

various parts of his life afford subjects of controversy rather than of precise information. The place and even the country in which he was born is the first subject of dispute. A Nubian and an Egyptian origin have both been assigned to him on the basis of a doubtful reading in his work, which speaks of "the Nile of Egypt which cuts our land." In 1663 Bochart stated that he had found in a manuscript of Leo Africanus that Edrisi was born at Mazara, in Sicily, in 1098. Next year, however, the manuscript was edited by Hottinger, in an appendix to his *Bibliothecarius Quadripartitus*, and it then appeared that the person supposed to be Edrisi was there named Esseriff Essachallf Esseriff, or Scheriff, is indeed a usual appellation of Edrisi, but as it is only an honorary title and not a proper name, it does not help the identification. The most positive assertion on the subject is that of Casiri, who says (*Bibliotheca Arabico-Hispanica*, ii. 9), that if Edrisi, as appeared probable, were the person designated by the Mahometan writers as Abu-Abdallah Mohamad Ben Mohamad Ben Abdallah Ben Edris, he was born at Septa, or Ceuta, on the coast of Morocco, in 493 A.H. (1099 A.D.) Casiri not only qualifies his statement, but he does not mention the authorities from which it is derived; so that its acceptance rests only upon the confidence reposed in his learning and accuracy. Edrisi was long a mighty name in Northern Africa, but in 919 the dynasty was subverted by Mahedi Abdallah, and the proscribed wrecks of the family, according to D'Herbelot, afterwards sought refuge in Sicily. If we may trust the information of Casiri, Edrisi pursued his studies at Cordova, and from the accurate description he has given of Spain, it is probable that he had travelled through a great part of that country. Various circumstances prove that he removed to Sicily, and began to compose his great work under the patronage, and indeed at the express desire, of Roger II, king of that island. It was completed about 548 A.H. (1153 A.D.)

His work has appeared under various titles. The first and fullest seems to have been, *The going out of a Curious Man to explore the Regions of the Globe, its Provinces, Islands, Cities, and their Dimensions and Situation*. This is sometimes abbreviated. Sionita published it under the name of *Relaxation of the Curious Mind*; but the alternative title of *Nubian Geography*, which he and his companion imposed, is altogether arbitrary. It contains a full description of the whole world, as far as it was known to the author, who is said to have received reports from a number of learned explorers despatched expressly to collect information for his use. The world is divided into seven climates, commencing at the equinoctial line, and extending northwards to the limit at which the earth was supposed to be rendered uninhabitable by cold. Each climate is then divided by perpendicular lines into eleven equal parts, beginning with the western coast of Africa and ending with the eastern coast of Asia. The whole world is thus formed into 77 equal square compartments. The geographer begins with the first part of the first climate, including the western part of Central Africa, and proceeds eastward through the different divisions of this climate till he finds its termination in the Sea of China. He then returns to the first part of the second climate, and so proceeds till he reaches the eleventh part of the seventh climate, which terminates in the north-eastern extremity of Asia. The inconveniences of the arrangement are obvious; but the author appears to have been writing an illustrative treatise to accompany an actual representation of the world which he had engraved on a silver disk or possibly a silver globe.

Two valuable manuscripts of Edrisi exist in the Bibliothèque Nationale at Paris, and other two in the Bodleian Library. The first of the English MSS., which was brought over from Egypt

by Greaves, is written in the Arabic character peculiar to Northern Africa. It is illustrated by a map of the known world, and by 33 other maps, containing each part of a climate, so that there are maps only for the first three climates. The second manuscript, brought by Pococke from Syria, is written in the Arabic character used in that country, and bears the date of 906 A.H., or 1500 A.D. It consists of 320 leaves, and is illustrated by one general and 77 particular maps, the latter consequently including all the parts of every climate. The general map was published by Dr Vincent in his *Periplus of the Erythraean Sea*. A copy of Edrisi's work in the Escorial was destroyed by the great fire of 1671.

