

cepted the position of professor of anatomy in the medical school of the University of Oregon.

## DISCUSSION AND CORRESPONDENCE

### OSTEOMYELITIS IN THE PERMIAN

It is always an interesting matter to be able to call attention to the earliest appearance in geological time of any phenomenon of nature which is common at the present time. It is especially important in ancient pathology to point out the similarity in form of the results of infective processes of ancient times with those of recent epochs. It is evident that the results of pathological processes have undergone no particular evolutionary change and one untrained in the study of fossil objects is able to recognize an example of osteomyelitis from the Permian if he is acquainted with modern pathology.

The present specimen which shows this interesting phase of pathology is a posterior dorsal spine of a reptile of the *Dimetrodon* type and was collected in the Red Beds of Texas by Mr. Paul C. Miller, of the University of Chicago. The spine had been fractured near its base in a simple transverse break, the line of which is still evident, and from an ensuing infection a chronic osteomyelitis developed in the shaft of the bone producing a sinus-filled tumefaction which is to-day so characteristic of that condition. This argues for the presence of infective bacteria during the Permian such as have been demonstrated by the magnificent researches of Renault in the Paleozoic of France.

This is the oldest vertebrate fossil showing the results of infection which has been seen or described, as it is likewise the oldest example of osteomyelitis. These statements apply only to fossil vertebrates for I have not sufficient knowledge of invertebrate forms to make a sweeping statement covering all fossil forms, but so far as my studies go I have seen no example of bacterial infection during the life of any Paleozoic form older than the reptile referred to above. This of course brings up the question as to the existence of a very mild form of pathology during the early geological

periods. The entire problem of early pathology is, however, still an open one and hasty conclusions must not be made on insufficient data.

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### THE CHROMOSOMES OF CONOCEPHALUM CONICUM

DURING the winter and spring of 1919-20 a study was made of the chromosomes of *Conocephalum conicum* for the purpose of determining whether or not there exists any visible difference between the chromosome groups of the two sexes. No such difference was found, but the chromosome number (haploid) is plainly nine instead of eight as reported by Farmer, Bolleter, and Escoyez. One of the chromosomes is very minute and may have been overlooked by these workers, or there may possibly be a difference in respect to the chromosome number between the European and the American races which are ascribed to this species. It is planned to secure plants from different localities and continue the study with reference to the chromosome number.

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### THE COST OF GERMAN PUBLICATIONS

TO THE EDITOR OF SCIENCE: Concerning this topic I may be allowed, as one not long ago from a neutral country, to answer Mr. Howe's and Mr. Dock's letters (SCIENCE, Nov. 26, 1920, and Dec. 24, 1920, resp.) as follows:

When, before the war, the Germans sold goods to this country at a lower price than they were sold in Germany, this fact was much resented here.

When nowadays, after the war, the Germans sell goods to this country at a higher price, nominally, than they are sold in Germany, this fact is much resented here again.

Note the inconsistency!

If German books could be imported into this country at prices prevailing in Germany