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History of Education

Education can be thought of as the transmission of the values and accumulated knowledge of a society. In this sense, it is equivalent to what social scientists term socialization or enculturation. Children—whether conceived among New Guinea tribespeople, the Renaissance Florentines, or the middle classes of Manhattan—are born without culture. Education is designed to guide them in learning a culture, molding their behaviour in the ways of adulthood, and directing them toward their eventual role in society. In the most primitive cultures, there is often little formal learning, little of what one would ordinarily call school or classes or teachers; instead, frequently, the entire environment and all activities are viewed as school and classes, and many or all adults act as teachers. As societies grow more complex, however, the quantity of knowledge to be passed on from one generation to the next becomes more than any one person can know; and hence there must evolve more selective and efficient means of cultural transmission. The outcome is formal education—the school and the specialist called the teacher.

As society becomes ever more complex and schools become ever more institutionalized, educational experience becomes less directly related to daily life, less a matter

of showing and learning in the context of the workaday world, and more abstracted from practice, more a matter of distilling, telling, and learning things out of context. This concentration of learning in a formal atmosphere allows children to learn far more of their culture than they are able to do by merely observing and imitating. As society gradually attaches more and more importance to education, it also tries to formulate the overall objectives, content, organization, and strategies of education. Literature becomes laden with advice on the rearing of the younger generation. In short, there develop philosophies and theories of education.

This article deals with the evolution of the formal teaching of knowledge and skills in all parts of the world and with the various philosophies that have inspired the resulting diverse systems. A further discussion of educational theory can be found in the article *PHILOSOPHIES OF THE BRANCHES OF KNOWLEDGE*. The teaching profession and the functions and methods of teachers are treated in *TEACHING*.

For coverage of related topics in the *Macropædia* and *Micropædia*, see the *Propædia*, sections 561 and 562, and the *Index*.

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Education in primitive and early civilized cultures

PREHISTORIC AND PRIMITIVE CULTURES

The term education can be applied to primitive cultures only in the sense of enculturation, which is the process of cultural transmission. A primitive person, whose culture is the totality of his universe, has a relatively fixed sense of cultural continuity and timelessness. The model of life is relatively static and absolute, and it is transmitted from one generation to another with little deviation. As for prehistoric education, it can only be inferred from educational practices in surviving primitive cultures.

The purpose of primitive education is thus to guide children to becoming good members of their tribe or band. There is a marked emphasis upon training for citizenship, because primitive people are highly concerned with the growth of individuals as tribal members and the thorough comprehension of their way of life during passage from prepuberty to postpuberty.

Because of the variety in the countless thousands of primitive cultures, it is difficult to describe any standard and uniform characteristics of prepuberty education. Nevertheless, certain things are practiced commonly within cultures. Children actually participate in the social processes of adult activities, and their participatory learning is based upon what the American anthropologist Margaret Mead has called empathy, identification, and imitation. Primitive children, before reaching puberty, learn by doing and observing basic technical practices. Their teachers are not strangers but, rather, their immediate community.

In contrast to the spontaneous and rather unregulated imitations in prepuberty education, postpuberty education in some cultures is strictly standardized and regulated. The teaching personnel may consist of fully initiated men, often unknown to the initiate though they are his relatives in other clans. The initiation may begin with the initiate being abruptly separated from his familial group and sent to a secluded camp where he joins other initiates. The purpose of this separation is to deflect the initiate's deep attachment away from his family and to establish his emotional and social anchorage in the wider web of his culture.

The initiation "curriculum" does not usually include practical subjects. Instead, it consists of a whole set of cultural values, tribal religion, myths, philosophy, history, rituals, and other knowledge. Primitive people in some cultures regard the body of knowledge constituting the initiation curriculum as most essential to their tribal membership. Within this essential curriculum, religious instruction takes the most prominent place.

EDUCATION IN THE EARLIEST CIVILIZATIONS

The Old World civilizations of Egypt, Mesopotamia, and North China. The history of civilization started in the Middle East about 3000 BC, whereas the North China civilization began about a millennium and a half later. The Mesopotamian and Egyptian civilizations flourished almost simultaneously during the first civilizational phase (3000–1500 BC). Although these civilizations differed, they shared monumental literary achievements. The need for the perpetuation of these highly developed civilizations made writing and formal education indispensable.

Egypt. Egyptian culture and education were preserved and controlled chiefly by the priests, a powerful intellectual elite in the Egyptian theocracy who also served as the political bulwarks by preventing cultural diversity. The humanities as well as such practical subjects as science, medicine, mathematics, and geometry were in the hands of the priests, who taught in formal schools. Vocational skills relating to such fields as architecture, engineering, and sculpture were generally transmitted outside the context of formal schooling.

Egyptians developed two types of formal schools for privileged youth under the supervision of governmental officials and priests: one for scribes and the other for priest trainees. At the age of five, pupils entered the writing school and continued their studies in reading and writing until the age of 16 or 17. At the age of 13 or 14, the schoolboys were also given practical training in offices for which they were being prepared. Priesthood training began at the temple college, which boys entered at the age of 17, the length of training depending upon the requirements for various priestly offices. It is not clear whether or not the practical sciences constituted a part of the systematically organized curriculum of the temple college.

Rigid method and severe discipline were applied to achieve uniformity in cultural transmission, since deviation from the traditional pattern of thought was strictly prohibited. Drill and memorization were the typical methods employed. But, as noted, Egyptians also used a work-study method in the final phase of the training for scribes.

Mesopotamia. As a civilization contemporary with Egyptian civilization, Mesopotamia developed education quite similar to that of its counterpart with respect to its purpose and training. Formal education was practical and aimed to train scribes and priests. It was extended from basic reading, writing, and religion to higher learning in law, medicine, and astrology. Generally, youth of the upper classes were prepared to become scribes, who ranged from copyists to librarians and teachers. The schools for priests were said to be as numerous as temples. This in-

Priestly control of Egyptian and Babylonian education

Participatory learning in primitive societies

dicates not only the thoroughness but also the supremacy of priestly education. Very little is known about higher education, but the advancement of the priestly work sheds light upon the extensive nature of intellectual pursuit.

As in the case of Egypt, the priests in Mesopotamia dominated the intellectual and educational domain as well as the applied. The centre of intellectual activity and training was the library, which was usually housed in a temple under the supervision of influential priests. Methods of teaching and learning were memorization, oral repetition, copying of models, and individual instruction. It is believed that the exact copying of scripts was the hardest and most strenuous and served as the test of excellence in learning. The period of education was long and rigorous, and discipline was harsh.

North China. In North China, the civilization of which began with the emergence of the Shang era, complex educational practices were in effect at a very early date. In fact, every important foundation of the formation of modern Chinese character was already established, to a great extent, more than 3,000 years ago.

Chinese ancient formal education was distinguished by its markedly secular and moral character. Its paramount purpose was to develop a sense of moral sensitivity and duty toward people and the state. Even in the early civilizational stage, harmonious human relations, rituals, and music formed the curriculum.

Formal colleges and schools probably antedate the Chou dynasty of the 1st millennium BC, at least in the imperial capitals. Local states probably had less-organized institutions, such as halls of study, village schools, and district schools. With regard to actual methods of education, ancient Chinese learned from bamboo books and obtained moral training and practice in rituals by word of mouth and example. Rigid rote learning, which typified later Chinese education, seems to have been rather condemned. Education was regarded as the process of individual development from within.

The New World civilizations of the Maya, Aztec, and Inca. The outstanding cultural achievements of the pre-Columbian civilizations are often compared with those of Old World civilizations. The ancient Mayan calendar, which surpassed Europe's Julian calendar in accuracy, was, for example, a great accomplishment demonstrating the extraordinary degree of knowledge of astronomy and mathematics possessed by the Maya. Equally impressive are the sophistication of the Inca's calendar and their highway construction, the development of the Maya's complex writing system, and the magnificent temples of the Aztec. It is unfortunate that archaeological findings and written documents hardly shed sufficient light upon education among the Maya, Aztec, and Inca. But from available documents it is evident that these pre-Columbian civilizations developed formal education for training the nobility and priests. The major purposes of education were cultural conservation, vocational training, moral and character training, and control of cultural deviation.

The Maya. Being a highly religious culture, the Maya regarded the priesthood as one of the most influential factors in the development of their society. The priest enjoyed high prestige by virtue of his extensive knowledge, literate skills, and religious and moral leadership, and high priests served as major advisers of the rulers and the nobility. To obtain a priesthood, which was usually inherited from his father or another close relative, the trainee had to receive rigorous education in the school, where priests taught history, writing, methods of divining, medicine, and the calendar system.

Character training was one of the salient features of Mayan education. The inculcation of self-restraint, co-operative work, and moderation was highly emphasized in various stages of socialization as well as on various occasions of religious festivals. In order to develop self-discipline, the future priest endured a long period of continence and abstinence, and, to develop a sense of loyalty to community, he engaged in group labour.

The Aztec. Among the Aztec, cultural preservation relied heavily upon oral transmission and rote memorization of important events, calendrical information, and religious

knowledge. Priests and noble elders, who were called conservators, were in charge of education. Since one of the important responsibilities of the conservator was to censor new poems and songs, he took the greatest care in teaching poetry, particularly divine songs.

At the *calmecac*, the school for native learning where apprenticeship started at the age of 10, the history of Mexico and the content of the historical codices were systematically taught. The *calmecac* played the most vital role in ensuring oral transmission of history through oratory, poetry, and music, which were employed to make accurate memorization of events easier and to galvanize remembrance. Visual aids, such as simple graphic representations, were used to guide recitation phases, to sustain interest, and to increase comprehension of facts and dates.

The Inca. The Inca did not possess a written or recorded language as far as is known. Like the Aztec, they also depended largely on oral transmission as a means of maintaining the preservation of their culture. Inca education was divided into two distinct categories: vocational education for common Inca and highly formalized training for the nobility. As the Inca empire was a theocratic, imperial government based upon agrarian collectivism, the rulers were concerned about the vocational training of men and women in collective agriculture. Personal freedom, life, and work were subservient to the community. At birth an individual's place in the society was strictly ordained, and at five years of age every child was taken over by the government, and his socialization and vocational training were supervised by government surrogates.

