much as possible. Even this slender resource was not available except in a limited way, because he lacked the apparatus and facilities for carrying on his researches and was almost entirely without recent books and current periodical literature.

The professor conducted me to his study, and there we talked about the special matters connected with my mission. With as much tact as possible, I ventured to express some sympathy with him on account of the conditions under which he and his colleagues had to labor, and volunteered to send him a few books and scientific journals when I got home, at the same time suggesting that perhaps he might write me and advise me how I might be of service in other ways.

A few days ago I got a letter from him referring to various subjects about which we had conversed; one paragraph of it was devoted to the question of aiding German scholars, in compliance with my request. I think conditions have grown rapidly worse since the middle of July when I was in Germany; otherwise, I doubt whether the writer would have alluded to the subject at all. The following is a translation of this portion of the letter:

When you were here this summer, you intimated that among your friends in America there were perhaps some who might be glad to be of aid in some way to German science and its votaries. In this connection you asked me to advise you what was the best way to accomplish this. After mature consideration and consultation with several of my colleagues, I venture to write you as follows on this subject:

Concerning the general scientific situation and needs, such as repair of college, supply of literature, etc., the best method seems to be through the centralized bureau for this purpose established in Berlin (Notgemeinschaft deutscher Wissenschaft, Berlin C2, Schlossportal 3). If you wish to do something special, perhaps you should direct your attention to the domestic needs to which I have alluded already. While this situation affects all of us more or less, naturally it bears more heavily on some than on others. Thus, for example, here in our community a small society has been formed for several years, known as *Dozentenhilfe*, which is in charge of my colleague, Professor Blank, and which is intended to afford temporary relief in cases of extreme need, although it is very inadequate for the purpose. To keep this society going seems to me to be the most important thing to be done at present, because as things are now nobody can foresee what the next months have in store for us and whether far harder and more widespread ills are not impending over us than any we have heretofore learned to bear. With the sudden depreciation of our currency, it is hardly necessary to say that checks and drafts should not be made payable in German marks.

Obviously, for many reasons it would be better to send actual articles of value, especially such necessary things as are needful for a rational and desirable life; because our condition is rapidly nearing the typical starvation stage (*da unsere Zustände sich rapide der typischer Hungersnot nähern*). The number of those things which have disappeared entirely from the market and which are no longer to be had for any money is continually increasing. However, help of this kind is so complicated and difficult to compass that it can not be done effectively on any large scale, after the organization already created for that purpose has ceased to exist.

With warm greetings to you and your son, in which my wife joins, I am, etc.

As the writer did not authorize me to publish his letter, I have felt constrained to suppress the name of his colleague, Professor Blank, and also of the university where the "Dozentenhilfe" is established; but I shall gladly supply this information to any individual who will apply to me for it.

It does not seem necessary to add further comments, as the letter speaks for itself. Germany as a nation may, and doubtless will, recover; but for many individuals, who in some instances are among the most gifted and useful men and women of this time, there is no recovery. Their life and work is as good as ended.

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FURTHER OBSERVATIONS ON THE SEX CHROMOSOMES OF MAMMALS

IN the following note the results of two studies dealing with the sex chromosomes of mammals will be given briefly.[1]

In insect spermatogenesis the sex chromosomes frequently persist during the growth period as densely staining chromatin-nucleoli. In mammalian spermatogenesis it has been generally assumed that the chromatin-nucleoli were of the same character, and a number of observers have sought to determine the type of sex chromosome from a study of these bodies. Very conflicting conclusions have been drawn from a study of the same material, however, and recently Gutherz has presented evidence to show that in the white mouse the chromatin-nucleolus forms an autosome.[2]

In the opossum the writer has followed the chromatin-nucleolus from the time of its first appearance until the telophase of the first maturation division. It forms the X-Y sex chromosomes of the opossum. During the growth period, however, the nucleolus is extremely labile in character and may assume a great variety of forms none of which give any hint as to the final shape which will be assumed in division. Unlike the insects, the X and Y elements of mammals

[1] These studies were carried on under a grant given by the Committee for Research on Sex Problems, National Research Council.

[2] Gutherz, 1923, *Arch. f. mikr. Anat.*

are very intimately associated during the whole growth period.

