bodies of silkworms fed with potassium nitrite and yet remaining healthy. It was found that such a worm contained 0·67 mgm. of combined hydroxylamine per 1 kgm. fresh body-weight. But the untreated, normal worm contained about one-seventh of the oxime present in the treated worm.

In the second experiment, the silkworms were fed with sodium nitrite instead of potassium nitrite. The concentration of sodium nitrite solution, however, was 1·5–2·5 per cent. The procedure was the same as in the previous experiment. In this experiment only 10 per cent of treated worms were attacked by the virus disease. This result is perhaps to be attributed to the lower concentration of nitrite used. The oxime content in the body of the worm was much increased by feeding with sodium nitrite.

In supplementary experiments I found that the feeding of nitrates and ammonium salts causes an increase of oxime content in the silkworm. In all these experiments great care was taken to avoid contamination by viruses or micro-organisms. So far as I know, the results of the present study offer the first case showing that, in an animal body, nitrogen in the form of inorganic salts in foods can be converted into organic nitrogen. Hence these animals can utilize inorganic nitrogenous compounds as nutritive substances.

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South African Fossil Anthropoids

A REPORT has just been published[1] of the Fourth Summer Seminar in Physical Anthropology held in New York at the end of August 1949 under the auspices of the Viking Fund. The evolutionary significance of the South African fossil anthropoids (Australopithecinæ) was discussed at several of the meetings, and at one I gave a short account of some comparisons, made by the appropriate statistical methods, and in collaboration with my colleague, Mr. E. H. Ashton, between the dimensions of the teeth of the fossils and those of existing apes. The conclusions to which they point disagree with the claims of a number of workers[2] that in their size and shape the fossil teeth are in general more hominid than anthropoid. Comparisons made dimension by dimension and index by index have revealed few significant differences from all three types of extant great ape. Thus, of seventy-five dental characters of *Plesianthropus*, only four differed from the gorilla and none from the orang; and of twenty-six of *Australopithecus prometheus* none differed from either the gorilla or orang-outang.

The account of my remarks in the report of the meetings is associated with the observation that unit comparisons of the kind referred to may be misleading, and that comparisons should be made tooth by tooth —rather than dimension by dimension or index by index—not only with apes but also with man. Tooth by tooth comparisons have been completed, and they show that almost every one of the fossil teeth can be matched in both dimensions and shape by corresponding teeth of the extant great apes. In some cases, moreover, all or many of the teeth of the fossils correspond with those of a single type of modern ape. Thus, of eighteen *Plesianthropus* teeth the dimensions and indices of which have been published, none differs significantly from the orang, and only two from the gorilla. The dimensions of ten teeth of *Australopithecus prometheus* also do not differ from either of these species, while of thirteen teeth of *Paranthropus robustus* the dimensions and indices of which have been studied, all except one do not differ from the orang, and all except three from the gorilla.

The dimensions of the fossil teeth have also been compared with those of the Australian aboriginal, a large-toothed, and with those of the Ancient Egyptian, a medium- to small-toothed, 'race' of *Homo sapiens*. This comparison shows that in their dimensions the teeth of the African fossils resemble those of the two human types far less than they do those of existing apes. A further comparison has revealed the fact that the shape and size of a sample of orang and gorilla teeth taken at random, and constituted so as to correspond with the available fossil teeth of *Plesianthropus* and *Paranthropus*, resemble those of man as closely as, if not more so than, do those of the South African fossil apes.

Full details of the comparisons between the fossil anthropoids and existing apes will shortly be published[3]. The results of the comparisons made with seven types of man will be submitted for publication at a later date.

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Sex and Inheritance in the Serpulid *Pomatoceros triqueter* L.

DURING an investigation of the colours in *Pomatoceros triqueter* L., we have found that this species is a protandrous hermaphrodite. The duration of the male phase of the sexual cycle is subject to individual variation. Some individuals pass through the male phase in less than one month, and then quickly change into the female phase. We have seen many of these animals spawn eggs one week after their last discharge of sperms. Other individuals remain males for months; but—so far as we have been able to see until now—they, too, finally change into females. We have never seen females change into males.

In numerous individuals the terminal plate of the operculum is provided with three divergent chitinous prongs of approximately equal length. Others lack prongs, their opercula having a smooth terminal plate. Breeding experiments have shown that all animals, when young, have opercula without prongs, and they remain so during life. If, however, the operculum is torn off, and a new one is regenerated, it will have prongs on the terminal plate. Consequently all individuals with prongs on their opercula most probably have regenerated opercula.