social hygiene, 9 were architectural students and 90 were graduate school teachers. Three diplomas in tropical medicine and two in public health were granted. The course in tropical medicine occupies a period of three and a half months, and corresponds closely to those of London and Liverpool. The faculty of medicine in the university has recognized the importance of the school by appointing its director, Dr. Harvey Sutton, professor of preventive medicine. This is the first chair in Australia in this branch of medicine. A hookworm and filariasis survey of Norfolk Island was undertaken during the month of January, 1931, completing the hookworm survey of the Australian Commonwealth, Papua and the Mandated Territory of New Guinea. This work, which was conducted for a period by the Rockefeller Institute in collaboration with the Commonwealth Government, has been carried on by the Commonwealth Health Department.

THE German Hygiene Museum at Dresden, which sponsored the International Hygiene Exhibition last year on the occasion of the opening of its new building, reports, according to *Museum News*, that 7,200,000 people visited the exhibition from May 15 to October 1, 1930. In view of the world-wide interest, the directors have decided to repeat the exhibition during the same period in 1931. Many of the foreign governments are enlarging their exhibits and it is said that the participation of the United States Government seems to be assured. In the museum itself the exhibits dealing with the health of the mother and child have been amplified and the exhibits on biology and comparative anatomy have been completely revised and enlarged. In anticipation of the exhibition, the museum has opened offices in several cities throughout the world. The American office is in charge of Dr. R. Woerner, at 1880 Broadway, New York City.

DISCUSSION

CRYSTALLINE PEPSIN OF NORTHROP

THE comprehensive investigation of Dr. Northrop on the crystalline pepsin prepared by him justifies the conclusion of the protein nature of this enzyme and makes probable the individuality of the crystalline substance. Its low isoelectric point stands out as the most characteristic property of the substance from the physicochemical view-point. It seemed to us of importance to detect some purely chemical characteristics of the crystalline pepsin, and with the consent of Dr. Northrop such an investigation was undertaken in this laboratory.

In course of the study of the products of hydrolysis of the crystalline pepsin which is now in progress, a peculiarity was found in the composition of this protein which differentiates it from any other protein, namely, the extremely small content of the basic components. Thus, the twice crystallized material contained only 4.65 per cent. of its total nitrogen in the form of basic substances. The significant feature, however, is that the material crystallized five times contained only 3.3 per cent. of its total nitrogen in the form of basic nitrogen.

The conclusion to be drawn, then, is that the crystalline pepsin, in the main, is an individual protein but it probably contains a small admixture of an extraneous protein. We are endeavoring to prepare the crystalline material free from the impurity.

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VITAMIN D IN WHOLE CORN

IN SCIENCE of January 23, 1931, Harris and Bunker[1] reported irregularity in the development of rickets in rats fed on diet No. 2,965 of Steenbock and Black.[2] The authors suggested that this may have been due to the presence of antirachitic factor in the corn contained in the diet.

It is true that of a group of rats fed on the same batch of diet No. 2,965 containing freshly ground whole corn, one or more animals occasionally fail to develop rickets, at least in the usual period of observation. This also holds true for diet No. 3,143 of McCollum,[3] if administered in the form in which it is usually prepared. But most investigators of experimental rickets have attributed this rather unusual occurrence either to a large store of antirachitic factor in such animals or to partial or complete inanition which interferes with the development of the disease. Another possibility that must always be ruled out is the contamination of the cage by a minute amount of very potent antirachitic substance (irradiated ergosterol) that may have been used in a previous experiment. Most investigators of the subject have now had this untoward experience. I am of the opinion that a fourth very likely explanation is the settling out of the calcium carbonate of the diet so that, as consumed by the animal, it does not have the high ratio of Ca to P which is a necessary condition for the production of rickets by this diet. Even if the diet is thoroughly

[1] R. S. Harris and J. W. M. Bunker, SCIENCE, 73: 95, 1931.

[2] H. Steenbock and A. Black, *J. Biol. Chem.*, 64: 263, 1925.

[3] E. V. McCollum, N. Simmonds, P. G. Shipley and E. A. Park, *Am. J. Hyg.* 1: 492, 1921.