

A
CYCLOPEDIA OF EDUCATION

EDITED BY

PAUL MONROE, PH.D.

PROFESSOR OF THE HISTORY OF EDUCATION, TEACHERS COLLEGE
COLUMBIA UNIVERSITY

WITH THE ASSISTANCE OF DEPARTMENTAL EDITORS

AND

MORE THAN ONE THOUSAND INDIVIDUAL CONTRIBUTORS

VOLUME ONE

New York

THE MACMILLAN COMPANY

1919

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PREFACE

A Cyclopedia of Education: The present work is the result of the coöperative effort of several hundred specialists, who have here contributed the results of their study to the systematizing of educational ideas and practices. A spirit of loyalty to their chosen profession and a scholarly interest in the attempt to give a more definite scientific basis to the work of the teacher have been the dominant motives. That no such cyclopedia has ever appeared in English, although similar ones have existed in other languages, is the justification for such an undertaking. The resulting work represents the product of long investigation on the part of most of the contributors, and is the immediate outcome of several years of special effort on the part of the editors.

The Need for such a Work: Three conditions indicate clearly the need of such a work for English-speaking people: First. The vast and varied character of educational literature, indicative of a corresponding variety in educational ideas and practices. Second. The growing importance of education as a social process, of the school as a social institution, and of the teacher as a social functionary. Third. The great numerical strength of the teaching profession and its rapidly changing personnel.

The last annual bibliography of education published by the United States Bureau of Education contained more than twelve hundred titles. The publishers' announcement of the past year gives the titles of 348 new works on education out of a total of 8745 new books issued in the United States. For several years previously the ratio was even larger. In England, the ratio was 578 to 8446; in Germany, for the preceding year, the ratio was 4203 to 30,317; in France, 1005 to 8805. This summary does not include the very numerous volumes, classified under history, philosophy, sociology, religion, and related subjects, which have immediate educational significance. During the same time educational periodicals were issued in the United States to the number of 150; in Germany the number is even in excess of this total. This vast and growing literature indicates not only a vigorous interest in educational problems and practices, but it is evidence also of an equally great diversity in views and in practices. It is clearly evident that the rank and file of the teaching profession, as well as the casual social observer, would be hopelessly lost in this maze of material, and that some guidance is necessary even to those most thoroughly prepared to seek for the sanest ideas and the soundest practice. But no attempt has previously been made in English to systematize the extensive body of knowledge found in this rapidly expanding literature.

The need for such a work is further emphasized by the growing importance of the teaching profession. It is now the largest in point of numbers of all the professions. Its standards, while vague, are gradually being raised and harmonized, its aims broadened and made more definite. In fact, one of the most significant of recent social changes is the tendency to throw upon the school various social and ethical responsibilities hitherto assumed by other professions or by other institutions. The school is, in the broadest way, being made responsible for the morals of the growing generation. The family no longer performs its earlier function of training in practical activities and homely duties; and the school must take its place. The playground, with its development of sound physique, of skill, of the sense of fair dealing, of interest in group activities, must be incorporated in the school. Even the opportunities for social amusements, with the resulting attainment of social graces, are now coming to be offered, both in urban and rural communities, through the school. Devotion to private morality and

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to public duty are now expected to result from the work of the teacher rather than from that of the parent or other professional guides. The school is expected to lessen, if not to obviate, the work of the court, especially for juvenile offenders; to furnish the services of the physician and dentist; to serve in place of the minister; to surpass, both in scientific character and in practical value, the work of the farm, the shop, and the home. The overburdened teacher needs a guide in the maze of his new duties and multiplied activities; the public needs a source of information as to what the school is trying to do and is actually accomplishing, and why it is making such efforts.

Even these hints of the enlarged scope of the teacher's work do not fully present the situation. Society is laying all of these tremendous responsibilities on a profession for which it makes no adequate provision, either in the way of remuneration or by other inducements, to attract the best talent to the profession, to train such talent adequately, or to retain it for any length of time. The teaching profession is a rapidly changing one. Probably twenty-five per cent of the entire profession in the United States is renewed each year. It seems almost a travesty to call such an unstable body a profession; and a blunder for society to bestow such tremendous responsibilities, with so slight consideration of the conditions implied. The work of the educational administrator is to replenish the rapidly depleted ranks with the best material available; to raise the new recruits as quickly as possible to a standard of efficiency; to improve them constantly while in service.