The geography of Edrisi, in the original Arabic, was printed at Rome in 1592, at the Medicean press, from a manuscript preserved in the grand-ducal library at Florence. Both the paper and printing are exceedingly neat, but the volume swarms with typographical errors and forms only a clumsy epitome of the original work. The description of Mecca, which is unaccountably omitted, has been supplied by Pococke from his manuscript. In most bibliographical works this impression has been characterized as one of the rarest of books; but Adler, in a visit to Florence, found in the palace there 1129 copies, which were exposed to sale at a moderate rate. In 1619, two Oriental scholars, Gabriel Sionita and Joannes Hezronita, published at Paris a Latin translation of Edrisi's work, bearing the title of *Geographia Nubiensis*; but it is far from accurate, particularly in the proper names. George Hieronymus Velschius, a German scholar, had prepared a copy of the Arabic original, with a Latin translation, which he purposed to have illustrated with notes; but death prevented the execution of his design, and his manuscript remains deposited in the university library of Jena. Casiri (*Bib. Ar. Hisp.*, ii. 13) mentions that he had determined to re-edit this work, but he appears never to have executed his intention. The part relating to Africa, pre-eminent certainly in point of importance, was very ably edited in 1796 by Hartmann, who collected together all the notices relating to each particular country, and annexed the statements of the countrymen and contemporaries of Edrisi, so that his work forms nearly a complete body of Arabian geography, as far as relates to Africa. He afterwards published *Hispania*, 3 vols., Marburg, 1801-1818. A translation into French of the entire work, based on one of the MSS. of the Bibliothèque Nationale, was published by M. Jaubert in 1840, and forms volumes v. and vi. of the *Recueil de Voyages* issued by the Société de Géographie; but a good edition of the original text is still a desideratum. A number of Oriental scholars at Leyden determined in 1861 to undertake the task: Spain and Western Europe were assigned to Professor Dozy; Eastern Europe and Western Asia to Doctor Engelmann; Central and Eastern Asia to Defrémery; and Africa to Professor Goje. The first portion of the work appeared in 1866, under the title of *Description de l'Afrique et de l'Espagne par Edrisi, texte arabe publié par R. Dozy et M. J. de Goje*; but the other collaborators have hitherto found it impossible to furnish their quota.

EDUCATION. This article is mainly concerned with the history of educational theories in the chief crises of their development. It has not been the object of the writer to give a history of the practical working of these theories, and still less to sketch the outlines of the science of teaching, which may be more conveniently dealt with under another head. The earliest education is that of the family. The child must be trained not to interfere with its parents' convenience, and to acquire those little arts which will help in maintaining the economy of the household. It was long before any attempt was made to improve generations as they succeeded each other. The earliest schools were those of the priests. As soon as an educated priesthood had taken the place of the diviners and jugglers who abused the credulity of the earliest races, schools of the prophets became a necessity. The training required for ceremonials, the common life apart from the family, the accomplishments of reading and singing, afforded a nucleus for the organization of culture and an opportunity for the efforts of a philosopher in advance of his age. Convenience and gratitude confirmed the monopoly of the clergy. The schools of Judea and Egypt were ecclesiastical. The Jews had but little effect on the progress of science, but our obligations to the priests of the Nile valley are great indeed. Much of their learning is obscure to us, but we have reason to conclude that there is no branch of science in which they did not progress at least so far as observation and careful registration of facts could carry them. They

were a source of enlightenment to surrounding nations. Not only the great lawgiver of the Jews, but those who were most active in stimulating the nascent energies of Hellas were careful to train themselves in the wisdom of the Egyptians. Greece, in giving an undying name to the literature of Alexandria, was only repaying the debt which she had incurred centuries before. Education became secular in countries where the priesthood did not exist as a separate body. At Rome, until Greece took her conqueror captive, a child was trained for the duties of life in the forum and the senate house. The Greeks were the first to develop a science of education distinct from ecclesiastical training. They divided their subjects of study into music and gymnastics, the one comprising all mental, the other all physical training. Music was at first little more than the study of the art of expression. But the range of intellectual education which had been developed by distinguished musical teachers was further widened by the Sophists, until it received a new stimulus and direction from the work of Socrates. Who can forget the picture left us by Plato of the Athenian palæstra, in which Socrates was sure to find his most ready listeners and his most ardent disciples? In the intervals of running, wrestling, or the bath, the young Phadrus or Theætetus discoursed with the philosophers who had come to watch them on the good, the beautiful, and the true. The lowest efforts of their teachers were to fit them to maintain any view they might adopt with acuteness, elegance, readiness, and good taste. Their highest efforts were to stimulate a craving for the knowledge of the unknowable, to rouse a dissatisfaction with received opinions, and to excite a curiosity which grew stronger with the revelation of each successive mystery. Plato is the author of the first systematic treatise on education. He deals with the subject in his earlier dialogues, he enters into it with great fulness of detail in the *Republic*, and it occupies an important position in the *Laws*. The views thus expressed differ considerably in particulars, and it is therefore difficult to give concisely the precepts drawn up by him for our obedience. But the same spirit underlies his whole teaching. He never forgets that the beautiful is undistinguishable from the true, and that the mind is best fitted to solve difficult problems which has been trained by the enthusiastic contemplation of art. Plato proposes to intrust education to the state. He lays great stress on the influence of race and blood. Strong and worthy children are likely to spring from strong and worthy parents. Music and gymnastics are to develop the emotions of young men during their earliest years,—the one to strengthen their character for the contest of life, the other to excite in them varying feelings of resentment or tenderness. Reverence, the ornament of youth, is to be called forth by well-chosen fictions; a long and rigid training in science is to precede discussion on more important subjects. At length the goal is reached, and the ripest wisdom is ready to be applied to the most important practice.

