

M. Ujfalvy for the first time. Apparently these authors have gathered their ideas from the French writers of the last century, whose knowledge of Chinese was confined to such works as the *Bunghien Kanmu*, or even later works of about as much authority as Rollin's "Universal History."

A good deal of interest attaches to the Yueh-ti. Their original name was possibly Viddhal, and they seem to have had some prehistoric connection with the Yádavas, who took part in the Indian immigration. There never was any doubt about their being the same people afterwards known to Greeks and Arabs as Ephthalites and Haithals respectively. With the Yueh-ti were associated in ancient Chinese legend the Mats, or Mat-su, apparently Maddhals, as in Indian lore Maddhu is associated with the Yádavas, and this brings us to the later branch of the Yueh-ti, who in these authors by a strange mistake are called Yetha. Really the name in modern Chinese is Yenta, a very different sound. In the old language it was I'm-dat. Where the first syllable appears frequently doing duty as merely the initial *m*, Da, or rather Dat, where final *t* represents *l*, stands then for Maddhal. This subtribe seems about the fifth century to have been settled in the neighbourhood of Bamian, and, except that it was less civilised than the other branches of the family, to have had little to distinguish it.

Both Greek and Chinese authors concur in describing these Ephthalites as being distinctly blond, with full beards, of a handsome type, and of lively manners. Menander calls the king under whose guidance they crossed the Hindukush Catulphus, at whose Teutonic aspect Colonel Yule expresses surprise. The Chinese, however, name him Kitolo, evidently the same word; most Chinese names consisting of only three words, the remainder is generally omitted in the transliteration of foreign names. Catulphus is, however, evidently the nearest Greek equivalent for Gothic Caedwulf. These allied peoples went amongst the Indians by the common appellation of Hunas, whence the alternative Greek name of White Huns, which has no connection whatever with that of the European Huns of the fourth century, whose swarthy complexions and hairless faces indicate a very different origin. These apparent Gothic connections are not confined to the Ephthalites, but occur throughout, the leader of the Scythians, *ék rjís 'Aólas*, *i.e.* Wusuns, whom Alexander defeated outside Kyropolis, was, according to Arrian Satrakes, the Greek equivalent for Gothic Sietrich.

Of Dr. Haddon's Hoa, evidently derived from some mistaken French transliteration, I cannot even guess the origin. There is no such name to be found in the earlier and more authentic Chinese writers. Dr. Haddon is, however, quite correct in identifying the modern Chinese Yuan yoan, or Jwan Jwan, with the Avars of Gibbon.

Dr. Haddon expresses some surprise at the beardless faces of the later Huna kings; from the appearance of the king depicted on the coin, and its overhanging brows and prominent nose, he certainly did not belong to the smooth-faced races of the extreme north and east of Asia. So we may be sure that the bareness was artificial; it was probably the fashion of the time to shave.

With regard to the type of face and skull represented on the coin of Jayatu Mihirakula, I may remark that I met last night at dinner a gentleman of whom it might be called a portrait. I may describe him almost in Dr. Haddon's words as: Nose large, jaw powerful, neck fleshy, the occipital region of the head deficient, the vertex produced into a truncated cone. This remarkable shape was in his case quite natural. Moreover, with the exception of a moustache his face, as in the coin, was hairless. He had similar overhanging eyebrows, a like marked notch at the bridge of the nose, and an almost identically aquiline nose. His eyes, however, were not oblique, nor had he the slightest trace of the "Tatar," nor did he in any way approach the "Mongolian" type. The gentleman is, in fact, a Parsee of the highest type, polished and affable.

Shanghai, China, March 13. THOS. W. KINGSMILL.

#### Graphic Solution of the Cubics.

THE note by Mr. T. Hayashi, published in NATURE of March 28, suggests to me the following little historical remark. The method given by Mr. Hayashi for the cubics is due to Monge, "Correspondance sur l'École impériale polytechnique," par M. Hachette, vol. iii. p. 201; "Solution graphique de l'équation du troisième degré,  $x^3 - px + q = 0$ ," par M. Monge.

"L'équation proposée résulte de l'élimination de  $y$  entre les deux  $y = x^3$ ,  $y = fx + q$ ; l'une est la parabole cubique, . . .

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l'autre représente une droite. . . . Ayant construit ces deux lignes, les abscisses  $x$  des points où elles se coupent, sont évidemment les racines de l'équation proposée."

Monge gives also a practical construction of the curve on a small sheet of paper *Nil sub sole novi!* G. VACCA, Via Bogino, 4, Torino (Italy).

#### THE WORK OF THE NATIONAL ANTARCTIC EXPEDITION.

THE final programme of the scientific work of the National Antarctic Expedition had not been arranged at the date of my departure from England, as the Joint Committee of the Royal Society and the Royal Geographical Society had not issued its full instructions as to the route and plan to be adopted. A provisional summary may, however, be useful by calling forth suggestions while there is yet time to use them.

#### FIELD OF OPERATIONS.

It is, perhaps, hardly necessary to remark that it is not the object of the expedition to reach the South Pole, but to investigate the Antarctic regions; and though some of the problems cannot be solved unless the existing southern record is broken, the expedition is not being equipped especially for the attainment of much higher latitudes than have already been reached. Had that been one of the main objects of the expedition, either the ship might have been sent southward on a different line, or the expedition would have been provided with greater sledge-hauling power.

The operations of the British expedition are restricted to the half of the Antarctic area east of the meridians of  $90^\circ$  E. and  $90^\circ$  W., *i.e.* to the region south of Australia and the Pacific. The western half, including the region south of America, the Atlantic and Africa, is to be explored simultaneously by the German expedition under Prof. von Drygalski, by a Swedish expedition under Dr. O. Nordenskjöld, and, it is hoped, also by a Scotch expedition under Mr. W. S. Bruce. This division of the field of work between the British and German expeditions was proposed at the Geographical Congress at Berlin, and has now been accepted on both sides and the plan of work arranged accordingly. So far as can be judged with our present knowledge, this plan, other things being equal, gives the German expedition the chance of the most striking geographical discoveries and the British expedition the opportunities for a richer harvest of scientific results.

The scientific work of the expedition is directed to cover as wide a field of research as is consistent with the essential objects of the expedition. Of these the object of primary importance is the study of terrestrial magnetism. It was upon the need for work upon this subject that the appeal to the Treasury for funds was based, and it was to enable the magnetic observations to be properly made that it was thought advisable to provide a new ship rather than adopt the less expensive course of adapting an existing whaler. A new ship—the *Discovery*—has accordingly been built by the Dundee Ship-building Co. She is a modified whaler of somewhat more than 1500 tons displacement, and with engines of 450 horse power.

The staff of the expedition is as follows:—The executive staff consists of Commander R. F. Scott, R.N., commander of the expedition; Lieutenant Albert Armitage, R.N.R., who distinguished himself in the Jackson-Harmsworth expedition to Franz-Josef Land, second in command and navigator; Lieutenants Roysds, Barne and Shackleton; and Mr. Skelton, engineer. The civilian staff consists of Mr. T. V. Hodgson, formerly of the Plymouth Biological Laboratory and curator of the Plymouth Museum, biologist; Dr. R. Koettlitz, botanist; Mr.