content of a course of study, in retaining essentials and eliminating nonessentials, and in the arrangement of these details in orderly wholes wherein there shall be found a proper gradation in difficulty, we require accurate knowledge of the first two aspects—the physical and psychic characteristics of the child as they develop in the several stages of his growth, and the requirements of the social group in which the child must live. In the presentation of the body of knowledge thus selected and arranged regard must be paid to the third—that which has to do with economy of time and of effort in the teaching method. Beginnings only have thus far been made in gathering together a body of scientific knowledge in each of these fields. Child psychology is working in the first of these; social psychology is attacking the problems arising in the second of these fields; while for the third, investigations being made by experimental pedagogy and experimental didactics should yield contributions.

The advance which has been made in the first of these fields is to be credited to G. Stanley Hall and his school of child-study investigators. The field of social psychology is being marked out and the problems defined by Ross, Howard, McDougall (Oxford), Giddings,

Ward, MacDougall (New York), and others. Nothing, however, has been done as yet by these men in applying their conclusions to formal education, and least of all to the course of study. In the field of experimental pedagogy and experimental didactics America has lagged behind Germany, though through the efforts of Radosavljevich and Sanford interest is being aroused. In Germany there are many workers in this province, among whom are Meuman, Stern, Lipmann, Schultze, Lay, Kerchensteiner, Messmer, and Albien, not to mention others in some respects fully as prominent.

Progress so far made in these departments of education, while far short of where the results can properly be described by the term "science," nevertheless these results make certain that the future will see the accumulation of such a body of verifiable conclusions as will justify that term. In the meantime schools must be kept open, courses of study must be provided, children must be taught. We are still forced, in the absence of scientifically demonstrable conclusions, to fall back upon the less satisfying product of observation and personal opinion. However, in the light of the progress already made in these fields of education, our personal opinions can at least ground themselves on a basis of probability.

The Hall school of child study has made clear the existence of at least two significant periods in the development of our children—the adolescent and the preadolescent periods. Each of these is shown to have differentiating and distinguishing characteristics, both physical and mental. In the preceding chapter it was shown that the six-three-three arrangement of grades is one which recognizes these stages in child development and that it is an arrangement of school machinery making it easy for school officials to plan and carry their work into effect in conformity to the differing characteristics of these periods. In the selection of the content of a course of study and in the arrangement of the details in an orderly and progressive whole, due regard must be paid to the matter of stages in child growth.

The other criterion in this process is found in the field of social psychology. Recent discussions here have suggested an illuminating conception—namely, that the social group possesses a social mind and a social consciousness that are concrete entities, quite as concrete as are the mind and the consciousness of the individual. This idea, now generally accepted by sociologists and social psychologists, requires a word of description.

The mind of the individual, it is held, is a residual store of experiences, thoughts, emotions, which are condensed in intuitions and formulated into principles that in turn direct and modify all future experiences. The group also is a residual storehouse of experiences,

feelings, emotions, common to its members, and which direct and modify all future experiences of the group. Bit by bit, as time passes, these accumulate into bodies of common feelings, general desires, a recognized moral code, a public opinion, a general will of the community—all of which it is convenient to designate by the term "social mind."[1]

The social mind is the dominating force. It is the judge that passes in review the myriad of suggestions springing from the minds of the individuals. Most are condemned; a few ideas, suggestions, plans, schemes, are caught up by it and used. To the extent these merge in the social mind, to that extent they modify it. The social mind is constantly changing, continually growing, though slowly. It is, however, always dominant and never subordinate. Politics, government, art, invention must recognize in the social mind their master. It is so too with education. A glance at the history of this field of human endeavor will show that the educative process has always been determined by the social mind. The social mind accepted the idea of the State long before it did the idea of a State-supported school system with attendance made compulsory upon all. This followed only when the social mind accepted the idea that the integrity of the State and its permanence depended upon an educated citizenship. That education compelled this recognition of the social mind does not change the fact that the latter is dominant; at most it only serves to show that there is a reciprocal influence. In the light of history, the work of educators who have reforms to urge, and the work of those who occupy the more humble station of disciples seeking to adapt and apply the master's ideas, must in the end be evaluated by the social mind—the mind of the group. In so far as these workers have interpreted the group-mind correctly, to that degree will their work live; to the degree that they have failed in catching its purpose and spirit, to that degree will their efforts prove fruitless. In the group, then—in its feeling, its thought, its will, its mind—we find the second of our criteria for the selection of the content of the courses to be offered in each of the three cycles which is provided by the plan of organization we are discussing.

Before seeking to apply these criteria in detail, however, it should be noted that each group, each community, each nation, has its own social mind, as unlike the social mind of any other society as are its physical characteristics,[2] and that, moreover, people come together in association for a myriad reasons, forming innumerable groups—some permanent in their existence, many fleeting and evanescent. At once, then, the question arises, which group is to be appealed to

[1] Lewes, *Problems of Life and Mind: The Study of Psychology*, p. 161.
[2] Giddings, *Sociology*.

in seeking suggestions for courses of study? Obviously not religious groups exclusively, nor groups based upon political platforms, philosophical creeds, or scientific beliefs. Nor should appeal be made to those groups which, because of a strong emotional demand, are suddenly formed and, after expressing their will, as suddenly dissolve. The American public school, State supported and State controlled as it is, if it be true to the democratic principles upon which both it and the State are founded, can accept direction from no group less in its extent than that which admits to membership every normal adult American citizen. The only group satisfying such conditions is clearly the State group.

That the State group has a mind and a will, in the sense in which these terms are used by the psychologist, can not be questioned. Neither can it be questioned that in the State group are to be found great "planes of uniformity" of thought respecting the function of the public school and the results which it should secure; though neither can it be denied that these planes of uniformity are broken up into "currents," which "bear portions of the group along for a time and then cease."[1] It is to these planes of uniformity in the State group that the practical educator must appeal if he would frame a course of study which will function to the maximum in the education of our youth.

Here lies a serious difficulty. While the social mind is more than the individual mind, yet it exists only in the minds of the individuals forming the group. An analysis of the mental states of the social mind is a more difficult problem than that of the individual, for the reason that the social mind has no official and authoritative spokesman, whereas, in the case of the individual, he himself acts as the mouthpiece for the operations of his own mind. In studying the social mind, however, the individual must turn from his own mind to the study of minds in association—a much more elusive and perplexing task. Until science has evolved methods of study in this virgin field we are of necessity forced back upon the crude methods with which every science begins—the methods of observation and of trial and error. In the bold attempt to interpret the demand of the social mind respecting the content of a course of study for its schools, and to organize it in line with the interests dominant in the child in successive stages of its growth, we must recognize these limitations. However, after an interpretation has been made, it will be a simple matter to determine the degree of its validity. If the result is indorsed by the social mind, it will live; if not, it will fail, because it is not an interpretation of the mind of the State group.

[1] Ross, *Social Psychology*.

THE FIRST CYCLE.

The first question, then, for which an answer will be sought may be stated in the following way: On the assumption that every boy and girl will leave school at the end of the first six years, what do the State group and the preadolescent stage of growth demand that they receive from the school?

Differ as men may respecting details, all will agree that the first six years of school life should give the "tools" of an education; correct habits in the use of the mother tongue; familiarity with the simple thrilling story of the birth and growth of our country, with emphasis on what the citizen owes the community for what it gives him; an interpretation of the common things of nature in the environment; an elementary survey of the world and its peoples, from the traveler's viewpoint; the useful things in home economics and in manual training, the one for the girls and the other for the boys; sufficient knowledge to conserve health and protect life; and finally, provision against the ennui of leisure hours, by laying the foundations of taste in music, in art, and in literature.

Learning to read, to write, to spell, and to use the processes of arithmetic that fall within the simple situations of the child's experience, must remain now, as of old, the distinctive work of this period; for not only must the masses be given the means necessary to the free expression of their thoughts and emotions, but also, if they are to get on at all, they must be able to supplement and extend the education that they receive in school through the medium of the newspaper, the magazine, and the serious book. Fortunately, the school is not the only means which society has evolved for the education of youth, and many men have risen to places of great usefulness without the formal instruction of the school. The library, with its wealth of material; the lecture-platform; the pulpit; and the forum of political discussion—all provide compensating opportunities for an education lacking in the formal elements. Once in the possession of the so-called tools and the will to use them, an education useful, thorough, and satisfying can be secured in ways which lie outside the school. An important objective, therefore, for the school during this period of work must be that of thoroughly grounding its members in the use of these essential subjects—a task which can nowhere be accomplished so well as in the school. By doing this the school places within the possession of each child the means of overcoming the lack due to an abbreviated school course.

In reading, not only should there be secured the ability to understand the content of the written and printed page, but there is abundant reason for securing some skill in the practice of reading aloud. Ability in this particular can be made an instrument which in itself

is of power in conserving the integrity and harmony of the home, through its proper use in contributing to a feeling of companionship.

The ability to write a rapid legible hand has much value in the business world, and the pupils who leave our schools at the end of the sixth grade will often find that the possession of skill in this respect is a passport to reasonably good positions if qualities of character and alertness are also present. On the other hand, a boy who is careless and slovenly in writing, as well as in personal appearance and manner of speech, carries with him very obvious evidences of unfitness.

Along with securing skill in reading and writing must go training in the spelling of those words of our language which are within the vocabulary commonly used; for, again, the business man has little patience with the employee whose training in this respect is careless and imperfect. From the first days of school life, therefore, and continuing throughout the entire school course, the school must insist that serious attention be given to the task of learning to spell. It is desirable in this period to center the effort of the school upon a well-selected vocabulary, from which are eliminated those words which are likely to be used by the pupil infrequently, and thus gain time for a complete mastery of the form of the comparatively few words that are used almost constantly. It would seem that the matter of determining a minimum vocabulary of common words should not be difficult. An examination of the correspondence of business firms, of the vocabulary used by the newspapers and popular magazines, together with a list of the non-technical words employed by lecturers on popular topics, would give a list of words which, if thoroughly mastered, would fortify the pupil against criticism in respect to his spelling.[1]

In no particular is the work of the school more severely criticized by the men of affairs employing young people of varying ages who have dropped out of the schools than in respect to the simple processes of arithmetic. Ask any dozen men in the business world what they expect of the schools in this early period and they will reply: "Accuracy in the simple processes of arithmetic we most need." Yet in this very particular the schools most frequently fail; and the failure is largely due to the fact that, in the reaction from the highly formalized work of a generation or so ago, the pedagogical world is laboring under the idea that the repetition and drill necessary to the getting of a tangible precipitate are methods which, if pursued, suggest that the teacher possesses some of the attributes of a fossil. Freedom and effectiveness in the social group, for which this period

[1] For such a study of the vocabulary used in business and personal correspondence, see Ayres, *The Spelling Vocabularies of Personal and Business Letters*. See also Cook, W. A., and O'Shea, M. V., *The Child and His Spelling*; Ayres, L. P., *The Spelling Scale*.

of school work must prepare, do not demand a mastery of a body of mathematical principles, logically arranged and nicely articulated, such as is attempted when emphasis is laid on the subject as a whole; but they do demand the knowing very thoroughly a few special things, and in their special applications. Of this first period society rightly demands that the schools give ability to count and to read and write numbers; accuracy and rapidity in the four fundamental processes operating in the field of whole numbers and fractions; simple exercises in the application of these processes to the real problems arising in those activities involving the number relation; a knowledge of the tables of measurement which are in common use; ability to reduce such tables within three places; and, lastly, some general information concerning business practices in accounting. Whatever is given in the first six years beyond this enumeration of essentials consumes time which would better be used in other ways. While the above enumeration of essentials contemplates that generous omission be made from our texts, it also proposes that better results be obtained within the suggested limits than are usually secured in our schools; and this applies particularly to the getting of accuracy and facility in the processes.

That entirely satisfactory results, comprehended within the foregoing tool-subjects, can be secured in the first six years of school life has been completely demonstrated in various places and among various schools. The opinion that the mastery, within reasonable limits, of these largely mechanical matters demands a long period of years is entirely erroneous. Not alone from the standpoint of those who drop out of school at the end of the first six years should these results be secured, but they are needed as well by those who are going on into the work of succeeding cycles.

Along with the work of placing the "tools" of an education in the possession of the children of this early period should go the giving of correct habits in the use of the mother tongue and for reasons which are much the same. No one thing, perhaps, adds more to the personal influence of an individual than ability to express himself, in oral and written form, in terse, idiomatic English. The man out in life who has acquired this ability is bound to be a leader among his fellows. Too much attention, therefore, can not be given in this first period of school work to the acquisition of such power in the field of the vernacular.

In securing this power, however, the teacher of English is handicapped from the outset by two serious obstacles which define her limitations as well as her opportunity. In the first place the social environment of the child is against the teacher. The language of the playground, of the street, and often of the home is careless and slovenly; and in no respect do these elements of the child's environ-

ment contribute to help the teacher, but seriously increase the difficulty of her problem. Correct forms may be recognized and even used in the classroom, but outside the classroom and away from the personal influence of the teacher the tendency to lapse into the language of the environment is very strong. With arithmetic, history, geography, and, indeed, with almost all of the subjects employed in the schoolroom, the teacher begins with virgin soil. In the field of the vernacular, however, this soil has already been choked with the weeds of ungrammatical forms. It is against this formidable obstruction that the school must continually struggle.[1]

In the second place, the teacher of English, in particular, suffers because of the tendency to shift all responsibility for the formal education of the child from the home to the school. Never before in the history of the school as an institution has society placed upon it the responsibilities that now obtain. While the theory has long been held that society must stand for the development of its members into responsible, law-abiding citizens, able to care for themselves and for those dependent upon them, the practice of races and nations in this respect has lagged very far behind the theory. Much of the responsibility borne hitherto by the church and the home has been shifted to the shoulders of the school, and with this shift in responsibility has come into the home, naturally, a feeling that it need not stand sponsor in any serious measure for the things which the school is trying to do. In short, the strong movement toward paternalism which is now on in our country tends to bring about a pauperization of the home in respect to the care and training of its youth; and, in consequence, the school finds it increasingly difficult to arouse in the home more than a passing interest in the training of the child. The teacher of English is the first to feel vitally this lack of cooperation.

These difficulties that from the outset confront the teacher who is striving to establish correct habits in the use of the mother tongue suggest her opportunity, which lies through tactful effort to secure the cooperation of the home in this important work. In no department of activity undertaken by the school can very much be done, unless the intelligent and sympathetic cooperation of the home be secured. The movement toward caring for the health of the children and removing physical handicaps; the attempt to take the children off the streets during the leisure hours and congregate them at playgrounds under wise supervision; the interest now taken in determining the aptitudes of our young people from the standpoint of future occupation and the effort to guide them in the wise selection of a vocation; and the arrangements being introduced in many of our schools for training in thrift—all these, in very large measure, rest back for their success upon the interested cooperation of the home.

[1] See Chubb, *The Teaching of English*, Ch. II.

It must be so, too, in those more formal particulars that have long been the peculiar function of the school. With the tendency to shift responsibility from the home to the school, there must be a refusal of the latter to permit these two institutions to become alienated. Through the mediumship of mothers' clubs, through public meetings addressed by school officers and school officials, and through private conversation in the homes of the children, an interest in the correct and effective use of the vernacular can be secured.

A considerable factor in good citizenship is respect and reverence for the traditions associated with the growth of the Nation. The qualities of moral and physical courage, high-minded patriotism, and fertility of resource in the presence of new and difficult situations are finely expressed in the lives of American pioneers. To acquaint the children with men of such force and excellence of character, and show by concrete detail how invincible were the souls of these men in following their chosen course to its last chapter, is to implant conceptions and establish ideals whose citizenship value can not be overestimated.[1]

Biography, then, in the early grades, affords the fitting approach to a more systematic and connected narrative of the rise of our Nation, properly given in the last months of this cycle of work. In the presentation of this biographical material the teacher must remember that it is the picture of the men and of the times in which they lived that is desired rather than an epitome of facts, and that this picture can not be adequately gotten if the reading and discussion be limited to meager and barren references. Satisfactory results can be obtained only through the richness of the material presented; and for this reason the teacher should seek to bring before the children for discussion as many pertinent details as possible. Furthermore, the teacher will find that time also is a factor that must not be neglected in securing an adequate impression of the life considered. It is fatal to clear-cut impressions to pass the details of a given biography in too rapid review. The result is mental confusion and a jumble of misinformation. Fewer stories, then, and a greater wealth of organized and interesting detail—concrete imagery, simple illustration, and human feeling—will lead to the most fruitful results in work of this character. It is desirable, particularly in the early years of this period, that teachers present biographical material orally, for no author, however prolific in language, can ever produce the effect which is gotten through the interest, resource, and skill of a good teacher. Again, the average reading power of children in the primary grades is limited, and there are not many books of American biography which can easily be read by them.

[1] See McMurry, *Special Method of History*.

In the presentation of history stories the necessity for a clear geographical background can not be too greatly emphasized. Wall maps, globes, blackboard sketches, diagrams, and outline maps should be used in every story to make clear the simple geographical setting in which the action occurs. Without recourse to material of this kind the presentation of any phase of history can never be anything but confusing to the child. It is safe to say that no lesson in history should ever be given without making some reference to maps or diagrams.