The Scope of the Work: These volumes will include a concise discussion of all topics of importance and interest to the teacher, and will give such information concerning every division of educational practice as is essential to a book of reference. Completeness of treatment is not designed. Completeness of scope is attempted. Every aspect of education as an art and as a science will be treated. The main departments will be those of the Philosophy and Science of Education; History of Education; Educational Biography; Educational Institutions, including Universities, Colleges, and special Institutions; Secondary Education; Elementary Education; the Curriculum; Educational Administration and Supervision; School Systems, home and foreign; Educational Method, general and special; Educational Psychology; School Hygiene and School Architecture. Every subject taught in the school will be considered in detail, as to history, content, educational value, special methods, and bibliography. Every important method or educational device that is advocated now or has found a place in the past will be defined and evaluated. The department of Educational Administration will include a treatment of the system of education in every country and in every commonwealth in the United States. Each of these articles will include an historical treatment as well as an analysis of contemporary conditions. All institutions of higher education will also be considered individually; every phase of educational work in the various social ramifications of the present will be presented. Every important point in school administration, school supervision, and classroom management will be treated by some specialist competent to deal with the subject.

Slight attention has been given to matters of opinion only. The aim is to present authentic information. With current problems the purpose has been to state the facts of the problem only, leaving inferences to the reader after consideration of the facts presented or after reference to further discussions.

The Aim of the Work: The making of a work of reference is only one, and that not the most important, of the motives which have controlled the editors. In the first place it is hoped that by standardizing and organizing in a succinct form the information essential for an intelligent participation in educational activities, something will be contributed to the solution of educational problems; if in no other way, at least through its direct aid to those engaged in practical work.

As a work of reference the pragmatic purpose is evident. The need for a comprehensive

PREFACE

organization of information concerning education has been indicated. Not only does the teacher need a source of information for all problems which come up in the schoolroom and for all discussions of theory that grow out of these, but school administrators and local officials require an accessible source of information that will give them the main points in regard to any topic and put them immediately in touch with the best literature relating to any topic. Professional men, editors, ministers, politicians,—whoever deals with questions of public welfare intimately connected with education,—need a reference work giving the outlines of educational problems, the suggested solutions, the statistical information, and, in general, the essential facts. Much of this information cannot now be obtained from existing books of reference. Such assistance this Cyclopedia seeks to give.

The most practical and most immediate aim is to be of service to the rank and file of the teaching profession. To accomplish this end, the entire work is organized not simply as a book of reference, but also as a systematic treatise on each phase of the subject. To further this design, each aspect of the subject which lends itself to systematic scientific treatment is under the charge of a departmental or associate editor who is an authority in the special field, and who is responsible, not only for an adequate presentation of established facts, but for such a systematic organization of the material that the combined articles will serve as a scientific treatise on the subject. To this end the work includes a logical outline of the topics treated, with paginal references. With such analyses the work will constitute an authoritative and comprehensive yet condensed textbook on method, on educational psychology, on school administration, on school hygiene, on the history of philosophy of education, etc.

Finally a deeper professional motive has actuated those who have contributed most to the work. Out of such an organization of materials, so heterogeneous in character, it is hoped that some greater unity may be given to our educational thought and a greater uniformity may result in educational practice. The mere systematization of educational ideas, with a greater degree of uniformity in use of terminology, should assist in unifying educational thought. The bringing to light of divergent practices; the statement of the results of the best conducted experiments; the statement of theory underlying our practice; the effort involved in the application of the comparative method of investigation and study,—all these should tend to a uniformly higher plane of educational practice.

The Editorial Staff: The first volume includes about a thousand title entries. The articles are the contributions of more than one hundred specialists. Subsequent volumes are now being prepared by contributors representing an equally wide range of interest. The departmental editors, chosen chiefly from the American field, represent in every case the most authoritative and sane specialization in their respective spheres. To a number of contributors the editor is no less indebted than to the departmental editors.

The completed work will be the consummation of plans, developed through many years; the execution of these plans will be due to the coöperation of the numerous contributors, whose assistance has been as generous and hearty as their scholarship is wide and thorough.

THE EDITOR.

