as to remove all danger of accidental fertilization. The eggs were then allowed to lie in sterilized sea-water for an hour and a half, during which time they showed no sign of having been fertilized. Individual eggs were then cut horizontally, one by one, into an upper nucleated fragment containing the maturation figure, and hence the two centrosomes, and a lower non-nucleated fragment. The latter was subjected to a solution of calcium chloride in sterilized sea-water. After an hour they were replaced in ordinary sterilized sea-water. As a result of this experiment, many, indeed almost all of the non-nucleated fragments produced asters, sometimes single, sometimes in large numbers (in one case more than a score of asters were observed in a single fragment). Many, practically all, asters contained centrioles. No cytasters developed in the control eggs allowed to remain in sterilized sea-water. Sections of the non-nucleated fragments thus treated showed that the asters and centrioles are identical in structure with those of an entire egg subjected to a solution of calcium chloride, while preparations of the corresponding nucleated half demonstrated the presence of the two original centrosomes. No other conclusion, therefore, is possible than that the centrioles of the non-nucleated half have been formed *de novo*. The experiment, I think, verifies the conclusion reached in Wilson's experiment, and is contrary to the negative result recently published by Petrunkewitsch. A detailed presentation of the evidence will be given hereafter.

N. Yatsu.

EARLIEST NOTICE OF AMERICAN PROBOSCIDEA.

The opinion is current and appears to be well founded that vertebrate paleontology in this country had its beginning in Thomas Jefferson's description of 'mammoth' remains from Virginia in 1787,* and of the bones of Megalonyx a dozen years later.

So far as scientific investigation goes, this is undoubtedly true, yet it is interesting to recall that fossil elephant remains have been known from the western world for a much longer period, and from Europe (Sicily) since at least the days of Empedocles of Agrigentum.

Not only was Columbus particularly enjoined by the Spanish sovereigns to bring back with him from America all manner of natural products, but in later years Hernandez, private physician to Philip II., and other distinguished functionaries were sent to Mexico for the special purpose of reporting upon the vegetable and zoological curiosities of the country. It was by these travelers, amongst the most prominent of whom besides the afore-mentioned were Oviedo, Acosta and Garcilaso, that fossil proboscidean remains were collected on the elevated plateaux of Mexico, Peru and elsewhere.

Detailed references are given in the second volumes respectively of Cuvier's 'Ossemens Fossiles' and Humboldt's 'Cosmos' to various old Spanish works in which these fossils were described as belonging to a race of human giants, the localities furnishing them being called '*Campos de Gigantes.*' The absurd discussions of '*Teutobochus rex*' in the early part of the seventeenth century are of interest only for revealing the crude state of natural science at that period. C. R. E.

*'Notes on the State of Virginia' (London, 1787).

CURRENT NOTES ON METEOROLOGY.

TEMPERATURE IN CYCLONES AND ANTICYCLONES.

At the 1904 meeting of the British Association, Mr. A. Lawrence Rotch summarized the results of observations obtained at Blue Hill Observatory during 34 kite flights, at different seasons, in areas of high and low pressure, up to about 12,000 feet. The mean decrease of temperature, computed by stages of 1,600 feet, is nearly constant, averaging 1° F. in 376 feet of ascent. Whether the whole column of air in a cyclone is warmer than the corresponding air in an anticyclone (as the convectional theory requires) depends chiefly upon whether its initial temperature at the ground is higher than that of the anticyclone, which is usually the case. If the data obtained from kite flights on consecutive days be plotted for the same height, as was first done at Blue Hill in 1899, it is seen that up to the height of 12,000 feet it is generally warmer at all levels over