obtained if one uses commercial preparations of trypsin instead of crystalline trypsin. That certain commercial preparations of trypsin contain a protease which has different chemical properties from crystalline trypsin prepared according to Northrop[5] can be demonstrated.

Since pancreatic trypsin-inhibitor has an effect on trypsin which is markedly greater than that on chymotrypsin, one could use this inhibitor to distinguish between trypsin and mixtures of trypsin and chymotrypsin. With this in mind it has been shown[6] that a given amount of pancreatic trypsin-inhibitor which markedly inhibits crystalline trypsin has much less effect on trypsin, Fairchild. It is probable that most commercial preparations labelled trypsin are mixtures of trypsin and chymotrypsin.

It has already been proved that heparin has no inhibitory effect upon the protease activity of chymotrypsin.[2, 7] Obviously, then, one can not use an indefinite mixture of trypsin and chymotrypsin[3] to study the effects of heparin on the inactivation of pure trypsin.

Since both chymotrypsin and trypsin are inhibited by blood serum, the above facts may not effect any physiological conceptions of anti-proteolytic activity. A calculation of the relative anti-proteolytic effects of heparin and blood serum indicates that it is hardly likely that the anti-tryptic action of heparin is an important factor in its physiological action. The anti-proteolytic effects of serum is so powerful that for many years it has been customary to use diluted solutions of the serum when testing any anti-protease effects on blood. A ml of heparin solution containing 4 mg of heparin has no more inhibiting power than 0.1 ml of ordinary serum. One would have to assume the presence of about 100 grams of heparin to explain the anti-proteolytic action of serum as being due to this compound, and a similarly large amount if it were due to a substance like pancreatic anti-trypsin. This is probably not the case.

The reported observations of the difference between crystalline trypsin and trypsin, Fairchild, need in no way invalidate past and future work with the latter preparation. We should, however, distinguish between crystalline trypsin and other proteases. This would be especially true in those experiments in which blood clotting is an important factor.

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PLASMODIUM VIVAX CHESSON STRAIN

AN infection of *Plasmodium vivax* was diagnosed in a soldier at Harmon General Hospital in August, 1944. The history of the patient indicated that the infection was contracted in New Guinea during 1944. It was carried on our records as v–1027–N.G.

On August 25, 1944, transmissions by *Anopheles quadrimaculatus* were begun. Observations indicated that this *vivax* infection in man reacted differently to certain drugs than did the St. Elizabeth strain of *P. vivax* which has been extensively used for drug testing. This and other characteristics suggest that it might be a strain distinct from some of the American malarias.

As there are indications that this new strain might be widely used for experimental procedures, it seems desirable to give it a definite designation. The strain is given the name of the patient from whom it was obtained. It, therefore, is designated as the Chesson strain of *Plasmodium vivax*.

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REACTION OF VITAMIN A WITH SUPER-FILTROL

I HAVE read with interest the article under "Scientific Apparatus and Laboratory Methods" entitled, "A New Reagent for Vitamin A," by Arnold Lowman in the February 16 issue of SCIENCE.

Because I am interested in both adsorption and the determination of vitamin A, it occurred to me that the phenomenon of color formation might be due to an impurity which reacted with the vitamin A in the fish oils and which was subsequently adsorbed by the Super-Filtrol. Mr. Lowman's observations were repeated and found to be correct. However, it was also found that when a fish liver oil was added to a suspension of florisil (Floridin Co., Warren, Pa.) no color was formed. When one ml of antimony trichloride in chloroform was added a blue color similar to the one described by Mr. Lowman was formed and immediately adsorbed on the florisil. This was similar in all respects to the super-filtrol preparation. It was also found that when a mixture of florisil and antimony trichloride in chloroform was evaporated to dryness and carefully dried it would react similarly to Super-Filtrol with vitamin A.

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BIOLOGICAL RESEARCH AND PUBLICATION

THE article by Professor Weiss, published in SCIENCE of February 2, is very interesting, but I think too

[5] J. H. Northrop, "Crystalline Enzymes," Columbia University Press, 1939.
[6] M. K. Horwitt, Elgin Papers, 4: 102, 1941.
[7] M. K. Horwitt, *Jour. Biol. Chem.*, 156: 427, 1944.