Education for the nobility consisted of a four-year program that was clearly defined in terms of the curricula and rituals. In the first year the pupils learned the Quechua language, the language of the nobility. The second year was devoted to the study of religion and the third year to learning about the quipus, a complex system of knotted coloured strings or cords used for sending messages and recording historical events. In the fourth year major attention was given to the study of history, with additional instruction in sciences, geometry, geography, and astronomy. The instructors were highly respected encyclopaedic scholars known as *amautas*. After the completion of this education, the pupils were required to pass a series of rigorous examinations in order to attain full status in the life of the Inca nobility. (N.S.)

Education in classical cultures

ANCIENT INDIA

The Hindu tradition. India is the site of one of the most ancient civilizations in the world. About the 2nd millennium BC the Aryans entered the land and came into conflict with the *dāsas*, or the non-Aryan tribes. They defeated them, spread far and wide in the country, established large-scale settlements, and founded powerful kingdoms. In the course of time, a section of the intellectuals, the Brahmins, became priests and men of learning; another group, nobles and soldiers, became Kṣatriyas; the agricultural and trading class was called Vaiśyas; and finally the *dāsas* were absorbed as Śūdras, or domestic servants. Such was the origin of the division of the Hindus into four varnas, or "classes." By about 500 BC, the classes became hardened into castes.

Religion was the mainspring of all activities in ancient India. It was of an all-absorbing interest and embraced not only prayer and worship but philosophy, morality, law, and government as well. Religion saturated educational ideals, too, and the study of Vedic literature was indispensable to higher castes. The stages of instruction were very well defined. During the first period, the child received elementary education at home. The beginning of secondary education and formal schooling was marked by a ritual known as the *upanayana*, or thread ceremony, which was restricted to boys only and was more or less compulsory for boys of the three higher castes. The Brahman boys had this ceremony at the age of eight, the Kṣatriya boys at the age of 11, and the Vaiśya boys at the age of 12 years. The boy would leave his father's house and enter his preceptor's *āśrama*, or home, situated amid sylvan surroundings.

Moral
emphases
of Chinese
education

Priestly
control
of Maya
and Aztec
education

The Vedic
tradition
in Hindu
education

The *ācārya* would treat him as his own child, give him free education, and not charge anything for his boarding and lodging. The pupil had to tend the sacrificial fires, do the household work of his preceptor, and look after his cattle.

The study at this stage consisted of the recitation of the Vedic mantras, or "hymns," and the auxiliary sciences—phonetics, the rules for the performance of the sacrifices, grammar, astronomy, prosody, and etymology. The character of education, however, differed according to the needs of the caste. For a child of the priestly class, there was a definite syllabus of studies. The *trayi-vidyā*, or the knowledge of the three Vedas, the most ancient of Hindu scriptures, was obligatory for him. During the whole course at school, as at college, the student had to observe brahmacharya—that is, wearing a simple dress, living on plain food, using a hard bed, and leading a celibate life.

The period of studentship normally extended to 12 years. For those who wanted to continue their studies, there was no age limit. After finishing their education at an *āśrama*, or forest school, they would join a higher centre of learning or a university presided over by a *kulapati* (a founder of a school of thought). Advanced students would also improve their knowledge by taking part in philosophical discussions at a *parisad*, or "academy." Education was not denied to women, but normally girls were instructed at home.

The method of instruction differed according to the nature of the subject. The first duty of the student was to memorize the particular Veda of his school, with special emphasis placed on correct pronunciation. In the study of such literary subjects as law, logic, rituals, and prosody, comprehension played a very important role. A third method was the use of parables, which were employed in the personal spiritual teaching relating to the Upanishads, or conclusion of the Vedas. In higher learning, such as in the teaching of dharmashastra ("righteousness science"), the most popular and useful method was catechism—the pupil asking questions and the teacher discoursing at length on the topics referred to him. Memorization, however, played the greatest role.

The introduction of Buddhist influences. By about the end of the 6th century BC, the Vedic rituals and sacrifices had gradually developed into a highly elaborate cult that profited the priests but antagonized an increasing section of the people. Education became generally confined to the Brahmins, and the *upanayana* was being gradually discarded by the non-Brahmins. The formalism and exclusiveness of the Brahminic system was largely responsible for the rise of two new religious orders, Buddhism and Jainism. Neither of them recognized the authority of the Vedas, and both challenged the exclusive claims of the Brahmins to priesthood. They taught through the common language of the people and gave education to all, irrespective of caste, creed, or sex. Buddhism also introduced the monastic system of education. Monasteries attached to Buddhist temples served the double purpose of imparting education and of training persons for priesthood. A monastery, however, educated only those who were its members. It did not admit day scholars and thus did not cater to the needs of the entire population.

Meanwhile, significant developments were taking place in the political field that had repercussions on education. The establishment of the imperialistic Nanda dynasty in about 413 BC and then of the even stronger Mauryas some 40 years later shook the very foundations of the Vedic structure of life, culture, and polity. The Brahmins in large numbers gave up their ancient occupation of teaching in their forest retreats and took to all sorts of occupations; the Kṣatriyas also abandoned their ancient calling as warriors; and the Śūdras in their turn rose from their servile occupations. These forces produced revolutionary changes in education. Schools were established in growing towns, and even day scholars were admitted. Studies were chosen freely and not according to caste. Taxila had already acquired an international reputation in the 6th century BC as a centre of advanced studies and now improved upon it. It did not possess any college or university in the modern sense of the term, but it was a great centre of learning with a number of famous teachers, each having a school of his own.

In the 3rd century BC Buddhism received a great impetus under India's most celebrated ruler, Aśoka. After his death, Buddhism evoked resistance, and a counterreformation in Hinduism began in the country. About the 1st century AD there was also a widespread lay movement among both Buddhists and Hindus. As a result of these events, Buddhist monasteries began to undertake secular as well as religious education, and there began a large growth of popular elementary education along with secondary and higher learning.

Classical India. The 500 years from the 4th century AD to the close of the 8th, under the Guptas and Harṣa and their successors, is a remarkable period in Indian history. It was the age of the universities of Nālandā and Valabhi and of the rise of Indian sciences, mathematics, and astronomy. The university at Nālandā housed a population of several thousand teachers and students, who were maintained out of the revenues from more than 100 villages. Because of its fame, Nālandā attracted students from abroad, but the admission test was so strict that only two or three out of 10 attained admission. More than 1,500 teachers discussed over 100 different dissertations every day. These covered the Vedas, logic, grammar, Buddhist and Hindu philosophy (Sankhya, Nyaya, etc.), astronomy, and medicine. Other great centres of Buddhist learning of the post-Gupta era were Vikramaśīla, Odantapuri, and Jagaddala. The achievements in science were no less significant. Āryabhaṭa in the late 5th century was the greatest mathematician of his age. He introduced the concepts of zero and decimals. Varāhamihira of the Gupta age was a profound scholar of all the sciences and arts, from botany to astronomy and from military science to civil engineering. There was also considerable development of the medical sciences. According to contemporaries, more than eight branches of medical science, including surgery and pediatrics, were practiced by the physicians.

These were the main developments in education prior to the Muslim invasions, beginning in the 10th century. Nearly every village had its schoolmaster, who was supported from local contributions. The Hindu schools of learning, known as *pathasalas* in western India and *tols* in Bengal, were conducted by Brahmin *ācāryas* at their residence. Each imparted instruction in an advanced branch of learning and had a student enrollment of not more than 30. Larger or smaller establishments, specially endowed by rajas and other donors for the promotion of learning, also grew in number. The usual centres of learning were either some king's capital, such as Kanauj, Dhār, Mithilā, or Ujjayini, or a holy place, such as Vārānasi, Ayodhyā, Kānchi, or Nasik. In addition to Buddhist viharas (monasteries), there sprang up Hindu *maṭhas* (monks' residences) and temple colleges in different parts of the country. There were also *agrahāra* villages, which were given in charity to the colonies of learned Brahmins in order to enable them to discharge their scriptural duties, including teaching. Girls were usually educated at home, and vocational education was imparted through a system of apprenticeship.

Indian influences on Asia. An account of Indian education during the ancient period would be incomplete without a discussion of the influence of Indian culture on Sri Lanka and Central and Southeast Asia. It was achieved partly through cultural or trade relations and partly through political influence. Khotān in Central Asia had a famous Buddhist vihara as early as in the 1st century AD. A number of Indian scholars lived there, and many Chinese pilgrims, instead of going to India, stayed there. Indian pandits (scholars) were also invited to China and Tibet, and many Chinese and Tibetan monks studied in Buddhist viharas in India.

The process of Indianization was at its highest in South-east Asia. Beginning in the 2nd century AD Hindu rulers reigned in Indochina and in the numerous islands of the East Indian archipelago, from Sumatra to New Guinea, for a period of 1,500 years. These regions were peopled by primitive races, who adopted the civilization of their masters. A greater India was thus established by a general fusion of cultures. Some of the inscriptions of these countries, written in flawless Sanskrit, show the influence

The university at Nālandā

Buddhism and Jainism in Indian education

Indianization of Southeast Asia

of Indian culture. There are references to Indian philosophical ideas, legends, and myths and to Indian astronomical systems and measurements. Hinduism continued to wield its influence on these lands so long as the Hindus ruled in India. This influence ceased by the 15th century AD. (S.N.M.)

ANCIENT CHINA

Ancient Chinese education served the needs of a simple agricultural society with the family as the basic social organization. Paper and the writing brush had not been invented, and the "bamboo books" then recorded to be in existence were of limited use at best. Oral instruction and teaching by example were the chief methods of education.