The great work of Quintilian, although mainly a treatise on oratory, also contains incidentally a complete sketch of a theoretical education. His object is to show us how to form the man of practice. But what a high conception of practice is his. He wrote for a race of rulers. He inculcates much which has been attributed to the wisdom of a later age. He urges the importance of studying individual dispositions, and of tenderness in discipline and punishment. The Romans understood no systematic training except in oratory. In their eyes every citizen was a born commander, and they knew of no science of government and political economy. Cicero speaks slightly even of jurisprudence. Any one, he says, can make himself a jurisconsult in a week, but an orator is the production of a lifetime. No statement can be less true than that a perfect orator is 2

perfect man. But wisdom and philanthropy broke even through that barrier, and the training which Quintilian expounds to us as intended only for the public speaker would, in the language of Milton, fit a man to perform justly, wisely, and magnanimously all the offices, both public and private, of peace and war.

Such are the ideas which the old world has left us. On one side man beautiful, active, clever, receptive, emotional, quick to feel, to show his feeling, to argue, to refine; greedy of the pleasures of the world, perhaps a little neglectful of its duties, fearing restraint as an unjust stinting of the bounty of nature, inquiring eagerly into every secret, strongly attached to the things of this life, but elevated by an unabated striving after the highest ideal; setting no value but upon faultless abstractions, and seeing reality only in heaven, on earth mere shadows, phantoms, and copies of the unseen. On the other side man practical, energetic, eloquent, tinged but not imbued with philosophy, trained to spare neither himself nor others, reading and thinking only with an apology; best engaged in defending a political principle, in maintaining with gravity and solemnity the conservation of ancient freedom, in leading armies through unexplored deserts, establishing roads, fortresses, settlements, the results of conquest, or in ordering and superintending the slow, certain, and utter annihilation of some enemy of Rome. Has the modern world ever surpassed their type? Can we in the present day produce anything by education except by combining, blending, and modifying the self-culture of the Greek or the self-sacrifice of the Roman?

The literary education of the earliest generation of Christians was obtained in the pagan schools, in those great imperial academies which existed even down to the 5th century, which flourished in Europe, Asia, and Africa, and attained perhaps their highest development and efficiency in Gaul. The first attempt to provide a special education for Christians was made at Alexandria, and is illustrated by the names of Clement and Origen. The later Latin fathers took a bolder stand, and rejected the suspicious aid of heathenism. Tertullian, Cyprian, and Jerome wished the antagonism between Christianity and Paganism to be recognized from the earliest years, and even Augustine condemned with harshness the culture to which he owed so much of his influence. The education of the Middle Ages Middle Ages was either that of the cloister or the castle. They stood in sharp contrast to each other. The object of the one was to form the young monk, of the other the young knight. We should indeed be ungrateful if we forgot the services of those illustrious monasteries, Monte Cassinó, Fulda, or Tours, which kept alive the torch of learning throughout the dark ages, but it would be equally mistaken to attach an exaggerated importance to the teaching which they provided. Long hours were spent in the duties of the church, and in learning to take a part in elaborate and useless ceremonies. A most important part of the monastery was the writing room, where missals, psalters, and breviaries were copied and illuminated, and too often a masterpiece of classic literature was effaced to make room for a treatise of one of the fathers or the sermon of an abbot. The discipline was hard; the rod ruled all with indiscriminating and impartial severity. How many generations have had to suffer for the floggings of those times! Hatred of learning, antagonism between the teacher and the taught, the belief that no training can be effectual which is not repulsive and distasteful, that no subject is proper for instruction which is acquired with ease and pleasure,—all these idols of false education have their root and origin in monkish cruelty. The joy of human life would have been in danger of being stamped out if it had not been for the warmth and colour of a young knight's boyhood. He was equally well

broken in to obedience and hardship, but the obedience was the willing service of a mistress whom he loved, and the hardship the permission to share the dangers of a leader whom he emulated. The seven arts of monkish training were Grammar, Dialectics, Rhetoric, Music, Arithmetic, Geometry, Astronomy, which together formed the *trivium* and *quadrivium*, the seven years' course, the divisions of which have profoundly affected our modern training. One of the earliest treatises based on this method was that of Martianus Capella, who in 470 published his *Satyra*, in nine books. The first two were devoted to the marriage between Philology and Mercury, the last seven were each devoted to the consideration of one of these liberal arts. Cassiodorus, who wrote *De Septem Disciplinis* about 500, was also largely used as a text book in the schools. Astronomy was taught by the *Cisio-Janus*, a collection of doggerel hexameters like the *Propria quæ m'ribus*, which contained the chief festivals in each month, with a *memoria technica* for recollecting when they occurred. The seven knightly accomplishments, as historians tell us, were to ride, to swim, to shoot with the bow, to box, to hawk, to play chess, and to make verses. The verses thus made were not in Latin, bald imitations of Ovid or Horace, whose pagan beauties were wrested into the service of religion, but sonnets, ballads, and canzonets in soft Provençal or melodious Italian. In nothing, perhaps, is the difference between these two forms of education more clearly shown than in their relations to women. A young monk was brought up to regard a woman as the worst among the many temptations of St Antony. His life knew no domestic tenderness or affection. He was surrounded and cared for by celibates, to be himself a celibate. A page was trained to receive his best reward and worst punishment from the smile or frown of the lady of the castle, and as he grew to manhood to cherish an absorbing passion as the strongest stimulus to a noble life, and the contemplation of female virtue, as embodied in an Isolde or a Beatrice, as the truest earnest of future immortality.