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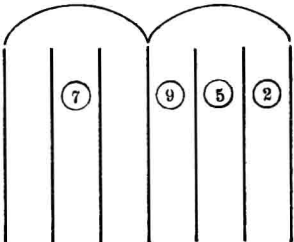
A CYCLOPEDIA OF EDUCATION

ABACUS. — A term used in education with several meanings. As a school instrument it seems originally to have meant a sand table, or board covered with fine dust, whence the Greek *αβας* from the Semitic *abq*, dust, — the most commonly accepted of several etymologies. Upon this dust-covered table figures were written, to be erased by rubbing with the thumb. This form of abacus seems to have been of Semitic origin, and its use extended to the Far East and to Europe, the name *tabula geometricalis* being often applied to it in the Middle Ages. Upon this abacus the calculator or geometrician wrote with a *stilus* or *radius geometricalis*, very much as on the wax tablet of the Greeks and Romans, which was itself a variant of the sand board. Numerals taught in the western Arab schools by the help of this dust board were commonly known as *gobâr* (dust) numerals, and these are closely related to our modern "Arabic" forms. The second and more distinctive form of abacus was a ruled table upon which sticks or disks were placed in such a way as to represent numbers. The earliest forms of counters were probably pebbles (*calculi*, whence our word "calculate"). These were thrown upon the ruled table, and hence were called *projectiles* or *jetons* (from *jacere*, to throw), and hence our expression "to cast an account." They were also known as *abaculi* (counters or reckoning pennies), in Latin *denarii supputarii*, and in German *Rechenpfennige*, *Zahlpfennige* or *Raitpfennige*.

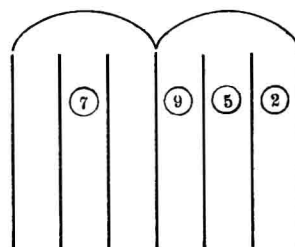
There have been four leading variants of this kind of abacus. In the first the counters were loose disks placed in lines or spaces to indicate numbers, a form that continued in Europe until the eighteenth century, although not usually described in text-books after the latter half of the sixteenth century. Shakespeare speaks contemptuously of a shop-keeper as a "counter-caster," and Hartwell in his 1646 edition of Recorde's *Ground of Artes*, speaks of ignorant people as "any that can but cast with counters." Such an abacus is here illustrated. The lines indicate, from the bottom, units, tens, hundreds, and so on, a cross being placed on the lines of thousands and millions, and on every third line thereafter, this

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being the origin of our separatrix. The spaces represent 5, 50, 500, and in general $5 \cdot 10^n$, a relic of the Roman notation which was originally used in central Europe in connection with this form. Thus in the above figure the number represented is 70,952. It is evident that the simple operations can be performed by manipulating these counters, and so common was this method that "to abacus" was a recognized verb of the Middle Ages, and arithmeticians were known as *abacisti*. A second variant is the "arc abacus," "column abacus," or "arcus Pythagoreus," commonly attributed to Gerbert (Pope Sylvester II, c. 1000 A.D.). In this form, which was never extensively used, the



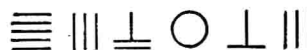
The arc abacus.



The arc abacus.

lines were vertical and the threefold groups (our "periods") were marked off by arcs. Instead of using several counters to represent any number of units, Gerbert used one upon which the number was written, the zero having no counter, as in the above representation of 70,952. As soon as the zero became well understood, this form of the abacus lost what little standing it had. A third form of the counter abacus is the one in which the calculi are either strung on wires or allowed to slide in grooves. This form was used by the Romans, at least five early specimens having been known in recent times. The Roman abacus resembled somewhat the late Japanese *soroban*, which is still used for practical computation. The Japanese derived this instrument from the Chinese in the seventeenth century, modifying it slightly, and the Chinese seem not to have used their *swan pan* before about the thirteenth century. The old mathematical treatises of China represent num-

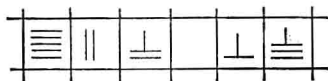
bers by rods Fig. 3, representing 537,063. This is the fourth form of this class of



Chinese abacus.

abacus. In Japan, at least from about 600 A.D., bamboo rods (*chikusaku*) were used, these being later replaced by the *sanchu* or *sangt*, rectangular sticks laid in squares on a ruled table. By the *sangi* the number (Fig. 4), 527,068, would be represented as here shown. In Persia the beads are strung on wires, and this form is also found

among the Arab traders to-day, and evidently worked its way north into Russia, where it is



Japanese abacus.

still almost universal. With the abacus reckoning is closely connected the early Court of the Exchequer, the tally stick, the *quipos* of Peru, the use of counters in games (like poker chips and the bead counters used in billiards), the conversation beads of the Mohammedan, and the prayer beads of certain religions (such as the rosary). Even to-day a great part of the world does its computing on some form of the abacus, and for the more enlightened part there is a return to mechanical calculation by means of the modern computing machines.