The molding of character was a primary aim of education. Ethical teachings stressed the importance of human relations and the family as the foundation of society. Filial piety, especially emphasizing respect for the elderly, was considered to be the most important virtue. It was the responsibility of government to provide instruction so that the talented would be able to enter government service and thus perpetuate the moral and ethical foundation of society.

The Chou period. *Western Chou (1111–771 BC).* This was the feudal age, when the feudal states were ruled by lords who paid homage to the king of Chou and recognized him as the "Son of Heaven."

Schools were established for the sons of the nobility in the capital city of Chou and the capital cities of the feudal states. Schools for the common people were provided within the feudal states in villages and hamlets and were attended, according to written records, by men and women after their work in the fields. There were elementary and advanced schools for both the ruling classes and the common people. Separate studies for girls were concerned chiefly with homemaking and the feminine virtues that assured the stability of the family system.

The content of education for the nobility consisted of the "six arts"—rituals, music, archery, charioteering, writing, and mathematics. They constituted what may be called the "liberal education" of the period. Mere memory work was condemned. As Confucius said of the ancient spirit of education, "learning without thought is labour lost."

Eastern Chou (770–255 BC). This was a period of social change brought about by the disintegration of the feudal order, the breakdown of traditional loyalties, the rise of cities and urban civilization, and the growth of commerce.

The instability and the perplexing problems of the times challenged scholars to propose various remedies. The absence of central control facilitated independent and creative thinking. Thus appeared one of the most creative periods in China's intellectual history, when a Hundred Schools of thought vied with one another to expound their views and proposals for attaining a happy social and political order. Some urged a return to the teachings of the sages of old, while others sought better conditions by radical change. Among the major "schools" of this age were Taoism, Confucianism, Mohism, and legalism. No one school was in the ascendancy. Each major school had its followers and disciples, among whom there was a vigorous program of instruction and intellectual discussion. Most active in the establishment of private schools were Confucius and his disciples, but the Taoists, the Mohists, and the legalists also maintained teaching institutions.

Another form of educational activity was the practice of the contending feudal states of luring to their domain a large number of scholars, partly to serve as a source of ideas for enhancing the prosperity of the state and partly to gain an aura of intellectual respectability in a land where the respect for scholars had already become an established tradition. The age of political instability and social disintegration was thus an age of free and creative intellectual activity. Conscious of their importance and responsibility, the scholars developed a tradition of self-respect and fearless criticism. It was this tradition that Confucius had in mind when he said that the educated person was not a utensil to be used, and it was this spirit that the Confucian philosopher Mencius described when he said that the great man was a man of principles whom riches and position

could not corrupt, whom poverty and lowliness could not swerve, whom power and force could not bend.

The teachings of the Hundred Schools and the records of the feudal states meant a marked increase in literature and, consequently, in the materials for instruction. The classical age of China, the period of the Eastern Chou, left an intellectual and educational legacy of inestimable value. Its scholars propounded theories of government and of social and individual life that were as influential in China and East Asia as the Greek philosophers of almost contemporary age were in the Western world.

The Ch'in-Han period. *Ch'in autocracy (221–206 BC).* Of the various schools of thought that arose in China's classical age, legalism was the first to be accorded official favour. The policies of the Ch'in dynasty were based on legalist principles stressing a strong state with a centralized administration. Many of its policies were so different from past practices that they incurred the criticism of scholars, especially those who upheld the examples of the ancient sages. To stop the criticism, the ruler, who called himself the first emperor, acting upon the advice of a legalist minister, decreed a clean break with the past and a banning of books on history and of classics glorifying past rulers. Numerous books were collected and burned, and hundreds of scholars were put to death.

Though condemned for the burning of books and the persecution of scholars, the Ch'in dynasty laid the foundation for a unified empire and made it possible for the next dynasty to consolidate its power and position at home and abroad. In education, the unification efforts included a reform and simplification of the written script and the adoption of a standardized script intelligible throughout the country. First steps were taken toward uniform textbooks for the primary schools. The invention of the writing brush made of hair, as well as the making of ink, led to the replacement of the clumsy stylus and bamboo slips with writing on silk.

Scholarship under the Han (206 BC–AD 220). The Han dynasty reversed many of the policies of its short-lived predecessor. The most important change was a shift from legalism to Confucianism. The banned books were now highly regarded, and the classics became the core of education. An assiduous effort was made to recover the prohibited books and to discover books and manuscripts that scholars had concealed in secret places. Much painstaking work was done in copying and editing, and the textual and interpretative studies of the Han scholars accorded a new importance to the study of the classics. The making of paper further stimulated this revival of learning. Critical examination of old texts resulted in the practice of higher criticism long before it developed in the West.

There were historians, philosophers, poets, artists, and other scholars of renown in the Han dynasty. Deserving special mention is Ssu-ma Ch'ien, author of a monumental history of China from the earliest times to the 1st century BC, whose high level of scholarship earned him the title "Chinese Father of History." An illustrious woman of letters, Pan Chao, was named poet laureate. A bibliographer collected and edited ancient texts and designated them as classics. The first dictionary of the Chinese language was written. Since the discovery and interpretation of ancient texts had largely been the work of Confucian scholars, Chinese scholarship from now on became increasingly identified with Confucianism. Most of the Han rulers gave official sanction to Confucianism as a basis of conducting government and state affairs. There was, however, no action to exclude other schools of thought.

There were a variety of schools on the national and local levels. Increasing activity in private education continued, and much of the study of the classics and enriched literature was done in private schools. Of considerable influence in the country and abroad was a national university with an enrollment that soared to 30,000. The classics now became the core of the curriculum, but music, rituals, and archery were still included. The tradition of all-round education in the six arts had not vanished.

Introduction of Buddhism. The Han dynasty was a period of territorial expansion and growth in trade and cultural relations. Buddhism was introduced at this time.

Education
and public
service

The
Hundred
Schools of
thought

Shift to
Confucian-
ism

Buddhist
and Indian
influences
in China

Early information about Buddhism was probably brought into China by traders, envoys, and monks. By the 1st century AD an emperor became personally interested and sent a mission to India to seek more knowledge and bring back Buddhist literature. Thereafter, Indian missionaries as well as Chinese scholars translated Buddhist scriptures and other writings into Chinese.

Indian missionaries not only preached a new faith but also brought in new cultural influences. Indian mathematics and astronomical ideas enriched Chinese knowledge in these fields. Chinese medicine also benefited. Architectural and art forms reflected Buddhist and Indian influence. Hindu chants became a part of Chinese music.

For a couple of centuries after its introduction, however, Buddhism showed no signs of popular appeal. Han scholarship was engrossed in the study of ancient classics and was dominated by Confucian scholars who had scant interest in Buddhist teachings that were unconcerned with the practical issues of moral and political life. Moreover, the Buddhist view of evil and the Buddhist espousal of celibacy and escape from earthly existence were alien to China's traditions. Taoist scholars, finding in Buddhism much that seemed not too remote from their own spiritual message, were more inclined to study the new philosophy. Some of them aided in the translation of Buddhist texts, but they were not in the centre of the Han stage.

The fall of the Han dynasty was followed by a few hundred years of division, strife, and foreign invasions. China was not united again until the end of the 6th century. It was during this period that Buddhism gained a foothold in China. The literary efforts of Chinese monks produced a Chinese Buddhist literature, and this marked the beginning of a process that transformed an alien importation into a Chinese religion and system of thought.

(T.H.C.)

ANCIENT HEBREWS

Like all preindustrial societies, ancient Israel first experienced a type of education that was essentially familial; that is to say, the mother taught the very young and the girls, while the father assumed the responsibility of providing moral, religious, and handcraft instruction for the growing sons. This characteristic remained in Jewish education, for the relation of teacher to pupil was always expressed in terms of parenthood and filiation. Education, furthermore, was rigid and exacting; the Hebrew word *musar* signifies at the same time education and corporal punishment.

Once they were established in Palestine—at the crossroads of the great literate civilizations of the Middle East, in the beginning of the 1st millennium BC—the Jewish people learned to develop a different type of education—one that involved training a specialized, professional class of scribes in a then rather esoteric art called writing, borrowed from the Phoenicians. Writing was at first practical: the scribe wrote letters and drew up contracts, kept accounts, maintained records, and prepared orders. Because he could receive written orders, he eventually became entrusted with their execution; hence the importance of scribes in the royal administration, well-attested since the times of David and Solomon. The training given these scribes, moreover, included training of character and instilling the high ideal of wisdom, as would befit the servants of the king.

Writing found another avenue of application in Israel—in religion. And the scribe again was the agent of education. He was the man who copied the sacred Law faithfully and established the canonical text. He was the one who read the Law to himself and to the people, taught it, and translated it when Hebrew ceased to be the vernacular or "living language" (into Greek in Alexandria, into Aramaic in Palestine); he explained it, commented on it, and studied its application in particular cases. After the downfall of Israel in 722–721 BC and Judah in 586 BC and their subjection to foreign rule, Jewish education became characterized more and more by this religious orientation. The synagogue in which the community assembled became not merely a house of prayer but also a school, with a "house of the book" (*bet ha-sefer*) and a "house of instruction" (*bet ha-midrash*) corresponding roughly to elementary and

secondary or advanced levels of education. Girls, however, continued to be taught at home.

The role of writing in this Oriental world should not be exaggerated, of course; oral instruction still held first place by far. Although a pupil might learn to read aloud, or rather to intone his text, his main effort was to learn by heart fragment after fragment of the sacred Law. Alongside this written Law, however, there developed interpretations or exegeses of it, which at first were merely oral but which progressively were reduced to writing—first in the form of memoranda or aide-mémoire inscribed on tablets or notebooks, then in actual books. The diffusion of this religious literature called for an expansion of programs of instruction, evolving into diverse stages: elementary, intermediate, and advanced, the latter in several centres in Palestine, later in Babylonia. This religiously based education was to become one of the most important factors enabling Judaism to survive the national catastrophes of AD 70 and 135, involving the capture and subsequent destruction of Jerusalem. In their dispersion, the Jews clung to Hebrew, their only language for worship, for the study of the Law, for tradition, and consequently for instruction. From this evolved the respect with which the teacher was and is surrounded in Jewish communities.