Both these forms of education disappeared before the Renaissance and the Reformation. But we must not suppose that no efforts were made to improve upon the narrowness of the schoolmen or the idleness of chivalry. The schools of Charles the Great have lately been investigated by Mr Mullinger, but we do not find that they materially advanced the science of education. Vincent of Beauvais has left us a very complete treatise on education, written about the year 1245. He was the friend and counsellor of St Louis, and we may discern his influence in the instructions which were left by that sainted king for the guidance of his son and daughter through life. The end of this period was marked by the rise of universities. Bologna devoted itself to law, and numbered 12,000 students at the end of the 12th century. Salerno adopted as its special province the study of medicine, and Paris was thronged with students from all parts of Europe, who were anxious to devote themselves to a theology which passed by indefinite gradations into philosophy. The 14th and 15th centuries witnessed the rise of universities and academies in almost every portion of Europe. Perhaps the most interesting among these precursors of a higher culture were the Brethren of the Common Life, who were domiciled in the rich meadows of the Yssel, in the Northern Netherlands. The metropolis of their organization was Deventer, the best known name among them that of Gerhard Groot. They devoted themselves with all humility and self-sacrifice to the education of children. Their schools were crowded. Bois-le-duc numbered 1200 pupils, Zwolle 1500. For a hundred years no part of Europe shone with a brighter lustre. As the divine comedy of Dante represents for us the learning and piety of the Middle Ages in Italy, so the

imitation of Thomas a Kempis keeps alive for us the memory of the purity and sweetness of the Dutch community. But they had not sufficient strength to preserve their supremacy among the necessary developments of the age. They could not support the glare of the new Italian learning; they obtained, and it may be feated deserved, the title of obscurantists. The *Epistolæ Obscurorum Virorum*, the wittiest squib of the Middle Ages, which was so true and so subtle in its satire that it was hailed as a blow struck in defence of the ancient learning, consists in great part of the lamentations of the brethren of Deventer over the new age, which they could not either comprehend or withstand. The education of the Renaissance is best represented by the name of Erasmus, that of the Reformation by the names of Luther and Melancthon. We have no space to give an account of that marvellous resurrection of the mind and spirit of Europe when touched by the dead hand of an extinct civilization. The history of the revival of letters belongs rather to the general history of literature than to that of education. But there are two names whom we ought not to pass over. Vittorino da Feltrè was summoned by the Gonzagas to Mantua in 1424; he was lodged in a spacious palace, with galleries, halls, and colonnades decorated with frescoes of playing children. In person he was small, quick, and lively—a born schoolmaster, whose whole time was spent in devotion to his pupils. We are told of the children of his patron, how Prince Gonzaga recited 200 verses of his own composition at the age of fourteen, and how Princess Cecilia wrote elegant Greek at the age of ten. Vittorino died in 1477. He seems to have reached the highest point of excellence as a practical schoolmaster of the Italian Renaissance. Castiglione, on the other hand, has left us in his *Cortigiano* the sketch of a cultivated nobleman in those most cultivated days. He shows by what precepts and practice the golden youths of Verona and Venice were formed, who live for us in the plays of Shakespeare as models of knightly excellence. For our instruction, it is better to have recourse to the pages of Erasmus. He has written the most minute account of his method of teaching. The child is to be formed into a good Greek and Latin scholar and a pious man. He fully grasps the truth that improvement must be natural and gradual. Letters are to be taught playing. The rules of grammar are to be few and short. Every means of arousing interest in the work is to be fully employed. Erasmus is no Ciceronian. Latin is to be taught so as to be of use—a living language adapted to modern wants. Children should learn an art—painting, sculpture, or architecture. Idleness is above all things to be avoided. The education of girls is as necessary and important as that of boys. Much depends upon home influence; obedience must be strict, but not too severe. We must take account of individual peculiarities, and not force children into cloisters against their will. We shall obtain the best result by following nature. It is easy to see what a contrast this scheme presented to the monkish training,—to the routine of useless technicalities enforced amidst the shouts of teachers and the lamentations of the taught.