The term "abacus" came also to be used in the Middle Ages to mean merely arithmetic, as in Leonardo Fibonacci's *Liber abbaci* (*sic*) of 1202, and in numerous other *abaculi*. Even as late as the time of the early printed arithmetics, *Libro d'abaco* was not an uncommon name for a textbook on the subject.

In modern education there has been a return to the use of counters or of similar devices in the teaching of number to young children, a commendable idea when not carried to an extreme.

D. E. S.

ABANDONED CHILDREN.—See FOUNDLING HOMES; ORPHANS, EDUCATION OF.

ABBEY SCHOOLS.—The importance of abbeys and monks in the advancement of education has been much exaggerated. To these alone has been imputed the preservation of learning in the Dark Ages, which research has been pushing further and further back till they almost disappear in the light of the Roman Empire, so much less dark are they found to be than they were painted. Indeed it may almost be said that their darkness varies directly with the darkness and the ignorance of those who dub them dark. The abbeys at first undoubtedly set themselves against learning. Even Hieronymus, commonly called St. Jerome, reputed the most learned man of his age, with learning acquired in the public schools of the "heathen," in theory tried to put learning behind him as an evil thing, when he became a monk, and a legend tells how an angel came and flogged him for reading Cicero. He repudiated the bishops and priests who sent their sons to secular schools and to read Vergil. It has been accepted and repeatedly said that there were schools in the abbey of Lérins founded by St. Honorat c. 410, but it is mere assertion without one single document adduced in its support. There were learned men among its members, no doubt, but they had got their learning before going there. That bishops resorted to it as a retreat is true, but not for learning any more than the schoolmasters who went into retreat at

Radley a few years ago went there for the good of their minds. They went for the good of their souls. Even Mabillon, who has done more than any one to color the history of abbeys with a learned tinge, points out this error. The institutions of Cassian (*q.v.*), who founded the abbey of St. Victor at Marseilles c. 417, have been cited as tending to encourage learning. But he attacked it. He declares the syllogisms of dialectic and the eloquence of Cicero are unworthy of the faith. A monk is directed to drive out all remembrance of secular learning by incessant reading of the Scriptures. Even learning in theology is discouraged. A monk is not to study commentaries. "If he gives himself to chastity, the understanding of the Scriptures will come without any theological studies." He forbids even the art of writing. More than a century later Cassiodorus (*q.v.*), one of the most learned men of his age, founded two abbeys in Calabria and wrote his *Institutions* for them. He did enjoin the study of the Fathers and Christian historians as well as of the Scriptures; and he allows the study of grammar so that the Scriptures may be copied correctly. But it was not Cassiodorus, but Benedict, who became the prophet of the monks. The Benedictine Rule (see BENEDICTINES), of almost the same date as the *Institutions*, set apart only two hours out of each day for reading, except in Lent; when, lack of food preventing hand labor, the monks were required to read through one book during that period, but the only books mentioned, or apparently allowed, were the Bible and the Psalters. Even this rule was remitted for those who were too lazy to read. They might commute it for work. Not a word in the rule refers to education. Boys were allowed to be offered (*oblats*) to God and presumably to be brought up in the monastery, and of course they must have been taught. But even this is not said, and no hint is given of education of outsiders being a duty to monks. It is only when we come to the Celtic monasteries of the sixth and seventh centuries that there is any identification of monasteries with education. There is no authentic evidence of this before St. Columban (*q.v.*), said to have been born about the middle of the sixth century and by a biographer rather more than a century later to have studied grammar, rhetoric, and geometry. The number both of monks and clerks seems to have been greatly exaggerated. Apparently whole families and clans formed monasteries. An obscure phrase in the Brehon laws, "purity benefits the church in receiving every son for instruction," is interpreted to mean that all were to be educated. What appears to be certain is that some were educated and that Irish monks conveyed learning to England, and English clerics and monks went to Ireland to learn. Clonfart, under St. Brendan, is credited with 40,000 monks, but no doubt through a misreading. Thrice fifty seems to be

