belong to a new species, I propose for them the name *Trypanosoma rhesii.*

2 (621)

On the question of immunization against transplantable cancer by injection of an animal's own tissues.

By **R. A. LAMBERT.**

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That the injection of a suitable quantity of homologous tissue induces in susceptible mice a certain degree of resistance to the inoculation of their transplantable cancers is a well-established fact. There appeared recently a paper by Woglom[1] in which experiments were described showing that autogenous tissue (spleen) injected subcutaneously was also capable of inducing this immunity. Woglom's work has been questioned by Apolant[2] who repeated the experiments with negative results. Apolant maintains further that the spleen of a mouse does not afford sufficient tissue for immunization, and that the question as to the possibility of immunizing with an animal's own tissues is still an open one.

In the experiments herewith reported, blood has been used as the immunizing agent. The quantity of defibrinated blood necessary for immunizing young mice was shown by Bashford to be about .3 c.c. In order to eliminate, however, the possibility of insufficient dosage, it was considered desirable to use at least .5 c.c. As Woglom stated in his paper, mice cannot be bled this amount plus the loss attending the bleeding without causing death. Interval bleedings from the jugulars were therefore resorted to. In nearly all of the experiments two bleedings only, on successive days, were necessary. About ten drops of blood in citrate solution were taken each time. The corpuscles were preserved in the ice box and injected subcutaneously on the day after the last bleeding. Ten mice were treated in this way; ten controls were injected with a similar quantity of homologous blood; ten normal mice were set aside as controls on the two

[1] *Jour. Exp. Med.*, January, 1910, p. 29.

[2] *Zeit. f. Immunitätsforschung*, July, 1911.

treated groups. The mice were all young and thrifty; average weight, 18 grams. The three series were inoculated with carcinoma ten days later. The record of the tumors resulting from these inoculations shows a definite immunity in the series treated with homologous blood, but practically no difference between the normal controls and those receiving injections of their own blood.

These findings, then, indicate that immunity against transplantable cancer in mice is, at least, not regularly induced by injections of an animal's own tissues. A larger series would probably be necessary to determine the existence of individual variations in the reaction of animals to such injections.[1]

3 (622)

Another case of sex-limited heredity in poultry.

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To the four or five described cases of sex-limited heredity in poultry another is added.

The Jungle-fowl and its derivative, the Brown Leghorn, have the hackle and saddle feathered "laced" with red. The upper wing coverts of the cock are also red, forming the "wing bar." In the Dark Brahma, on the other hand, the red is not formed on the hackle and saddle and is nearly absent on the wing bar of the male, so that the red is replaced by white.

If, now, a male Dark Brahma be crossed with a female Brown Leghorn, or if the cross be made in the opposite direction, all sons are white-laced; but the wing bar is red. Thus, in these sons the white lacing is dominant but the white wing bar appears to be recessive. The most important point, however, is that the sons derived from the reciprocal crosses are practically indistinguishable.

With the daughters this is by no means the case. When the father is white-laced, the daughter is also; but if the father is red-

[1] A second set of experiments has been done which shows a slightly larger percentage of resistant animals among those immunized with autogenous tissue than among the normal controls. The difference, however, is not sufficiently striking to influence the conclusion drawn from the first experiments.