The school has yet another task—to bring the potential citizen to a proper realization, in an elementary degree, of his place as an individual in the community, for if this be not accomplished there will be no focus to the work already sketched. Through discussion the pupil should be led to recognize that he is a member of a community, and not merely an individual whose time is to be occupied solely in getting a living. As a member of a community he is associated with a great many different people having differing interests, differing needs, and varying ambitions, but grouped together for a common purpose. The class community of which the child is a member is typical, and is therefore an excellent point of departure. Here the child finds all the elements of the larger community for which the school should prepare, and is brought to realize that the conditions under which all may profit depend upon self-restraint. These considerations, growing out of the child's own experience and observation, can be extended and applied to the larger communities, to the neighborhood, the city, the county, the State, and the Nation; for, at the bottom, the relationship which should obtain between the good citizen and these larger communities, of which he is to become a member, is not different from the relationship which should obtain between himself and his class community. Following such considerations, a discussion of how the larger community aids the citizen in satisfying his desire for health; in protecting his life and property; in satisfying his desire for knowledge and for beautiful surroundings; what the community does for those who do not, or who can not, contribute to its progress; and then, in turn, what the citizen owes the community for what the community is giving him, together with an elementary examination of a few of the most important parts of the machinery of government, will go far toward giving the future citizen those emotional and intellectual qualities which, combined in proper proportion, comprise the chief elements of good citizenship.

The field of science is boundless. Even within the pupil's environment the material at hand is overwhelming in variety and richness. In this first period of work the school should open the child's eyes to this beautiful and wonderful world and give him at least a desire to

learn more about it. Through the efforts of the school he should learn to identify the common flowers, cultivated and wild, and the common fruits and vegetables; he should learn why plants use rain and sunshine, earth and air, to live and work; how the fruit, roots, and sometimes other parts of the plant are used for storehouses of food, and how the ripened seed uses the animals and the winds for dispersal; and he should learn to recognize the common insects and study their habits. The mosquito, the house fly, the scale insect—how they grow and how destructive they are—should be dwelt upon, as well as the habits of the more beneficial bees and butterflies. The children should be able to recognize the common wild birds by sight and tone, the nests they build, the songs they sing, the ways that they employ for protection, and their use to man. The common domestic and wild animals of the locality should likewise be studied, beginning with the child's pets, then extending consideration to the animals which are of service to man, and then to the best known and most interesting wild animals. The underlying idea in this study of animals should be that of arousing a sympathy which will make it impossible for the child to be cruel or brutal in his treatment of them. The child ought also to be taught to refrain from the useless destruction of flowers and trees. Inanimate nature, too, should not be neglected in this interesting work. The wonders of the sun, the moon, the stars, the clouds, the winds, the rocks, the soils, and the part each plays in the economy of nature should not be overlooked.

The beginnings of this elementary work in the field of science can be made to center about the school garden, which offers a direct appeal to the natural interests of the children. The simple facts concerning the growth of plants, the life of insects and birds, and their dependence upon the plant world; questions of soil and what the plants must find in the soil upon which to grow; the weather and its bearing upon both soils and plant life; as well as a simple view of many of the industries by which people earn their livelihood—can be made to spring directly out of the little plats of ground which each child loves to claim as his own. Not only does the school garden offer the opportunity for a natural starting point for considerations of this character, but it gives an opportunity for teaching, in a concrete and effective way, some of the necessary civic virtues, such as respect for the property of others, the dignity of labor, the recognition that individual wishes must be subordinated to the common good, honesty in dealing with one's fellows, thrift and economy, as well as attention to little details. All of these qualities in an elementary degree can be emphasized in the activities associated with the school garden if the teacher be alive to her opportunity. Furthermore, through the agency of the school garden, the interest

aroused in growing things can easily be extended to the home and the city, resulting in a permanent desire to beautify these.

The work of the later years of this cycle should be accomplished through the medium of the school excursion which, under the leadership of some older person who is familiar with forest and field, can be made a most valuable adjunct to the more formal work of the classroom. Here, of course, success depends very largely upon the knowledge possessed by the leader and the skill with which she conducts her party. The blind can scarcely lead the blind, but the teacher who sees the significance of the things in the natural environment about her will find in the school excursion a wonderful opportunity for influencing the young lives in her keeping.

In the departments of home economics and of manual training there is a useful content which should be drawn upon during this first cycle of work, for about the only systematic training in preparation for the duties of the household which can be relied upon is that which the school gives. Many of the girls who drop out of school during this period and go to work in shops and factories marry at an early age, and unless the school supplies the training these enter upon their duties without adequate preparation for home-keeping. The ability to do plain sewing neatly and expeditiously, together with practice in the cooking of simple, wholesome foods, can be secured within the limits of this first cycle of work.

By the end of this period the girls should be familiar with the common stitches and seams, and know when to use them. They should understand the methods of putting on bands and how to make plackets and buttonholes. They should learn how to care for and repair clothing and develop neatness in patching and darning. They should learn further, through concrete work in sewing, how to hold the material and how to use the sewing tools in order to save time and labor. All of the foregoing should be accomplished through the making of useful articles which are of interest to the pupils, rather than through making models which in themselves are without value. The articles may well be small, in order that too many lessons may not be required for completion, as the interest of young children quickly flags. It is well, too, to begin in the early years with coarse materials, coarse thread, and large needles, and only gradually demand greater fineness of work. In the selection of materials for the articles to be made, an opportunity is presented for valuable discussions relating to the adaptability and suitability of various textiles, together with a consideration of the important item of cost. The commercial pattern and its use in making simple garments should also be explained and applied. Also some familiarity with the sewing machine should be gained.

The school course in cookery should establish orderly and neat habits in the housework processes, and arouse an interest in the care of the home. Aside from instruction in the preparation of the common dishes, the problem of using the left-over foods should also be considered. A study should be made of table setting and the serving of simple home meals, together with the cost of food materials. The proper care of the kitchen, of the stove, of supplies, of the garbage, of the various utensils should not be overlooked, for the beginning of disease can frequently be traced to insanitary kitchens. In this cycle emphasis must be laid on securing correct habits, for the pupils are as yet too young to grasp the reasons for many of the things which they will need to do on the assumption that they are to become home makers without further school work.

From the work in the manual-training shop, which the boy of this cycle can get, should come familiarity with the common tools and some readiness in their use, through making the toys and the simple useful articles in which he is interested. He can be taught how to make shelves and boxes; how to repair gates and fences; what to do when the sink gets choked up, when the door bell refuses to work, and when the stove persists in smoking. Beyond securing the dexterity in handling tools which his development will permit, he needs, quite as much as the girls, to know how to do some simple sewing, and also how to cook simple dishes. Life in the camp, now so general, makes it desirable that a course for boys be shaped up, giving the useful things in sewing and cooking. The activities of the shop, furthermore, should properly include the consideration of various industries, thus adding to the fund of general information which the pupil needs to possess if he is to become socially efficient to any considerable degree. As with sewing and cooking, no great skill can be developed in the use of shop tools in this early period, but a beginning, at least, can and should be made.

Again, before the children leave school; an elementary survey of the world and its people should have been given. This can best be done through the medium of geography. More and more, geography is coming to be recognized as the study of man, his home, and his activities, and of the forces and processes which affect him in some significant way. With each advance in knowledge concerning the conditions which have brought men to their present high place, a clearer conception is gained of the beauty and order of the system by which the processes of nature have helped make men what they are. The guiding principle in the selection of details for this period of work must still be the same, namely, the demands of the social group for which pupils are being prepared.

The group is vitally interested in the daily record of what the world as a whole is doing in the fields of diplomacy, of trade, of

science, of art—the world's serious work. It is greatly interested, too, in the relative progress which each country is making in these departments of activity, and in the struggle of each to solve the old problem of national achievement and individual development. But as all this is conditioned by altitude, climate, rainfall, occupations, rivers and mountain ranges, proximity to the seacoast, and by accessibility, it is through watching the play of these forces of environment in the progress of specific countries and localities, and through attempting to evaluate each, that there comes that clear vision and that sane judgment which our group must needs have, if it meets successfully the difficulties of the future.

The first step in the understanding of these forces in human development and achievement lies in the domain of geography. A presentation of such considerations suitable to the comprehension of the children in this early period will go very far toward lifting them out of the rut of provincialism and narrowness in thinking which are too generally the characteristics of unschooled people. The essentials of the subject, from this standpoint, can best be considered in two main divisions, namely, representative geography and those considerations which fall within the descriptive and physical aspects of the subject.

The study of geography, from the standpoint of the needs of the masses, should leave a precipitate of map conceptions and map locations. Though the idea that such work is all of geography, or indeed any considerable part of it, is not for a moment to be entertained. It is useful, for example, to have a definite mental image of the great land and water masses of the world in their relative space relations one to the other and expressed in terms of the globe and of the flat map; for such a mental image clarifies and gives point to the record of the world's happenings which each day finds its way to the homes. It is necessary to know the location of places like London, Paris, New York, Boston, New Orleans, Chicago, and San Francisco, because the social group talks, writes, and reads about these places, as well as for the reason that the influences which are directing the course of the world's progress emanate from them. It is necessary to have the salient relief features of the continents, in what heat and light zones these continents lie, and the direction of their prevailing winds, that the climate of each characteristic area, the occupations of the inhabitants of each, and the kind of civilization each has developed may be known, all of which information is a part of the common possession of the larger social group. Children leaving the grades at the end of this first cycle of work should know a modicum of map facts, and the teacher should see to it that they know it well.

As to what, in detail, these essential facts are is somewhat a matter of personal opinion, as an interpretation of what preparation will bring freedom and effectiveness in the social group must always be. It is possible to eliminate at once what has been called "sailor geography," the term referring to that information which only a mariner finds of value. It is possible to eliminate also the work of learning geography by formula, bounding States and "describing" rivers, which occupied much of the time of the teacher of geography a generation ago. Furthermore, there can be a generous omission in learning the capitals and largest cities of the several States in the Union. These are bits of encyclopedic information which the members of the social group can scarcely be expected to have at hand. It is sufficient for much of the detail of every subject to know where it is to be found when it is needed. Again, a phase of geography work which received some painstaking attention at the hands of older teachers, and which with advantage can be greatly modified, is the matter of map drawing. On the constructive side, all will agree that, to make daily reading intelligible, a clear-cut mental image of the great land and water masses in their proper space relationship is needed, together with the political and relief features in each division. In the daily formal work of creating such a mental image the most effective methods are the direct methods of repetition and drill, but with this caution: Such repetition and drill must not be verbal, but, on the other hand, of such a nature that each successive trial makes more accurate the mental image which is the chief objective of work of this character.

The content of geography has universally been organized about the several political areas of the world, irrespective of the fact that political boundaries are frequently accidental and frequently shifting, and irrespective of the fact also that a given political area may comprise, within its boundaries, geographical features that are common to other areas. An examination of the continents will show that each breaks up naturally into certain geographical regions and that each of these regions has a set of characteristics which differentiate it from every other region. Except where the two coincide, the political area should give place to the "characteristic geographical area," which offers the only natural basis for the organization of the geographical content. Furthermore, in selecting such a basis of organization, the problem of essentials, from the standpoint which we are urging, namely, the needs of the masses, is greatly simplified, for it becomes necessary to determine only those features of each "area" that are characteristic of it, and that serve to give it its individuality. It is impossible in the time at the command of the grade teacher to present any great refinement of analysis; neither is it desirable. The function of the work of this first period is not so much to make an

exhaustive study of any one subject or topic, as it is to lay a broad foundation of interest and appreciation, such as to induce the child to continue the work after he leaves school. If, then, his attention be centered upon the most obvious features of each of the characteristic areas, and if, in his mind, there be grouped in each of these regions such a body of concrete material and related detail, selected to give meaning to the "characteristics," then all will have been accomplished that our point of view demands. In short, therefore, as with representative geography, it becomes easy and possible to select the characteristic features of each of the important geographical regions, and to present these and these only in our schools.

In such presentation the teacher should rest back heavily upon the method of organized oral discussion, based, so far as possible, on the reading of interesting illustrated material by the child. A kaleidoscopic method of handling the work of the recitation not only renders the teacher's desire to check results ineffective, but it leads to mental distraction on the child's part, which ultimately works out into careless habits of reading and study.

In the course of the presentation of the given lesson unit the teacher will find that there are certain facts which have value in themselves, apart from their use in the development of the point receiving treatment. These intrinsically valuable facts should be gathered up at the close of the lesson unit and drilled upon from time to time, in order to insure their permanent retention. Through these means the child who terminates this cycle of work should have the characteristic areas of the world in mind, and associated with each, and without confusion, he should have those representative, descriptive, and physical essentials which give the several regions their individuality, and a knowledge of which the social group demands for the abundant entrance of its members.

The schools, too, must give knowledge sufficient to conserve health and protect life, for one's health and one's life and the conserving of the health and lives of others are fundamental to social efficiency. Such knowledge demands three things: A body of health information; the establishment of some common health habits; and the imparting of specific instruction, made automatic, respecting what to do when confronted with any one of a few of the common emergencies which may at any time arise in the experience of each.

Health information should be centered about the view that the human body is a living machine which accumulates energy from the food it consumes; gives off waste substances, for it can not change all of its food into energy any more than can a locomotive or a steam engine; and repairs itself as it goes along, although it finally wears out. In the discussions and investigations of the pupils respecting the important organs of the body the teacher should dwell

particularly upon those things which interfere with the proper action of this living machine, and how it may be managed so as to give the best possible work with the least waste of energy.[1] This thought should be given a place of first importance, that nature has provided the body with defenses against the things which would attack it, which, if properly conserved and cared for, will insure good health and long life.

In turn, the courses of disease should be considered and the suggestion noted that serious inroads are made only when the natural resistance power of the body has been weakened through sudden chilling; through unhealthful occupations; through loss of sleep; through poor food, or too little, or too much food; through bad habits; through debilitating climates; through breathing impure air; not to mention other common means. Contagious diseases, too, should be considered, and what students have found out about their control and cure, and how the spread of the more common ones can be prevented, with emphasis upon the final conclusion that control of these diseases is largely a matter of complete cleanliness of person and of surroundings, and that disease can not thrive where there are clean habits, sunshine, fresh air, and variety and simplicity in food. The children of this cycle are not too immature to understand much of what is being done for the health of communities. The care of the local water supply; methods for disposing of sewage and garbage; the fight against the common drinking cup, the house fly, and the mosquito; the cleaning up of streets and back yards; the antispitting crusade; the screening of edibles on display at stores; and the fight for clean milk and pure food, are all topics which are of commanding importance and in which the masses must be interested if health conditions in country and city are to be improved.

Health habits are quite as important in the life of the individual as a body of health information. It should be the duty of the home and of the school to place in the possession of every child a daily routine of personal acts, designed to insure healthful living, and their practice should be compelled until they take their places among the things which we do without thinking. If such acts do not become automatic in the life of the child, education will have failed in an important particular.[2] The place for forming the common health habits is in the home, but if, as is too frequently the case, the home has neglected this important duty, the teacher must step in and seek to make up to the child what he has lost.

Scarcely a day passes that one does not hear of some accident wherein a life could have been saved by the prompt action of some one who knew exactly what to do. In such an emergency, sympathy and

[1] See the point of view in Hoag, *Health Studies*. Heath & Co.
[2] For a suggested daily routine see Allen, *Civics and Health*, pp. 212, 213.

good intentions are no substitute for specific information. Definite knowledge respecting the emergencies which may happen any moment should be systematically imparted by the school, and the correct procedure drilled upon until the proper routine in each instance becomes relatively automatic. Furthermore, self-possession and presence of mind in the face of danger can be more certainly depended upon if the individual finds the situation one about which he has previously thought and for which he is in part prepared. The school, therefore, should give every child in this first period of its work a simple course in first aid to the injured, besides emphasizing at every opportunity the precaution which should be taken to avoid accidents.

For example, every child, in this cycle of work, should be taught how to start artificial respiration;[1] how to carry the injured; how to stop bleeding when a vein or an artery is cut; what to do when a person's clothing is on fire; how to treat the common poisons, and, more especially, how to prevent any possible chance of taking poison; how to revive a person who has fainted; what is first to be done for serious burns; how to detach a person from a live wire; what should be done when the discovery is made that a building is on fire;[2] how to get on and off street cars; how to avoid danger in crossing a street; and, further, it is my belief that every child should be taught how to swim, because in the act of learning one overcomes the fear of deep water, and thus his presence of mind may be relied on in accidents on water. The work of the schoolroom in preparation for the common emergencies should not stop with mere discussions. Actual demonstrations, wherever possible, should be made, and a specific routine in each case drilled upon so thoroughly that there will not be a moment's hesitation on the part of any child due to uncertainty or confusion of mind.

Preparation for general social efficiency, beyond which the schools can not go in this first cycle of work, demands, further, that the individual shall know how to employ his leisure profitably. It is not enough that he have possession of the "tools" of an education; that he speak and write his thoughts with clearness and ease; that he know somewhat of his own environment and that of other peoples and races; and that he be placed in possession of that body of information and habits necessary to conserving his health and protecting his life; besides all this, the school and home must consciously seek to elevate the range of his possible pleasures, for of necessity these comprise a large part of the activities of every well-ordered life.

[1] A simple way is described by Gulick, *Emergencies*, pp. 126–130.