the normal number in the round figures of Hibernian and monastic exaggeration. English monasteries founded on the Celtic model, such as Jarrow and Wearmouth, contained six hundred monks, and Bede (*q.v.*) the master, as Alcuin (*q.v.*) calls him, was educated in the monastery and spent his life in educating others, and died about 735. It is to be observed that no word is said as to his educating other than the inmates of his monastery. Letters of Aldhelm's are preserved of doubtful authenticity, purporting to come from foreigners wishing to be taught by him at Malmesbury. But they seem to be monks. St. Columban carried the same influence to France. There is great exaggeration in the amount of learning and the number of the learned. The Lives of Saints repeat with unabashed plagiarism the very same phrases one after another as a sort of common form for the accounts of the successive youthful prodigies of learning which those who in after life developed into saints are all represented as being. Still at this epoch monasteries in Ireland, in England, and in France do seem to have become the centers of learning and schools. Alcuin, however, who illuminates the Palace Schools of Charlemagne from 780 onwards, was not a monk, though often spoken of as if he was. When he did enter the abbey of Tours as abbot in 796, it is difficult to make out how far he still kept an open school. He certainly repudiated his own love for Vergil and the classics. While under Alcuin's influence, Charlemagne attempted to make the monasteries into abbeys. The decree of the Council of Aachen or Aix-la-Chapelle in 789 for the establishment of schools where music, arithmetic, grammar, and writing should be taught had extended to monasteries as well as cathedrals. The famous plan of St. Gall in Switzerland attributed to the influence of Eginhard, Charlemagne's son-in-law, shows an outer school as well as an inner cloister (*q.v.*), a novice's school; a boarding school for gentle youths (*pulcra juvenus*) with a master's house attached. But this plan was never carried out, and it is probable that none of the outer schools of monasteries were ever established. At all events, by another Council at Aachen under the reactionary Louis the Pious in 817 the ascetic view again prevailed, and outer schools were expressly prohibited. "No school shall be kept in a monastery, except for oblates." From this time there is no evidence of abbeys doing anything through their own members for the education of others. The monastic or cloister schools (*q.v.*) were solely for novices and oblates. In the eleventh and twelfth centuries, when the secular canons were turned out to make room for regulars, an attempt was made to transfer to the abbeys, more particularly to the new orders of Regular or Augustinian canons, not to the old order of Benedictines, the control of the schools. But the schools were transferred as property, like the churches and other possessions of the ex-

truded canons, and were not intended to be, and were not, taught or governed internally by the abbeys. Thus at Bury St. Edmunds (*c.* 1020) King Canute turned out the seculars for monks, and we find the abbey afterwards governing the school. At Dunwich, the school, founded in 631, the first in England of which the foundation is recorded, was "with all the churches of Dunwich built or to be built" given over to the Priory of Eye on its foundation in 1083. Thetford school was granted to Thetford Cluniac Priory in 1107, but about 1114 recovered by the Bishop of Norwich and granted back to the Dean of Thetford. At Reading in 1125, Huntingdon in 1427, Dunstable in 1131, Gloucester in 1137, Christ Church, Hants, in 1147, Derby about 1150, Bedford about 1153, Bristol in 1171, documents recording the transfer to or the assertion of the rights of the abbey or priory in consequence of a transfer are preserved, chiefly in the chartularies of the intruding monks or canons. But the inmates of the abbey did not teach the schools themselves. They only appointed the masters, who were always seculars, and asserted, on occasion, the monopoly of the masters in their jurisdiction. They did not even as a rule pay the masters, who lived on tuition fees. In the fourteenth century, however, the monasteries began to do something for the education, not of outsiders, but at all events of those who were not prospective monks, in the almonry schools (*q.v.*), established for their pages and choristers the charity boys then first introduced into monastic churches, numbering from 12 or 13, at least in one place (St. Mary's Abbey, York), to 50 (the round number). Also the abbots used to receive young noblemen, especially, we may suppose, the sons of the abbey knights and other chief tenants, into their houses as wards and pages. Thus, Abbot John II of St. Albans, 1235-1260, is said to have been known among all the prelates of the realm as a mirror of religion and a wit, and very liberal, and so many nobles of the realm committed their sons to his guardianship to be brought up. But we find, as at Glastonbury shortly before the dissolution of abbeys, that they were very few in number and that a private tutor, a secular, was employed to teach them. In abbeys for women this process was more common. Not only did they take in young ladies, as in the celebrated return of them at St. Mary's Abbey, Winchester, at the dissolution, but they took in little boys as well, as we learn from many fulminations at visitations against their keeping boys too old, or at all, and in the dormitories. The amount of education given in them, however, was of the smallest, for though in Saxon times there is plenty of evidence of the high education of the nuns, in post-Conquest times, they were certainly not learned. One proof is that they were always addressed by the bishops in French as only being acquainted with what was then the