Still this culture was but for the few. Luther brought the schoolmaster into the cottage, and laid the foundations of the system which is the chief honour and strength of modern Germany, a system by which the child of the humblest peasant, by slow but certain gradations, receives the best education which the country can afford. The precepts of Luther found their way into the hearts of his countrymen in short, pithy sentences, like the sayings of poor Richard. The purification and widening of education went hand in hand with the purification of religion, and these claims to affection are indissolubly united in the minds of his countrymen. Melancthon, from his editions

of school books and his practical labours in education, earned the title of *Præceptor Germaniæ*. Aristotle had been dethroned from his pre-eminence in the schools, and Melancthon attempted to supply his place. He appreciated the importance of Greek, the terror of the obscurantists, and is the author of a Greek grammar. He wrote elementary books on each department of the *trivium*—grammar, dialectic, and rhetoric. He made some way with the studies of the *quadrivium*, and wrote *Initia doctrinæ Physicæ*, a primer of physical science. He lectured at the university of Wittenberg, and for ten years, from 1519 to 1529, kept a *schola privata* in his own house. Horace was his favourite classic. His pupils were taught to learn the whole of it by heart, ten lines at a time. The tender refined lines of his well-known portraits show clearly the character of the painful, accurate scholar, and contrast with the burly powerful form of the genial Luther. He died in 1560, racked with anxiety for the church which he had helped to found. If he did not carry Protestantism into the heart of the peasant, he at least made it acceptable to the intellect of the man of letters.

We now come to the names of three theoretical and practical teachers who have exercised and are still exercising a profound effect over education. The so-called Latin school, the parent of the gymnasium and the lycée, had spread all over Europe, and was especially flourishing in Germany. The programmes and time tables in use in these establishments have come down to us, and we possess notices of the lives and labours of many of the earliest teachers. It is not difficult to trace a picture of the education which the Reformation offered to the middle classes of Europe. Ample materials exist in German histories of education. We must confine ourselves to those moments which were of vital influence in the development of the science. One school stands pre-eminently before the rest, situated in that border city on the debatable land between France and Germany, which has known how to combine and reconcile the peculiarities of French and German culture. Strasburg, besides a school of theology which unites the depth of Germany to the clearness and vivacity of France, educated the gilded youth of the 16th century under Sturm, as it trained the statesmen and diplomatists of the 18th under Koch. John Sturm of Strasburg was the friend of Ascham, the author of the *Schoolmaster*, and the tutor of Queen Elizabeth. It was Ascham who found Lady Jane Grey alone in her room at Bradgate bending her neck over the page of Plato when all the rest of her family were following the chase. Sturm was the first great head master, the progenitor of Busbys if not of Arnolds. He lived and worked till the age of eighty-two. He was a friend of all the most distinguished men of his age, the chosen representative of the Protestant cause in Europe, the ambassador to foreign powers. He was believed to be better informed than any man of his time of the complications of foreign politics. Rarely did an envoy pass from France to Germany without turning aside to profit by his experience. But the chief energies of his life were devoted to teaching. He drew his scholars from the whole of Europe; Portugal, Poland, England sent their contingent to his halls. In 1578 his school numbered several thousand students; he supplied at once the place of the cloister and the castle. What he most insisted upon was the teaching of Latin, not the conversational *lingua franca* of Erasmus, but pure, elegant Ciceronian Latin. He may be called the introducer of scholarship into the schools, a scholarship which as yet took little account of Greek. His pupils would write elegant letters, deliver elegant Latin speeches, be familiar, if not with the thoughts, at least with the language of the ancients, would be scholars in order that they might be gentlemen. Our space will not permit us to

trace the whole course of his influence, but he is in all probability as much answerable as any one for the euphuistic refinement which overspread Europe in the 16th century, and which went far to ruin and corrupt its literatures. Nowhere perhaps had he more effect than in England. Our older public schools, on breaking with the ancient faith, looked to Sturm as their model of Protestant education. His name and example became familiar to us by the exertions of his friend Ascham. Westminster, under the long reign of Busby, received a form which was generally accepted as the type of a gentleman's education. The Public School Commission of 1862 found that the lines laid down by the great citizen of Strasburg, and copied by his admirers, had remained unchanged until within the memory of the present generation. Wolfgang Ratke or Raticnius was born in Holstein in 1571. He anticipated some of the best improvements in the method of teaching which have been made in modern times. He was like many of those who have tried to improve existing methods in advance of his age, and he was rewarded for his labours at Augsburg, Weimar, and Köthen by persecution and imprisonment. Can we wonder that education has improved so slowly when so much pains has been taken to silence and extinguish those who have devoted themselves to its improvement? His chief rules were as follows. 1. Begin everything with prayer. 2. Do everything in order, following the course of nature. 3. One thing at a time. 4. Often repeat the same thing. 5. Teach everything first in the mother tongue. 6. Proceed from the mother tongue to other languages. 7. Teach without compulsion. Do not beat children to make them learn. Pupils must love their masters, not hate them. Nothing should be learnt by heart. Sufficient time should be given to play and recreation. Learn one thing before going on to another. Do not teach for two hours consecutively. 8. Uniformity in teaching, also in school books, especially grammars, which may with advantage be made comparative. 9. Teach a thing first, and then the reason of it. Give no rules before you have given the examples. Teach no language out of the grammar, but out of authors. 10. Let everything be taught by induction and experiment. Most of these precepts are accepted by all good teachers in the present day; all of them are full of wisdom. Unfortunately their author saw the faults of the teaching of his time more clearly than the means to remove them, and he was more successful in forming precepts than in carrying them out. Notwithstanding these drawbacks, he deserves an honourable place among the forerunners of a rational education.