ANCIENT GREEKS

Origins. The history of the Hellenic language and therewith of the Hellenic people goes back to the Mycenaean civilization of about 1400–1100 BC, which itself was the heir of the pre-Hellenic civilization of Minoan Crete. The Mycenaean civilization consisted of little monarchies of an Oriental type, with an administration operated by a bureaucracy, and it seems to have operated an educational system designed for the training of scribes, similar to those of the ancient civilizations of the Middle East. But continuity did not exist between this education and that which was to develop after a period of obscurity known as the Greek Dark Age, dating approximately from the 11th to the 8th century BC. When the Greek world reappeared in history, it was an entirely different society, one headed by a military aristocracy as idealized in Homer's *Iliad* and *Odyssey*. During this period, sons of the nobility received their education at the court of the prince in the setting of a guild companionship of warriors: the young nobleman was educated through the counsel and example of an older man to whom he had been entrusted or had entrusted himself, a senior admired and loved. It was in this atmosphere of virile camaraderie that there developed the characteristic ideal of Greek love that was enduringly to mark Hellenic civilization and to deeply influence its conception of education itself—for example, in the relation of master to pupil. Yet these warriors of the Archaic period were not coarse barbarians; by this time the Homerids (reciters of Homer) and the rhapsodists (singers-reciters and sometimes creative poets) were taking the great epics of Homer and Hesiod throughout the far-flung Greek settlements of the Mediterranean, and a new, cultivated civilization was already emerging. Dance, poetry, and instrumental music were well developed and provided an essential element in the educational formation of the dominant elites. In addition, the idea of *aretē* was becoming central to Greek life. The epics of Hesiod and Homer glorified physical and military prowess and promoted the ideal of the cultivated patriot-warrior who displayed this cardinal virtue of *aretē*, a concept difficult to translate but embodying the virtues of military skill, moral excellence, and educational cultivation. It was an ethic of honour, which made virtues of pride and of jealousy as the inspiration of great deeds and which accepted it as natural that one would be the object of jealousy or of enmity. Reverence for Homer, which until the end of antiquity (and in Byzantium even later) was to constitute the basis of Greek culture and therewith of Greek education, would maintain from generation to generation this "agonistic" ideal: the cult of the hero, of the champion, of high performance, which found an outlet outside the sphere of battles in games or contests (*agōnes*), particularly in the realm of athletics, the most celebrated being the Olympic Games, dating traditionally from 776 BC.

Education
in the
Greek
Archaic
period

The
education
of scribes

Profound changes were introduced into Greek education as a result of the political transformations involved in the maturing of the city-state. There developed a collective ideal of devotion to the community: the city-state (*polis*) was everything to its citizens; the city made its citizens what they were—mankind. This subordination of the individual exploit to collective discipline was reinforced by the strategic military revolution that saw the triumph of heavy infantry, the hoplites, foot soldiers heavily armed and in tight formation.

Sparta. It is in Sparta, the most flourishing city of the 8th and 7th centuries BC, that one sees to best advantage the richness and complexity of this archaic culture. Education was carried to a high level of artistic refinement, as evidenced by the events organized within the framework of the city's religious festivals. The young men and women engaged in processions, dances, and competitions in instrumental music and song. Physical education had a like part, equally for both sexes, given status by national or international contests (the Spartans regularly took more than half of the first places at the Olympic Games); but military and civic education dominated, as it was expected that the citizen-soldier be ready to fight and, if necessary, to die, for his country.

This last aspect became not merely dominant but exclusive from the time (about 550 BC) when a conservative reaction triumphed at Sparta, brought to power a militarist and aristocratic regime. Arts and sports gave way completely to an education appropriate to men of a warrior caste. The education of girls was subordinated to their future function as mothers; a strict eugenic regime pitilessly eliminated sickly and deformed children. Up to the age of seven, children were brought up by the women, already in an atmosphere of severity and harshness. Education, properly speaking, *agōgē*, lasted from age seven to 20 and was entirely in the hands of the state.

The male youth of Sparta were enrolled into formations corresponding to successive age classes, divided into smaller units under the authority of comrades of their own age or of young officers. It was a collective education, which progressively removed them from the family and subjected them to garrison life. Everything was organized with a view to preparation for military service: lightly clothed, bedded on the bare ground, the child was poorly fed, told to steal to supplement his rations, and subjected to rigorous discipline. His virility and combativeness were developed by hardening him to blows—thus the role of ritual brawls between groups of boys and of the institution of the *krypteia*, a nocturnal expedition designed both to terrify the lower classes of slaves (helots) and to train the future fighter in ambushes and the ruses of warfare. He was also, of course, directly apprenticed to the military craft, using arms and maneuvering in close formation. This puritanical education, proceeding in a climate of austerity, had as its sole norm the interests of the state, erected into a supreme category; the Spartan was trained under a strict discipline to obey blindly the orders of his superiors. Curiously, the child was at the same time trained to dissimulation, to lying, to theft—all virtues when directed toward the foreigner, toward whom distrust and Machiavellianism were encouraged.

This implacably logical education enabled Sparta to remain for long the most powerful city, militarily and diplomatically, of the entire Greek world and to triumph over its rival Athens after the long struggle of the Peloponnesian War (431–404 BC); but it did not prevent Sparta's decadence. Not that Sparta ever relaxed its tension: on the contrary, in the course of centuries, the rigour and ferocity were accentuated even as such behaviour became more and more anachronistic and without real use. Rites of initiation were transformed into barbarous tests of endurance, the boys undergoing flagellation and competing in enduring it, sometimes to the very death, under the eyes of tourists attracted by the sadistic spectacle. This occurred in times of complete peace when, under the Roman Empire, Sparta was nothing but a little provincial city with neither independence nor army.

Athens. Beginning at a date difficult to fix precisely (at the end of the 7th or during the 6th century), Athens, in

contrast to Sparta, became the first to renounce education oriented toward the future duties of the soldier. The Athenian citizen, of course, was always obliged, when necessary and capable, to fight for the fatherland, but the civil aspect of life and culture was predominant: armed combat was only a sport. The evolution of Athenian education reflected that of the city itself, which was moving toward increasing democratization—though it should be noted that the slave and the resident alien always remained excluded from the body politic. The Athenian democracy, even in its most complete form, attained in the 4th century BC, was to remain always the way of life of a minority—about one-tenth, it is estimated, of the total population. Athenian culture continued to be oriented toward the noble life, that of the Homeric knight, minus the warrior aspect, and this orientation determined the practice of elegant sports. Some of these, such as horsemanship and hunting, always remained more or less the privilege of an aristocratic and wealthy elite; the various branches of athletics, however, originally reserved for the sons of the great families, became more and more widely practiced.

Education of youth. Schools had begun to appear in those early centuries, probably on eastern Mediterranean models, run by private teachers. The earliest references are, however, more recent. Herodotus mentions schools dating from 496 BC and Pausanias from 491 BC. The term used is *didaskaleion* (“a place for instruction”), while the generic term *scholē*, meaning leisure—a reference to schooling being the preserve of the wealthier sector—was also coming into use. There was no single institution; rather, each activity was carried out in a separate place. The young boy of privileged rank would be taken by a kind of chaperon, the *paidagōgos*, who was generally a respected slave within the parents' household. The elements of literacy were taught by the writing master, known as a *grammatistes*, the child learning his letters and numbers by scratching them on a wax-coated wooden tablet with a stylus. More advanced formal literacy, chiefly in a study of the poets, playwrights, and historians, was given by the *grammatikos*, although this was restricted to the genuinely leisured. Supremely important was instruction in the mythopoeic legends of Hesiod and Homer, given by the lyre-playing *kitharistes*. In addition, all boys had to be instructed in physical and military activities in the wrestling school, known as the *palaestra*, itself part of the more comprehensive institution of the *gymnasium*.

The moral aspect of education was not neglected. The Athenian ideal was that of the *kalos k'agathos*, the “wise and good” man. The teachers were as much preoccupied with overseeing the child's good conduct and the formation of his character as with directing his progress in the various subjects taught him. Poetry served to transmit all the traditional wisdom, which combined two currents: the ethic of the citizen expressed in the moralizing elegies of the 6th-century lawmaker Solon and the old Homeric ideal of the value of competition and heroic exploit. But this ideal equilibrium between the education of the body and that of the mind was interrupted before long as a result on the one hand of the development of professional sports and the exigencies of its specialization and on the other by the development of the strictly intellectual disciplines, which had made great progress since the time of the first philosophers of the 5th century BC.

Higher education. A system of higher education open to all—to all, at any rate, who had the leisure and necessary money—emerged with the appearance of the Sophists, mostly foreign teachers who were contemporaries and adversaries of Socrates (c. 470–399 BC). Until then, the higher forms of culture had retained an esoteric character, being transmitted by the master to a few chosen disciples, as in the first schools of medicine at Cnidus and at Cos, or within the framework of a religious confraternity involving initiate status. The Sophists proposed to meet a new need that was generally felt in Greek society, particularly in the most active cities such as Athens, where political life had been intensively developed. Henceforth, participation in public affairs became the supreme occupation engaging the ambition of Greek man; it was no longer in athletics and elegant leisure activities that his valour, his desire to

Athenian education for a democratic minority

Sophistic education

Spartan education for a warrior caste

assert himself and to triumph, would find expression but rather in political action.

The Sophists, who were professional educators, introduced a form of higher education whose commercial success attested to and was promoted by its social utility and practical efficacy. They inaugurated the literary genre of the public lecture, which was to experience a long popularity. It was a teaching process that was oriented in an entirely realistic direction, education for political participation. The Sophists pretended neither to transmit nor to seek for the truth concerning man or existence; they offered simply an art of success in political life, which meant, above all, being able on every occasion to make one's point of view prevail. Two principal disciplines constituted the program: the art of logical argument, or dialectic, and the art of persuasive speaking, or rhetoric—the two most flourishing humanistic sciences of antiquity. These disciplines the Sophists founded by distilling from experience their general principles and logical structures, thus making possible their transmission on a theoretical basis from master to pupil.