ABBOT

vernacular, as in the celebrated letter of Archbishop Peckham to the nuns of Godstow about their too great familiarity with Oxford undergraduates. Nor indeed were the abbeys for men such houses of learning themselves as to be capable of becoming so for others. The abbey school taught the Benedictine rule rather than grammar. Episcopal visitations in all centuries ring with complaints of their want of learning. When Benedict XII in 1335 tried to make the Benedictines and Augustinians learned, he ordered them to provide a grammar master, who, contrary to the rule, might be a secular. The specimens of such appointments preserved are secular. One of the latest, at Winchester, was the Usher or Second Master of the college. Yet William of Wykeham had to complain of the monks of the cathedral of Winchester murdering the quantities in reading the lessons, and so did William Warham of the monks of Canterbury a century and a half later; while Bishop Niche's visitations of Norwich at the end of the fifteenth century are full of complaints that no grammar schoolmaster is kept at the monasteries and that the monks are ignorant. The abbots and friars had generally been to Oxford or Cambridge under the statute of 1335, which required five per cent of the monks to go to the universities. Nothing like that proportion went, in fact. Even at Westminster Henry VII complained at the end of his reign that the monks were sunk in ignorance, and gave a new endowment to send three of them to the university. Popular literature from the twelfth century downward, notably the *Canterbury Tales*, testifies to the disregard for learning in the abbeys. The cause of education and schools suffered nothing by the dissolution of abbeys by Henry VIII, except in those cases where the schools and their endowments, for which they had been trustees, were treated as abbey property and confiscated to the Crown, without refoundation.

A. F. L.

ABBOT, GORHAM DUMMER. — Schoolman born at New Brunswick, Me., Sept. 3, 1807; educated in private schools and at Bowdoin College and Andover Theological Seminary; teacher in the academy at Castine, Me., principal of the academy at Amherst, Mass.; instructor in the Mt. Vernon School for Girls; director of Society for the Diffusion of Useful Knowledge 1836-1843; principal of Spingler Institute, afterwards Abbot Collegiate Institution, 1843-1871; author of a spelling book, and, with Joshua Leavitt (*q.v.*), of a series of school readers; died Aug. 3, 1874.

W. S. M.

ABBOTSHOLME. — A school opened in 1889 by Dr. Cecil Reddie, who was profoundly impressed by the limitations of the English Public Schools (*q.v.*) and undertook "to provide for boys, between the ages of about ten and nineteen, an all-round education of an entirely modern and rational character, based

ABBOTSHOLME

upon the principles of educational science, and adapted to the needs of the English cultured classes, which should direct the national life." It is this appeal to the needs of the directing class, together with the recognition that these needs include some phases of training usually left to the lower classes, that have been most frequently noted by critics. Early in the history of the school Dr. Reddie came under Herbartian influence, and reorganized his work, which had leaned toward natural science, by an arrangement of humanistic studies in stages, grouping what seemed to be appropriate material for each year of age around a core or center. Thus one year was predominantly given to French interests and materials, another to German, etc. The teachers trained by association with Dr. Reddie have been conspicuous in their later work for pedagogical technique.

Few schools have been kept so definitely at the focus of consciousness of a founder. A most elaborate and extensive set of records and photographs has been made and preserved. The book *Abbotsholme* contains an extraordinary amount of material showing the theories of the author, and accounts of what has been attempted. The building, located on an estate of one hundred and fifty acres in Derbyshire near Rocester, is a marvel of planning. The details of school life are minutely prescribed. It seemed significant of the extent to which English traditions of corporal punishment prevail that this was almost the only activity about which no records were made and the estimates of the number of cases by head boy and prefects (who are permitted to flog on agreement of all the prefects with the consent of the head master) differed considerably from those of the masters.

The grades of society below the prefects are stars (who perform special service), mids, and fags. There are two or three of these last assigned to each prefect. They are supposed to perform any duties assigned to them, and in turn the prefect is expected to look after his fags, take walks with them, etc.

The formal aspects of religious services receive considerable attention. The emphasis here upon form seems to be similar to that in all other fields in the school; the intention is that whatever can be systematized shall be put into machine operation in order to free the higher centers for work requiring originality and initiative. Dr. Geddes' and Dr. Scott's criticisms of this are suggestive (see bibliography). The earlier emphasis upon the activities of outdoor life, as haymaking, using these as an opportunity for participation in productive labor and for festival celebration, has been somewhat reduced. The garden has on the whole yielded somewhat to cricket, but the extensive records of the school experiments will well repay the study of those who are concerned with one of our most urgent problems, — the balance of cultural and voca-

tional interests and activities during the adolescent period.

