

the injections were made in different rats, and when the same rats were used again, it was only after a long period of rest. Fifteen experiments were made with injections of normal human serum, and twenty-one with menstrual serum, the doses injected ranging from 0.01 cc. to 0.2 cc.

It was found that injections of normal serum produced no effect, or occasionally a slight transient depression. Injections of menstrual serum produced very marked depression of the animals, as manifested by their speed of running, loss of orientation, and numerous errors and frequently there was a distinct paresis of the hind legs. Recovery almost invariably followed in a day or two. Injections with alcoholic extracts of normal blood serum (evaporated and taken up in saline) and of menstrual serum gave exactly similar results as above. The results obtained in the rats were somewhat analogous to those obtained by the authors with cholic acid and cholesterolin derivatives which are closely related to menstrual toxin.³

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A study of the toxin of pernicious anemia.

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In a paper on the toxin of menstruation, Macht and Lubin¹ have shown that by means of phyto-pharmacological preparations, the presence of a poison or toxin in the blood menstruating individuals can be detected. While examining specimens of blood from normal and menstruating women the author happened to test a specimen of blood from a case of pernicious anemia and found it to be highly toxic for plants. The toxicity was even greater than the most toxic specimens of menstrual blood. Inasmuch as the above specimen came from a man it was thought worth while to study other cases of pernicious anemia by the

³ Macht, D. I., and Hyndman, O., *J. Pharm. and Exp. Therap.*, 1924, **xxii**, 467.

¹ Macht, D. I., and Lubin, D., *J. Pharm. and Exp. Therap.*, 1924, **xxii**, 413.

phyto-pharmacological method. A larger series of cases of normal blood and blood from various anemias, as diagnosed clinically and morphologically, were examined and it was found that the blood serum from cases of pernicious anemia behaved differently from that of all the other cases examined.

The tests were made on living seedlings of *Lupinus albus*, described by the author elsewhere. It was found that whereas the index of growth given by a one per cent solution of normal human blood was 75 per cent, the average growth coefficient given by 48 cases of pernicious anemia was 44 per cent; some of the specimens giving as low a figure as 28 per cent and none of them giving a higher figure than 51 per cent. Specimens of severe secondary anemias and specimens obtained from patients suffering with carcinoma, pellagra, lymphatic and myelogenous leukemias, and Hodgkin's disease were all found to be but little toxic for the plants so that the author had no difficulty in diagnosing cases of pernicious anemia by examining unknown samples of blood by the phyto-pharmacological method. These observations seem to speak in favor of a toxic etiology for pernicious anemia. They are also considered by the author of considerable value in making a differential diagnosis of pernicious anemia in doubtful cases; and furthermore they should prove useful to investigators in the search for the causative agent of the disease and its treatment. Fuller details will be published in the *Festschrift* of Professor Abel.

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Penetration of ultra violet rays through animal tissues.

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Studies on the penetration of ultra violet rays for tissues were made on living animals with the quartz spectroscopy and spectrograph. For this purpose rabbits, cats and dogs were used. The animals were anesthetized, the skin of the abdomen was cut open and dissected back on one side and then the barrel of the