[2] Two excellent bulletins on fire dangers and the means of prevention are used in the schools of Montana. See Clarence Maxis, *Dangers and Chemistry of Fire*, one for the primary schools and the other for grammar schools. (Prepared for the State fire marshal's department of Ohio.)

One of the highest aims of the school should be that of raising the standards of the pupils respecting their pleasures, and gradually thereby to effect a transition from those which are mainly physical and sensory in their nature to those which make an intellectual and spiritual appeal. A distinct and significant gain in the life of the individual will have been made when a good opera, a fine, wholesome play, an art exhibit, a clean, vigorous athletic contest, a thoughtful sermon or lecture, a good book will draw him away from what is cheap and vulgar. Within the fields of music, of art, and of literature will be found the content adapted to the accomplishment of this high purpose. Through a careful selection of material with due regard to the child's development, much can be done within the period embraced by the first six grades in laying the foundations of interest in and appreciation of the best things which these arts have contributed. This will go far toward turning the masses toward pleasures of a high order.

The heart of the work thus outlined is seen to do with the acquisition of a learning technique. In method, this requires reliance upon repetition and drill—methods peculiarly effective in the formation of habits—at once suggesting an interesting correlation with the characteristics of the preadolescent stage which the years of this cycle cover. This is emphasized by Hall, who, in describing the prepubescent period, says:

> Never again will there be such susceptibility to drill and discipline, such plasticity to habituation, or such ready adjustment to new conditions. It is the age of external and mechanical training. Reading, writing, drawing, manual training, musical technique, foreign languages and their pronunciation, the manipulation of numbers and of geometrical elements, and many kinds of skill have now their golden hour; and if it passes unimproved, all these can never be acquired later without a heavy handicap of disadvantage and loss. * * * The automatic powers are now at their very apex, and they can do and bear more than our degenerate pedagogy knows or dreams of.[1]

If one were to select a single word which would best express the chief demand on the school in this its first period, that word would be, perhaps, "literacy." Six years, beginning with the child of 6, is too short a time for the school to accomplish much more. Yet if this be done the child will have gained from the school the means for acquiring an education, even though circumstances compel him at this early age to drop from the ranks of his schoolfellows. Under our traditonal arrangement of grades the process of securing that which the term "literacy" denotes is dragged out over a period of eight or nine years; thus the time when habits are most easily formed is not utilized to the full, and, again, the habit-forming process, with its requisite drill and mechanical repetition, is projected past the

[1] Hall, *Youth: Its Education, Regimen, and Hygiene*, p. 5.

beginning of the period when the child's interest has shifted to content and away from form and technique. This failure of the system to recognize the fundamental changes which the dawn of adolescence ushers in, and to set them off in sharp contrast to those of the pre-adolescent age, accounts in considerable measure for the loss of interest which is frequently to be noted among the children of the upper grades of our elementary schools. It is likewise a factor contributing to the break in attendance which comes in these years.

Such are the considerations which have guided in the formation of a course of study for the elementary schools of Berkeley, Cal., the details of which have been worked out with the able assistance of Miss Alma M. Patterson, then supervisor of the elementary schools of that city, now of the Los Angeles State Normal School.

Chapter VIII.

THE COURSE OF STUDY—THE SECOND AND THIRD CYCLES.

CONTENTS.—The secondary period characterized by the phenomena of adolescence—The psychic characteristics of adolescence—Application of the criteria of growth stage and social mind—Two important tasks of the school: (1) Transmitting race experience; necessary to progress; a function of the school; denied by radicals and by individualists; (2) training for a vocation; general information necessary to a choice; tendencies in special training; nodes for vocational branch lines—In transmitting race heritage a survey of the chief departments of knowledge important; general science; general mathematics; general history; literature; foreign languages; music; art—Personal and sex hygiene.

The second and third cycles of work, broken into two equal divisions of three or of four years, dependent upon whether a given community has adopted a six or eight year secondary course, taken together cover the years in that period in the life of the youth characterized by the phenomena of adolescence. These years, according to Hall, comprise the most impressionable and, therefore, the most educable period, for this is the time, he holds, when new curiosities run high; when susceptibility, plasticity, and eagerness are pervaded by the interest to try and to plan in many different directions; when ambitions and ideals of widely divergent types force themselves upon the normal individual; when introspection, self-analysis, and self-criticism develop with extraordinary rapidity; when both the body and the mind are on the *qui vive* for excitement; when for the first time in development a person is animated by adult goals; when enthusiasm, sympathy, generosity, are at their strongest and best. Such a period is full of meaning and of opportunity for the school system that has reorganized its machinery and its form to render service thereto.

Applying broadly the criteria of growth stage and of social mind, it is noted at once that two important tasks are required of the school during this period: The induction of the youth into the storehouse of race knowledge, and the giving of specific preparation for the work which the individual is to follow throughout the years of adulthood.

Race progress has been achieved because a given generation has begun where the preceding one left off. Were it necessary for each generation to start at the same level and to work out its salvation

entirely of itself, progress would be impossible. And even though perceptible gain were achieved, its transmissibility would be lost to all who come after. As it is, however, the experiences of each generation have been organized, systematized, catalogued, labeled; and through imitation, speech, the printed page, and the conscious methods of institutions created for the purpose, race achievements have been made available for each succeeding generation. The genesis of the school lay in the recognition of the need of transmitting the body of knowledge accumulated by one generation to the youth of the next. The development and marvelous expansion of the school among civilized races has been due primarily to the faith which people have held that through its mediumship this task could best be accomplished. Yet to-day two important groups of thinkers deny that such an aim is a legitimate goal to be set up for the school.

The first of these assert that attempts to understand the past beget conservatism and make for a static condition of society. In their reaction against the worshipful attitude toward the past which the world so long held, they have swung to the opposite extreme and would break completely with the past, ignoring all that has been crystallized in the form of tradition and custom.

The second of these groups see in education nothing but the development of the innate capacities and tendencies of the child. These look upon the child only as they would upon a growing plant. Surround the latter with proper external conditions—sunshine, moisture, fertile soil—and leave it alone, the organism itself will do the rest. The scholastic content with which the child works does not matter; the important thing is that he be permitted to function normally. The school must frankly recognize that one of its chief purposes is to transmit to the youth that part of the race inheritance which the social mind deems important in the preparation for entrance into the life of the adult social group. The period of adolescence is the period beyond all others when this preparation can best be made. To induct the youth, then, into the storehouse of human experience must remain, as of old, one of the important functions of the school in this period of adolescence.

A second task of consequence rests upon the shoulders of the school, viz, making provision for preparation for the vocation to be entered. Entering a vocation involves, first of all, the choice of a vocation, and then the acquisition of that general or specific preparation which the standards of success within the vocation demand.

It is safe to assume that in a very large number of instances the adoption of a vocation is altogether a matter of chance and in no respect the result of a process of reflection, nor the expression of a judgment based upon a survey of vocations. That such haphazard

procedure has not worked out disastrously in more instances is due to the adaptability of the individual; to the wealth of opportunities for profitable occupation which have arisen in this rapidly expanding new country; and to the fact that practically all were on the same level in respect to lack of special training, thus insuring to everyone an equal chance. However, as natural resources are developed and fully exploited, as population increases and congests, as society becomes more highly organized, as specialized training becomes more and more a prerequisite for entrance, the opportunity for quickly turning from a vocation wherein one is a failure to one wherein the individual proves to be highly efficient will rapidly become rare. Whatever be the philosophical end which we hold to be that of the individual, perhaps nothing ministers to it more than the consciousness that, in his chosen work, he is rated a success. Such a consciousness makes a man strong in every branch of his activity and in every relation in life which he assumes. On the other hand, the man who has lost confidence in himself, who for any reason feels himself a failure, is a pitiful object. Society, through every instrumentality at its command, should put forth its utmost effort to prevent such a condition. Much in the accomplishment of this end can be done by the school in connection with giving general information on common vocations. Thus a proper and effective step will have been taken looking toward the prevention of our youth from gravitating later into society's army of "misfits."

The period of the second cycle, covering the seventh, eighth, ninth, and perhaps the tenth years of school life, is preeminently the time when such work should be begun, though it need not be terminated with this cycle, but extended until the point is reached where the youth actually makes a choice and enters upon the specific preparation demanded therefor.

Such information can be conveyed, in part, through systematic reading of carefully selected articles assembled with a view to setting before the young people of both sexes the salient characteristics of the common vocations of the community by which both men and women earn a livelihood. Such reading, however, should be supplemented by lectures given before the assembled student body by men and women who are recognized in the community as being successful in their respective callings and who are competent to present in pleasing form the advantages, the disadvantages, the opportunities, the training required of the particular vocation that they represent. In one of the lower high schools of Berkeley, Cal., the principal was particularly successful in securing such a series of talks for the young people of his school. The following titles arranged by him suggest the possibilities, in this respect, open to the schools of every community of any considerable size: "What it means to enter the

ministry," by a prominent clergyman; "The vocations open to women," by a woman who had given much study to the question and who herself was a successful business woman; "What the teaching profession has to offer," by a successful educator; "The possibilities of the real estate business," by the head of a large real estate firm; "The training required of a banker," by the cashier of one of the local banks; "The work of a nurse and the training required," by a professional nurse; "The plumbing trade, its scope and possibilities," by a master plumber. Such a list can be indefinitely extended and modified in any community. The information secured thus, at first hand, will go far toward insuring the intelligent choice of a vocation when the time comes for taking this most important step.

Another suggestive feature in this connection worked out by Mr. Monroe may not be so feasible in every department. A fully equipped printing and binding plant was secured by him and installed in the school. The board of education provided an expert printer. Under his direction elective courses in printing and binding were given, full scholastic credit for the same being allowed to those taking the work. The students in the assemblies were required to report each lecture. The best summary was sent to the printing department and there set up by those having elected the printing course. The galley proofs were sent to the English classes and corrected by the students as an exercise in language. Copies of the printed report were distributed among the students of the school, each being urged to take the address home, read it to the parents, and with them discuss its contents.

The giving of the general information of common vocations, then, is a step which the school can easily take. When, however, we turn from the general information of vocations, and from that general preparation, which is equally valuable in all vocations, to the matter of providing the special training required by each, the problem is much more difficult and complex, and one in which the proper place of the school does not yet fully appear.

In practice, two tendencies have arisen. According to one, the student spends part of his time in his vocation, learning its technique under normal conditions, and the remainder of his time in the school where the instruction is related more or less closely to his vocation. Under the other plan he spends the whole of his time in the school, devoting a portion of it to the occupational courses offered by the school.

Examples of the first of these tendencies are to be found in the elementary technical schools of the now famous Munich system, the "shop schools" in connection with some of the large industrial concerns in England and America, and in the schools organized after the "Cincinnati plan." Examples of a response to the second

thought are to be seen in the familiar trade schools of the United States and in the vocational and polytechnic departments of our academic high schools.[1]

Those who support the first of these plans and oppose the second would make the following assertions: To prepare fully for any considerable part of the vocations represented in a given community would require an equipment prohibitive in cost to most school departments. It is impossible for the school to simulate closely enough the normal and complex conditions under which many vocations must be conducted to make the training which it gives of much practical value. Moreover, success in a given vocation often depends more upon adaptability to conditions that can not be reproduced in the school than upon mere knowledge of technique. Pedagogues can not be expected to teach the technique of specialized vocations any more than blacksmiths can be relied upon to come into the schoolroom and teach Latin. Instead, then, of attempting to bring the vocation into the school, they assert the way out lies in taking the school to the vocation.[2]

On the other hand, those holding the contrary view assert that there are many simple occupations which can be taught wholly within the school; that the school can systematize, organize, and thus give an orderly presentation of the chief elements of an occupation more quickly and clearly than can years of work under the stress and strain of the activity itself; that opportunity can not readily be secured for practical work in the chosen vocation in a given community by all who might wish to secure the training; and that many students in our high schools wish opportunity for general polytechnic experience without committing themselves wholly to a particular occupation.

The merits of the latter plan are brought out in a statement by Charles S. Evans, head of the mechanic arts department of the Berkeley (Cal.) schools, who also sets forth in some detail the manner in which the work of his department has been organized to meet the needs of each of the two cycles into which the secondary period has there been broken:

> In the second cycle, from the seventh to the ninth grade, inclusive, the argument for manual training is the same as for the first cycle. The boy still needs the stimulating, developing influences which manual training affords, but with enlarged capabilities and increased muscular strength there is justified an added equipment of a more complex nature. At this point a new element enters—that of expertness in the use of tools and of understanding and relating mechanical processes.
>
> It would seem hardly necessary to argue that if tools are used at all they should be used in the way which experience has proved to be most effective

[1] For a detailed account of the practice in vocational training at home and abroad, see Hall, *Educational Problems*, vol. 1, Ch. VIII.

[2] Burk, in Ladies' Home Journal, March, 1913.

and economical. Aside from the psychological argument, it is sufficient justification for the maintenance of manual training that a boy, no matter what his future may be, should acquire a degree of expertness in the use of tools.

From about the seventh grade on the powers of the student are such that the emphasis is placed increasingly on this new factor--technical skill. Hardly less than four hours in the seventh and eighth grades and seven and one-half hours in the ninth should be devoted to shopwork each week, which may include time given to mechanical drawing. By means of carefully planned models, the simpler cabinetmaker's and carpenter's cutting and measuring tools are brought into use. With the possible exception of the saws, each student should learn to sharpen and care for his tools by the time he has reached the ninth grade.

All projects are made from drawings; in some cases a quick freehand sketch, but in most instances several "views" are needed. Instruction in freehand and mechanical drawing should accompany shopwork and the closest of correlation maintained between the subjects. In the ninth grade, from two and one-half to three and one-half hours per week may be given to drawing, sketching, and lettering receiving emphasis throughout the year. The mechanics of instrumental drawing, together with the principles of projection and working drawings, will furnish a year's hard work.

An ordinary boy leaving school at this time can not but reflect the years of shop discipline and system in increased responsibility, orderliness, and initiative. He will have acquired something of the power of analysis, also the ability to obey exactly, whether the order comes from another or from himself.

Technically he can use well any of the tools of the carpenter or cabinetmaker. He can draw a perspective sketch of a proposed table, make a working drawing with instruments, then trace it, and from the blue prints build the table of oak, using, besides hand tools, such machines as the surfacer, circular and band saw, as well as the jointer. After completing the construction of his chosen article, he will scrape and sand it, then fill and varnish it, rubbing down each coat.

If the boy enters one of the mechanical trades, he finds that a sure foundation in training has been laid. If not, he has knowledge of daily application, skill of daily need. In any case his adaptability and his capacity to improve have been immeasurably increased and his value to his fellows correspondingly enhanced.

The third cycle commences with us at the tenth year of school life and ends at the twelfth. The boy is now approaching manhood. Somewhat of his responsibilities is looming up before him, and consciousness of strength is dawning. In greater degree than ever before life standards should measure his work. The standard of workmanship now tends toward that of the commercial world.

Two lines of procedure are open to the student. One, a "general" course covering 10 hours per week for three years, has for its objective familiarity with the basic principles underlying a number of trades—carpentry, joinery, patternmaking, turning, blacksmithing, molding, foundry practice, machine-shop practice, and mechanical or architectural drafting. Drawing occupies one-third and tool work two-thirds of the allotted time. While the work here is highly technical, the justification, broadly made, is still educational. The "whole boy" is now at school. Three-sevenths of his school day is spent in the shop and drafting room and four-sevenths in the classroom.

The second line of procedure is the "special" course, covering about the same time as the "general" course, but centering for the major part of the three years upon a specialty in which such proficiency may be gained that either directly, as in mechanical drafting, or, after a very much shortened apprentice-

ship in certain lines of tool work, the boy may enter into the practice of his vocation.

A student in this course finds himself, upon his graduation at 18 or 19, as advanced in the technical knowledge of his chosen trade as the apprentice of two or three years standing. He knows, moreover, what the apprentice is not apt to know—the reasons for things and the underlying science as well, for he has had the inestimable advantage of instruction in algebra, geometry, trigonometry, physics, and chemistry, and he has been taught in the shop as no apprentice is ever taught. Further than this, he has studied history and the principles of government. He has had a year of bookkeeping, including business arithmetic, business papers and accounts, and he has had continuous training in writing and speaking the English language.

It is probable that the complex needs of given communities can best be met through a combination of the two plans—through cooperation with industrial concerns, whereby school and vocation shall alternate, and through the plan of bringing experts as instructors in various occupations into the school, whether it be the trade school or the more general polytechnic departments of our high schools. Whatever the plan adopted, however, and whatever course the future development of the school takes in this respect, it is clear that society demands of the school, in addition to transmitting the culture and experience of the race, also the duty of helping the youth of each generation to choose his occupation wisely and well and to secure the requisite special training for success in it.

