

adopted for avoiding it. Why it was never determined to take it out of the way altogether by restricting each character to the expression of a single syllable, was probably due to the same cause as that which makes ourselves cling so tenaciously to our own polyphonus alphabet, the innate conservatism, I mean, of the human mind. At any rate, it was left to a later age and to the foreign borrowers of the Assyrian syllabary to make an improvement which seems to us at once so obvious and so necessary. Up to the last, therefore, an Assyrian character could not only be used ideographically, but also as the representative of several distinct and different sounds. Take, for instance, the character which, as we have seen, meant originally a corpse. As the usual word in Accadian for "a corpse" was *bat*, *bat* remained the usual phonetic value of the character, but besides denoting *bat* it also denoted the syllables *til*, *mit*, and *be*, and might be used to express any one of these sounds whenever the writer willed.

In the eighth century before our era, the Assyrian mode of writing was adopted by the tribes which at that time occupied Armenia on the north, and Media on the east, and the first great reform was introduced into it by restricting each character to the expression of a single syllable. In order to express syllables, however, a good many characters were required; by the side of *ba*, for example, it was necessary to have a *bi*, a *be*, and a *bu*, and accordingly, every one who wished to learn to read and write was obliged to have a good memory. It was reserved for the Persians to make the last improvement in the cuneiform system of writing by ingeniously extracting an alphabet out of it. And the way in which they went to work was this. A certain number of characters was taken, their signification as ideographs translated into Persian, and the particular sound with which each of these Persian words began was assigned to the character as its alphabetic value.

What it required the combined labours of several different races and nations to effect in the case of the cuneiform characters of Assyria and Babylonia was effected unaided and alone by the wonderful people of ancient Egypt. The Ashmolean Museum at Oxford contains one of the oldest monuments of civilisation in the world, if indeed it is not the very oldest. This is the lintel-stone of a tomb which formed the last resting-place of an official who lived in the time of King Sent, of the second dynasty, whose date is placed by M. Mariette more than 6,000 years ago. The stone is covered with that delicate and finished sculpture which distinguished the earliest period of Egyptian history, and was immeasurably superior to the stiff and conventional art of the later ages of Egypt which we are accustomed to see in our European museums. But it is also covered with something more precious still than sculpture, with hieroglyphics which show that even at that remote epoch Egyptian writing was a complete and finished art, with long ages of previous development lying behind it. The hieroglyphic characters are already used not only pictorially and ideographically, but also to express syllables and alphabetic letters, the name of the king, for instance, being spelled alphabetically. In the hands of the Egyptian scribes, however, Egyptian writing never made any further progress. With the fall of what is called the Old Empire (about B.C. 3500) the freshness and expansive force of the people passed away. Egyptian life and thought became fossilised, and through the long series of centuries that followed, Egypt resembled one of its own mummies, faithfully preserving the form and features of a past age and of a life which had ceased to beat in its veins. Until the introduction of Christianity the only change undergone by Egyptian writing was the invention of a running-hand, which in its earlier and simpler form is called hieratic, and in its later form demotic.

But what the Egyptians themselves failed to do was

done by a body of enterprising and inquisitive strangers. For some centuries after the fall of the Old Empire Egypt was given over to decay and intestine troubles, and when it again emerges into the light of history it is under the princes of hundred-gated Thebes in the period known as that of the Middle Empire. It was while these princes were adorning Thebes with temples and granite colossi, and excavating tombs for themselves in the rocks of Beni-Hassan, that a small party of immigrants, only thirty-seven in all, arrived in the Delta about 2,700 years before the Christian era. They were shepherds and cowherds from the coast of Phœnicia or Palestine, and as it were with an instinctive realisation of the great part their kinsfolk were afterwards to play in the history of Egypt, their arrival was commemorated in painting and hieroglyphics on the walls of one of the tombs at Beni-Hassan. There we may still see them portrayed in vermilion and ochre, and trace in their hooked noses and black hair the features of the shepherd-kings who subsequently held Northern Egypt under their sway for 600 years, as well as of the Children of Israel and the later population of the Delta. For a time came when the Egyptians were driven out of the rich and fertile lands of the Delta, the first seat of their power and civilisation, and their places taken by the traders of Tyre and Sidon and the agricultural tribes of Southern Canaan. Henceforward the Delta received a new name among the subjects of the Pharaohs; it was called Caphtor or "Greater Phœnicia," since here the Phœnician Semites found a richer territory and broader lands in which to expand than in their own narrow coast-line at home.

