

## SCIENCE:

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## CURRENT NOTES ON ANTHROPOLOGY. — VIII.

[Edited by D. G. Brinton, M.D., LL.D.]

## The Palæo-Ethnology of Mahgreb.

UNDER the name Mahgreb (*Beled el Mahgreb*, Land of the West) the Arabs distinguish that portion of Africa west of the Nile Valley, and north of the southern boundary of the Sahara, from the Soudan (*Beled es Sudan*, Land of the Blacks). It is a convenient geographic term, and as we have adopted Soudan we may as well also take Mahgreb, especially as it is a well-marked ethnic area. It is and has been from time immemorial the home of the Berber, or Hamitic, or Proto-Semitic peoples, as they have variously been termed.

In a late number (April 9) of the *Revue Scientifique*, A. Chatelier gives an admirable summary of the prehistory of this region. Signs of Palæolithic man abound in all parts, carrying his residence far back into the quaternary, when quite different geographic distributions of water and climate prevailed from the present. He was succeeded, apparently without a hiatus, by neolithic communities, who developed the art of stone-implement making to great perfection. Their numerous workshops and village sites occur on the watered lowlands, showing that the physical geography of the country had then reached its present state. The neolithic industry continued to nearly the Christian era, flint chips being found in tumuli overlying Roman remains. There are also many rock-drawings belonging to this period, rude, but revealing Egyptian inspiration in the costumes depicted, the human figures with ibis heads, etc.

But the most striking features of the prehistoric remains are the megalithic structures, the dolmens, menhirs, cromlechs, triliths, stone circles, etc., which are abundantly scattered over the soil from Fez in Morocco to the Tripolitan plateaux, where they abruptly cease, none extending into Egypt. These were undoubtedly constructed by the ancestors of the present Berber population. They not only claim them as the tombs of their forefathers, but to this day some

of the tribes surround their cemeteries with similar stone circles, called *Heuch*. That they were in common use at a late date is proved by the discovery in some dolmens of iron and Roman coins; and that these relics were of contemporary date and not intrusive, is proved by the presence of several structures of this character in southern Tunisia, built on an old Roman road.

That precisely similar megalithic remains are found in Palestine, is explained by the presence there of the Amorites and other true Hamitic tribes; that they can be traced in a continuous line across the Straits of Gibraltar, through northern Spain and France to England and Denmark, and not beyond, offers a suggestive hint concerning the prehistoric migrations of the Mediterranean peoples.

The conclusion which M. Le Chatelier especially impresses on his reader is, that the same Berber stock has possessed Mahgreb, so far as all evidence goes, from the very earliest times of which we have any cognizance down to the present day.

## The Prehistoric Culture and Commerce of the Mediterranean.

Archæological research is rapidly dispelling the erroneous notions that the early civilizations of the Mediterranean were derived from Asia or Egypt; and that previous to the mythical advent of Cadmus, or the founding of Carthage and Rome, the coasts of this great sea were peopled by savages. In fact, one of the most brilliant periods of commerce and culture on the Mediterranean was about 1500 B. C. At that date there were several centres on the European shore of high civilization, wholly independent and occidental in their ideals and technique; on the southern shore the Hamitic Libyans and Mauritanians had, by spontaneous development, reached a degree of culture quite up to that of their neighbors, the Egyptians. It is chiefly by the accident that their art-products have been better preserved, that we have hitherto attributed a superior grade of advancement to the latter. There is no reason for believing that the Egyptians were much in advance of the other nations of the Mediterranean basin at the close of the Old Empire. The introduction of metals was what chiefly led to the predominant influence of oriental ideas. This event occurred between 1500 and 1200 B. C.

These opinions, which are now gaining general credence, are well set forth in a volume published lately in London, by Professor W. M. Conway, entitled "The Dawn of Art in the Ancient World." It would be easy to support his views by abundant evidence.

## On Ethnic Nosology.

Differences in races are not confined to matters of anatomy and physiology, but show themselves to a marked degree in special liability to, or immunity from, certain classes of diseased conditions. This has attracted the attention of the medical profession from time to time, but only recently, since the discriminating traits of races have been more closely studied, has it received proper attention. In this country the practitioner who has treated of it most extensively is Dr. Albert S. Ashmead, of New York City. His articles on racial immunity and inoculation, on the ethnic extension of syphilis, leprosy, tuberculosis, yellow and scarlet fevers, have appeared in various medical journals, and embody a mass of instructive observations on the relative presence of these complaints in different peoples.

The study of the causes of racial immunity from disease has a very practical side. When we find, for instance, that

the Japanese are not liable to scarlet-fever, and the negroes are equally exempt from yellow-fever, if we could ascertain what condition it is that confers upon them this exemption, we might be able to take a long step in the direction of personal and general prophylaxis. There is no more vital question, none more attractive to the most active minds of the medical profession to-day, than this of immunity; and in the direction of ethnic immunity there lies a wide avenue for investigation promising to lead to results of the utmost utility to the health and welfare of mankind.