The breaking of the secondary period into two cycles—the one ending and the other beginning at about the age of apprenticeship to the trades, that is at 15 or 16—obviously facilitates such training irrespective of which of the two general plans for securing occupational instruction is followed. Such an arrangement provides three convenient points for the articulation of the vocational branch lines with the main trunk line of secondary education. The first would come at the end of the sixth, the second at the end of the ninth or tenth grade, and the third preferably at the end of the fourteenth grade—that is, at the end of the second year of the traditional college course. Vocational offshoots from the main line at each of these three joints would provide for the following groups: The first, that at the end of the sixth grade, for the children who now drop out in the upper elementary grades, enter a business school for a few weeks, then drift into occupations requiring no special training; the second, that at the end of the ninth or tenth years, for those who are headed for technical vocations; the third, that at the end of the fourteenth grade, for those who are looking forward to professional careers. By such an arrangement three levels of vocational preparation can be secured, and yet by properly relating the work given in each to the "core" running continuously throughout the length of the system, no difficulty should be experienced by anyone

who has stepped aside at a given level in getting back on the trunk line whenever it is desired.

The details of the courses to be offered in these vocational offshoots can be determined only upon the most careful investigation of particular occupations by the experts in each. The work, however, comprising the "core" of the main line should be linked up functionally with that of the vocational courses as closely as possible. By so doing not only will the return be made easier, but, what is even more important, means will thereby be provided for vitalizing a considerable body of culture material by relating it to the concrete. In speaking of the elementary technical schools of Munich, an outgrowth of the "continuation schools" of that city, Hall describes the training of a chimney sweep, therein given, to illustrate the wide range of knowledge which can be made of direct utility when the right connections are established.

One feels, he says, that a barber, butcher, baker, cobbler, and the rest, may be an educated gentleman if he masters his craft. The chimney sweep is taught about fireplaces, hearths, stoves, steam, and other systems of heating, brick, stone, and other building material, flues, fluted and complex chimneys, their tops, ventilators, the physics of air currents and the history of house warming from Greece and Rome to our day; he knows all the tools and problems of his trade; the chemistry of soot and ash; does problems in temperature and fuel economics, fireproof construction; studies roofs, mortars, devices for reducing smoke and gas, fire extinguishers, something of house and especially of chimney construction, laws, insurance, police regulations, the use of pitch, plaster, waterspouts, etc.; there is considerable instruction concerning duties, deportment, civics, etc. Surely no boy in the later teens who has mastered such a course can be called uneducated.[1]

The broad educational possibilities of the so-called "practical" courses is also illustrated in the work of Bertha C. Prenties, head of the department of home economics in the schools of Berkeley, who, in outlining the courses for girls preparatory to the vocations associated with home making, has emphasized breadth of treatment. She has described it in the following words:

> Cookery is especially worth while in the first year of the cycle comprising the seventh, eighth, and ninth grades, as girls of this age, 12 or 13, are greatly interested in active work. Sewing will be more beneficial in the two following years, when the girls develop the natural desire to make things for personal use and adornment.
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> During the first year, then, the work will continue to establish orderly and neat habits in housework processes and to arouse an interest in the care of the house. The simple cookery problems should be continued with emphasis

[1] Hall, *Educational Problems*, vol. 1, p. 588.

upon serving and upon the cost of the materials. Where the work in cookery is carried into the second and third years of this cycle it should be much broader and should include a study of the growth, composition, manufacture, and nutritive values of the common foodstuffs, with methods of cooking and serving. Elementary laundry lessons, home nursing, and the consideration of expenditures in the home should also be included.

Courses in sewing in this cycle should include a review of hand sewing and introduce much machine work. There should be the making of garments, such as underwear and the simpler dresses. Commercial patterns should be used and their value studied. Textile study should be continued and the pupil should gain a knowledge of the relative cost of materials.

In connection with the actual work of sewing there will be opportunity to help in the all-round development of the girl. Good taste and good judgment in regard to suitability and adaptability of the materials used can be developed and a study made of their value. There will also be opportunity to develop an appreciation of the labor connected with sweatshop work and a knowledge of the cost of clothing made under decent conditions. There will thus be developed an industrial intelligence which will lend dignity to labor. The work will also aid in developing the girl in self-reliance and responsibility, especially in respect to the home and to the mother.

Where the work is an elective subject in this cycle, girls often do not realize the value of the work, so they fail to take the courses during this most important period in their life. At least one year each of cooking and sewing should be required of all girls in this cycle.

While in the average school it is not practicable to teach the various branches of this subject from the trade standpoint, a strong foundation can be laid for the vocations which provide a livelihood. It should be possible for pupils from this cycle to enter any one of several occupations as a small wage earner rather than as an apprentice. While the work, then, need not aim at teaching a trade, it can have a large place in aiding pupils in choosing a vocation and in earning a livelihood, if it is necessary for the pupil to go to work at the close of this school period.

In the third cycle of school work courses in home economics should build upon the foundation already laid in the preceding cycles. The study of the scientific side of the work should be introduced; the reasons for the technique should be given; and a study of the economic questions involved should be begun. The work here should emphasize the home as a unit of society, and the management of the home as a business needing intelligence and special training.

Courses in this cycle should include the advanced problems of cooking and sewing, together with a study of nutrition, sanitation, dietetics, and household management. Household furnishings and decoration, plain sewing, dressmaking, and millinery should also be included. Expenditures should always be considered. Textile study should be continued and include the study of materials in regard to cost and economy in purchasing.

A better knowledge of the subjects included under the study of shelter, food, and clothing will prevent the common waste through poor buying and through the extravagant use of materials which is so prevalent to-day because of the lack of special knowledge on the part of the women. Some work in home economics should be required of every girl in any high school, whether it be a classical, manual training, or polytechnic high school.

Besides the completion of the practical problems in any line of home economics work, there is much thought content to be studied. In garment making is found the opportunity of taking up machine sewing and of studying

its value in relation to hand sewing; of using commercial patterns; of studying hygiene in relation to wearing apparel; of gaining an idea of the suitability of apparel in relation to use and to income; of knowing the prices, widths, quality, etc., of materials in relation to use; and of planning the details of the wardrobe.

In the household furnishing and management courses is found the opportunity of considering the home in regard to artistic and beautiful furnishings and their relation to income; of considering the spirit of home making; of discussing its management in relation to the repair of clothing, linen, rugs, and the general care of clothing and of house furnishings and the laundering of materials; and of studying the economy of time in relation to the making and the use of home things.

In connection with the cookery courses is included a study of the effect of heat upon the food principles—protein, fats, and carbohydrates, alone and in combination; experiments with the leavening agents and the effect of these substances on digestion; the preservation of food and the effects of ferments and chemical agents in canning and preserving; the adulteration of foods; the comparative value of homemade and purchased products; the family dietary, with the selection of food to suit different conditions of life; the serving of meals with regard to comfort and economy in both cooking and serving; the cost of food and meals; and an understanding of the essential features of good marketing.

In consequence of these courses in home economics, girls are able to make undergarments, wash dresses, woolen dresses, and simple evening dresses, either for themselves or for another. They know how to buy materials, both in regard to suitability and value. They know how to select and care for household furnishings and how to cook and serve meals, both in respect to food values and to economy of time and labor in their preparation.

The work in home economics will prepare girls for greater efficiency in the occupations connected with the organization of the home by giving them a practical knowledge of foods and the proper methods of cooking, and an appreciation of the practical, economic, and artistic value of the materials of dress and household furnishings, together with an appreciation of the proper relation to be kept between income and expenditure. The work in home economics will, then, have performed its function in each of the three cycles if it has helped to raise each pupil to her highest efficiency, both as an individual and as a member of society.

Except for the courses of general rather than of special vocational character offered by the departments of mechanic arts and home economics, but one other department of the Berkeley schools, the commercial department, has as yet attempted to offer occupational training, in the narrower sense, for students on the first level of vocational training—that is, in the cycle covering the seventh, eighth, and ninth grades. One of the lower high schools, that under the direction of Principal James T. Preston, is situated in the midst of a population comprised of those who gain their living for the most part through unskilled labor. In the past, when the children of these families reached the sixth grade they began dropping out rapidly, and by the time the eighth grade was reached but a handful remained. Upon examination Mr. Preston found that many of those

leaving school spent a little time at business "colleges" and then drifted into unskilled positions which paid but a pittance. To compete with the business-school interest, he organized courses in "business arithmetic," "business English," put typewriting in the seventh, eighth, and ninth grades, bookkeeping and stenography in the eighth and ninth, and commercial law and "elementary banking" in the ninth. Along with these special subjects, work in penmanship, in history, in geography, in manual training or domestic science, in drawing, in music was continued. The effect upon attendance of this change in the character of the work offered was immediate, and for the first time in the history of the school there developed a large ninth-grade class with many individuals declaring their intention of going on into the upper high school for more advanced work along similar lines.

In this secondary period it is important that a survey of the chief departments of human knowledge be made before the individual settles down to an intensive study of lines which are intended to converge toward his future specialty. The work of the first cycle of this period, then, can well comprise the giving of courses in general science, general mathematics, general history, literature, courses affording a start in the languages for those desiring language study, music, art, and, finally, that special knowledge which science contributes relating to personal and sex hygiene, without which neither physical nor moral health can long be conserved. Thus landmarks in the chief fields of knowledge will be established which will serve to orient the pupil to a degree in the totality of race experience and culture. Furthermore, such a survey, extensive and popular rather than intensive and narrowly scholarly, harmonizes completely with the natural impulses of those entering the period of adolescence which demands change, variety, and human interest rather than completeness and logical arrangement. Again, by passing in procession before the student of this age the salient features of the important departments of knowledge, opportunity will be given for the determination of individual aptitudes and the forming of interests which may prove permanent in their enduring, and which also may fundamentally and completely modify the future course of the individual's development. Courses such as can be formulated from this point of view will provide an excellent "topping off" for those who find it impossible to continue their schooling beyond the end of the ninth or tenth year, and for those who are able to remain throughout the last cycle of the period such courses will give an excellent introduction to the more intensive work which can and should be expected in the advanced years of secondary school training.

To divide the field of science, for example, into water-tight compartments, labeling each with the terms physics, chemistry, biology,

botany, physiography, or astronomy, is a procedure that for specialists has a meaning and use, but for young students, indifferent to the reasons which have led scholars to form these cleavages, but tremendously interested in the facts and eager for a bird's-eye view of the whole, such a device is confusing, misleading, and deadening, and accounts for the distaste which many young people form for a field of knowledge that should have for them an interest dramatic in its intensity. It is not a difficult matter for the broadly prepared teacher to develop a course in science that will start with an explanation of the common phenomena of one's environment and progress from point to point, guided largely by the class interest of the moment, so that upon its completion the important conclusions in each of the special sciences will have been examined and their value and significance in the familiar things of everyday experience noted.

So, too, with mathematics. Because there is a special body of mathematical truths called algebra, and another body called geometry, and still a third called trigonometry; and because it is the custom of publishing houses to issue texts dealing with each separately; and because among teachers some like to think that they are specialists in one and some in another of these branches, we find our courses of study almost universally following the same plan. So in our high schools young people are plunged at once into "algebra," into "geometry," and later still are offered "trigonometry," and perhaps some of the branches of "higher" mathematics. Except for the inertia of teachers, it would be possible to provide a course, extending, say, over a year, that would comprise the important, yet simple, elements of each, arranged in an orderly whole and applied to the concrete situations falling within the experiences and intellectual grasp of the youth of this period. Such a course would accomplish three things: It would, in the pupil's mind, be related to his experience, and hence he would see in mathematics an instrument of practical rather than of theoretical value; it would serve as an excellent introduction to the more highly specialized branches if his interest in mathematical study developed; and it would give all the mathematics needed by one not wishing to enter technical vocations.

Such a course is not an easy one to organize, it must be admitted, and few steps have as yet been taken in this direction; nevertheless, such a general approach to the specialized branches of mathematics is possible and highly desirable. Miss Thirmuthis Brookman, head of the department of mathematics of the Berkeley schools, has made a hopeful beginning. Her analysis of the problem is as follows:

> The study of mathematics in the public schools of Berkeley is undertaken by two classes of pupils—those who need mathematics as part of their equipment as efficient citizens and home makers and those needing it as direct preparation for the earning of their livelihood. The arrangement of courses offered in

mathematics is therefore guided by two principles: First, in the earliest grades courses are offered essential to self-preservation, in order that those who leave school early may not be unduly handicapped; second, in order to avoid requiring pupils to specialize at too early an age, general courses in mathematics aim to include the essential principles required by the specialist. By this means the average pupil enlarges his horizon by studying mathematics in terms of life; at the same time the future specialist is unconsciously emphasizing the principles he will need when he chooses his vocation.

An analysis of the place of mathematics in life reveals the following classification:

I. Arithmetic of investment and of expenditure: *For the masses.*—The arithmetic of the home and of the business world and of the city, as each affects the home. How to increase the earning capacity, insurance, taxes, etc. *For the specialist.*—The arithmetic of trade, of the financial world, and of city, State, and Government revenue; bookkeeping, banking, tariffs, etc.

II. Arithmetic of measurement: *For the masses.*—The arithmetic of the home and of the business and scientific world as they affect the home; house plans, division of real estate, map reading, etc. *For the specialist.*—The arithmetic of trade and of the workshop; freight transportation, furniture making, etc.

III. Elementary algebra (formulas and equations): *For the masses.*—The algebra underlying the general literature dealing with mathematical subjects. High and low gears in bicycles, automobiles, etc. *For the specialist.*—Ability to use algebra in the science laboratory and in mechanical construction and computation. Intensity of light on city streets, revolutions per minute of an electric motor, etc.

IV. Elementary geometry and trigonometry: *For the masses.*—The principles of geometry and trigonometry underlying the general literature concerning measurement. Amount of surface in an aeroplane; elementary surveys in reclamation work. *For the specialist.*—1. The principles of geometry and trigonometry useful in the mechanical arts and in advanced mathematics. 2. Practice in proving geometrical principles as training in logical thinking and in power to grasp abstractions.

V. Advanced algebra: *For the specialist.*—1. The laws of numbers as an introduction to higher mathematics. 2. The mastery of advanced algebra as training for teachers of elementary mathematics.

From the foregoing analysis two facts stand out clearly. First, that mathematical training affects two classes—the masses and the specialist. As far as possible this distinction is recognized by making mathematics for the masses more or less compulsory and that for the specialist wholly elective.

The second fact revealed by the analysis is that as the mathematics for the masses progresses down the list it influences smaller and smaller classes of people. This fact has been recognized by drawing a dividing line between the years of study in the curriculum. At the end of the eighth grade sufficient mathematics has been completed for graduation from the lower high school, and also from the upper high school, although an additional year in the latter school is strongly recommended. At the end of the eleventh year pupils who have studied the subject each term have completed the requirements for a degree from the State university in all colleges which do not specialize in mathematics.

As far as possible the mathematics work in the Berkeley high schools has been adapted to the varying stages of the child's development. In the seventh grade children have mastered the operations of numbers through fractions and decimals, but have not learned to attach a meaning to the same. At this age they are frequently sent on errands to the stores and are familiar with the prices of sugar, but rarely handle pocket money over 25 cents a week. The boys may have paper routes or may earn money cutting lawns or running errands, but they are usually not old enough to work in stores on Saturdays. The work, therefore, consists in handling money in ways that

are connected with the home. The children learn to keep personal accounts and make out bills. They are also required to keep the home accounts of a family on an income not to exceed $100 a month. Rent, living expenses, food and clothing are at prices set by the children from their own observations. If their accounts fail to provide reasonably well for a family and to purchase a lot at Berkeley prices on the installment plan besides, the work must be repeated. In this connection, the amount devoted to philanthropy is considered equal to the amount devoted to luxuries. During this work the instinct to save is fostered by the desire to build a house when the lot is paid for. Insurance, taxes, and commission fees appear incidentally in the problem of providing for the family. The children keep strict personal accounts, including their clothing and personal expenses, which reveal the wonderful prominence of the moving picture show. At the end of the year the children have a working knowledge of the arithmetic of money from the viewpoint of the home and have incidentally received lessons in the value of thrift versus extravagance. The problem of providing for the home lighting, furnishing, etc., is adapted to the stage of development of the children. If estimates are too high for the income, the girls appeal to the sewing and cooking teachers to plan their prices in order to get them inside the required limits.[1]

In the eighth grade emphasis is placed upon measurements. In general, we find that pupils in this grade travel to a distance from Berkeley, to San Francisco, or to Oakland, etc., much more frequently than those in the seventh grade; so the measurements concerning the San Francisco Bay are full of meaning to them. Railroad time tables are used extensively for plotting the distances of various towns with reference to the Diablo Base Line and meridian. Distances on maps are computed according to scale. Latitude and longitude of places in the vicinity, as Mount Diablo, Grizzly, and Tamalpais, are computed. These are estimated from the maps and are used as the basis for problems in measurements. In every case pupils are required to obtain these dimensions directly from the maps. Lumber in house building, which is constantly going on in Berkeley, is computed, using Berkeley prices. Plans and elevations for a five-roomed cottage, durable, artistic, and economical, are used as the basis, and, wherever possible, pupils measure the lumber in their own basements, stair cases, roofs, etc. Squared paper is used for laying out triangles, parallelograms, etc., and the township map of California is made the basis for computing its areas. The children lay out baseball or basket-ball fields with the tape line, measure side walks, lots, etc. This work is extended in the high eighth grade to include the simple formulas for the measurement of solids, which lead naturally to the introduction of simple algebra in so far as it concerns understanding simple equations based on measurement. At the end of the eighth grade there is given the last of the compulsory work in mathematics. This is a six weeks' course in the arithmetic underlying civic finances, the bonding of a city, city and county taxes, State and Government revenues. This work is deferred as late as possible that the pupil may have broadened his experience to get the most from the course.