To the pedagogy of the Sophists there was opposed the activity of Socrates, who, as inheritor of the earlier aristocratic tradition, was alarmed by this radical utilitarianism. He doubted that virtue could be taught, especially for money, a degrading substance. An heir also of the old sages of former times, Socrates held that the supreme ideal of man and hence of education was not the spirit of efficiency and power but the disinterested search for the absolute, for virtue—in short, for knowledge and understanding.

It was only at the beginning of the 4th century BC, however, that the principal types of classical Greek higher education became organized on definitive lines. This was the result of the joint and rival efforts of the two great educators, the philosopher Plato (c. 428–348/347), who opened his school, the Academy, probably in 387, and the orator Isocrates (436–338), who founded his school in about 390.

Plato was descended from a long line of aristocrats and became the most distinguished of Socrates' students. The indictment and execution of Socrates by what Plato considered an ignorant society turned him away from Athens and public life. After an absence of some 10 years, spent traveling the Mediterranean, he returned to Athens, where he founded a school of philosophy near the grove dedicated to the early hero Acadēmos and hence known as the Academy. The select band of scholars who gathered there engaged in philosophical disputations in preparation for their role as leaders. Good government, Plato believed, would only come from an educated society in which kings are philosophers, and philosophers, kings.

Plato's literary dialogues provide a comprehensive picture of his approach to education. Basically, it was built around the study of dialectic (the skill of accurate verbal reasoning), which, if pursued properly, he believed, enables misconceptions and confusions to be stripped away and the nature of underlying truth to be established. The ultimate educational quest, as revealed in the dialogues, is the search for the Good, that is, the ultimate idea that binds together all earthly existence.

Plato's educational program is set out in his most famous dialogue, *The Republic*. The world, he argued, has two aspects, the visible, or that which is perceived with the senses, and the non-visible, or the intelligible, which consists of universal, eternal forms or ideas that are apprehensible only by the mind. Furthermore, the visible realm itself is subdivided into two, the realm of appearances and that of beliefs. Human experiences of so-called reality, according to Plato, are only of visible "appearances" and from these can be derived only opinions and beliefs. Most people, he argued, remain locked in this visible world of opinion; only a select few can cross into the realm of the intelligible. Through a rigorous 15-year program of higher education devoted to the study of dialectics and mathematical reasoning, this elite ("persons of gold" was Plato's term) can attain an understanding of genuine reality, which is composed of such forms as goodness, truth, beauty, and justice. Plato maintained that only those individuals who survive this program are really fit for the

highest offices of the state and capable of being entrusted with the noblest of all tasks, those of maintaining and dispensing justice.

The rival school of Isocrates was much more down-to-earth and practical. It too aimed at a form of wisdom but of a much more practical order, based on working out commonsense solutions to life's problems. In contrast to Plato, Isocrates sought to develop the quality of grace, cleverness, or finesse rather than the spirit of geometry. The program of study that he enjoined upon his pupils was more literary than scientific. In addition to gymnastics and music, its basics included the study of the Homeric classics and an extensive study of rhetoric—consisting of five or six years of theory, analysis of the great classics, imitation of the classics, and finally practical exercises.

These two parallel forms of culture and of higher education were not totally in conflict: both opposed the cynical pragmatism of the Sophists; each influenced the other. Isocrates did promote elementary mathematics as a kind of mental training or mental gymnastics and did allow for a smattering of philosophy to illumine broad questions of human life. Plato, for his part, recognized the usefulness of the literary art and philosophical rhetoric. The two traditions appear as two species of one genus; their debate, continued in each generation, enriched classical culture without jeopardizing its unity.

Before leaving the Hellenic age, there is one other great figure to appraise—one who was a bridge to the next age since he was the tutor of the young prince who became Alexander the Great of Macedonia. Aristotle (384–322 BC), who was one of Plato's pupils and shared some of his opinions about education, believed that education should be controlled by the state and that it should have as a main objective the training of citizens. The last book of his *Politics* opens with these words:

No one will doubt that the legislator should direct his attention above all to the education of youth. . . . The citizen should be moulded to suit the form of government under which he lives.

He shared some of Plato's misgivings about democracy; but, because he was no recluse but a man of the world acquainted with public affairs, he declared his preference for limited democracy, "polity," over other forms of government. His worldliness also led him to be less concerned with the search for ideas, in the Platonic mode, and more concerned with the observation of specific things. His urge for logical structure and classification, for systematization, was especially strong.

This systematization extended to a youth's education. In his first phase, from birth to age seven, he was to be physically developed, learning how to endure hardship. From age seven to puberty, his curriculum would include the fundamentals of gymnastics, music, reading, writing, and enumeration. During the next phase, from puberty to age 17, the student would be more concerned with exact knowledge, not only carrying on with music and mathematics but also exploring grammar, literature, and geography. Finally, in young manhood, only a few superior students would continue into higher education, developing encyclopaedic and intensely intellectual interests in the biological and physical sciences, ethics, and rhetoric, as well as philosophy. Aristotle's school, the Lyceum, was thus much more empirical than Plato's Academy.

The Hellenistic age. Alexander the Great's conquest of the Persian empire between 334 and 323 BC abruptly extended the area of Greek civilization by carrying its eastern frontier from the shores of the Aegean to the banks of the Syrdarya and Indus rivers in Central Asia. Its unity rested henceforward not so much on nationality (it incorporated and assimilated Persians, Semites, and Egyptians) nor on the political unity soon broken after the death of Alexander in 323 but on a common Greek way of life, the fact of sharing the same conception of man. This ideal was no longer social, communal in character, as had been that of the city-state; it now concerned man as an individual—or, better, as a person. This civilization of the Hellenistic age has been defined as a civilization of *paideia*—which eventually denoted the condition of a person achieving enlightened, mature self-fulfillment but which originally

The education of Isocrates

Aristotelian education

Platonic education

The concept of *paideia*

signified education per se. The Greeks succeeded in preserving their distinctive national way of life amid this immense empire because, wherever numbers of them settled, they brought with them their own system of education for their youth, and they not only resisted being absorbed by the "barbarian" non-Hellenic peoples but succeeded somewhat in spreading Greek culture to many of the alien elite. It is important to note that, although Hellenism was finally to be swept away in the Middle East by the Persian national renaissance and the invasions originating from Central Asia beginning in the 2nd century BC, it continued to flourish and even expand in the Mediterranean world under Roman domination. Hellenistic civilization and its educational pattern were prolonged to the end of antiquity and even beyond; it was to be a slow metamorphosis and not a brutal revolution that would later give birth to the civilization and education strictly called Byzantine.

The institutions. Hellenistic education comprised an ensemble of studies occupying the young from age seven to age 19 or 20. To be sure, this entire program was completed only by a minority, recruited from the rich aristocratic and urban bourgeois classes. The students were mostly boys (girls occupied only a very modest place), and of course they were usually free citizens (masters, though some slaves were given a professional education occasionally reaching a high level).

As in the preceding era, education continued to be dependent upon the city, which remained the primary frame of Greek life. To facilitate control of his empire, Alexander had commenced the process of founding a network of cities or communities organized and administered in the Greek manner. In effect, the creation of vast kingdoms did not eliminate the role of the city, even if the latter was not altogether independent; the Hellenistic state was not at all totalitarian and sought to reduce its administrative machinery to a minimum. It relied upon the cities to assume responsibility for public services, that of education in particular. The city in turn looked to the contributions of the richest and most generous private individuals, either by requiring them to fill magistracies and supply costly services or by appealing to their voluntary generosity; the proper functioning of the Hellenistic city presupposed the willing contributions of "benefactors." Thus, certain educational institutions were supported—and in fact sometimes set up—by private foundations that specified exactly the use to be made of the income from their gift of capital. Many schools were private, the role of the city being limited to inspections and to the organization of athletic and musical competitions and festivals.

Physical education. The Hellenistic school par excellence was still the school of gymnastics, the practice of athletic sports and the nudity that they required being the most characteristic feature contrasting the Greek way of life with that of the barbarians. There were, at least in sufficiently large cities, several gymnasiums, separately for the different age classes and on occasion for the sexes. They were essentially palaestrae, or open-air, square-shaped sports grounds, surrounded by colonnades in which were set up the necessary services: cloakrooms, washstands, training rooms, massage rooms, and classrooms. Outside there was a track for footraces, the *stadion*.

The foundation of the training always consisted of the sports properly called gymnastic and field. Horsemanship remained an aristocratic privilege. Nautical sports had a very modest role—a curious thing for a nation of sailors, but the fact is the Greeks were by origin Indo-Europeans from the interior of the Eurasian continent. The other sports—ball games, hockey—were considered merely diversions or at best preparatory exercises. As the competition of professional sports grew, however, education based on sports progressively, though no doubt very slowly, lost its preeminent position. The popularity of athletic sports as spectacle endured, but educational sports moved into the background, disappearing altogether in the Christian period (in the 4th century AD) in favour of literary studies.

There was a similar progressive decline, a similar final effacement, of artistic, particularly musical, education, the other survivor from the Archaic culture. The art of music continued to flourish, but like sports it became the con-

cern of professional practitioners and a feature of public spectacles rather than an art generally practiced in cultivated circles.