It is to these Phœnician settlers that we owe our present alphabet. They were, as I have said, an enterprising people, and their commercial business soon taught them the value of the writing of which their Egyptian neighbours were possessed. But as became men of business they were a practical people as well as an enterprising one; they felt none of that conservative reverence for the past which prevented change and innovation among the Egyptians, and so when they went to school in Egyptian learning they carried back with them not the whole cumbersome hieroglyphic system with its ideographs, its syllabic values, and its polyphony, but its alphabet only. All else was discarded; they found twenty-two characters sufficient to express all their thoughts and speech, and twenty-two characters only they accordingly kept. These twenty-two characters constitute the so-called Phœnician alphabet, which was handed on by the Phœnicians on the one side to the Hebrews, and on the other side to the Greeks, from whom it has descended through the Romans to ourselves. The Egyptian characters were borrowed by the Phœnicians of the Delta, not in their hieroglyphic but in their hieratic forms, as two or three examples will make self-evident.

(To be continued.)

RECENT PROGRESS IN ANTHROPOLOGY

AT the annual meeting of the Anthropological Institute on January 27, the president, Dr. E. B. Tylor, delivered the anniversary address. He compared the present state of the science with that of a generation ago, as shown in the addresses of 1847-8 delivered by Dr. Prichard to the newly-formed Ethnological Society. In those days it was still commonly believed that the broad-skulled tribes, whose remains are found in our early stone-age burial-mounds, were of the Keltic race; in fact, the so-called Ancient Britons. How backward comparative philology then was is shown by the fact that so eminent a scholar as Colebrooke fancied that Tamil and other Dravidian languages of South India were mere degraded dialects of Sanskrit. Prichard was the founder of English anthropology, but between his time and ours lie two events which have transformed it, namely, the development-

theory, which has rationalised the study of the races of mankind, and the discovery of quaternary man, which has extended human antiquity to a period long enough for the development-theory to work in. Dr. Tylor next proceeded to give an account of the Anthropological Society of Berlin, which, founded ten years ago, has, under the presidencies of Professors Virchow and Bastian, steadily risen to over 400 members, and has done admirable work. Its financial arrangements differ much from those of the English Society, it being housed by the State, and receiving an annual grant from the Minister of Public Worship, through which aid the members receive publications exceeding in value their moderate subscription. Among the contents of its publications for the last few years, special mention was made of the accounts of anthropoid apes in the Zoological Gardens of Germany. The life of Mafuka, who lived some time at Dresden, is among the most instructive of ape-biographies, as illustrating the approach of the anthropoid to the human mind. Knowing how to unlock her cage with the key, she stole and hid it for future use; she took the carpenter's bradawl and bored holes with it through her own table; when pouring drink from a jug into her cup, she would carefully stop short of overfilling it. Her death had an almost human pathos: she threw her arms round the neck of the director, Herr Schopf, kissed him, and then putting her hand in his, lay down and died. Mention was made of Dr. Kulischer's paper on sexual selection in primitive times, which collects more fully than has been done by previous writers; the evidence that a pairing time like that of the lower animals prevailed in rude human society, taking effect especially in festivals held in spring and autumn, as the times of returning warmth and plenty. On these occasions the great feature is the courting-dance, the often-unrestrained proceedings of which are not to be looked on as abnormal orgies, but as simply and undisguisedly natural, forming, indeed, part and parcel of the marriage-system of rude communal society. The courting-dance, though becoming more decorous with advancing culture, has held on with extraordinary tenacity through the history of society. In the middle ages it fully kept its connection with the season-festivals to which it especially belonged, curious relics of which still remain in European villages, for instance, the Ascension-Day festival near Gotha, where the dance under the linden-tree still marks the union of the peasant couples. Dr. Tylor added that the dances of the modern ball-room, however refined and ceremonious, show clear traces of descent from these ruder performances, not only in form, but in actual purpose.

