

the packers may overlook this condition very easily. When the tomatoes reach their destination they have become a pink color, the disease has advanced and shows more plainly, for the stem end has then become a dark brown. The inspector notices this and, although there is not much external evidence of disease, he breaks the fruit open and finds a hard brown center. The rot is usually down the center and may extend from stem end to blossom end but sometimes it takes an oblique course and includes a portion of the seeds, darkening them also. There is no slime or ooze.

Bacteria occur in great numbers in the tissues. The same organism was isolated from both the Texas and Nebraska material and the disease was reproduced in green and ripening fruits in the greenhouse, using pure cultures. The dark stem end and hard brown heart formed in the inoculated fruits exactly as in the field. Successful inoculations were obtained last summer by means of needle punctures and this spring good infections have been produced by smearing cultures on the stem and blossom end without puncturing.

Infection occurs mostly at the stem portion where the tough cuticle of the fruit ends, leaving a place where the bacteria can work into the more permeable tissue beneath the calyx. Secondary infection and soft rot may occur with the entrance of fungi and other bacteria. These conditions, however, were found to be rare in the material received. So far as known no infection of the leaves or stem occurs and inoculations on these parts up to this time have been unsuccessful.

The organism causing this disease is a yellow, polar-flagellate species, the biology of which is now under consideration.

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#### HUMAN CONSTITUTION IN RELATION TO DISEASE

It is unfortunate that Dr. Draper in his interesting report of his study of human constitution in relation to disease<sup>1</sup> should give, even in a report of progress, a sample of dangerously inadequate statistics. The average anthropometric measurements of persons suffering from contrasted diseases which he cites do indeed "differ widely"; but any one who has worked with statistics must realize that such differences in averages may none the less be totally lacking

<sup>1</sup> Draper, George. "The Relationship of Human Constitution to Disease," SCIENCE, LXI: 525-528, May 22, 1925.

in significance. We might accept Dr. Draper's statement that the proper measures of reliability and variability had been computed and found satisfactory in accord with accepted standards. But surely it is time that scientists cease the practice of presenting bare averages as if these by themselves were adequate to establish anything at all, even a presumption. I do not suppose Dr. Draper guilty of such statistical ignorance; but when he mentions the fact of distinct overlapping of types, yet fails to give any indication of the extent of overlapping, he clearly gives a wholly misleading impression of the proper way to handle such data.

One other point: Dr. Draper is clearly aware, when treating morphologic and physiologic traits, of the difficulty of finding baseline characters for the assignment of types. But as is unfortunately too common, his caution somewhat deserts him in considering the "psychic panel." Here he seems assured, at least, that there is a definitely marked "feministic trend in their psychic pattern." Psychologists would be glad to know just what this feministic trend is and, particularly, the evidence that it is idiosyncratic.

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#### LITERATURE ON EARTHWORMS

SEVERAL years ago the writer beginning research "on his own" asked for information as to literature on the earthworms (*Oligochaetes*) from the National Research Council and was told by one of its members to get the cards on that group from the Concilium Bibliographicum. The writer ordered these cards with the hope of getting a fairly complete bibliography of papers published during the years covered by the cards. The incompleteness of the references is surprising. For instance, in the years '07-'22 inclusive, titles of 47 articles on Indian forms alone are missing. Of the forty-seven thirty-three were by one man. These appeared in the following journals:

Annals and Magazine of Natural History.....	2
Proceedings of the Zoological Society.....	2
Quarterly Journal of the Microscopical Society	1
Transactions of the Royal Society, Edinburgh	7
Memoirs of the Asiatic Society, Bengal.....	1
Memoirs of the Indian Museum, Calcutta.....	5
Records of the Indian Museum, Calcutta.....	14
Spolia Zeylanica .....	1

It should be noted that the majority of the missing titles contain either the word "Earthworm" or "Oligochaeta."

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