The primary school. The child from seven to 14 years of age went to the school of letters, conducted thither, as in the classical period, by the *paidagōgos*, whose role was not limited to accompanying the child: he had also to educate him in good manners and morals and finally to act as a lesson coach. Literacy and numeration were taught in the private school conducted by the *grammatistes*. Class sizes varied considerably, from a few pupils to perhaps dozens. The teaching of reading involved an analytical method that made the process very slow. First the alphabet was taught from alpha to omega, and then backward, then from both ends at once—alpha-omega, beta-psi, and so on to mu-nu. (A comparable progression in the Latin alphabet would be A-Z, B-Y, and so on to M-N.) Then were taught simple syllables—*ba, be, bi, bo*—followed by more complex ones, and then by words, successively of one, two, and three syllables. The vocabulary list included rare words (*e.g.*, some of medical origin), chosen for their difficulty of reading and pronunciation. It took several years for the child to be able to read connected texts, which were anthologies of famous passages. With reading was associated recitation and, of course, practice in writing, which followed the same gradual plan.

The program in mathematics was very limited; rather than computation, the subject, strictly speaking, was numeration: learning the whole numbers and fractions, their names, their written notations, their representation in finger counting (in assorted bent positions of the fingers and assorted placements of either hand relative to the body). The general use of tokens and of the abacus made the teaching of methods of computation less necessary than it became in the modern world.

Secondary education. Between the primary school and the various types of higher education, the Hellenistic educational system introduced a program of intermediate, preparatory studies—a preliminary education, a kind of common trunk preparing for the different branches of higher culture, *enkyklios paideia* ("general, or common, education"). This general education, far from having "encyclopaedic" ambitions in the modern sense of the word, represented a reaction against the inordinate ambitions of philosophy and, more generally, of the Aristotelian ideals of culture, which had demanded the large accumulation of intellectual attainments. The program of the *enkyklios paideia* was limited to the common points on which, as noted earlier, the rival pedagogies of Plato and of Isocrates agreed, namely, the study of literature and mathematics. Specialized teachers taught each of these subjects. The mathematics program had not changed since the ancient Pythagoreans and comprised four disciplines—arithmetic, geometry, astronomy, and harmonics (not the art of music but the theory of the numerical laws regulating intervals and rhythm). The primary function of the *grammatikos*, or professor of letters, was to present and explicate the great classic authors: Homer first of all, of whom every cultivated man was expected to have a deep knowledge, and Euripides and Menander—the other poets being scarcely known except through anthologies. Although poetry remained the basis of literary culture, room was made for prose—for the great historians, for the orators, Demosthenes in particular, even for the philosophers. Along with these explications of texts, the students were introduced to exercises in literary composition of a very elementary character (for example, summarizing a story in a few lines).

The program of this intermediate education did not attain its definitive formulation until the second half of the 1st century BC, after the appearance of the first manual devoted to the theoretical elements of language, a slim grammatical treatise by Dionysius Thrax. The program then consisted of the seven liberal arts: the three literary arts of grammar, rhetoric, and dialectic and the four mathematical disciplines noted above. (These were, respectively, the trivium and the quadrivium of medieval education, though the latter term did not appear until the 6th century and the former not until the 9th century.) The long career of this program should not conceal the fact that in

The
gymnasium

The seven
liberal arts

the course of the centuries it fell into disuse and became rather largely a theory or abstraction; in reality, literary studies gradually took over at the expense of the sciences. Of the four mathematical disciplines, only one remained in favour—astronomy. And this was not merely because of its connections with astrology but primarily because of the popularity of the basic textbook used to teach it—the *Phaenomena*, a poem in 1,154 hexameters by Aratus of Soli—whose predominantly literary quality was suited to textual explications. Not until about the 3rd and 4th centuries AD was the need of a sound preparatory mathematical education again recognized and put into practice.

Higher education. Higher education appeared in several forms, complementary or competitive. First was the *ephebeia* ("youth" culture), a kind of civic and military training that completed the education of the young Greek and prepared him to enter into life; it lasted two years (from 18 to 20) and corresponded quite closely to the obligatory military service of modern states. It was a survival from the regime of the old Greek city-states, but in the Hellenistic age the absence of national independence erased all reason for this military training; between the 3rd and 2nd centuries BC the Athenian *ephebeia* (eventually reduced to a single year) was transformed into a leisured civilian college where a minority of rich young men came to be initiated into the refinements of the elegant life. Military training came to play only a modest role and gave way to athletic competition. To this were added lectures on scientific and literary subjects, assuring the *ephebe* a polish of general culture. The same evolution took place in other cities: the *ephebeia* became everywhere more aristocratic than civic, more sporting than military. What the Greeks, especially those who had emigrated to the barbarian lands, demanded of it was above all that it initiate their sons into Greek life and its characteristic customs, beginning with athletic sports. Especially in Egypt, it was intended to legitimize the privileged status of the Hellenic relative to the "native" Egyptian. In any event, the *ephebeia* no longer was the setting for the highest forms of education.

Formal education in science also lacked any institutionalization. There were, however, some establishments having scientific staffs of high competence, of which the most important was the Mouseion (Museum) established at Alexandria, richly endowed by the Ptolemies; but, at least initially, it was an institute for advanced research. If the scholars endowed there were also teachers, this meant only that they dispensed instruction to a small circle of chosen disciples. The same informal character of personal training was to be seen in all the special disciplines—medicine, for example, which saw such a fine development between the time of Hippocrates (5th century BC) and that of Galen (2nd century AD). If there were in the Hellenistic era certain "schools" of medicine—old (Cnidus, Cos) and new (Pergamum, Alexandria)—these were less the equivalent of today's medical faculties than simply centres to which the presence of numerous qualified masters attracted a large number of aspirants. Whatever theory these "students" were able to learn, they learned largely through self-training and practice, by associating themselves with a practicing physician whom they accompanied to the bedside of patients, taking part in his consultations, profiting by his experience and advice.

Philosophy and rhetoric were subjects of education most highly institutionalized. Although philosophy was taught privately by individual masters-lecturers, who could be either itinerants or residents of one place, these teachers were well organized and, in groups, possessed a kind of institutional character. On the model of Plato's Academy, the new Athenian schools of philosophy—Aristotle's Lyceum, Epicurus' Garden, the Porch (stoa), which gave its name to the Stoics—were brotherhoods in which the posts in both teaching and administration were passed from generation to generation as a kind of heritage. It was in philosophy that the personalistic character of the Hellenistic era most clearly asserted itself, in contrast to the more communal idea of the preceding period; when philosophy turned to the problem of politics, for instance, it dealt less with the citizens of a republic and more with the sovereign king, his duties and character. The central problem was henceforth

that of wisdom, of the purpose that man should set for himself in order to attain happiness, the supreme ideal. The teaching of philosophy was not entirely contemplative: it involved the disciple in an experience analogous to a religious conversion, a decision implying a revision of his life and the adoption of a generally ascetic way of life. Such a vocation, however, could obviously appeal only to a moral, intellectual, and financially secure elite; philosophers were always quite a small number within the Hellenistic (and Roman) intelligentsia.

The reigning discipline was always rhetoric. The prestige of the oratorical art outlived those social conditions that had inspired it; political eloquence operated only in the context of an embassy coming to plead the cause of a particular city or pressure group at the court of the sovereign. Legal eloquence maintained its function, and the profession of advocate retained its attractiveness; but it was above all the eloquence of showy set speeches, the art of the lecturer, that experienced a curious blossoming. Also, as a result of the customary habit of reading aloud, there was no sharp line between speech and the book; thus, eloquence imposed its rule upon all literary genres—poetry, history, philosophy. Even the astronomer and the physician became lecturers.

Hence, great importance was attached to the teaching of rhetoric, which developed from century to century with an ever more rigorous technicalism, precision, and systematization. The study of rhetoric had five parts: invention (the art of finding ideas, according to standard schemes), disposition (the arrangement of words and sentences), elocution, mnemonics (memory training), and action. Action was the art of self-presentation, the regulation of voice and delivery, and above all the art of reinforcing the word with the expressive power of gesture. Each of these parts, equally systematized to the tiniest detail, was taught with a technical vocabulary of extreme precision. Such an education, which in addition to theory comprised a study of the great examples to be imitated and exercises in practical application, required many years of study; in fact, even in maturity, the cultivated Hellenic continued to deepen his knowledge of the art, to drill himself, to "declaim."

A rivalry existed between philosophy and rhetoric, each trying to draw into its orbit the best and the most students. Even in the time of Plato and Isocrates, this rivalry did not proceed without mutual concessions and reciprocal influences, but it remained one of the most constant characteristics of the classical tradition and continued until the end of antiquity and beyond. The long summer of Hellenic civilization was extended under the Roman domination; the great centres of learning also experienced a long prosperity. Athens in particular was the unchallenged capital of philosophy; its *ephebeia* welcomed foreigners to come to crown their culture in the "school of Greece." Its masters of eloquence also had a solid reputation, even though they had competition from such schools of Asia Minor as those of Rhodes (in the 1st century BC) and Smyrna (in the 2nd century AD). Under the later Roman Empire, Alexandria, already famous for medicine, competed with Athens for preeminence in philosophy. Other great centres developed: Beirut, Antioch, and the new capital Constantinople. The quality of the teachers and the number of students attending permits one to apply to these centres, without too much anachronism, the modern designation of "universities," or institutions of advanced learning.

ANCIENT ROMANS

Early Roman education. The quality of Latin education before the 6th century BC can only be conjectured. Rome and Roman civilization were then dominated by a rural aristocracy of landed proprietors directly engaged in exploiting their lands, even after the establishment of the republic. Their spirit was far removed from Greece and Homeric chivalry; ancient Roman education was instead an education suitable for a rural, traditional people—instilling in youth an unquestioned respect for the customs of the ancestors: the *mos maiorum*.