The school has attracted wide attention and has directly influenced schools in various countries more extensively than has perhaps any other single school since Fellenberg founded Hofwyl. For an account of this influence and a list of references see article on THE NEW SCHOOL.

F. A. M.

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ABBOTT, BENJAMIN (1762-1849).—Schoolman educated in Phillips Academy at Exeter and at Harvard College; instructor in Phillips Academy at Exeter and first principal of Phillips Academy at Andover (1788-1838).

W. S. M.

ABBOTT, JACOB (1803-1879).—Author of the "Rollo books"; educated in the district schools and at Bowdoin College and Andover Theological Seminary; professor in Amherst College (1824-1829), principal of Mt. Vernon School for Girls in Boston (1829-1834); edited several school books and wrote more than 200 books for children.

W. S. M.

A-B-C METHOD.—A method of teaching reading to beginners, in which the first step is to learn the names and letters of the alphabet in order. The letters are then combined into syllables and words, which are pronounced through the assistance given by spelling. It is the method of teaching "reading by spelling the same" mentioned in early American school records. One of the synthetic or word-building methods.

See ALPHABETIC METHODS; READING, TEACHING BEGINNERS.

A-B-C SCHOOLS.—A term commonly used in the past to designate the elementary school, when such schools gave the merest rudiments of learning. The institution is discussed in the following article.

See also DAME SCHOOL; PETTY SCHOOL; etc.

ABCDARIANS, ABECEDARIO, OR ABECEDARIE.—The name given to the teacher of children at the earliest stage, or to the children themselves. The term was used by Min-

sheu in his *Guide into Tongues* (1617) (see Murray's Oxford Dict.), but was probably in use long before that date. The teaching of the alphabet as preliminary to the learning of Latin gave rise to elementary textbooks extant at any rate as early as 1510 (see Watson's *English Grammar Schools*, chap. ix). Schools in which elementary instruction was carried on, which may be called abecedarian, were in existence in England in the Middle Ages under the names of A-B-C schools, Reading, Writing, and Song Schools. (See Leach's *English Schools at the Reformation*.) In the English organization of schools after the Reformation there was no systematic provision for elementary instruction. All that was done was done in the grammar school (*q.v.*). In 1582 Richard Mulcaster (*q.v.*) published his important *Elementarie*, detailing the well-considered methods for teaching reading, writing, drawing, vocal and instrumental music. Arithmetic is omitted. In spite of Mulcaster's plea for elementary schoolmasters as a separate organization, the elementary work had to be undertaken in the grammar school itself. The Statutes of Alford Grammar School (Lincolnshire) in 1599 require that "none" should be admitted before "he can read perfectly and write legibly," and that it is not the business of the schoolmaster to teach writing. But this (like similar statutes of other schools) was clearly a counsel of perfection. For in 1612 John Brinsley (*q.v.*) in his *Ludus Literarius*, bitterly complains that the grammar school should be troubled with teaching A B C. "The very little ones in most country towns would require a whole man of themselves to be always teaching the A B C and reading." It is to be noted that both Mulcaster and Brinsley plead for the teaching of sound English to the elementary pupils.

Though the main "burden" of teaching the young children, called "petties," fell often on the grammar schools, there were other unorganized agencies for their instruction. There can be no doubt that it was the intention of Edward VI's *Injunctions* of 1547 to require the continuance of the old Chantry priests (who played so conspicuous a part in elementary instruction in the pre-Reformation times in England—see Leach's *English Schools at the Reformation*). Chantry priests were required by these *Injunctions* to teach youth to read and write and to train them in "good manners and in virtuous exercises." "Every parish," says Mulcaster in his *Positions*, "hath a minister, if none else in the parish, who can teach writing and reading." So, too, the parish clerk in the Middle Ages had been often a beneficed cleric, who undertook elementary instruction, and there was a survival of the custom in Tudor and Stuart England, so that we are told of the alphabet inscribed on the church bell, suggesting that A-B-C schools were held in belfries. At the visitation of Dr. Richard

Montague, Bishop of Norwich, the inquiry is made, "Do any teach in your Church or Chancel? which is to the profanation of that place." Another survival from the Middle Ages was the Song Schoolmaster. In the Camden Society's reprint of a sermon by a Boy Bishop (*q.v.*) in Gloucester, 1558, it would appear that these schools were very badly conducted. It was only in 1905 that the last of the Song Schools (which combined the special teaching of music with elementary instruction) — namely, that of Newark (Nottinghamshire) disappeared. Churchwarden's accounts and town records show that schools of the abecedarian kind existed in England for elementary instruction, in some connection with the churches — from the Reformation continuously to what may be called the organization of the church elementary schools under the name of the Charity Schools (*q.v.*) at the beginning of the eighteenth century.