John Amos Comenius was the antithesis to Sturm, and a greater man than Ratke. Born a Moravian, he passed a wandering life, among the troubles of the Thirty Years' War, in poverty and obscurity. But his ideas were accepted by the most advanced thinkers of the age, notably in many respects by our own Milton, and by Oxenstiern the chancellor of Sweden. His school books were spread throughout Europe. The *Janua Linguarum Reserata* was translated into twelve European and several Asiatic languages. His works, especially the *Didascalica magna*, an encyclopædia of the science of education, are constantly reprinted at the present day; and the system which he sketched will be found to foreshadow the education of the future. He was repelled and disgusted by the long delays and pedantries of the schools. His ardent mind conceived that if teachers would but follow nature instead of forcing it against its bent, take full advantage of the innate desire for activity and growth, all men might be able to learn all things. Languages should be taught as the mother tongue is taught, by conversations on ordinary topics; pictures, object lessons, should be freely used; teaching should go hand in hand with a cheerful, elegant, and happy life. Comenius included in his course

Sturm,
1507-
1589.

Comenius
1592-
1671

the teaching of the mother tongue, singing, economy, and politics, the history of the world, physical geography, and a knowledge of arts and handicrafts. But the principle on which he most insisted, which forms the special point of his teaching, and in which he is followed by Milton, is that the teaching of words and things must go together hand in hand. When we consider how much time is spent over new languages, what waste of energy is lavished on mere preparation, how it takes so long to lay a foundation that there is no time to rear a building upon it, we must conclude that it is in the acceptance and development of this principle that the improvement of education will in the future consist. Any one who attempts to inculcate this great reform will find that its first principles are contained in the writings of Comenius. But this is not the whole of his claim upon our gratitude. He was one of the first advocates of the teaching of science in schools. His kindness, gentleness, and sympathy make him the forerunner of Pestalozzi. His general principles of education would not sound strange in the treatise of Herbert Spencer.

The Protestant schools were now the best in Europe, and the monkish institutions were left to decay. Catholics would have remained behind in the race if it had not been for the Jesuits. Ignatius Loyola gave this direction to the order which he founded, and the programme of studies, which dates from the end of the 16th century, is in use, with certain modifications, in English Jesuit schools at the present day. In 1550 the first Jesuit school was opened in Germany; in 1700 the order possessed 612 colleges, 157 normal schools, 59 noviciates, 340 residences, 200 missions, 29 professed homes, and 24 universities. The college of Clermont had 3000 students in 1695. Every Jesuit college was divided into two parts, the one for higher the other for lower education,—the *studia superiora*, and the *studia inferiora*. The *studia inferiora*, answering to the modern gymnasium, was divided into five classes. The first three were classes of grammar (rudiments), grammar (accidence), and syntax, the last two humanity and rhetoric. The motto of the schools was *lege, scribe, loquere*,—you must learn not only to read and write a dead language, but to talk. Purism was even more exaggerated than by Sturm. No word might be used which did not rest upon a special authority. The composition of Latin verses was strongly encouraged, and the performance of Latin plays. Greek was studied to some extent; mathematics, geography, music, and the mother tongues were neglected. The *studia superiora* began with a philosophical course of two or three years. In the first year logic was taught, in the second the books of Aristotle *de celo*, the first book *de generatione*, and the *Meteteorologica*. In the third year the second book *de generatione*, the books *de anima*, and the *Metaphysics*. After the completion of the philosophical course the pupil studied theology for four years. The Jesuits used to the full the great engine of emulation. Their classes were divided into two parts, Romans and Carthaginians; swords, shields, and lances hung on the walls, and were carried off in triumph as either party claimed the victory by a fortunate answer. It would be unfair to deny the merits of the education of the Jesuits. Bacon speaks of them in more than one passage as the revivers of this most important art. *Quum talis sis utinam noster esses*. Descartes approved of their system; Chateaubriand regarded their suppression as a calamity to civilization and enlightenment. They were probably the first to bring the teacher into close connection with the taught. According to their ideal the teacher was neither inclosed in a cloister, secluded from his pupils, nor did he keep order by stamping, raving, and flogging. He was encouraged to apply his mind and soul to the mind and soul of his pupil; to study the nature, the disposition,