The ninth grade mathematics is elective. This is accordingly chosen by pupils who expect to graduate from the upper high school. This motive lends dignity to the work and eliminates those who have no particular interest therein. It includes some who are expecting to use their algebra in the high-school shops and who become the authorities of the class in matters pertaining to machinery. The main work of the class is the mastery of simple and quadratic equations as

[1] See Brookman, *Family Expense Account*, for problems in investment and expenditure arranged for pupils of the lower high school.

they appear in the formulæ of the shop and of the physics and chemistry laboratories. Emphasis is placed upon the ability to understand simple formulæ as they appear in technical magazines, etc. Since so much of the working use of mathematics depends upon proportion and variation, these are carried through the year and appear in a variety of forms, arithmetic, algebraic, geometric, so that the pupil who does not continue his mathematics is equipped with the simplest elements of algebraic manipulation in such terms as he may need later.

The tenth year is the first year of the cycle of the upper high school. The course outlined plans to give a survey of the facts of geometry, including the ability to construct accurately with drawing instruments, to compute, using geometric formulæ and trigonometric functions, and to read blue prints of machinery, house plans, etc., with intelligence. When a thorough groundwork of the facts of geometry in their relations to life has been established, the work is followed by training in logic. The usual theorems of plane geometry are reduced to a minimum and used as the basis for more original work involving careful consideration throughout. This work is deferred as late as possible in the year on account of the immaturity of the average pupil. The work in the eleventh year concludes the required mathematics demanded by the University of California of such students as do not specialize in mathematics. The course aims, therefore, to give such knowledge of algebra and trigonometry as will give meaning to them as they occur in the reading of the average man, and such training as will lay a firm foundation for the specialists who will continue the subject. Algebra lays a strong emphasis upon the graphs of equations, statistics, and the laws of science. It lays stress upon the ability to use formulæ such as are found in the handbooks of mechanics and engineers. Trigonometry emphasizes measurement for simple triangulation and surveying rather than complex manipulations of formulæ. The purpose of this work is to give exercise in the essentials of the algebraic equation, its graph, and its application in surveying, for the benefit of those now stopping the subject and also as an introduction to higher mathematics.

Twelfth-year mathematics marks a distinct advance in the difficulty of the subject. So one is advised to enter the course only upon a display of marked mathematical ability during the first six weeks of the work. The class is composed chiefly of those planning to become engineers, teachers of mathematics, or who expect to follow some other specialty. At this stage it becomes necessary to rescue the boy who is handy with tools and has therefore hoped to become an engineer, but who has displayed no power in mathematics. The large number of such who have previously failed in college classes in engineering are here given a final test and are advised to take up some work in which they have a better chance of success. With the class in senior mathematics highly specialized, it becomes possible to do careful, rigorous work in algebraic theory, induction, progression, logarithms, etc. In solid geometry the emphasis is placed on deductive logic and is kept at a high standard because the class is composed of those pupils who have elected mathematics as part of their life work.

No special comment needs to be passed on the courses provided in the Berkeley schools for the primary purpose of giving a survey of the field of history. The work is clearly summarized by the department head, William J. Cooper:

> The work of the history department concerns itself with two blocks: First, that of the lower high school; second, that of the upper high school. In the first

of these cycles the seventh-year course is entitled general history and geography; the eighth-year course, American history and citizenship; and that of the ninth year, history and problems of the Pacific coast. In the upper high-school division the tenth and eleventh year courses cover the history of western Europe, divided as follows: First semester, ancient period, to 800 A. D.; second semester, medieval period, to 1500 A. D.; third semester, struggle for religious and political rights, to 1815; fourth semester, the growth of democracy, nineteenth century; and in the twelfth year, the time is given over entirely to the course, United States history and Government.

The student should realize the antiquity of the race; what it has accomplished; that his own nation is only one element in the world; and that each nation should have certain ideals in dealing with its own citizens and with other nations. The object of each particular course in the history department must keep the general ideal of history in mind, and in addition must take some one step forward in realizing it.

What history content shall be given the lower high-school division? The student who graduates from the ninth grade of the public schools should be equipped with a knowledge of some of the most important names and facts in the development of our present-day civilization. For that reason we give him a year's course in general history and geography. It is the belief of an ever-growing part of history students that the time concept is not within the reach of students of this age. The place concept, however, can be grasped by all, and in addition to the names, Alexander, Cæsar, Charlemagne, and others with which he is made familiar, comes the geographical knowledge of the parts of the earth in which man has developed his greatest civilization. We intend to make pupils more intelligent readers of books and magazines and newspapers and more intelligent and appreciative listeners to lecturers of worth in their later years.

In addition, we feel that the fundamental facts in the history and development of our own country are absolutely essential; also, the history and problems of our own locality. For this reason we will give them some training in the most important facts in the United States' history and in the machinery by which the United States is governed, and let them know that the problems of government in the future are going to be more closely involved with economic and industrial conditions than ever before, and that more time will therefore be needed on these phases of it with students who are to be voters within two years from the time they leave us.

Seventh year (General History and Geography).—Pupils who are to leave our school system should at least be familiar with the great names in history, and in addition should understand what is meant by such expressions as "The Protestant Reformation," "The Crusades," "Italian Renaissance," etc. In order to appreciate the rights we enjoy, they should at least know that there was a struggle in western Europe for the religious rights that we now have and for the most fundamental of our present-day civil and political rights. Pupils in this grade are too young to understand history in itself; that is, they can not grasp the meaning of cause and effect. After completing this course they should be able to read newspapers and magazines more intelligently. They ought to be readers of better books because the references of these writers will be known to them and if they are not familiar with some of the names they run across in their reading, they will know where to go to learn. They should be more intelligent listeners to those who will address them in lectures, political speeches, sermons, and so on. In a word, this course should so work itself out as to create a demand for a higher grade of reading and entertainment.

and the knowledge of the great men of other nations and races will in itself work against provincialism.

Eighth year (American History and Citizenship).—Some attention to American history in the last year of the grammar-school course is required by State law. The student must know the fundamental facts in the history of his country and should be brought to see somewhat clearly our foreign policy, tariff policy, and the fact that a particular tariff is not a panacea for all our political ailments. He should understand to some extent the history of the civil service and the movement for reform, and be led to appreciate the opportunities for further application of the merit system: both in the nation and in the local government; the pension system, its object, its cost, effects and abuses, and congressional appropriations and their abuses. This course should make him civicly healthy. It should make him a more vigilant citizen.

Ninth year (History and Problems of the Pacific Coast).—This course is now being worked out for the first time. The theory is that students whom we shall turn out of our schools will probably, for the most part, live on the Pacific coast, and so we believe that each should know something of the early history of his own State, of what it has cost to accomplish what we have accomplished, and of the mistakes we have made, and in addition that we should teach something in a brief way of the neighboring States and of the struggles and ambitions of the Latin American civilization to the south of him. It is the intention to discuss the problems of the entire Pacific coast, but especially with reference to those of our own State. In the second semester of the course will come up such problems as: The problem of oriental immigration, the value of the commerce of the Orient and of the Latin republics, the importance of Alaska and the islands, etc. The great difficulty to be overcome by the preparation of outlines by members of the department is the lack not only of textbooks, but of any systematically arranged material upon which to draw.

Tenth year (History of Western Europe).—The first semester of the tenth year is devoted to the ancient period and will follow for about five or six weeks a summary prepared by the department teachers. Reading will also be carried on in the library on the Greeks, and what they and other eastern peoples have contributed to western civilization. The political history will begin with Rome at the period of the Punic Wars, putting special emphasis upon the cause of failure in the Republic, upon the civilization of the ancient period, and upon the elements contributing to the downfall of the Roman Empire. The most important points in English history will likewise be taken up. The second semester will begin with the period of Charlemagne and treat the feudal system and the growth and importance of the church, with some attention to the beginning of national life, bringing the history down through the Italian Renaissance.

Eleventh year (History of Western Europe).—The first semester is devoted to the period of religious wars and the beginning of religious freedom; the development of strong monarchies and the beginning of the struggle for civil and political rights, culminating in the French Revolution. The work of this period ends with the downfall of Napoleon and the Congress of Vienna in 1815. The second semester's work deals essentially with the nineteenth century; the growth of commerce and industry, and the remarkable spread of the idea of democracy. It brings the history of Europe down to the present day.

In this two-year course in the history of western Europe students will have the opportunity of realizing the place of cause and effect in history. They will become familiar with the great names of history and learn that the entire civilization of the race is not lodged within the boundaries of our own Nation.

Upon finishing this course they should have a live interest in European affairs, be readers of histories and magazines, and of the foreign pages of the newspapers.

Twelfth year (History and Government of the United States).—This course deals with the facts in American history in more nearly a true historical perspective than does the course in European history, which, it will be noted, gives more attention to the nineteenth century than to any other like period of years. The second semester of the course is devoted entirely to the history of the country since the Civil War, with a good deal of attention given to the problems which have faced us in the way of the tariff, civil service, money, trusts, etc. In a word, the functions of government are considered of more importance than the machinery of government, and only so much attention is devoted to the latter as is necessary to enable future citizens to operate the Government intelligently. This course, then, is designed essentially for the training of those who will vote within a couple of years at most.

The purposes, as well as a summary of the content, of the English courses which are being developed in the Berkeley schools to conform to the reorganization plan of the school system are set forth by Miss Fannie McLean, the department head:

The English of the lower high school includes structural and cultural English; the study of the mother tongue, to the end of using it with vigor and ease; and the reading of noble literature, to the end of establishing a lasting desire for such reading.

It is assumed that in the first cycle of six years the pupil, through imitation and habit, has become possessed of a correct and simple expression of the thoughts of childhood. Imitation and habit continue to be potent teachers in the seventh, eighth, and ninth years, and an attempt is made to create noticeable progress in correct usage by assigning to each semester a definite number of grammatical constructions of peculiar difficulty, of words easily misspelled, and of conventional forms in writing.

The reasoning faculty, however, is now added to imitation and habit, for the pupil is at the right age to understand why one usage is correct and another incorrect. The same reasons that make this a good time for beginning the study of a foreign language make it an opportune time for analytical work in the use of the mother tongue. This introduction of the reasoning element distinguishes the language work of the lower high school from that of the first six years. The child has become a youth and craves self-conscious power in his use of English.

Somewhere on the road between the simple activity of early school life and the vivid, many-hued interests of the high school, pure, spontaneous, creative imagination, except in a few cases, is lost. In all probability this change is wrought in the seventh or eighth years of the school life, and could largely be prevented by proper composition assignments. That type of pupil is the despair of high-school teachers, who invariably asks when given a composition theme, "Where shall I read up about it?" The empty words of a perfunctory paper prove too clearly how atrophied the imagination has become. The ethical significance of such a state is comprehended when we reflect that most of the misunderstanding between people of different classes and trades, even in America, is due to lack of imagination, rather than to intentional unkindness. It is right at this point, then, that the childish imagination, beginning to wane, must be resuscitated into social imagination and foresight. The pupil's com-

position exercises should be such as to necessitate his putting himself into the place of another or into some future place of his own.

Letters of friendship, invitations, courteous letters of gratitude, applications for summer boarding places or for summer work, the answering of real advertisements, the composing of graphic advertisements, open letters to the daily press or to the school paper on current topics, descriptions of interesting journeys or trips, comparisons of persons in stories to persons in real life, accounts of visits to factories or stores, writing of minutes of class meetings, discussions of school ethics, the telling of stories to illustrate some moral concept of the pupil—these are a few of the forms that social composition may take and continue to nurture the imagination while it relates the pupil to actual life. Accurate reports of what the pupil has read or heard are necessary, but such assignments should be given sparingly, and only under conditions that preclude the danger of plagiarism.

Since the lower high-school pupils are in no sense being trained as authors, the social aspects of their written and oral expression are of paramount importance.

The study of literature has two marks of distinction in the lower high school. First, the classroom reading of masterpieces becomes more intense, and therefore the number of selections smaller, while the home reading becomes broader and more varied. Secondly, the literary taste begins to take on a conscious development; the pupil, vaguely at first, and then more clearly, knows why he likes one piece of literature and not another, and struggles upward in awkward and touching attempts to express himself in the picturesque language or in the simple terseness of his favorite author, or to reach standards of admired excellence in his character. The boys become new Horatiuses, and long for bridges to cross; the girls are new Evangelines, and seek to add courage to gentleness; and boys and girls together live in a new world remote from their own, but strangely like it. This reading and the practically imaginative composition described in a previous paragraph unite in developing the imagination from childish crudity to social helpfulness.

The masterpieces studied in the classroom are divided into three groups, satisfying three demands of the growing literary hunger of the youth, and harmonizing with the history course of study, so that literature has its historical background and history its literary expression.

The first group comprises some early forms of literature, as the child's rightful human heritage. These are the simple, purely classical, and strongly imaginative forms; such as heroic epics, lays, and ballads. They are correlated with the study of world history.

The second group comprises American poems, stories, speeches, and essays, as the child's rightful national heritage, in order to inculcate principles of good citizenship and intelligent pride in his country. This work is correlated with the study of United States history.

The third group comprises English drama and romance as the child's rightful race heritage. Shakespeare and Scott are taken as the chief exponents of this form of literature. The short story is made a part of this year's course, as it is also of the seventh and eighth years.

If the pupil should leave school at the end of the lower high school, he would, through the classroom study of these masterpieces, and through his home reading from the supplementary list furnished, be well started on the road to culture. In other words, he would be in an attitude of mind conducive to further intelligent reading, because his interpretative and reasoning powers would have been liberated and his literary taste cultivated. He would have the beginnings of a comprehension of the relation of literature to history as

one of the most significant human products of a nation's civilization. And, best of all, contact with literature would have awakened, even at this early age, new ethical ideals, a social imagination, and a spirit of reverence for true greatness.

If his schooling ends now, he has established a permanent friendship with books, which magazines and newspapers alone will not satisfy. But, to prevent his separating literature from life, and to enable him to see the fineness, the beauty and the opportuneness of our best periodical literature, magazine reading is made a part of the course. The expository literature of the day, as seen in the articles upon social and economic questions—city planning, children's playgrounds, George Junior Republic, and similar topics—can be made use of, not only in relating the pupil to the best of the life of his times, but in showing him that the style of a piece is of service to the cause presented. In this he sees a practical reason for the study of English. He learns that such study is needed to perfect a social being and to make of him a citizen of the world.

In the upper high school the problem is a different one from that of the lower high school. Here the boys and girls are not only preparing to be potentialities in the world's business and social life, but they already feel themselves to be part of that life. The tide of the greater outside world flows through the high school, and though it is there only in creeks and bays, it is the same salt and tonic element that pervades the ocean outside. The high-school pupils have their party strifes and prejudices, their social gatherings, their student government, their public press, their dramatic entertainments. The problem that presents itself to the English department is this: How can the literature and composition be made to fix the attention of the pupils on the permanent soul of beauty and excellence underlying these "shows" of things, and also equip them with the means of moving with confident ease and power in the life of their fellows? How can we widen their vistas of life and make attractive to them the enduring ideals of humanity? If the study of English can make them self-poised individuals and social centers in the school life, they will continue to be such, whether they are graduated from the high school into the university or into business.

The composition of the upper high school, besides emphasizing, throughout the three years, by continual practice, oral and written, and by continual analysis, the principles and habits of a correct and vigorous style, begins now to adapt itself to the needs of individual pupils and of small classes of pupils.

The special composition classes, which are to increase in number as rapidly as school conditions will permit, are to serve four purposes. The first is to correct and strengthen the style of those pupils noticeably below the standard in matters of form or of expression by giving them special attention. The second is to train such pupils as show peculiar literary ability in the elements of some form of literary composition—journalism, short story, essay, poem, or drama. In the student body, there are, at any one time, almost sure to be some few pupils who are fit for such instruction and can make use of it.

The third purpose is to adapt the composition work to the business or professional plans of the pupils, many of whom have already chosen their life work. The pupil who is to be a clergyman is given a theme on Hull House to write; the pupil who is to be a physician is given a theme on the sanitary aspects of the disposal of garbage; the pupil who is an artist writes on magazine illustrations and accompanies her article with illustrations of her own; the girl who likes dressmaking writes on costumes and illustrates her composition with colored pictures. Plans, diagrams, maps, and pictures are all en-

couraged as a valuable part of the compositions. We have been surprised to find how this has increased the interest in the theme work.

The fourth purpose is to enhance the usefulness of all the pupils by practice, oral or written, in such papers and addresses as will be expected later from them at public meetings, at meetings of civic, literary, or social clubs, at dinners, at conventions, and at other public occasions. The student gatherings and school organizations are made use of in this part of the work, and the pupils still have enough of the play instinct to enjoy transferring the class hour into the occasion desired and playing their parts.

Whatever the special form of the composition may be, two principles are adhered to: That nothing which lacks sincerity is worth saying; and that whatever is worth saying, is worth saying well.

Training in the use of the public library, debating, presentation of class plays, the reading and writing of short stories, the study of high-school journalism (its problems, materials, arrangements, and management) are all features of the new high-school course in English, and are related to the spontaneous school activities of the pupils.

To give the pupils the background of our literary past and the large perspective that comes from looking at life through the eyes of such great masters as Chaucer, Shakespeare, Addison, Burke, Macaulay, and Webster, is the definite purpose of the course in literature.

