A NOTE ON THE MORPHOLOGY OF A STRAIN OF TRYPANOSOMA EQUIPERDUM.

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NEARLY a year ago, in examining stained films of our strains of trypanosomes, one of us observed in the blood of a guinea-pig short, stumpy forms of parasite which had the macronucleus displaced towards the posterior end. The guinea-pig was infected with a laboratory strain of dourine, which had been received from Geheimrath Professor Uhlenhuth in Berlin in 1907.

Recently in connexion with some work on "attachment" we had occasion to obtain a fresh supply of dourine virus, and we are indebted to Professor Schilling for his kindness in sending us a rat infected with *T. equiperdum* and for giving its origin. This strain was obtained by Professor Schilling from the Gesundheitsamt in Berlin, and has been preserved in his laboratory for many years.

Examination of this strain also revealed the presence of stumpy parasites having the posterior position of the nucleus. The following are some of the chief morphological characters of this strain.

Morphology of the Trypanosomes.

Between long thin forms with free flagellum and short, stumpy forms without free flagellum there is a variety of intermediate forms.

A thousand parasites drawn and measured in a white rat over a period of eight days before its death had an average length of 26.7 μ . The longest trypanosome found measured 36 μ , and the shortest 15 μ . The percentage incidence according to length in microns is shown on the

A thousand examples of *T. equiperdum* in white rat on eight days.

Table showing Percentage Measurements of 1,000 Examples.

Parasites Measuring less than 24 μ .	Parasites Measuring between 24 μ and 30 μ .	Parasites Measuring 30 μ and over.
21.8	58.5	19.7

chart by means of a curve, and also in the table. From these it will be observed that the trypanosome is fairly long, and that most of the parasites lie between 24 μ and 30 μ .

Forms in which the Nucleus is Posterior to the Centre.

The forms of parasite in which the nucleus is observed to lie posterior to the centre are the short, stumpy parasites which have little or no free flagellum. These forms are found in animals when the parasites are fairly numerous; they have been observed in rabbits, guinea-pigs, and rats—the only animals so far experimented with. The nucleus varies in position from being just posterior to the centre of the parasite to being close beside the

blepharoplast. Various positions which the nucleus may occupy are shown in the parasites depicted in the figure, the forms there represented being drawn from a film

Figs. 1 and 2.—Long slender forms.

Figs. 3 and 4.—Intermediate forms.

Figs. 5 and 6.—Short forms with central nucleus.

Fig. 7.—Dividing form.

Fig. 8.—Short form with nucleus slightly anterior to centre.

Figs. 9 to 13.—Posterior nuclear forms.

The magnification of the original drawings was 2,000 diameters; for reproduction here they have been reduced to half their original size.

taken from the blood of a guinea-pig. In the white rat of 1,000 trypanosomes drawn, 38 had a definitely posterior position of the nucleus. Many of the parasites have very marked granules.

STUMPF (*Monatsschrift f. Geb. u. Gyn.*, May, 1912, p. 640) exhibited at a meeting of the Breslau Gynaecological Society the organs of a woman, aged 23, who had used vaginal injections daily for some time as the periods had ceased for three months. A few hours after the last injection symptoms of acute peritonitis set in. Abdominal section was performed, and the peritoneal cavity was found to contain a great quantity of turbid serum and some white crumb-like bodies. The uterus was as big as in the fourth month. The patient died twenty-four hours later. *Post-mortem* examination showed that not only the vagina but the cervix were free from disease. When the uterine cavity and the Fallopian tubes were laid open the endometrium was found to be converted into a tough, grey substance 2 to 3 mm. thick and odourless. This change had involved the entire mucous membrane of both tubes up to the fimbriae, and was due to some chemical in solution which had entered the upper part of the genital canal and also passed into the peritoneal cavity, apparently acting on the serous membrane in the same way and precipitating albumen in its tissues. Inflammatory changes were detected in the deeper part of the endometrium. On analysis the nature of the solution could not be defined, nor were any septic germs detected. It seems certain that fluids are sometimes injected into the peritoneal cavity when the vaginal douche is employed, but the explanation of this accident is not clear. There is probably something abnormal about the uterus and tubes, allowing the passage of fluid injected, perhaps, with but little force.