Among matters of pre-historic archæology which of late have attracted attention in Germany are the "high-fields," or "heathen-fields," where the marks of ancient tillage are traced on ground now waste or forest-grown. These resemble the well-known "elf-furrows" of Scotland, but in neither country has the old agricultural race been identified. It is much the same with the "vitrified forts" once supposed to be peculiar to Scotland, but which are now found to be common in Central Europe. In a concluding general survey of the past year's work of the Anthropological Institute itself, particular stress was laid by Dr. Tylor on the contribution of new evidence for the Asiatic origin of the Polynesians, by Mr. Keane and Col. Yule; the minute examination of the Andaman islanders by Prof. Flower tending to prove them representatives of the primitive negro type; the Rev. J. Sibree's account of Malagasy relationships, where the indefinite use of such terms as father and mother points to an early stage of the idea of kinship; Dr. Tuke's investigation of De Rochas' theory that the Cagots of France and Spain owe their exclusion from society, not to being descendants of heretics, but of lepers, real or supposed; and Mr. Worthington Smith's collections increasing the area in England over which palæolithic man is now proved to have lived.

NOTES

WE are again enabled, by the courtesy of General Myer, to present our readers with one of those monthly weather maps for the northern hemisphere, of the value of which we have spoken on several occasions. The present map is for May, 1878, representing the mean pressure, mean temperature, mean force, and prevailing direction of wind, for that month. Our readers will find it both instructive and interesting, as is indicated in our Meteorological Notes this week, to compare it with the corresponding map for April of the same year, which we published in our number for January 29.

AN extraordinary prize of 3,000 francs has been awarded by the French Academy of Sciences to Mr. Crookes, F.R.S., in recognition of his recent discoveries in Molecular Physics and Radiant Matter.

WE are glad to learn that it is intended to commemorate, by a permanent memorial, the distinguished services rendered to science and education by Dr. Thomas Andrews, during the thirty years that he was occupant of the Chair of Chemistry in the Queen's College, Belfast. At a meeting of a highly distinguished character which was held in the Queen's College, it was resolved that the memorial should consist—"Firstly, of a portrait or bust to be placed in the College, and of a replica to be presented to Dr. Andrews's family. Secondly, of a prize or scholarship to be founded in the Queen's College, Belfast, and awarded for high attainment in those sciences in which Dr. Andrews has achieved his distinction." We think that the form which the proposed memorial is to take will commend itself not only to Dr. Andrews's personal friends, but to the wider circle who appreciate his scientific work, and who desire to encourage the studies to which his life has been devoted. Subscriptions to the memorial are invited by the Executive Committee, and will be received by the treasurers, Mr. E. H. Clarke, Belfast Bank, and Mr. W. C. J. Allen, Ulster Bank, Belfast.

IT is announced as certain that M. Krantz, the director of the 1878 Universal Exhibition, will be appointed director of the Conservatoire des Arts et Métiers, and that many improvements will take place on the occasion of his appointment.

NEWS has reached Kew of the arrival of Prof. Bayley Balfour at Aden on January 24. In compliance with instructions from the Admiralty, Capt. Heron, of H.M.S. *Seagull*, arranged to convey Prof. Balfour to Socotra, and the latter hoped to start on February 1 or 2.

THE veteran French chemist, Sainte-Claire Deville, has resigned the professorship at the École Normale of Paris, after having filled it in the most brilliant manner for twenty-nine years. Of his manifold and classical investigations during this period, the most noteworthy were those on aluminium, which, supported by Napoleon III., led to the creation of the aluminium industry; the adaptation and application of the same metallurgical processes to magnesium which created likewise the industry of this metal, and the extensive researches on platinum and its allied metals in company with Debray, in the course of which platinum was fused for the first time. Although, perhaps, of less financial value, still the results obtained by Deville in inorganic chemistry may fairly be placed at the side of the remarkable contributions of his fellow *savant* Pasteur, in the biological department of the same science. His successor is Prof. Troost, whose career as an investigator dates back some twenty-five years. He has likewise confined his attention almost exclusively to the problems of inorganic chemistry, and is best known by long-continued and exhaustive studies on the phenomena of heat connected with chemical reactions.