Two truths are gained from this study: First, that all the greatest writers were essentially democrats and expressed freely the growing ideals of their time; and second, that since life is the field of literature, our own time must possess a literature of far more transcendent importance to us than any literature of the past.

From these two truths the pupils are lead to a third. It is this: They can assist in making literature of their generation a noble one, both directly and indirectly; directly, if they have the creative literary instinct; indirectly, if they have the morality, the intelligence, and the sense of the beauty of things which are necessary to build up a social life worthy of expression in current literature. They make literature in either case—the literature itself, or the material for literature.

Such reasoning, more or less conscious in the minds of the pupils, forms the basis for the comparative study of the old masterpieces and current literature, even in its most modern and vital form, the periodical. The study of the early novel culminates in the supplementary reading of one of to-day's best novels. The study of the eighteenth century essay culminates in the study of the articles in our best magazines. The study of Shakespeare culminates in the reading of Maeterlinck's *Blue Bird*. The study of Milton's *Sonnets* culminates in the reading of Richard Watson Gilder's *Sonnets*.

If the pupils should have no further schooling, they would leave the high school furnished with the touchstone of true literature. They would be able to discriminate between what is worthy of study in modern writing, because it nobly expresses the elevated and enduring aspects of our present social life, and what is worthy of only cursory reading, because it expresses, without the strength of art, the transitory aspects.

It has too long been taken for granted that only future generations can separate the wheat from the chaff in the literature of the epoch. Even in the upper high school some literary connoisseurship can be acquired, which maturity of years and habitual reading will ripen. The cultivation of this literary art sense in order to apply it to present-day literature is an important practical result of the study of literature. The to-day of literature should be made ours as well

as the yesterday, for through it we enter into the richest part of the life of our times.

In our English course we have tried to keep in mind that if these young people had elected business life or domestic life instead of school life, they would have found these years between the ages of 16 and 18 full of novel experience and shot through with the glory of doing things. Days of work in shop or office would have been paid for in money instead of with credits, and some of that money would have been transmuted into evening pleasures. Days of housework would have shown tangible results in dainty cookery or in neat furnishings, or in the pride of entertainment. So, if the high school robs the youth of the rich experience that active life in the world affords, it must offer a golden substitute that shall place the youth, on graduation, where he would have been with such world experience, but place him there equipped with keener vision, with warmer heart, and with readier hand, because of his education.

The English course must do its share, and that a large one, in bringing about this result. English teachers are only beginning to work out this new social plan in the study of literature and composition.

The next item listed in the summary of the chief fields of human knowledge (p. 146), a survey of which it is the business of the school to give in the secondary period of school training, is that of the languages. Without considering the merits of the endless controversy which has raged down through the ages over the question of the value, or lack of it, of the study of foreign languages, there is a reason, not generally given, which seems to justify fully the offering of courses in the principal ancient and modern languages. This relates to the possibility that in the study of linguistics some student will find the thing for which he is peculiarly fitted.

If this period in the development of the youth is to be looked upon as a testing time, and as a time when he is to be given a chance to "try his hand" at a variety of activities, then, among others, he should have the opportunity of determining, at first hand, whether or not he has a bent for the study of language and of related lines. There is no reason for opening the door to science, to mathematics, to history, to literature, from this point of view, and locking it against the languages. Many men and women secure their livelihood, directly or indirectly, through their special knowledge of language, just as there are many workers in each of the other departments whose special technical knowledge brings to them financial recompense. The world needs the scholar quite as much as it needs the artisan and the man of general business. The public school, if it function to the maximum in the life of the individual as well as of society, must make it possible for the potential artisan, the potential scientist, the potential linguist, to find himself. In theory, at least, the school should be able to open the eyes of every individual, that he may have a vision of himself in the completeness of his powers. This reason alone is sufficient to justify the offering of study in the field of language, though such study should not be made compulsory

upon all nor should it be continued beyond the point when it is clear that the individual possesses no aptitude or liking for it.

The earlier in the life of the pupil that this chance be given the better, for the golden hour of language study comes early, and when once passed the acquisition of a foreign tongue is well-nigh impossible. The seventh grade is not too early for the beginning of such study; indeed, if it were practicable, an earlier beginning than this even is desirable. However, by commencing with the seventh grade and continuing throughout the full secondary period of six or eight years, a high degree of mastery can be secured by those who develop an interest in such study. It need scarcely be said that this work should be directed by a vivacious teacher, who speaks the language fluently, and that the grammar of the language should be kept incidental and unobtrusive. It will be found, too, that the conversational method of language teaching is not limited to the modern languages, but that it can be used in the study of Latin with excellent results if the teacher herself has such ready command of the language as conversation therein demands.

Aside from the reason for the giving of courses in music and art, advanced in the discussion of the work of the first cycle, the argument just set forth for the study of the languages holds with equal force in the realms of music and art. Suggestive steps in the organization of these departments, to conform to the plan of school organization in operation in the Berkeley schools, have been taken by the department heads, Miss Victorine Hartley and Miss Zinie Kidder, respectively. The space limits of this chapter, however, preclude a description of their work other than to mention an interesting plan which Miss Hartley is trying out by which the school recognizes in terms of credits the musical work done in the home, if it measures up to a required standard of excellence.[1]

A particular group of truths contributed by the workers in one of these fields—the field of science—should be brought home to the young people of the adolescent age with particular emphasis because of the effect which it will have upon the physical and moral health of the youth of both sexes. This group of scientific truths comprises those facts which relate to personal and sex hygiene. A knowledge of one's own body and, in particular, of those functions having to do with reproduction is essential to both health and morality. Such knowledge imparted to the adolescent by specialists who hold sane views on these matters will help very greatly in the movement toward the development of a better and stronger and more moral race.

[1] For a description of the plan and the conditions upon which school credit is granted, see Appendix, p. 170. See also Educ. Bull., 1914, No. 33, *Music in the Public Schools*, pp. 44–46.

That the imparting of such knowledge is highly desirable there can be no serious question. Regarding the best method of procedure in accomplishing this purpose, however, there is much reason for hesitation. A series of carefully prepared lectures, one given to the girls by a woman physician and one to the boys by a man, with opportunity for individual consultation in private, as a tentative step worked well in the Berkeley department. The success of this work, however, as well as this or any other plan, rests in unusual degree upon the personality of the individuals imparting the information.

Two tasks, then, the criteria demand of the school in the secondary period, the giving of that information, general and specific, by which a livelihood can be secured, and through which each individual will find a useful place for himself in the world of activity, and the transmission of the culture and significant experience of the race, in the doing of which a degree of familiarity will be gained with the chief bodies of knowledge—science, mathematics, history, literature, languages, music, and art. In method, first a survey giving orientation, followed by more intensive work along lines intended gradually to focus upon the specialty chosen, is the proper procedure. Breaking the secondary period into two divisions, the first having to do primarily with the giving of a general view, the second with more intensive work, is an arrangement of machinery which the school will find effective in the accomplishment of the two-fold task set it by psycho-physical growth stage and by social mind.

APPENDIX.

SAGINAW (EAST SIDE), MICH.—LANGUAGE COURSE.[1]

[Elective studies are in italic]

	Seventh.	Eighth.	Ninth.	Tenth.	Eleventh.	Twelfth.	Total hours.	
							Required.	*Elective.*
English	Reading, Grammar } 5	Reading, Grammar } 5	Reading, Grammar, Composition } 5	Amer. literature, Rhetoric } 5	Development of Eng. lit., Rhetoric } 5	Dev. of drama, Dev. of novel } 5	30	.....
German	Van Daell-Wehrakamp's Das Deutche Buch für Anfänger } 5	Keller's first year } 4	Keller's second year } 3	Modern prose and plays } 3	*Classic prose, History* } 3	*Classic plays* 2	15	5
Latin	.....	First lessons 5	Viri Romae, Caesar } 5	Caesar, Cicero } 5	Cicero, Virgil } 3	Virgil 3	21	.....
Greek	.....	.....	.....	.....	*First lessons* 5	*Anabasis, Homer* } 5	.....	
French	.....	.....	.....	.....	*Beginning French, Reading* } 5	*Modern Fr. lit.* 5	.....	10
Mathematics	Arithmetic, Algebra } 4	Algebra 2	Algebra 4	Algebra, Geometry } 4	Geometry 2	Geom. (½) 3, Algebra, *Trigon.* (½) 3	17½	1½
Science	Botany, Physics } 1	Botany, Physics, Physiology } 2	Biology 3	Biol. (½) 3, Chem. (½) 3	Physics 5	Chem. (boys) (½) 5, Physiog. (½) 5	19	.....
History	American 4	American 2	Grecian, Roman } 3	English 3	Institutional 2	American, Civics } 2	16	.....

Drawing	Representative Constructive Decorative	2	Represen. Constructive Decorative	1	Free-hand Mechanical	2	Free-hand Mechanical	2	Free-hand Mechanical	2	3	8
Music	Chromatic scale Introd. 3d reader Selected choruses	2	Minor scales Third reader Sel. choruses	2	Chorus work	2	Hist. of music Chorus work Voice training	2	Hist. of music Chorus work Voice training	2	4	8
Dom. science (girls)	Cooking	2	Cooking	2					Chem. of foods (1)	5		
Man. training (boys)	Woodwork	2	Woodwork	2	Woodwork Ironwork	4	Woodwork Ironwork	4	Woodwork Ironwork	4	4	16
Required	Hrs. per wk	25	Hrs. per wk	26	Hrs. per wk	23	Hrs. per wk	17	Hrs. per wk	16½	12½	188
Elective					Hrs. per wk	8	Hrs. per wk	21	Hrs. per wk	21½	6½	
	Recit. per wk	25	Recit. per wk	25	Recit. per wk	25	Recit. per wk	25	Recit. per wk	25	(150)	

[1] Adopted June 15, 1898.

SAGINAW (EAST SIDE), MICH.—GENERAL COURSE.[1]

	Seventh.	Eighth.	Ninth.	Tenth.	Eleventh.	Twelfth.	Total hours.	
							Required.	*Elective.*
English	*Extra reading*.....5 Reading..... Grammar.....5	*Extra reading*....5 Reading..... Grammar.....5	Reading..... Grammar.....5 Composition...	Amer. lit..... Rhetoric.....5	Dev. of Eng. lit.. Rhetoric.....5	Dev. of drama..... Dev. of novel.....5	30	10
German	*Van Daell - Schrakamp's Das Deutches Buch für Anfänger*..... 5	*Keller's First Year*..... 4	*Keller's Second Year*..... 3	*Modern prose and plays*.... 3	*Classic prose*..... *History*.....5	*Classic plays*..... 2	.....	20
Latin	.....	*First lessons*.... 5	*Viri Romae*.... *Caesar*.....5	*Caesar*..... *Cicero*.....5	*Cicero*..... *Virgil*.....3	*Virgil*.....5	.....	21
French	.....	.....	.....	.....	*Beginning French*.. *Reading*.....5	*Mod. French lit*.... 5	.....	10
Mathematics	Arithmetic..... Algebra.....4	Algebra..... 2 *Arithmetic*..... 4	*Algebra*..... 4	*Algebra*..... *Geometry*.....4	*Geometry*.....2	*Geom*.....(½) 3 *Algebra*..... *Trigon*.....(½) 3	6	17
Science	Botany..... Physics.....1	Botany..... Physics.....2 Physiology.....	*Biology*..... 3	*Biology*.....(½) 3 *Chem*.....(½) 3	*Physics*..... 5	*Chem.(boys)*.....(½) 5 *Physiog*.....(½) 5	3	16
History	American..... 4	American..... 2	*Grecian*..... *Roman*.....6	*English*..... 3	*Institutional*..... 2	*American*..... *Civics*.....3	6	10
Commercial work	.....	.....	*Penmanship*... *Business forms*. *Com. arith*..... 3	*Bookkeeping*.... 6	*Bookkeeping*..... 5 *Stenography*..... *Typewriting*.....3	*Com. law*..... 3 *Pol. econ*..... 3	.....	24
Drawing	Representative..... Constructive.....2 Decorative.....	Representative..... Constructive...1 Decorative.....	*Free-hand*.....2 *Mechanical*.....	*Free-hand*.....2 *Mechanical*.....	*Free-hand*.....2 *Mechanical*.....	*Free-hand*.....2 *Mechanical*.....	3	8
Music	Chromatic scale... Third reader.....2 Selected choruses..	Minor scales.... Third reader...2 Sel. choruses...	*Chorus work*.... 2	*Chorus work*... 2	*Hist. of music*..... *Chorus work*.....2 *Voice training*.....	*Hist. of music*..... *Chorus work*.....2 *Voice training*.....	4	8
Dom. science (girls)	Cooking..... 2	Cooking..... 2	.....	.....	.....	*Chem. of foods*...(½) 5	4	16
Man. training (boys)	Woodwork..... 2	Woodwork..... 2	*Woodwork*..... 4	*Woodwork*..... 4	*Woodwork*..... *Ironwork*.....4	*Woodwork*..... *Ironwork*.....4		
Required	Hrs. per wk..... 20	Hrs. per wk... 16	Hrs. per wk.... 5	Hrs. per wk.... 5	Hrs. per wk..... 5	Hrs. per wk..... 5	56	216
Elective	*Hrs. per wk*..... 10	*Hrs. per wk*... 18	*Hrs. per wk*... 31	*Hrs. per wk*... 31	*Hrs. per wk*..... 36	*Hrs. per wk*..... 34	160	
	Recit. per wk..... 25	Recit. per wk. 25	Recit. per wk. 25	Recit. per wk. 25	Recit. per wk..... 25	Recit. per wk..... 25	(150)	

[1] Adopted June 15, 1898.

A Six-Year High-School Course.[1]

	Lower high school.			Upper high school.		
Ages	12 to 13	13 to 14	14 to 15	15 to 16	16 to 17	17 to 18
Language: The vehicle of thought and expression.	English grammar.... 2 French or German... 3 5	English grammar.... 2 French or German... 3 Or French, German, or Latin..... 5 5	Latin..... 5 Or French, German, or Spanish..... 5 5	Latin..... 5 Or modern language..... 5 5	Latin..... 5 Or modern languages..... 5 5	Latin..... 5 Or modern language..... 5 5
Mathematics: The processes of thought and expression.	Algebra..... 2 Geometry..... 2 Arithmetic..... 1 5	Algebra..... 2 Geometry..... 2 Arithmetic..... 1 5	Arithmetic..... 3 Geometry..... 2 5	Algebra..... 2 Demonstrative geometry..... 3 5	Algebra..... 4 Mechan. and geom. drawing..... 1 5	Solid geom. and trigonom..... 5
History: The world; its books, men, and institutions.	Eng. literature..... 2 History..... 2 Geography..... 1 5	Eng. literature..... 2 History..... 2 Geography..... 1 5	Eng. literature..... 2 History..... 2 Geography..... 1 5	Eng. literature..... 2 History..... 2 Civil gov't..... 1 5	Eng. literature..... 2 History..... 2 Economics..... 1 5	Eng. literature..... 2 History..... 2 Current events..... 1 5
Science: The world; its form, substances, and uses.	Physiography..... 2 Clay and wood..... 2 Drawing..... 1 5	Geology..... 2 Wood and wood-working..... 2 Drawing..... 1 5	Botany or physiology..... 2 Wood and metal working..... 2 Drawing..... 1 5	Zoology or physiology..... 2 Wood and metal working..... 3 5	Chemistry or forging and machinery..... 5	Physics..... 5 Or cosmography and applied philosophy..... 5 5
Culture: Physical, rhetorical, musical, etc.	Phy. culture..... 2 Voice culture..... 1 Declamation and essays..... 2 5 Instrumental music.	Ditto..... 5	Ditto..... 5	Ditto..... 2	Ditto..... 2	Ditto..... 2
Length of period	30 min.	30 min.	40 min.	40 min.	50 min.	50 min.

[1] George D. Pettee report (1902), in Hanus, *A Modern School*, p. 105.

GARFIELD JUNIOR HIGH SCHOOL,[1] RICHMOND, IND.—COURSE OF STUDY.

Subjects.	Hours per week.	Credits per term.	Subjects.	Hours per week.	Credits per term.
7 B term.			*8 B term.*		
Required work:			Required work:		
English	8	1.6	English	8	1.6
Arithmetic	5	1.0	Arithmetic	5	1.0
Geography	5	1.0	History	5	1.0
Music	2	.4	Music	2	.4
Drawing	1	.2	Drawing	2	.4
Woodwork or sewing	2	.4	Woodwork or cooking	2	.4
Physical training	2	.4	Physical training	1	.2
Elective, choose one:			Elective, choose one:		
Latin	5	1.0	Latin	5	1.0
German	5	1.0	German	5	1.0
English composition	5	1.0	English composition	5	1.0
Industrial work	5	1.0	Industrial work	5	1.0
7 A term.			*8 A term.*		
Required work:			Required work:		
English	8	1.6	English	8	1.6
Physiology	5	1.0	Arithmetic	5	1.0
History	5	1.0	Civics	5	1.0
Music	2	.4	Music	2	.4
Drawing	2	.4	Drawing	2	.4
Woodwork nr sewing	2	.4	Woodwork or cooking	2	.4
Physical training	1	.2	Physical training	1	.2
Elective, choose one:			Elective, choose one:		
Latin	5	1.0	Latin	5	1.0
German	5	1.0	German	5	1.0
English composition	5	1.0	English composition	5	1.0
Industrial work	5	1.0	Industrial work	5	1.0

[1] At the time of writing this school included only the seventh and eighth grades; the ninth was to be added.