the parents of his scholars; to follow nature as far as possible, or rather to lie in wait for it and discover its weak points, and where it could be most easily attacked. Doubtless the Jesuits have shown a love, devotion, and self-sacrifice in education, which is worthy of the highest praise; no teacher who would compete with them can dare do less. On the other hand, they are open to grave accusation. Their watchful care degenerated into surveillance, which lay-schools have borrowed from them; their study of nature has led them to confession and direction. They have tracked out the soul to its recesses, that they might slay it there, and generate another in its place; they educated each mind according to its powers, that it might be a more subservient tool to their own purposes. They taught the accomplishments which the world loves, but their chief object was to amuse the mind and stifle inquiry; they encouraged Latin verses, because they were a convenient plaything on which powers might be exercised which could have been better employed in understanding and discussing higher subjects; they were the patrons of school plays, of public prizes, declamations, examinations, and other exhibitions, in which the parents were more considered than the boys; they regarded the claims of education, not as a desire to be encouraged, but as a demand to be played with and propitiated; they gave the best education of their time in order to acquire confidence, but they became the chief obstacle to the improvement of education; they did not care for enlightenment, but only for the influence which they could derive from a supposed regard for enlightenment. Whatever may have been the service of Jesuits in past times, we have little to hope for them in the improvement of education at present. Governments have, on the whole, acted wisely by checking and suppressing their colleges. The *ratio studiorum* is antiquated and difficult to reform. In 1831 it was brought more into accordance with modern ideas by Roothaan, the general of the order. Beckx his successor has, if anything, pursued a policy of retrogression. The Italian Government, in taking possession of Rome, found that the pupils of the Collegio Romano were far below the level of modern requirements.

It may be imagined that, by this organization both Catholics and Protestants were apt to degenerate into pedantry, both in name and purpose. The school-master had a great deal too much the best of it. The Latin school was tabulated and organized until every half hour of a boy's time was occupied; the Jesuit school took possession of the pupil body and soul. It was, therefore, to be expected that a stand should be made for common sense in the direction of practice rather than theory, of wisdom instead of learning. Montaigne has left us the most delightful utterances about education. He says that the faults of the education of his day consist in over-estimating the intellect and rejecting morality, in exaggerating memory and depreciating useful knowledge. He recommends a tutor who should draw out the pupil's own power and originality, to teach how to live well and to die well, to enforce a lesson by practice, to put the mother tongue before foreign tongues, to teach all manly exercises, to educate the perfect man. Away with force and compulsion, with severity and the rod. John Locke, more than a hundred years afterwards, made a more powerful and systematic attack upon useless knowledge. His theory of the origin of ideas led him to assign great importance to education, while his knowledge of the operations of the human mind lends a special value to his advice. His treatise has received in England more attention than it deserves, partly because we have so few books written upon the subject on which he treats. Part of his advice is useless at the present day; part it would be well to follow, or at any rate to consider seriously, especially his condemna-

Montaigne,
1533-
1592.

tion of repetition by heart as a means of strengthening the memory, and of Latin verses and themes. He sets before himself the production of the man, a sound mind in a sound body. His knowledge of medicine gives great value to his advice on the earliest education, although he probably exaggerates the benefits of enforced hardships. He recommends home education without harshness or severity of discipline. Emulation is to be the chief spring of action; knowledge is far less valuable than a well-trained mind. He prizes that knowledge most which fits a man for the duties of the world, speaking languages, accounts, history, law, logic, rhetoric, natural philosophy. He inculcates the importance of drawing, dancing, riding, fencing, and trades. The part of his advice which made most impression upon his contemporaries was the teaching of reading and arithmetic by well-considered games, the discouragement of an undue compulsion and punishment, and the teaching of language without the drudgery of grammar. In these respects he has undoubtedly anticipated modern discoveries. He is a strong advocate for home education under a private tutor, and his bitterness against public schools is as vehement as that of Cowper.