#### The Builders of the Great Zimbabwe Ruins.

Among the auriferous reefs of Mashona-land, in south-western Africa, about  $20^{\circ}$  south latitude, are found a number of remarkable ruins of well-built stone cities, towers, and forts, which have long been an enigma to archæologists. Needless to say, they were not constructed by any Austafrican people; no negro or negroid race ever built stone walls voluntarily. The problem seems to be solved by the researches of J. Theodore Bent, which are published in the last number of the Proceedings of the Royal Geographical Society. He visited and explored the ruins of the largest city, called the Great Zimbabwe. This being a word of the local dialect, meaning krall or town.

His excavations show that these ruins were built and occupied by a people engaged in gold-mining. Crucibles and smelting furnaces were found, and in the vicinity "millions of tons" of quartz have been worked over. The stone work is massive, very firm, the stones often carved and decorated, and the sites usually of great strategic strength. Many images of birds, carved in stone, and also many phalli, in the same material, were unearthed. Pottery was abundant, the fragments often decorated with neat designs of animals, plants, and scenes from life. No coins were exhumed, and no inscriptions discovered, except some rude scratchings on a bowl, which resembled Ogham characters. What is significant, is the presence in the *débris* of Persian and Chinese Celadon pottery, which is not of very ancient date. Bent's conclusion is that the gold-seekers were Himyarites from southern Arabia, and that their settlements were destroyed by the savage Zenj from Abyssinia about the ninth century of our era.

Many consider this to be the Ophir of the Hebrews. An interesting visit to it, not mentioned by Bent, is described in the *Verhandlungen* of the Berlin Anthropological Society for 1889, carried out by a young German named Posselt. Both accounts present engravings of carved stones, figures of birds, etc.; but it is singular that neither explorer could find a single grave or skeleton of this ancient people.

#### THE PROPER MOTIONS OF THE STARS.<sup>1</sup>

BY W. H. S. MONCK.

SOME time since I pointed out in the columns of the *English Mechanic* the great preponderance of proper motions in diminishing right ascension in certain catalogues which I examined. I have now examined O. Struve's great Pulkova Catalogue, which contains the proper motions of nearly 2,500 stars, with a similar result. About two-thirds of these motions are in decreasing right ascension. I suspect that the sidereal year has been under-estimated by a small fraction of a second, in consequence of which a star whose proper motion is really insensible appears to have a small motion in decreasing right ascension. The effect of

the sun's motion in space is very evident in the Pulkova Catalogue. The right ascension of the apex of the sun's way (the Americans use the shorter term, goal) may be roughly taken at 18 h. The effect will be to produce an apparent motion in diminishing right ascension on all stars between 6 h. and 18 h., and an apparent motion in increasing right ascension on all stars between 18 h. and 6 h. Diminishing right ascension predominates in both cases, while in the latter the excess is only about 20 per cent.

I noticed, however, a curious fact as regards the motions in North Polar distance. The sun's motion produces an apparent increase in North Polar distance in all parts of the sky save the portions situated between the apex and the North Pole on the one hand, and between the antapex and the South Pole on the other. But taking the right ascension of the apex at 18 h., as before, the motions in North Polar distance ought to be symmetrically situated between 6 h. and 18 h. and between 18 h. and 6 h. But this is not the case. Between 18 h. and 6 h. the proportion of increasing to diminishing North Polar distances is two to one, while between 6 h. and 18 h. it is only about four to three. It occurred to me that this difference might arise from some special drift in the stars of the Galaxy, of which a comparatively small number lie between 6 h. and 18 h. in the Pulkova Catalogue, which deals chiefly with northern stars. I accordingly tried Mr. Stone's "Catalogue of Southern Stars," which so far verified my conjecture. The great preponderance of increasing North Polar distances in it lie between 6 h. and 18 h., and the relative proportions are not very different from those in the Pulkova Catalogue reversed. Further examination will be necessary to clear up the question; but I venture to suggest that the Galaxy has a southerly drift relatively to the majority of the non-Galactic stars, and that we would obtain different goals for the sun from the Galactic and the non-Galactic stars.

May I add that in dealing with the fixed stars our present unit of distance—a year's light-passage—seems to me inconvenient. Besides the advantage of having a space unit instead of a time unit, and the existence of some little uncertainty as to the rate of propagation of light; we must recollect that our standard of measurement is the distance of the sun from the earth. The time occupied by light in traversing this distance is uncertain to the extent of at least two or three seconds, and the difference becomes considerable when we are considering very remote bodies. I venture to suggest as a better unit the distance of a star having an annual parallax of 1". This distance is 206,265 times that of the sun. The distance of  $\alpha$  Centauri on this scale is about 1.33 and Sirius about 2.5. We should seldom, if ever, have to use numbers as high as 1,000, and the reciprocal of the parallax expressed in fractions of a second would in all cases give the distance.

#### THE PEAR-TREE PSYLLA.

BY J. A. LINTNER.

UNTIL within a few years the pear-tree has been remarkably free from insect attack, the amount of injury from such source being probably less than five per cent of that to which the apple has been subjected. Recently two pests have forced themselves upon the notice of pear growers, which have already inflicted serious losses, and threaten, unless arrested, greatly to interfere with the cultivation of this most excellent fruit. Of these, the pear midge, *Diplosis pyrivora*, which was introduced in this country about the year 1880,

<sup>1</sup> From the *English Mechanic*, May 27.