NOTES.

Time schedule.—The hours are 50 minutes each. The time scheduled for the different subjects includes the time spent in preparation in school.

Credits.—Twenty-two credits are required for promotion to high school. A pupil must not be back two credits in any one subject.

English.—Under this head are included reading, grammar, composition, spelling, and penmanship. Five of the eight hours scheduled for the subject are given to recitation work, and, in addition to the three hours in school for preparation, some home work is usually necessary.

Latin and German.—Two high-school credits are given for the work in these subjects in Garfield, and pupils who have also taken the German work in Hibberd, or its equivalent, receive three. No pupils are admitted to Latin and German classes unless their work has been strong in the preceding grade, and all their work must be kept up to a high standard or they are required to change.

Industrial work.—There is no attempt to teach trades, but merely to give pupils some experience that will enable them to choose an occupation more intelligently. The work is also found to give an added zest to school life for many boys and girls who show little interest in the academic studies.

Orchestra.—To be admitted to this organization a pupil must have taken some preliminary lessons on the instrument he wishes to play. A few instruments are owned by the school and loaned pupils for use both in taking lessons and in the orchestra work. Members are required to attend practice regularly, and also to attend whenever the orchestra is on duty. A credit of four-tenths is given for each term if the work has been satisfactory.

UNION SCHOOL DISTRICT, CONCORD, N. H.—COURSE OF STUDY FOR THE HIGH SCHOOLS, 1913–14.

HIGH SCHOOL—GROUP I.

			COURSE I. CLASSICAL.	COURSE II. ACADEMIC.	COURSE III. COMMERCIAL.	COURSE IV. MECHANIC ARTS—BOYS.	COURSE V. DOMESTIC ARTS—GIRLS.
Fifth year.	11	V	English..... 4 United States history..... 4 Latin..... 5 Greek or German or French.... 5 Review mathematics..... 4	English..... 4 United States history..... 4 French or German..... 5 Economics, commercial law, or advanced mathematics..... 4 Chemistry..... 5	English..... 4 United States history..... 4 French or..... 5 Bookkeeping..... 4 Economics, ½ yr.....} 4 Commercial law, ½ yr....} Stenography and typewriting or..... 6. Chemistry..... 5	English..... 4 United States history..... 4 Chemistry..... 5 Review mathematics..... 4 *Mechanic arts*..... 6 *a*. Mechanical drawing. *b*. Machine shop practice.	English..... 4 French or German..... 5 Music and art..... 5 *Domestic arts*..... 5 *a*. Cooking (analytic). *b*. Household economics. *c*. Household design and decoration.
		U	Ditto.	Ditto.	Ditto.	Ditto.	Ditto.
Fourth year.	10	T	English..... 5 Latin..... 5 Greek or German or French.... 5 Physics or history..... 5	English..... 5 French or German..... 5 Physics..... 5 English history or..... 5 Review mathematics... 4	English..... 5 Bookkeeping..... 5 French or English history..... 5 Stenography and typewriting or..... 6 Physics..... 5	English..... 5 Physics..... 5 French or English history..... 5 *Mechanic arts*..... 6 *a*. Mechanical drawing. *b*. Machine shop practice.	English..... 5 French or German..... 5 Music and art..... 5 *Domestic arts*..... 5 *a*. Physiology (scientific). *b*. Nursing.
		S	Ditto.	Ditto.	Ditto.	Ditto.	Ditto.
Third year.	9	R	English..... 5 Mathematics..... 5 Latin..... 5 Greek or German or French.... 5	English..... 5 French or German..... 5 Mathematics or.....} 5 Mediæval and modern history.....} Biology..... 5	English..... 5 Bookkeeping..... 5 Commercial arithmetic, ½ yr.....} 5 Stenography and typewriting, ½ yr.....} French or.....} Mathematics or.....} 5 Mediæval and modern history.....}	English..... 5 Mathematics..... 5 French or biology..... 5 *Mechanic arts*..... 6 *a*. Mechanical drawing. *b*. Pattern making. *c*. Forging.	English..... 5 French or German..... 5 Music and art..... 5 *Domestic arts*..... 5 *a*. Household appliances. *b*. Household sanitation and hygiene. *c*. Dressmaking and design.
		Q	Ditto.	Ditto.	Ditto.	Ditto.	Ditto.

GROUP II.

Second year.	8	P	English..... 5 Mathematics (Myers I)..... 5 Ancient history..... 5 Latin..... 5	English..... 5 Mathematics (Myers I)..... 5 French..... 5 Ancient history..... 5	English..... 5 Mathematics (Myers I)..... 5 Commercial geography and history..... 5 Rhetoric..... 4 Penmanship (2)..... 1	English..... 5 Mathematics (Myers I)..... 5 Ancient history..... 5 *Mechanic arts*..... 6 *a*. Mechanical drawing. *b*. Woodwork.	English..... 5 French..... 5 Music and art..... 5 *Domestic arts*..... 5 *a*. Plain cooking and appliances. *b*. Dressmaking and design. *c*. Millinery. *d*. Embroidery.
		O	Ditto.	Ditto.	Ditto.	Ditto.	Ditto.
First year.	7	N	English literature..... 5 Arithmetic and algebra..... 5 Latin, ½ yr..... English grammar and composition, ½ yr..... 5 United States history..... 5 Manual training. Sewing. Cooking.	English literature..... 5 Arithmetic and algebra..... 5 English grammar and composition..... 5 United States history..... 5 Manual training. Sewing. Cooking.	English literature..... 5 Arithmetic and algebra..... 5 English grammar and composition..... 5 United States history..... 5 Penmanship (2)..... 1 Manual training. Sewing. Cooking.	English literature..... 5 Arithmetic and algebra..... 5 English grammar and composition..... 5 United States history..... 5 *Mechanic arts*..... 6 *a*. Mechanical drawing. *b*. Elementary cabinet work.	English literature..... 5 Arithmetic and algebra..... 5 English grammar and composition..... 5 United States history..... 5 *Domestic arts*..... 4 *a*. Plain cooking. *b*. Sewing.
		M	Ditto.	Ditto.	Ditto.	Ditto.	Ditto.

Military drill is required twice a week of all the boys in Group I.

Music may be elected one period a week in any courses in I, II, III, IV, V, Group I. Required in all other groups.

Drawing may be elected two periods a week in Courses I, II, and III.

Manual training and domestic science may be elected two periods a week in addition to work in Courses I, II, and III.

All electives are subject to arrangement of program.

The arrangement of studies in courses is designed to assist students in choosing their subjects so that each may follow out some definite line of work.

Students who intend to enter college should decide before entering class N.

Students are expected to take the full work of one course beginning with class N and thus secure a diploma.

To secure promotion to class N, 10 points are required; to class O, 20 points; to class P, 30; to class Q, 40; to class R, 50; to class S, 60; to class T, 70; to class U, 80; to class V, 90; to graduate, 100 points.

The numerals following subjects in the courses show the number of weekly recitations and the value in points of each study.

Intermediate Schools of Los Angeles, 1914-15—Course of Study.

	I. Literary—Scientific.	II. Engineering preparatory.	III. Mechanic arts.	IV. Home economics.	V. Commercial.
	This course leads to high-school courses preparatory to colleges of letters and science. If freehand drawing is elected in the B8, Greek history or physiography may be substituted for No. 7 in the B9.	Preparatory to high-school courses in engineering. Boys expecting to attend technical institutes or colleges should elect Course I.	For boys mechanically inclined who may or may not continue in school. Ancient history, physiography, or commercial arithmetic may be substituted for five periods of shop in the ninth grade.	For girls who expect to become home makers who may or may not continue in school. Ancient history, physiography, or commercial arithmetic may be substituted for five periods of manual in the ninth grade.	This course is intended to prepare pupils either for the commercial course in high school or to enter commercial work if they can not continue in school. Pupils excused from penmanship may substitute another subject in A8 grade.
B7	1 English ..... 5 2 Geography ..... 5 3 Arithmetic ..... 5 4 Latin, German, French or Spanish ..... 5 5 Penmanship ..... 2 6 Drawing ..... 2 7 Music ..... 1 8 Physical training ..... 1 9 Manual training ..... 4 Boys—Wood shop. Girls—Cooking and sewing.	1 English ..... 5 2 Geography ..... 5 3 Arithmetic ..... 5 4 Mechanical drawing ..... 5 5 Penmanship ..... 2 6 Drawing ..... 2 7 Music ..... 1 8 Physical training ..... 1 9 Wood shop 4	1 English ..... 5 2 Geography ..... 5 3 Arithmetic ..... 5 4 Bookkeeping, stenography, or foreign language ..... 5 5 Penmanship ..... 2 6 Drawing ..... 2 7 Music ..... 1 8 Physical training ..... 1 9 Wood shop 4	1 English ..... 5 2 Geography ..... 5 3 Arithmetic ..... 5 4 Bookkeeping, stenography, or foreign language ..... 5 5 Penmanship ..... 2 6 Drawing ..... 2 7 Music ..... 1 8 Physical training ..... 1 9 Cooking ..... 2 10 Sewing 2	1 English ..... 5 2 Geography ..... 5 3 Arithmetic ..... 5 4 Stenography or bookkeeping ..... 5 5 Penmanship ..... 2 6 Drawing ..... 2 7 Music ..... 1 8 Physical training ..... 1 9 Manual training ..... 4 Boys—Wood shop. Girls—Cooking and sewing.
A7	Same as B7 except history instead of geography.	Same as B7 except history instead of geography.	Same as B7 except history instead of geography.	Same as B7 except history instead of geography.	Same as B7 except history instead of geography.
B8	1 English ..... 5 2 History ..... 5 3 Algebra or freehand drawing ..... 5 4 Oral English ..... 2 6 Physiology and hygiene ..... 2 7 Physical training ..... 2 8 Manual training 4	1 English ..... 5 2 History ..... 5 3 Algebra ..... 5 4 Mechanical drawing ..... 5 5 Oral English ..... 2 6 Physiology and hygiene ..... 2 7 Physical training ..... 2 8 Wood shop 4	1 English ..... 5 2 History ..... 5 3 Mechanical drawing ..... 5 4 B7 elective continued ..... 5 5 Oral English ..... 2 6 Physical training ..... 2 7 Physiology and hygiene ..... 2 8 Wood shop 4	1 English ..... 5 2 History ..... 5 3 Freehand drawing ..... 5 4 B7 elective continued ..... 5 5 Oral English ..... 2 6 Physiology and hygiene ..... 2 7 Physical training ..... 2 8 Cooking ..... 2 9 Sewing 2	1 English ..... 5 2 History ..... 5 3 Bookkeeping ..... 5 4 Stenography ..... 5 5 Oral English ..... 2 6 Physiology and hygiene ..... 2 7 Physical training ..... 2 8 Penmanship 4
A8	Same as B8 except music instead of oral English, and history and civics instead of history.	Same as B8 except music instead of oral English, and history and civics instead of history.	Same as B8 except history and civics instead of history, and music instead of oral English.	Same as B8 except history and civics instead of history, and music instead of oral English.	Same as B8 except music instead of oral English.

INTERMEDIATE SCHOOLS OF LOS ANGELES, 1914–15—COURSE OF STUDY—Continued.

	I. Literary—Scientific.	II. Engineering preparatory.	III. Mechanic arts.	IV. Home economics.	V. Commercial.
B9	1 English..... 5 2 Greek history or physiography..... 5 3 Algebra or freehand drawing. 5 4 Foreign language continued. 5 5 Music or oral English..... 3 6 Physical training..... 2 7 Manual training or drawing. 5	1 English..... 5 2 Physiography..... 5 3 Algebra..... 5 4 Mechanical drawing..... 5 5 Music or oral English..... 3 6 Physical training..... 2 7 Wood shop..... 5	1 English..... 5 2 Mechanical drawing..... 5 3 B7 elective continued..... 5 4 Music or oral English..... 3 5 Physical training..... 2 6 Wood shop..... 10	1 English..... 5 2 Freehand drawing..... 5 3 B7 elective continued..... 5 4 Music or oral English..... 3 5 Physical training..... 2 6 Cooking..... 5 7 Sewing..... 5	1 English..... 5 2 Commercial arithmetic..... 5 3 Bookkeeping..... 5 4 Stenography..... 5 5 Music or oral English..... 3 6 Physical training..... 2 7 Ancient history, physiography or penmanship..... 5
A9	Same as B9 except Roman instead of Greek history, and one optional subject.	Same as B9 except one optional subject.	Same as B9.....	Same as B9.	Same as B9.

BERKELEY (CAL.) PUBLIC SCHOOL DEPARTMENT—LOWER HIGH SCHOOLS COURSE.[1]

SEVENTH GRADE.	Pds.	EIGHTH GRADE.	Pds.	NINTH GRADE.	Pds.
Required.		**Required.**		**Required.**	
English: Language, Composition, Spelling, Reading, Literature	10	English: Language, Composition, Spelling, Reading, Literature	10	English: Language, Composition, Spelling, Reading, Literature	5
Geography and world history through biography	5	American history and citizenship	5	World's work and Pacific coast problems	5
The arithmetic of the household and of trade	5	The arithmetic of measurements	5		
Cooking or manual training	2	Sewing or manual training	2		
Freehand drawing	2	Freehand drawing	2		
Music and chorus[2]	2	Music and chorus[2]	2	Music and chorus[2]	2
Optional.		**Optional.**		**Elective.**	
French—beginning	5	French—continued	5	French—beginning or continued	5
German—beginning	5	German—continued	5	German—beginning or continued	5
Latin—beginning	5	Latin—continued	5	Latin—beginning or continued	5
Spanish—beginning	5	Spanish—continued	5	Spanish—beginning or continued	5
Printing arts	5	Printing arts	5	Algebra	5
Typewriting	2	Typewriting	2	Freehand drawing	5
Stenography	2	Stenography	2	Elementary household arts	5
				Elementary household science	5
				Manual arts	5
				Printing arts	5
				Bookkeeping	2
				Stenography	2
				Typewriting	2

[1] In effect January, 1910.

[2] The 80 minutes of the music course are divided into two 25-minute recitation periods and one 30-minute chorus period.

Notes.

1. The periods are 40 minutes long. In those subjects which require preparation outside the recitation period, five periods per week for a year constitute a course, for which one credit is given. In other subjects, five double periods per week are required for the full credit. When single periods are devoted to such subjects, one-half credit only is given.

2. A grammar-school diploma is issued when a pupil has finished the required seventh and eighth grade course.

3. Any one of the optional subjects taught in the school may be substituted for one-half of the required work in English.

4. Pupils who complete any course in addition to the amount required for a grammar-school diploma will be allowed credit for such work toward graduation from the high school.

5. To enter the upper high school, a pupil must have secured a grammar-school diploma and at least three high-school credits. These credits must represent a full year's work in each subject and not an addition of half credits. Exceptions to this rule can be made only in special cases upon the joint recommendation of the principals of the two schools concerned.

6. For special instruction in voice culture, piano, violin, drawing, and painting one-half of a high-school credit may be given in each of the seventh and eighth grades; one

high-school credit in the ninth grade, provided that application for such credit be made during the first two weeks of a term, and that evidence of sufficient progress be shown at its close. All work of this character, for which credit is desired, shall be under the inspection of the supervisors of music and drawing. Said credit will count toward high-school graduation, but not toward university matriculation.

7. No class will be organized or maintained unless at the beginning of the term it numbers 20 or more pupils; provided, that a course which is a continuance of one formerly begun may be maintained if it numbers 15 or more pupils, and provided that no class shall be suspended before the year's work is completed unless the subject is being given at another intermediate school in the city.

BERKELEY (CAL.) SCHOOL DEPARTMENT—THE COURSE IN APPLIED MUSIC.[1]

The School Department of Berkeley will grant credit for work in music done outside of its schools in accordance with the following resolution of the board of education:

For special instruction in voice culture, piano, violin, drawing, and painting, one-half of a high-school credit may be given in each of the seventh and eighth grades; one high-school credit in the ninth grade, provided that application for such credit be made during the first two weeks of a term, and that evidence of sufficient progress be shown at its close. All work of this character for which credit is desired shall be under the inspection of the supervisors of music and drawing. Said credit will count toward high-school graduation, but not toward university matriculation.

CONDITIONS ON WHICH CREDIT WILL BE GRANTED.

1. The applicant must be enrolled in the lower high-school department of the Berkeley public schools.

2. The applicant must present, during the first two weeks of a given term, an application for permission to enroll among those who are to work for the credit. This application must be accompanied by a written statement, signed by both the applicant's teacher and parent, that they agree to the conditions of the course and that they will conform thereto.

3. The applicant must understand that taking this course will not excuse him from the regular course in vocal music offered in the public schools.

4. The minimum number of hours of practice shall be one hour per day, six days in the week. It is understood that the lesson time will count toward satisfying this requirement.

