

upon the colloidal complex of living matter. The compound used in obtaining the results described would have a neutralizing or coagulatory effect on protoplasm. Other reagents, facilitating hydration, have been used on ovaries from which seeds have been obtained, the capacities of which are yet to be tested.

2 (934)

Studies on so-called protective ferments. II. Proteolytic enzyme is not specific.

By J. BRONFENBRENNER.

[From the Pathological and Research Laboratories of the Western Pennsylvania Hospital, Pittsburgh, Pa.]

If the serum of a pregnant woman is placed in a dialyzing thimble together with placenta in all respects as for an Abderhalden test, only at a temperature of 0° C., dialysis does not take place. Both the serum and placenta however undergo certain changes. Such a serum, when separated from the placenta and placed in the dialyzing thimble with fresh placenta, can no more induce any specific changes in placenta. And the placenta once placed in contact with a positive serum on ice and then separated from it, although it is not able to give up dialyzable substances by itself (if suspended in salt solution), acquires the property to do so in presence of any positive or negative, male or female fresh serum. The placenta was evidently "sensitized" and the serum exhausted of the specific substances present in pregnant serum. Moreover such a serum deprived of its specific properties still retains the ability of causing the appearance of dialyzable substances in presence of the sensitized placenta. Evidently we have here complete parallelism between this phenomenon and that of sensitization of erythrocytes by an active hemolytic serum.

In studying the complement activity of a pregnant individual's serum exhausted of its specific elements by the above method, it was found that the complement tends to deteriorate very rapidly, much more rapidly than in the male serum treated in an exactly

similar way. Parallel with the deterioration of the complement and in the inverse proportion, the amount of the dialyzable protein fraction increases. The analysis of this phenomenon which will be described in detail elsewhere, led to the conclusion that the serum of a pregnant woman, treated in the way described above, acquires the ability of digesting itself. Moreover any normal serum placed in contact with "sensitized" placenta acquires the same property, so that the Abderhalden reaction would seem to be composed of two phases: the one—specific—the sensitization of placenta; the other—non-specific—the autodigestion of the serum as a result of the presence of sensitized placenta. Thus the assumption of specific proteolytic ferments of Abderhalden becomes unnecessary.

3 (935)

Studies on so-called protective ferments. III. The Abderhalden reaction is not an adsorption phenomenon.

By J. BRONFENBRENNER.

[From the Pathological and Research Laboratories of the Western Pennsylvania Hospital, Pittsburgh, Pa.]

In the current literature attention has been directed by Plaut,¹ Kjergaard,² Herzfeld,³ Peiper,⁴ Flatow⁵ and others to the fact that kaolin or starch as well as placenta protein if mixed in suitable proportions with any fresh serum is able to produce the appearance of dialyzable substances in the serum. There is no doubt that these experiments show that by the simple adsorption of inorganic substances as well as placenta, serum may be so changed as to give off dialyzable substances. The conclusion however of these authors that therefore the Abderhalden reaction is not specific was premature. For we know that for instance in immunity work, complement may be fixed or inactivated by many inorganic and almost any organic substances (this is why in

¹ Plaut, *Münch. med. Woch.*, 1914, No. 5, p. 238.

² Kjergaard, *Zeit. f. Imfs. Orig.*, XXII, No. 1, p. 31.

³ Herzfeld, *Bioch. Zeitschr.*, 1914, I.

⁴ Peiper, *D. Med. Woch.*, 1914, No. 29, p. 1467.

⁵ Flatow, *Münch. med. Woch.*, 1914, No. 21, p. 1168.