Far more important in the literature of this subject than the treatise of Locke is the *Treatise of Education* by Milton, "the few observations," as he tells us, "which flowered off, and are, as it were, the burnishings of many studious and contemplative years spent in the search for civil and religious knowledge." This essay is addressed to Samuel Hartlib, a great friend of Comenius, and probably refers to a project of establishing a university in London. "I will point you out," Milton says, "the right path of a virtuous and noble education,—laborious, indeed, at first ascent, but else so smooth and green and full of goodly prospects and melodious sounds on every side, that the harp of Orpheus is not more charming. This is to be done between twelve and one-and-twenty, in an academy containing about a hundred and thirty scholars, which shall be at once school and university,—not needing a remove to any other house of scholarship except it be some peculiar college of law and physics, where they mean to be practitioners." The important truth enunciated is quite in the spirit of Comenius that the learning of things and words is to go hand in hand. The curriculum is very large. Latin, Greek, arithmetic, geometry, agriculture, geography, physiology, physics, trigonometry, fortification, architecture, engineering, navigation, anatomy, medicine, poetry, Italian, law both Roman and English, Hebrew with Chaldee and Syriac, history, oratory, poetics. But the scholars are not to be book-worms. They are to be trained for war, both on foot and on horseback, to be practised "in all the locks and gripes of wrestling," they are to "recreate and compose their travelled spirits with the divine harmonies of music heard or learnt." "In those vernal seasons of the year when the air is calm and pleasant, it were an injury and a sulleness against nature not to go out and see her riches, and partake in her rejoicing with heaven and earth. I should not then be a persuader to them of studying much then, after two or three years that they have well laid their grounds, but to ride out in companies with prudent and staid guides to all the quarters of the land." The whole treatise is full of wisdom, and deserves to be studied again and again. Visionary as it may appear to some at first sight, if translated into the language of our own day, it will be found to abound with sound practical advice. "Only," Milton says in conclusion, "I believe that this is not a bow for every man to shoot who counts himself a teacher, but will require sinews almost equal to those which Homer gave Ulysses; yet I am persuaded that it may prove much more easy in the essay than it now seems at a distance, and much more illustrious if God have so decided and this

age have spirit and capacity enough to apprehend." Almost while Milton was writing this treatise, he might have seen an attempt to realize something of his ideal in Port Royal. What a charm does this name awaken! Yet how few of us have made a pilgrimage to that secluded valley! Here we find, for the first time in the modern world, the highest gifts of the greatest men of a country applied to the business of education. Arnauld, Lancelot, Nicole did not commence by being educational philosophers. They began with a small school, and developed their method as they proceeded. Their success has seldom been surpassed. But a more lasting memorial than their pupils are the books which they sent out, which bear the name of their cloister. The *Port Royal Logic*, *General Grammar*, *Greek*, *Latin*, *Italian*, and *Spanish Grammars*, the *Garden of Greek Roots* which taught Greek to Gibbon, the *Port Royal Geometry*, and their translations of the classics held the first place among school books for more than a century. The success of the Jansenists was too much for the jealousy of the Jesuits. Neither piety, nor wit, nor virtue could save them. A light was quenched which would have given an entirely different direction to the education of France and of Europe. No one can visit without emotion that retired nook which lies hidden among the forests of Versailles, where the old brick dove-cot, the pillars of the church, the trees of the desert alone remain to speak to us of Pascal, Racine, and the Mère Angélique. The principles of Port Royal found some supporters in a later time, in the better days of French education before monarchism and militarism had crushed the life out of the nation. Rollin is never mentioned without the epithet *bon*, a testimony to his wisdom, virtue, and simplicity. Fénelon may be reckoned as belonging to the same school, but he was more fitted to mix and grapple with mankind.

No history of education would be complete without the name of August Hermann Francke, the founder of the school of Pietists, and of a number of institutions which now form almost a suburb in the town of Halle to which his labours were devoted. The first scenes of his activity were Leipzig and Dresden; but in 1692, at the age of 29, he was made pastor of Glaucha near Halle, and professor in the newly established university. Three years later he commenced his poor school with a capital of seven guilders which he found in the poor box of his house. At his death in 1727 he left behind him the following institutions:—a pædagogium, or training college, with 82 scholars and 70 teachers receiving education, and attendants; the Latin school of the orphan asylum, with 3 inspectors, 32 teachers, 400 scholars, and 10 servants; the German town schools, with 4 inspectors, 98 teachers, 8 female teachers, and 1725 boys and girls. The establishment for orphan children contained 100 boys, 34 girls, and 10 attendants. A cheap public dining table was attended by 255 students and 360 poor scholars, and besides this there was an apothecary's and a bookseller's shop. Francke's principles of education were strictly religious. Hebrew was included in his curriculum, but the heathen classics were treated with slight respect. The *Homilies* of Macarius were read in the place of Thucydides. As might be expected, the rules laid down for discipline and moral training breathed a spirit of deep affection and sympathy. Francke's great merit, however, is to have left us a model of institutions by which children of all ranks may receive an education to fit them for any position in life. The Franckesche Stiftungen are still, next to the university, the centre of the intellectual life of Halle, and the different schools which they contain give instruction to 3500 children.

We now come to the book which has had more influence than any other on the education of later times. The *Emile* of Rousseau was published in 1762. It produced an