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

the result, most probably, would be that the American publishers would urge Congress to put high import-duties on them, as has been the case with scientific instruments. Or else, another group of people would get alarmed at the flood of German literature coming into the country and would interpret it as a revival of German propaganda.

In either case it is easy to conjecture as to who is finally to become the loser. There is no doubt but that in either case the scientist will suffer the most, the broad-gauge scientist who holds the view that science has no political limits or national boundaries.

Only a week or so ago I received a letter from my German book-dealer, a prominent publisher, by the way, who has from the start strongly opposed the placing of any surtax, whatsoever, on the export of German books and publications. He informed me that at last the German government has urged the "Börsenverein des deutschen Buchhandels" (the central organization that controls the price of books in Germany and abroad) to lower its export-tax (Valuta-zuschlag). The suggestion was acted upon favorably by this organization and as a result the tax has been lowered and fixed, for the time being, at 200 per cent. above the current price in Germany. To all appearances this percentage is not likely to go any higher since the rate of exchange, which has so far determined the surtax, has an upward trend. *Even at the present rate a German book would cost much less in this country than before the war.*

Before one may pass judgment on the cases that seem discriminatory to the disadvantage of the foreign buyer in favor of the German, one should consider the fact that nowadays and for a long time to come, the outlay for a book of say 60 marks entails a much greater sacrifice for the German scientist than three times or even five times that amount in German marks to the scientist in America.

It is the principle of "Relativity" that should guide us more in our judgments if they are to be unbiased.

The German publisher to whom I have referred, Dr. W. Engelmann of Leipzig, has likewise informed me that he, at least, has abolished all foreign surtaxes on journals published by his firm. (It is a matter of regret to him that he is not (yet?) at liberty, owing to the binding regulations of the "Börsenverein" to do the same with his own books.) Nevertheless he finds it hard to get as few as 150 subscriptions to some of his publications, a modest figure indeed, the attainment of which is necessary to continue the publication of such invaluable periodicals as the *Zeitschrift für wissenschaftliche Zoologie;* Groth's *Zeitschrift für Kristallographie und Mineralogie,* (now under the editorship of the eminent Swiss mineralogist, Professor P. Niggli, of Zürich); the *Botanische Jahrbücher;* and others. Two or three dollars in German money now enables an American scientist to take out a personal subscription for a whole year. I trust an appeal to internationally minded scientists and others is not out of place here. Subscriptions for foreign periodicals are needed and are most timely at the present writing in that they will help over times of difficulties such highly important journals of international scope as have been mentioned. Such an aid now is sure to benefit all parties concerned, both immediately and in the future.

In conclusion I may add that another scientific journal of high worth must receive financial support, either through subscriptions or voluntary gifts, if it is to be saved from permanent suspension. I am this time referring to a publication devoted to soils, namely the *International Review of Pedology* or, as it is designated abroad in French and in German respectively: *Revue internationale de pédologie* and *Internationale Mitteilungen für Bodenkunde.* A group of Dutch agricultural chemists have taken steps to insure the continuation of that publication and voluntary gifts and subscriptions are solicited. Correspondence should be addressed to Dr. D. J. Hissink, in care of the Agricultural Experiment Station, Groningen, Holland.

M. W. Senstius

Syracuse University