We have applied Maignon's technic to 9 canine anaphylactic bloods and to emulsions of 6 hypersensitive livers. Eleven of the products thus obtained were wholly inert, giving no suggestion of passive hypersensitiveness even when injected in massive doses. Two of our blood products, however, and 1 liver product gave slight passive hypersensitiveness, and 1 blood product gave the severest anaphylactic phenomenon thus far observed in dogs. A kymograph record with this product is reproduced in Fig. 1.

The symptomatology and autopsy findings with this product, however, were not those of typical anaphylaxis. The outstanding symptoms were a sudden cessation of respiratory movements, accompanied by what was apparently an acute heart block. Death took place in 4 minutes. The precipitous fall in arterial blood pressure, the characteristic feature of typical canine anaphylaxis, was wholly absent in this and in all of our other tests with Maignon's product. On immediate autopsy the splanchnic area was found hyperemic. The hyperemia, however, was of a bright arterial type, not the characteristic cyanotic engorgement of typical anaphylaxis. The liver, for example, was of a bright cherry red color and not appreciably enlarged. On opening the chest, the lungs collapsed normally; no thrombi were found in the heart or in the larger blood vessels; the blood was normally coagulable. Typical anaphylaxis renders canine blood non-coagulable.

The probabilities are, therefore, that with Maignon's product we are not dealing with a true passive anaphylaxis, but with some atypical hypersensitive phenomenon, the nature of which we are at present wholly ignorant.

[1] Maignon, F., *Compt. rend. Soc. de biol.*, 1927, xcvi, 941.

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Some Experiments on the Etiology of Diabetes Mellitus.

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About a year ago, an interesting report was published by Bergey[1] in which the author claimed that he had been able to produce *diabetes mellitus* in rabbits by a single intravenous injection of a Berkefeld filtrate of the urine of diabetic patients. A striking feature in his

observations was the time interval, suggestive of an incubation period, which elapsed between the injection of the urine filtrate and the onset of the glycosuria. Of no little interest also was the observation that filtrates inoculated into serum-broth and incubated for 56 days, or longer, even at room temperature "produced glycosuria in rabbits more promptly and to a more marked degree than freshly filtered urine." The observations suggested to Bergey that the cause of *diabetes mellitus* may be represented by a filtrable, ultravisible organism.

These observations stimulated our interest to the extent that we immediately afterward undertook to repeat these studies. During the course of the work some 30 rabbits were inoculated intravenously with filtrates of diabetic urine in the doses (2 cc.) employed by Bergey. Most of the animals received Chamberland L3 filtrates. Some were injected with L1, others with L2 filtrates, of the same specimen of diabetic urine. Specimens from different patients were employed. The urine samples were collected from the animals by placing them over night in thoroughly cleaned and dry metabolism cages, with no food, but with water before them. The animals were kept on a fairly uniform mixed diet, though this was not strictly standardized. They were for the most part kept under observation for periods of at least 2 months and in some instances as long as 6 months. The urine tests were carried out daily on some animals, others were tested at intervals of several days. All the specimens were tested with both Fehling's and Benedict's solutions (quantitative), both of which had been carefully standardized. Urines giving clearly positive reactions were also submitted to fermentation tests.

The results obtained have been illy defined and entirely unconvincing. Although the urines of some animals showed at times reducing properties, these instances have been comparatively infrequent the reactions have never been pronounced. In several rabbits weak but definite reducing powers were noted within a very few days following the injection, properties which generally disappeared completely within a day or two, either to reappear at isolated times in the future, or never to reappear again during the period of observation. In other animals these isolated, weakly positive reactions were first noted after the second week, in still others not until a later period. Reducing substances to the degree noted not infrequently appeared in the urine of the normal animals before they were inoculated. Fermentation tests in any event were rarely clearly defined so far as gas production was concerned. While the incidence of positive results was somewhat greater in rabbits inoc-

ulated with filtrates passed through the coarser (L1) filters, we are not prepared to say that this fact suggests any relationship to the dimension of the hypothetical agent. Atypical reactions were frequently obtained with Fehling's solution but these are not included in the reactions referred to above. An attempt was made to follow the blood sugar in some of these animals, but the results were too vacillating to be of any value in these studies. We have, therefore, been unable to confirm Bergey's observations. "Cultured" filtrates of diabetic urines were not tried.

[1] Bergey, D. H., PROC. SOC. EXP. BIOL. AND MED., 1926, xxiv, 229.

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Bacteriophages From Spontaneous Mouse Tumors.

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Bacteriophages active for *Eb. dysenteriae* were isolated from 4 out of 8 spontaneous tumors of mice. These were tumors of epithelial origin, which histologically resembled adeno-carcinomata. In size they ranged from 1 to 2 cc. in diameter and, with one exception, were covered with intact skin. They were removed aseptically, finely ground in a mortar under sterile conditions and emulsified in about 10 cc. of physiological saline. The emulsions were immediately filtered through sterile filter paper and then through a candle. These filtrates were tested in the customary manner for lytic action against strains of *Eb. dysenteriae. Eb. typhi, Es. coli* and of *S. aureus.* Several serial passages sufficed to elicit the presence of a bacteriophage active for *Eb. dysenteriae.* By the tenth passage a few drops of the filtrate was sufficient to lead to complete lysis of an actively growing broth culture of the organism. Typical plaques were produced on solid media. No detectable lysis was produced in the presence of the other bacterial species named. One strain of *S. aureus* was, however, strongly agglutinated by the active filtrates. The agglutinating principle was, moreover, transmitted in series by means of filtrates of the successively agglutinated cultures. That this was not a natural property of the organism was indicated by the appearance of the control cultures. While this "transmissible agglutinin" presumably represented a weak bacteriophage for the