The sex chromosomes of an old world monkey has been studied in spermatogenesis and in the somatic cells of embryos. The Rhesus maccacus males show 48 chromosomes, one of which is a small ball-like element with no mate of like size or shape, just as the writer found in man and a new world monkey.[3] In the first maturation division there are 23 tetrads and one chromosome made up of two very unequal parts, the larger (X) being rod-like and the smaller (Y) dot-like. The X and Y components segregate to opposite poles of the spindle, just as they do in the case of man.

The somatic cells of male Rhesus embryos (amnion) show consistently 48 chromosomes, including the ball-like Y element and the rod-like X element, neither of which have mates of like size or shape. Female embryos (chorion and brain cells) show consistently 48 chromosomes, but no Y is present and the X is paired.

In the three primates studied so far by the writer (man, a new and an old world monkey) the sex chromosomes have all been of the X-Y type, which were very similar both in form and behavior. The evidence for the Rhesus monkey is complete and makes it certain that the sex chromosomes of the other two forms have been correctly identified.

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SCORPIONS IN NORTH DAKOTA

IT is a well-known fact that scorpions are tropical in their distribution. The receipt in December, 1921, of three immature specimens, sent in by P. C. Arildson from Alexander, McKenzie County, North Dakota, near which point they were found in a lignite mine, was an occurrence of more than usual interest.

The appearance in certain newspapers of an account of the finding of scorpions in the state resulted in the receipt of several letters from persons in western North Dakota, who stated that scorpions had been seen several times previously. All these reports came from that general region known as the "Bad Lands."

Responding to my request for specimens a second instance was reported in the spring of 1922 and a single specimen was sent in from Oakdale, in Dunn County, North Dakota, with the statement that several had been seen near that place during the winter. A third instance of the kind was reported from Golden Valley County, when a single specimen was sent in from Trotters, North Dakota, in November, 1922. Both these localities are on the edge of the "Bad Lands."

[3] *Journ. Exp. Zool.*, Vol. 37, p. 291, 1923; SCIENCE, Vol. LVI, p. 286, September 8, 1922.

All these specimens, except the last, have been referred to Dr. H. E. Ewing, U. S. National Museum at Washington. Dr. Ewing determined the scorpion as *Vejovis boreus* Gir., and wrote that the specimens sent were identical with others of this species from the old Marx collection in the museum, taken from Fort Pierre "Dakota" (South Dakota) years ago. According to Ewing (in litt.), "*Vejovis boreus* is represented in our collection by specimens from Lincoln, Nebraska; Indian Springs, Georgia; Gold Hill, Oregon; Soldier, Idaho; Fort Steele, Wyoming; Arizona; Salt Lake, Utah; and some other specimens with no locality."

Professor J. H. Comstock in his "Spider Book" records 23 species of known scorpions in North America. Of these only one, the species under consideration, is found at all in the northern United States. In the fourth provisional zone map of North America, published by the U. S. Biological Survey, small portions of western North Dakota are indicated as being included in the upper austral zone, the remainder of the state being in the transition zone. From the records at hand it seems likely that this species may belong to the upper austral. There seems to be no previous record in the literature of the occurrence of this order in North Dakota.

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QUOTATIONS

THE PRIESTLEY MEDAL

THE first Priestley Medal of the American Chemical Society has been awarded to Dr. Ira Remsen, President Emeritus of Johns Hopkins University. His achievements in research have been principally within the field of pure science, his discovery of saccharin being little more than an incident among them. Of great importance have been his contributions to the linking of chemistry with medicine. Distinction is also his for his unwearying efforts—and success—in keeping the torch of chemistry alight in this country when the public either could not or would not see that there was illumination in the flame.

Returning from Germany in 1872, he became professor of chemistry at Williams College, where, after earnest pleading, he secured laboratory space eight by ten feet. But in 1876 Johns Hopkins invited him to go to Baltimore as professor, to do his own work in any way he pleased, assured that no one would interfere with him. His organization of the famous department of chemistry in that university has sometimes been referred to as the turning point in the science in the United States. In 1879 he brought out *The American Journal of Chemistry* and edited it