

decided to meet next year, if possible, at the same time and place as the Naturalists, and the Council was given power to decide the question of a closer affiliation.

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Secretary for 1894.

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#### CURRENT NOTES ON ANTHROPOLOGY, NEW SERIES—I.

##### THE 'MISSING LINK' FOUND AT LAST.

No publication of late date is likely to excite more interest than a quarto of forty pages which has just been issued from the local press of Batavia, with the title, '*Pithecanthropus Erectus. Eine Menschenähnliche Uebergangsform aus Java.* Von Eug. Dubois, Militärarzt der Niederland. Armee.'

This noteworthy essay contains the detailed description of three fragments of three skeletons which have been found in the early pleistocene strata of Java, and which introduce to us a new species, which is also a new genus and a new family, of the order of primates, placed between the *Simiidae* and *Hominidae*,—in other words, apparently supplying the 'missing link' between man and the higher apes which has so long and so anxiously been awaited.

The material is sufficient for a close osteological comparison. The cubical capacity of the skull is about two-thirds that of the human average. It is distinctly dolichocephalic, about 70°—and its *norma verticalis* astonishingly like that of the famous Neanderthal skull. The dental apparatus is still of the simian type, but less markedly so than in other apes. The femora are singularly human. They prove beyond doubt that this creature walked constantly on two legs, and when erect was quite equal in height to the average human male. Of the various differences which separate it from the highest apes and the lowest men, it may be said that they bring it closer to the latter than to the former.

One of the bearings of this discovery is upon the original birth-place of the human race. The author believes that the steps in the immediate genealogy of our species were these: *Prothyllobates*: *Anthropopithecus Sivalensis*: *Pithecanthropus erectus*: and *Homo sapiens*. This series takes us to the Indian faunal province and to the southern aspects of the great Himalayan chain, as the region somewhere in which our specific division of the great organic chain first came into being.

##### THE ANALOGIES OF RELIGIOUS SYMBOLISM.

A LEARNED Hungarian lady, Madame Sofie von Torma, has lately published an interesting little work, a prologue to a large one, in which she points out a number of close analogies or even identities between the symbols and myths of primitive peoples. Its title '*Ethnographische Analogieen; ein Beitrag zur Gestaltungs und Entwicklungsgeschichte der Religionen*' (Jena, 1894).

Beginning with the study of local archaeology, she soon found that the analysis of her home relics took her back to ancient Arcadian and Egyptian prototypes, and the question arose, In what way were they related? To this it is her intention to devote an extended research; and in the volume before us, she states with force and brevity the many remarkable similarities she has noted, and presents the inquiries to which they give rise. The text is accompanied with 127 illustrations.

##### ETHNIC AFFILIATIONS OF THE JAPANESE.

AFTER a great deal of rambling discussion as to the ethnic relationship of the Japanese, it is gratifying to find a writer who has touched bottom at last, and brings a satisfactory theory with plenty of good evidence to support it. The writer is Dr. Heinrich Winkler, who, in his little pamphlet, *Japaner und Altaier* (Berlin, 1894), offers a solution of the problem which is certainly bound to stand.

He has studied the Japanese both from the anthropometric and the linguistic side. He points out that they present many and positive physical differences from the Chinese type, and can not be classed as a Sinitic people. On the other hand, the measurements bring them into close parallelism with the northern Ural-Altaic peoples, to that group which includes the Samoyeds, the Finns, the Magyars and, in a less degree, the Tungoose. This affiliation is strikingly supported by a careful comparison of languages. There is not a marked morphological trait of the Japanese tongue which is not also found in this Sibiric group. Dr. Winkler rehearses them with brevity and force. What is more, in the opinion of some, the material portion of the language, its vocabulary and radicals, present so many identities with this Ural-Altaic group that their primitive oneness must be conceded.

This, however, is not to be understood as if the Japanese was the Altaic *Ursprache*; but only as one of the children of a common mother, each of which has pursued independent lines of development, though always retaining the family characteristics.

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#### HYGIENE.

##### THE NEW SERUM TREATMENT FOR DIPHTHERIA.

By cultivating the specific bacillus of diphtheria in broth, there is developed in the liquid a peculiar product, which is known as the toxine of this bacillus. When an extensive growth of the bacillus has occurred, so that a considerable quantity of this toxine is developed, the fluid is filtered through a porcelain filter, which permits the soluble toxine to pass through, but retains the bacilli.

If this filtered fluid is sufficiently strong,  $\frac{1}{10}$  of a cubic centimeter of it will kill a

guinea pig weighing 500 grammes, in from 48 to 60 hours. The effect produced is in proportion to the quantity injected, just as for any chemical poison, differing in this respect from the action of a fluid containing the bacilli themselves, which might multiply in the body. The bacilli in the fluid might be killed by heating, but this would also decompose the toxine; hence the separation is effected by simple filtration, or by the addition of some substance like tricresol which will kill the bacilli without affecting the toxine.

If small quantities of this toxine be injected under the skin of an animal, commencing with a dose which is not fatal and gradually increasing it, the animal gradually becomes immune to the effects of the poison and after several successive injections can receive a very strong dose without injury. The blood serum of an animal thus rendered immune against diphtheria has the power to confer a similar immunity on other animals if given in sufficient quantity in one dose, thus doing away with the need for the repeated and carefully graduated injections required to produce immunity in the first animal.

To obtain such an anti-diphtheritic serum to be used on man, a horse is injected with the solution of toxine, commencing with from 2 to 5 cubic centimeters and increasing the dose at intervals until within three months as much as 250 cubic centimeters may be injected without producing any serious effect. The horse is more resistant than many other animals to the action of the diphtheritic poison, being naturally somewhat immune. The blood serum of the horse produces no harmful effects on man, if injected in small doses, and it can readily be obtained in considerable quantities without killing the animal.

This serum, taken from a horse which has thus been rendered immune, will not only produce a temporary immunity in man