Besides the provision of teaching by the clergy, parish clerks, church schools, and the grammar school, there were a large number of voluntary, irregular, unlicensed (by the Bishop or his ordinary) private adventure schools (*q.v.*) of the "dame school" (*q.v.*) type. Edward (or Edmund) Coote (*q.v.*), master of the Free School at St. Edmunds Bury (Bury St. Edmunds), catered for these by his textbook *The English Schoolmaster*, issued in 1596. He states in his "Directions," "Thou mayest sit on thy shop-board, at thy looms, or at thy needle, and never hinder thy work to hear thy scholars after thou hast once made this little book familiar to thee." John Brinsley in 1612 makes a suggestion for passing over from the grammar school the teaching of "petties" in exact accordance with Coote's provision. "It would help some poor man or woman, who knew not how to live otherwise, and who might teach the petties well, if they were rightly directed." Another expedient for dealing with the abecedarians was that of Manchester Grammar School Statutes (1524), Guisborough Grammar School (1561), Rivington Grammar School (1566), and Bungay School (Suffolk, 1592). Boys from the highest form were deputed to give the abecedarian and elementary instruction. Thus early the pupil teacher system (*q.v.*) was instituted. In the main, however, outside of the grammar schools, abecedarian instruction was carried on in "dames schools." Coote had addressed his book to "men and women of trade, as tailors, weavers, seamsters, and such others as have undertaken the charge of teaching others." Occasionally a higher stamp of teacher was secured. Thomas Farnaby (*q.v.*), afterward one of the greatest classical scholars of his time, the founder of the most renowned of private grammar schools, had accompanied Drake on his last voyage, and on his return to England, as Anthony à Wood tells us, "stooped so low," *c.* 1596, as to be an abecedarian, at Martock in Somersetshire. But in 1660 Charles Hoole (*q.v.*) in his "Petty

Schools," one of the divisions of his *New Discovery of the Old Art of Teaching School*, speaks of the "Petty School" as being "left as a work for poor women or others whose necessities compel them to undertake it as a mere shelter from beggary."

Hoole's account of what a petty school should be is the most outstanding document of elementary education in England up to the time of the Restoration. He gives in detail a careful method for teaching the alphabet and early spelling, and advocates the teaching of simple English literature to the "petties." Teaching should be placed in the hands of responsible teachers — to be paid at least twenty pounds a year (a not inconsiderable amount in those times), with a house provided. Fees should be required from those able to pay, but poor boys should be admitted free of cost. Hoole urges the wealthy to erect and endow such "Petty" schools. No more than 40 boys are to be allotted to each master. The school should have four forms. In the lowest, the letters of the alphabet are to be learned from the primer. In the second, spelling is to be learned from the Psalter. In the third, reading from the Bible. In the fourth form, reading, writing, casting of accounts, and profitable English books. Hoole further hints at the training of such teachers on a similar scheme to that suggested by Matthew Poole in 1658 in his *Model for the maintaining of students of choice abilities at the University, principally in order to the ministry*. Nearer the end of the seventeenth century William Walker, in *Some Improvements to the Art of teaching*, suggested an inquiry from authority with a view to the reformation of "ignorant and injudicious petit schoolmasters and school-madams." Many of the free schools established in the seventeenth century with buildings and endowments of pious benefactors were elementary schools. They were sometimes established to instruct in reading and writing (sometimes also in arithmetic), and also sometimes to provide premiums for putting boys and girls out to apprenticeship. The first Dissenters' English Charity School was founded in Gravel Lane, Southwark, in 1687. In 1699 the Society for Promoting Christian Knowledge (*q.v.*) was established, and from that time forward for many years elementary education was chiefly associated with the Charity Schools (*q.v.*) in connection with that society.

IN AMERICA the term was used throughout the colonial period and well into the nineteenth century to indicate the children engaged in learning the alphabet and the process of reading rather than to indicate the teacher. In general the work of the abecedarian was of a most mechanical character, — mere rote work, — and when better methods of elementary teaching were introduced in the first half of the nineteenth century, the term fell into disuse. In fact, the term was used quite often to indicate the peculiar rote work by which the alphabet was