5. At the conclusion of a given term or year each applicant for credit must present a report from his teacher of music covering the following points:

(*a*) Number of lessons taken since last report.
(*b*) Average number of hours of practice per week.
(*c*) Technical progress made by pupil since preceding report.
(*d*) List of compositions studied by pupil, with remarks concerning scope and ability of work done on each composition.

6. Each applicant must satisfy the supervisor of music of the public schools in respect to—

(*a*) Knowledge of the technical work covered.
(*b*) Ability to execute the compositions studied.

[1] In effect January, 1914.

BERKELEY (CAL.) PUBLIC SCHOOLS—ELEMENTARY DIVISION.

Schedule of the weekly time allotment.

Subjects.	I	II	III	IV	V	VI
Reading and literature	400	300	240	240	200	200
English	100	150	200	150	170	160
Penmanship	95	75	80	80	80	60
Spelling	.....	60	60	70	70	70
Ethics	30	30	30	30	30	25
History	.....	60	60	90	120	140
Geography	.....	.....	.....	85	120	135
Arithmetic	.....	50	200	220	200	200
Nature study and physiology	45	45	30	30	30	30
Physical exercise	50	50	50	50	50	50
Manual arts	60	60	60	60	120	120
Music	85	85	85	85	85	85
Drawing	90	90	75	75	75	75
Intermissions	100	100	150	150	150	150
Total assignment per week	1,055	1,155	1,320	1,415	1,500	1,500
Minutes unassigned	145	45	45	85	.....	.....
Minutes for school use	1,200	1,200	1,350	1,500	1,500	1,500
Close at (p. m.)	2	2	2.40	3	3	3

General suggestions.—For school use each week there are 1,200 minutes in each of the first and second grades, 1,350 minutes in the third, and 1,500 minutes in each of the remaining grades. The suggested allotment leaves a margin of reserve time in several of the grades which the teacher should bring to bear on the weak places of her work. The exigencies of schoolroom work will necessitate a shift in emphasis from time to time, but it is thought that with an approximation to the foregoing schedule all the work outlined in the course, after it gets to working smoothly, can be covered nicely. Later in the term it may seem advisable to alter this schedule somewhat. The schedule and the suggestions which follow presume that two classes are seated in each room. Where there is but one grade in a room the teacher will find it advisable to do much individual work with her pupils.

Opening exercises.—No set time has been allowed in this schedule for "opening exercises," for we feel that the time is too frequently wasted. Unless the teacher is determined to make it count for something and is willing to make special preparation for it, we think it better for her to forego any exercises and begin on the regular work of the day. If, however, the teacher feels that she can use 10 minutes of the time profitably, she will find that it can be taken without interfering with the preceding time apportionment.

Penmanship.—Where there are two classes in the room they should be combined during the writing period except, perhaps, in the primary grades. In the lower primary grades the writing period should be very short to avoid fatigue. In grades 3, 4, and 5 a 10-minute period daily should be given, in the sixth grade four 15-minute periods are allowed.

Drawing.—Where there are two classes in the room, combine for this work. Because of the time required to get the materials ready for use it is best to break the weekly time allotment into not more than three periods. Some of the teachers have only two periods, while others, again, prefer taking but one period and increasing the time proportionately.

Music.—The time allotment given to this subject permits, in the first and second grades, five 17-minute periods per week; in the remaining grades, four 15-minute periods per week should be given to class instruction and one 25-minute period to the chorus singing. It is expected, in the chorus work, that two or more classes of like grade be combined.

Arithmetic.—In the drill work, if the two classes combined are found to be unwieldy, the room can be handled in two sections by requiring one section to do written drill work while the other section is taken for the oral work or work at the blackboard. In the work on "applications" some teachers get satisfactory results by taking the room by rows, one row at a time. While the teacher is working with a given row the remaining ones are busy making preparation on the assigned work. This time allotment is quite sufficient for the essentials of arithmetic if the work be quick, snappy, and well thought out.

Geography.—Sufficient time is set aside to justify the devoting of a few minutes each day to the formal part of geography; that is to say, to locations and map inferences. It is to be understood that the important part of geography comprises the conceptions and ideas which make up the content of the subject. Nevertheless, clear notions of geography can be gained only through establishing mental images of the great land and water masses of the world in their true space relations. This can be secured only through devising a methodology which will give these results.

Spelling—Five 12-minute periods should be given to this work in the second and third grades; 14 minutes in grades 4, 5, and 6. Time can be economized by dictating to both classes during the period.

History.—In the sixth grade five 28-minute periods are provided, and in the fifth grade four 30-minute periods. From time to time it will be well to take some time from reading and literature, in case the ground outlined in this subject can not be covered otherwise. History work in the second, third, and fourth grades must be made largely story-telling, which can be varied as the needs require.

Reading and literature.—The allotment provides for four 25-minute periods in the fifth and sixth grades, classes taken separately; and for five 24-minute periods in the third and fourth grades with a correspondingly larger allotment in the first and second. Frequently the work in reading and literature can be combined with history and geography, thus securing a greater measure of time for one or the other as the need indicates.

Language.—At least four 20-minute periods per week should be given to language work in the fifth and sixth grades, classes separate. The classes in the lower grades may be combined to advantage for a portion of the formal review work; thus a considerable saving in time can be effected.

Physical exercise.—The time allotted calls for two 5-minute periods each day for physical exercises. We would suggest that another period of 5 minutes be taken from other work, in addition. Attention to physical training should be given without fail each day.

JAPAN—THE ORDINARY ELEMENTARY SCHOOL COURSE—FOUR YEARS.

Subjects.	First school year.		Second school year.		Third school year.		Fourth school year.	
	Hours per week.	Divisions of subject.	Hours per week.	Divisions of subject.	Hours per week.	Divisions of subject.	Hours per week.	Divisions of subject.
Morals	2	Principal points of morals.	2	Principal points of morals.	2	Principal points of morals.	2	Principal points of morals.
Japanese language	10	Pronunciation, reading, writing, and composition with *Kana*, and sentences of easy style; conversation.	12	Reading, writing, and composition with *Kana*, characters in daily use, and sentences of easy style; conversation.	15	Reading, writing, and composition, with characters in daily use, and sentences of easy style; conversation.	15	Reading, writing, and composition, with characters in daily use, and sentences of easy style; conversation.
Arithmetic	5	Counting, numeration, addition, subtraction, multiplication, and division of numbers not exceeding 20.	6	Counting, numeration, addition, subtraction, multiplication, and division of numbers not exceeding 100.	6	Common addition, subtraction, multiplication, and division.	6	Common addition, subtraction, multiplication, and division; decimal fractions; notation, numeration, addition, and subtraction; abacus arithmetic, addition and subtraction.
Gymnastics	4	Sports	4	Sports, common gymnastics.	4	Sports, common gymnastics.	4	Sports, common gymnastics.
Drawing				Simple forms		Simple figures		Simple figures.
Singing		Easy solo singing		Easy solo singing		Easy solo singing		Easy solo singing.
Sewing						Management of needle, sewing of common garments.		Sewing and mending of common garments.
Manual work		Simple work		Simple work		Simple work		Simple work.
Total	21		24		27		27	

JAPAN—THE HIGHER ELEMENTARY SCHOOL COURSE—TWO YEARS.

Subjects.	First school year.		Second school year.	
	Hours per week.	Divisions of subject.	Hours per week.	Divisions of subjects.
Morals	2	Principal points of morals	2	Principal points of morals.
Japanese language	10	Reading, writing, and composition with characters in daily use and sentences of common style.	10	Reading, writing, and composition with characters in daily use and sentences of common style.
Arithmetic	4	Addition, subtraction, multiplication, and division: calculation of weights, measures, coins, and times; simple decimal fractions; Abacus arithmetic—addition and subtraction.	4	Decimal fractions, common fractions, simple proportions, Abacus arithmetic—Addition, subtraction, multiplication, and division.
Japanese history and geography	3	Outlines of Japanese history and of Japanese geography	3	Outlines of Japanese history and geography (continued).
Science	2	Plants, animals, minerals, and other national phenomena	2	Plants, animals, minerals, and other natural phenomena.
Drawing: boys	2	Simple figures	2	Simple figures.
Drawing: girls	1		1	
Singing	2	Solo singing	2	Solo singing.
Gymnastics	3	Common gymnastics, sports; military gymnastics (for boys).	3	Common gymnastics, sports; military gymnastics (for boys).
Sewing	3	Management of needles, sewing of common garments	3	Sewing, cutting, and mending of common garments.
Manual work	.....	Simple work	.....	Simple work.
Total: boys	28		28	
Total: girls	30		30	

JAPAN—THE HIGHER ELEMENTARY SCHOOL COURSE—THREE YEARS.

Subjects.	Hours per week.	First school year.	Hours per week.	Second school year.	Hours per week.	Third school year.
Morals	2	Principal points of morals	2	Principal points of morals	2	Principal points of morals.
Japanese language	10	Reading, writing, and composition, with characters in daily use and sentences of common style.	10	Reading, writing, and composition, with characters in daily use and sentences of common style.	10	Reading, writing, and composition, with characters in daily use and sentences of common style.
Arithmetic		Addition, subtraction, multiplication, and division; calculation of weights, measures, coins, and times; simple decimal fractions; abacus arithmetic—addition and subtraction.		Decimal fractions; common fractions; simple proportions; abacus arithmetic—addition, subtraction, multiplication, and division.		Decimal fractions; common fractions; percentages; abacus arithmetic—addition, subtraction, multiplication, and division.
Japanese history and geography	3	Outlines of Japanese history and geography.	3	Outlines of Japanese history and geography (continued).	3	Outlines of Japanese history (continued); outlines of foreign geography.
Science	2	Plants, animals, and minerals; other natural phenomena.	2	Plants, animals, and minerals; other natural phenomena.	2	Physical and chemical phenomena of common occurrence; elements and compounds; construction and operation of simple apparatuses; outlines of human physiology and hygiene.
Drawing (boys)	2	Simple figures	2	Simple figures	2	Simple figures.
Drawing (girls)	1		1		1	
Singing	2	Solo singing	2	Solo singing	2	Solo singing.
Gymnastics	3	Common gymnastics, sports, military gymnastics (for boys).	3	Common gymnastics, sports, military gymnastics (for boys).	3	Common gymnastics, sports, military gymnastics (for boys).
Sewing	3	Management of needle, sewing of common garments.	3	Sewing, cutting, and mending of common garments.	3	Sewing, cutting, and mending of common garments.
Manual work		Simple work		Simple work		Simple work.
Agriculture		Agricultural pursuits; general principles of agricultural pursuits.		Agricultural pursuits; general principles of agricultural pursuits; aquatic productions; general principles of aquatic productions.		Agricultural pursuits; general principles of agricultural pursuits; aquatic productions; general principles of aquatic productions.
Commerce		General principles of commerce		General principles of commerce		General principles of commerce.
Total (boys)	28		28		28	
Total (girls)	30		30		30	

JAPAN—THE HIGHER ELEMENTARY SCHOOL COURSE—FOUR YEARS.

Subjects.	First school year.		Second school year.		Third school year.		Fourth school year.	
	Hours per week.	Divisions of subject.	Hours per week.	Divisions of subject.	Hours per week.	Divisions of subject.	Hours per week.	Divisions of subject.
Morals	2	Principal points of morals.	2	Principal points of morals.	2	Principal points of morals.	2	Principal points of morals.
Japanese language	10	Reading, writing, and composition, with characters in daily use, and sentences of common style.	10	Reading, writing, and composition, with characters in daily use, and sentences of common style.	10	Reading, writing, and composition, with characters in daily use, and sentences of common style.	10	Reading, writing, and composition, with characters in daily use, and sentences of common style.
Arithmetic	4	Addition, subtraction, multiplication, and division; calculation of weights, measures, coins, and times.	4	Decimal fractions; common fractions; simple proportion; abacus arithmetic—addition, subtraction, multiplication, and division.	4	Common fractions; proportions; percentages; abacus arithmetic—addition, subtraction, multiplication, and division.	4	Proportions; percentages; mensuration; bookkeeping; abacus arithmetic—addition, subtraction, multiplication, and division.
Japanese history and geography.	3	Outlines of Japanese history and geography.	3	Outlines of Japanese history and geography (continued).	3	Outlines of Japanese history (continued); outlines of foreign geography.	3	Supplementary lessons on Japanese history and on Japanese history and geography.
Biology and science	.....	Plants, animals, minerals; natural phenomena.	.....	Plants, animals, minerals; natural phenomena.	.....	Physical and chemical phenomena of common occurrence; elements and compounds; construction and operation of simple apparatuses; outlines of human physiology and hygiene.	.....	Physical and chemical phenomena of common occurrence; elements and compounds; construction and operation of simple apparatuses; the relations of plants, animals, and minerals among themselves and to man; outlines of human physiology and hygiene.
Drawing {Boys	2	Simple figures.	2	Simple figures.	2	Various figures.	2	Various figures; simple geometric drawing.
Drawing {Girls	1		1		1		1	
Singing	2	Solo singing.	2	Solo singing.	2	Solo singing.	2	Solo singing.
Gymnastics	3	Common gymnastics; sports; military gymnastics (for boys).	3	Common gymnastics; sports; military gymnastics (for boys).	3	Common gymnastics; sports; military gymnastics (for boys).	3	Common gymnastics; sports; military gymnastics (for boys).
Sewing	3	Management of needle; sewing of common garments.	3	Sewing, cutting, and mending of common garments.	3	Sewing, cutting, and mending of common garments.	3	Sewing, cutting, and mending of common garments.
Agriculture	.....	Simple work; agricultural pursuits; general principles of agricultural pursuits.	.....	Simple work; agricultural pursuits; general principles of agricultural pursuits; aquatic productions; general principles of aquatic productions.	.....	Simple work; agricultural pursuits; general principles of agricultural pursuits; aquatic productions; general principles of aquatic productions.	.....	Simple work; agricultural pursuits; general principles of agricultural pursuits; aquatic productions; general principles of aquatic productions.
Commerce	.....	General principles of commerce.	.....	General principles of commerce.	.....	General principles of commerce.	.....	General principles of commerce.
English language	.....	Reading, writing, spelling, and conversation.	.....	Reading, writing, spelling, and conversation.	.....	Reading, writing, spelling, and conversation.	.....	Reading, writing, spelling, and conversation.
Total {Boys	28		28		28		28	
Total {Girls	30		30		30		30	

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INDEX.

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5030°—16——18

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1913.

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No. 56. Educational system of rural Denmark. Harold W. Foght.
No. 59. Bibliography of education for 1910-11.

No. 60. Statistics of State universities and other institutions of higher education partially supported by the State, 1912–13.

1914.

No. 2. Compulsory school attendance.
No. 3. Monthly record of current educational publications, February, 1914.
No. 4. The school and the start in life. Meyer Bloomfield.
No. 5. The folk high schools of Denmark. L. L. Friend.
*No. 6. Kindergartens in the United States. 20 cts.
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No. 23. Some trade schools in Europe. Frank L. Glynn.
*No. 24. Danish elementary rural schools. H. W. Foght. 10 cts.
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*No. 27. Agricultural teaching. 15 cts.
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*No. 31. Report on the work of the Bureau of Education for the natives of Alaska. 25 cts.
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No. 48. The educational museum of the St. Louis public schools. C. G. Rathman.
No. 49. Efficiency and preparation of rural-school teachers. H. W. Foght.
No. 50. Statistics of State universities and State colleges.

1915.

*No. 1. Cooking in the vocational school. Iris P. O'Leary. 5 cts.
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No. 3. Monthly record of current educational publications, February, 1915.
No. 4. The health of school children. W. H. Heck.
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No. 6. A study of the colleges and high schools in the North Central Association.
No. 7. Accredited secondary schools in the United States. Samuel P. Capen.
No. 8. Present status of the honor system in colleges and universities. Bird T. Baldwin.
No. 9. Monthly record of current educational publications, March, 1915.
No. 10. Monthly record of current educational publications, April, 1915.

No. 11. A statistical study of the public-school systems of the southern Appalachian Mountains. Norman Frost.
No. 12. History of public-school education in Alabama. Stephen B. Weeks.
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*No. 15. Monthly record of current educational publications. Index, February, 1914–January, 1915. 5 cts.
No. 16. Monthly record of current educational publications, June, 1915.
No. 17. Civic education in elementary schools as illustrated in Indianapolis. Arthur W. Dunn.
No. 18. Legal education in Great Britain. H. S. Richards.
*No. 19. Statistics of agricultural, manual training, and industrial schools, 1913–14. 10 cts.
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No. 45. The Danish people's high school. Martin Hegland.
No. 46. Monthly record of current educational publications, November, 1915.
No. 47. Digest of State laws relating to public education. Hood, Weeks, and Ford.
No. 48. Report on the work of the Bureau of Education for the natives of Alaska, 1913-14.
No. 49. Monthly record of current educational publications, December, 1915.
No. 50. Health of school children. W. H. Heck.

1916.

No. 1. Education exhibits at the Panama-Pacific International Exposition. W. Carson Ryan, jr.
No. 2. Agricultural and rural education at the Panama-Pacific International Exposition. H. W. Foght.
No. 3. Placement of children in the elementary grades. K. J. Hoke.
No. 4. Monthly record of current educational publications, January, 1916.
No. 5. Kindergarten training schools.
No. 6. Statistics of State universities and State colleges, 1915.
No. 7. Monthly record of current educational publications, February, 1916.