Education had a practical aspect, involving instruction in such farm management concerns as how to oversee the work of slaves and how to advise tenant farmers or one's

The
prestige of
rhetoric

Education
in science
and
medicine

steward. It had a legal aspect; in contrast to Athenian law, which relied more on common law than on codified law, Roman justice was much more formalistic and technical and demanded much more study on the part of the citizen. Education also had a moral aspect, aiming at inculcating rural virtues, a respect for good management of one's patrimony, and a sense of austerity and frugality. Roman education, however, did not remain narrowly utilitarian; it broadened in urban Rome, where there developed the same ideal of communal devotion to the public weal that had existed in Greece—with the difference that in Rome such devotion would never be called into question. The interests of the state constituted the supreme law. The ideal set before youth was not that of the chivalrous hero in the Homeric manner but that of the great men of history who, in difficult situations, had by their courage and their wisdom saved the fatherland when it was in danger. A nation of small farmers, Rome was also a nation of soldiers. Physical education was oriented not toward self-realization or competitive sport but toward military preparedness: training in arms, toughening of the body, swimming across cold and rapid streams, and horsemanship, involving such performances as mounted acrobatics and cavalry parades under arms.

Differing from the Greeks, the Romans considered the family the natural milieu in which the child should grow up and be educated. The role of the mother as educator extended beyond the early years and often had lifelong influence. If, in contrast to the girl, the boy at seven years of age was allowed to move away from her exclusive direction, he came under the control of his father; the Roman father closely supervised the development and the studies of his son, giving him instruction in an atmosphere of severity and moral exigency, through precept but even more through example. The young Roman noble accompanied his father as a kind of young page in all his appearances, even within the Senate.

Familial education ended at 16, when the adolescent male was allowed to wear adult dress, the pure white woolen toga virilis. He devoted one year to an apprenticeship in public life, no longer at his father's side but placed in the care of some old friend of the family, a man of politics laden with years and honours. Then came military service, first as a simple soldier (it was well for the future leader to learn first to obey), encountering his first opportunity to distinguish himself by courage in battle, but soon thereafter as a staff officer under some distinguished commander. Civil and military, the education of the young Roman was thus completed in the entourage of some high personage whom he regarded with respect and veneration, without ceasing, however, to gravitate toward the family orbit. The young Roman was brought up not only to respect the national tradition embodied in the example of the illustrious men of the past but also, very specifically, to respect the particular traditions of his own family, which too had had its great men and which jealously transmitted a stereotype, a specific attitude toward life. If ancient Greek education can be defined as the imitation of the Homeric hero, that of ancient Rome took the form of imitation of one's ancestors.

Roman adoption of Hellenistic education. Something of these original characteristics was to survive always in Roman society, so ready to be conservative; but Latin civilization did not long develop autonomously.

It assimilated, with a remarkable faculty for adaptation, the structures and techniques of the much further evolved Hellenistic civilization. The Romans themselves were quite aware of this, as evidenced by the famous lines of Horace: "Captive Greece captivated her rude conqueror and introduced the arts to rustic Latium" ("*Graecia capta ferum victorem cepit et artis intulit agresti Latio*" [*Epistles*, II, i, 156]).

Greek influence was felt very early in Roman education and grew ever stronger after the long series of gains leading to the annexation of Macedonia (168 BC), of Greece proper (146 BC), of the kingdom of Pergamum (133 BC), and finally of the whole of the Hellenized Orient. The Romans quickly appreciated the advantages they could draw from this more mature civilization, richer than their

own national culture. The practical Romans grasped the advantages to be drawn from a knowledge of Greek, an international language known to many of their adversaries, soon to be their Oriental subjects, and grasped the related importance of mastering the art of oratory so highly developed by the Greeks. Second-century Rome assigned to the spoken word, particularly in political and legal life, as great an importance as had Athens in the 5th century. The Roman aristocrats quickly understood what a weapon rhetoric could be for a statesman.

Rome doubly adopted Hellenistic education: on the one hand, it came to pass that a Roman was considered truly cultivated only if he had the same education, in Greek, as a native Greek acquired; on the other hand, there progressively developed a parallel system of instruction that transposed into Latin the institutions, programs, and methods of Hellenistic education. Naturally, only the children of the ruling class had the privilege of receiving the complete and bilingual education. From the earliest years, the child, boy or girl, was entrusted to a Greek servant or slave and thus learned to speak Greek fluently even before being able to speak Latin competently; the child also learned to read and write in both languages, with Greek again coming first. (Alongside this private tutoring there soon developed, from the 3rd century BC, a Greek public education in schools aimed at a socially broader clientele, but the results of this schooling were less satisfactory than the direct method enjoyed by the children of the aristocracy.) In following the normal course of studies, the young Roman was taught next by an instructor of Greek letters (*grammatikos*) and then by a Greek rhetorician. Those desiring more complete training did not content themselves with the numerous and often highly qualified Greeks to be found in Rome itself but went to Greece to participate in the higher studies of the Greeks themselves. From 119 or 118 BC onward, the Romans secured admission to the Ephebic College at Athens, and in the 1st century BC such young Latins as Cicero were attending the schools of the best philosophers and rhetoricians at Athens and Rhodes.

Roman modifications. The adoption of Hellenistic education did not proceed, however, without a certain adaptation to the Latin temperament: the Romans showed a marked reserve toward Greek athleticism, which shocked both their morals and their sense of the deep seriousness of life. Although gymnastic exercises entered into their daily life, it was under the category of health and not that of sport; in Roman architecture, the palaestra or gymnasium was only an appendage of the public baths, which were exaggerations of their Greek models. There was the same reserve, on grounds of moral seriousness, toward music and dance, arts suitable for professional performers but not for freeborn young men and least of all for young aristocrats. The musical arts indeed became integrated into Latin culture as elements of the life of luxury and refinement, but as spectacle rather than as amateur participation; hence their disappearance from programs of education. It must be remembered, however, that athletics and music were in Greece itself survivals of archaic education and had already entered upon a process of decline.

This education in a foreign language was paralleled by a course of studies exactly patterned upon those of the Greek schools but transposed into the Latin language. The aristocracy was to remain always attached to the idea of private education conducted within the family, but social pressure brought about the gradual development of public education in schools, as in Greece, at three levels—elementary, secondary, and higher; they appeared at different dates and in various historical contexts.

Education of youth. The appearance of the first primary schools is difficult to date; but the use of writing from the 7th century BC implies the early existence of some kind of appropriate primary instruction. The Romans took their alphabet from the Etruscans, who had taken theirs from the Greeks, who had taken theirs from the Phoenicians. The early Romans quite naturally copied the pedagogy of the Hellenistic world: the same ignorance of psychology, the same strict and brutal discipline, the same analytical method characterized by slow progress—the alphabet (forward, backward, from both ends toward the middle),

The tutoring of Roman children

The familial character of Roman education

Roman primary and secondary education

the syllabary, isolated words, then short sentences (one-line moral maxims), finally continuous texts—the same method for writing, and the same numeration, rather than computation.

It was only between the 3rd and the end of the 1st century BC that Latin secondary education developed, staffed by the *grammaticus Latinus*, corresponding to the Greek *grammatikos*. Since the principal object of this education was the explication of poetry, its rise was hindered by the slowness with which Latin literature developed. The first-known of these teachers, Livius Andronicus, took as his subject matter his own Latin translation of the *Odyssey*; two generations later, Ennius explicated his own poetic works. Only with the great poets of the age of Augustus could Latin literature provide classics able to rival Homer in educational value; they were adopted as basic texts almost immediately after their appearance. Thereafter, and until the end of antiquity, the program was not to undergo further change, the principal authors being first of all Virgil, the comic author Terence, the historian Sallust, and the unchallenged master of prose, Cicero. The methods of the Latin grammarian were copied directly from those of his Greek counterpart; the essential point was the explication of the classic authors, completed by a theoretical study of good language using a grammar textbook and by practical exercises in composition, graduated according to a minutely regulated progression and always remaining rather elementary. Theoretically, the curriculum remained that of the seven liberal arts, but, as in Greece, it practically neglected the study of the sciences in favour of that of letters.

Latin
rhetoric

It was only in the 1st century BC that the teaching of rhetoric in Latin was established: the first recorded Latin rhetorician, Plotius Gallus, appeared in 93 BC in a political context, namely, as a democratic initiative to counter the aristocratic education given in Greek, and, as such, was soon prohibited by the conservative party in power. It was not until the end of the century and the appearance of the works of Cicero that this education would be revived and become normal practice; first, Cicero's discourses offered the young Latin the equivalent of those of the Greek Demosthenes, and, second, Cicero's theoretical treatises provided a technical vocabulary obviating the need for Greek manuals. But this instruction was to remain always very close to its Hellenistic origins: the terminology used by Rome's greatest educator, Quintilian (c. AD 35–c. 100), is much more impregnated with Hellenism, much less Latinized, than that which Cicero had proposed. At Rome, too, rhetoric became the form of higher education enjoying the greatest prestige; as in Greece, this popularity outlived the elimination of political eloquence. More than in Greece, legal eloquence continued to flourish (Quintilian had in mind particularly the training of future advocates), but, as in the Hellenic milieu, Latin culture became predominantly aesthetic: from the beginning of the empire, the public lecture was the most fashionable literary genre, and the teaching of rhetoric was very naturally oriented toward the art of the lecturer as the crowning achievement.

Higher education. Because the oratorical art was incontestably the most popular subject of higher education, the Romans did not feel the same urgency to Latinize the other rival branches of knowledge, which interested only a small number of specialists with unusual vocations. To be sure, the philosophical work of Cicero had the same ambition as his oratorical work and proved by its existence that it was possible to philosophize in Latin, but philosophy found no successors to Cicero as rhetoric did. There was never a Latin school for philosophy. Of course, Rome did not lack philosophers, but many used Greek as their means of expression (even the emperor Marcus Aurelius); those who, like Cicero, wrote in Latin—Seneca, for example—had taken their philosophy studies in Greek. It was the same in the sciences, particularly in the medical sciences; for long, there were no medical books in Latin except encyclopaedias on a popular level.

The
innovation
of legal
education

On the other hand, Rome created in the school of law another type of higher education—the only one that had no equivalent in Hellenistic education. The position of law in Roman life and civilization is, of course, well known.

Perhaps even more than rhetoric, it offered young Romans profitable careers; very naturally, there developed an appropriate education to prepare them. At first elementary in character and entirely practical, it was given within the framework of apprenticeship: the professor of law (*magister juris*) was primarily a practitioner, who initiated into his art the group of young disciples entrusted to him; these listened to his consultations and heard him plead or judge. Beginning in Cicero's time and undoubtedly under his influence, this instruction was paralleled by a systematic theoretical exposition. Roman law was thus promoted to the rank of a scientific discipline. True schools were progressively established and took on an official character; their existence is well attested beginning with the 2nd century AD. It was at this same time that legal education acquired its definitive tools, with the composition of systematic elementary treatises such as the *Institutiones* of Gaius, manuals of procedure, commentaries on the law, and systematic collections of jurisprudence. This creative period perhaps reached its peak at the beginning of the 3rd century AD. The works of the great legal authors of this time, which became classics, were offered by the law professor with much interpretation and explication—very similar to the way in which grammarians offered literature.

Rome, the capital, remained the great centre of this advanced study in law. At the beginning of the 3rd century, however, there appeared in the Roman Orient the school of Beirut. The teaching there was in Latin; and, to hear it and profit by the advantages that it offered for a high administrative or judicial career, many young Greeks enrolled at the school, in spite of the language obstacle. Only a legal career could persuade the Greeks to learn Latin, a language that they had always regarded as "barbarous."

The Roman world became covered with a network of schools concurrent with the Romanization of the provinces. The primary school always remained private; on the other hand, many schools of grammar or rhetoric acquired the character of public institutions supported (as in the Hellenic world) either by private foundations or by a municipal budget. In effect, it was always the city that was responsible for education. The liberal central government of the high empire, anxious to reduce its administrative apparatus to a minimum, made no pretense of assuming charge of it. It was content to encourage education and to favour teaching careers by fiscal exemptions; and only very exceptionally did an emperor create certain chairs of higher education and assign them a regular stipend. Vespasian (AD 69–79) created two chairs at Rome, one of Greek rhetoric and the other of Latin rhetoric. Marcus Aurelius (AD 161–180) similarly endowed, in Athens, a chair of rhetoric and four chairs of philosophy, one for each of the four great sects—Platonism, Aristotelianism, Epicureanism, and Stoicism.

Education in the later Roman Empire. The dominant fact is the extraordinary continuity of the methods of Roman education throughout such a long succession of centuries. Whatever the profound transformations in the Roman world politically, economically, and socially, the same educational institutions, the same pedagogical methods, the same curricula were perpetuated without great change for 1,000 years in Greek and six or seven centuries in Roman territory. At most, a few nuances of change need be noted. There was a measure of increasing intervention by the central government, but this was primarily to remind the municipalities of their educational duties, to fix the remuneration of teachers, and to supervise their selection. Only higher education received direct attention: in AD 425, Theodosius II created an institute of higher education in the new capital of Constantinople and endowed it with 31 chairs for the teaching of letters, rhetoric (both Greek and Latin), philosophy, and law. Another innovation was that the exuberant growth of the bureaucratic apparatus under the later empire favoured the rise of one branch of technical education, that of stenography.

The only evolution of any notable extent involves the use of Greek and Latin. There had never been more than a few Greeks who learned Latin, even though the growing machinery of administration and the increasing clientele drawn to the law schools of Beirut and Constantinople

The
durable
character
of Greco-
Roman
education

tended to increase the numerical size of this tiny minority. On the other hand, in Latin territory, late antiquity exhibited a general recession in the use of Greek. Although the ideal remained unchanged and high culture always proposed to be bilingual, most people generally knew Greek less and less well. This retrogression need not be interpreted solely as a phenomenon of decadence: it had also a positive aspect, being an effect of the development of Latin culture itself. The richness and worth of the Latin classics explain why the youth of the West had less time than formerly to devote to the study of the Greek authors. Virgil and Cicero had replaced Homer and Demosthenes, just as in modern Europe the ancient languages have retreated before the progress of the national languages and literatures. Hence, in the later empire there appeared specialists in intercultural relations and translations from Greek into Latin. In the 4th and particularly in the 5th century, medical education in Latin became possible, thanks to the appearance of a whole medical (and veterinary) literature consisting essentially of translations of Greek manuals. It was the same with philosophy: resuming Cicero's enterprise at a distance of more than five centuries, Boethius (c. 480–524) in his turn sought with his manuals and his translations to make the study of that discipline available in Latin. Although the misfortunes of Italy in the 6th century, including the Lombardian invasion, did not permit this hope to be realized, the work of Boethius later nourished the medieval renaissance of philosophic thought.

Nothing better demonstrates the prestige and the allure of classical culture than the attitude taken toward it by the Christians. This new religion could have organized an original system of education analogous to that of the rabbinical school—that is, one in which children learned through study of the Holy Scriptures—but it did not do so. Usually, Christians were content to have both their special religious education, provided by the church and the family, and their classical instruction, received in the schools and shared with the pagans. Thus, they maintained the tradition of the empire after it had become Christian. Certainly, in their view, the education dispensed by these schools must have presented many dangers, inasmuch as classical culture was bound up with its pagan past (at the beginning of the 3rd century the profession of schoolteacher was among those that disqualified one from baptism); but the utility of classical culture was so evident that they considered it necessary to send their children to these same schools in which they barred themselves from teaching. From Tertullian to St. Basil the Great of Caesarea, Christian scholars were ever mindful of the dangers presented by the study of the classics, the idolatry and immorality that they promoted; nevertheless, they sought to show how the Christian could make good use of them.

With the passage of time and the general conversion of Roman society and particularly of its ruling class, Christianity, overcoming its reserve, completely assimilated and took over classical education. In the 4th century Christians were occupying teaching positions at all levels, from schoolmasters and grammarians to the highest chairs of eloquence. In his treatise *De doctrina Christiana* (426), St. Augustine formulated the theory of this new Christian culture: being a religion of the Book, Christianity required a certain level of literacy and literary understanding; the explication of the Bible required the methods of the grammarian; preaching a new field of action required rhetoric; theology required the equipment of philosophy. The synthesis of Christianity and classical education had become so intimate that, when the “barbarian” invasions swept away the traditional school along with many other imperial and Roman institutions, the church, needing a literary culture for the education of its clergy, kept alive the cultural tradition that Rome had received from the Hellenistic world. (H.-I.M./J.Bo.)

Education in Persian, Byzantine, early Russian, and Islāmic civilizations

ANCIENT PERSIA

The ancient Persian empire began when Cyrus II the Great initiated his conquests in 559 BC, and it ended when it

was overrun by the Muslims in AD 651. Three elements dominated this ancient Persian civilization: (1) a rigorous and challenging physical environment, (2) the activist and positive Zoroastrian religion and ethics, and (3) a militant, expansionist people. These elements developed in the Persians an adventurous personality mingled with intense national feelings.

In the early period (559–330 BC), known as the Achaemenid period for the dynastic name of Cyrus and his successors, education, sustained by Zoroastrian ethics and the requirements of a military society, aimed at serving the needs of four social classes—priests, warriors, tillers of the soil, and merchants. Three principles sustained Zoroastrian ethics: the development of good thoughts, of good words, and of good actions (see ZOROASTRIANISM AND PARSIISM). Achaemenid-Zoroastrian education stressed strong family ties and community feelings, acceptance of imperial authority, religious indoctrination, and military discipline.

Education was a private enterprise. Formative education was carried on in the home and continued after the age of seven in court schools for children of the upper classes. Secondary and higher education included training in law to prepare for government service, as well as medicine, arithmetic, geography, music, and astronomy. There were also special military schools.

In 330 BC Persia was conquered by Alexander the Great, and native Persian or Zoroastrian education was largely eclipsed by Hellenistic. Greek practices continued during the Parthian empire (247 BC–AD 224), founded by seminomadic conquerors from the Caspian steppes. And, thus, truly Persian influences were not restored until the appearance of a new, more sophisticated and reform-minded dynasty, the Sāsānians, in the 3rd century AD. In what has been called the neo-Persian empire of the Sāsānians (AD 224–651), the Achaemenid social structure and education were revived and further developed and modified. Zoroastrian ethics, though more advanced than during the Achaemenid period, emphasized similar moral principles but with new stress upon the necessity for labour (particularly agriculture), upon the sanctity of marriage and family devotion, and upon the cultivation of respect for law and of intellectualism—all giving to education a strong moral, social, and national foundation. The subject matter of basic education included physical and military exercises, reading (Pahlavi alphabet), writing (on wooden tablets), arithmetic, and the fine arts.

The greatest achievement of Sāsānian education was in higher education, particularly as it developed in the Academy of Gondēshāpūr. Here, Zoroastrian culture, Indian and Greek sciences, Alexandrian-Syrian thought, medical training, theology, philosophy, and other disciplines developed to a high degree, making Gondēshāpūr the most advanced academic centre of learning in the later period of Sāsānian civilization. The academy, to which came students from various parts of the world, advanced, among other subjects, Zoroastrian, Greek, and Indian philosophies; Persian, Hellenic, and Indian astronomy; Zoroastrian ethics, theology, and religion; law, government, and finance; and various branches of medicine.

It was partly through the Academy of Gondēshāpūr that important elements of classical Greek and Roman learning reached the Muslims during the 8th and 9th centuries AD and through them, in Latin translations of Arabic works, the Schoolmen of western Europe during the 12th and 13th centuries. (M.K.N.)

THE BYZANTINE EMPIRE

The Byzantine Empire was a continuation of the Roman Empire in the eastern Mediterranean area after the loss of the western provinces to Germanic kingdoms in the 5th century. Although it lost some of its eastern lands to the Muslims in the 7th century, the empire lasted until Constantinople—the new capital founded by the Roman emperor Constantine the Great in 330—fell to the Ottoman Turks in 1453. The empire was seriously weakened in 1204 when, as a result of the Fourth Crusade, its lands were partitioned and Constantinople captured; but until then it remained a powerful centralized state, with a

Zoroastrian influences

The Academy of Gondēshāpūr

Christian use of Greco-Roman education