change than was seen in those of the control animals. Death, which took place at an earlier period than in the controls, may therefore be said to have been hastened by the action of the drug.

Five of the 7 controls died of schistosomiasis with cirrhosis of the liver in from 60 to 98 days, and 2 survived because the infection was light. All animals lost weight and were in poor health. It is to be remarked that in these animals, some ova (from 20 to 50%) were observed to die in the tissues even without any treatment.

7748 P

Possible Application of Chemical Reactions in the Determination of Pregnancy.*

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It is generally conceded that the reaction of the Ascheim-Zondek test depends upon the presence of a hormone in the urine of the pregnant woman. This hormone is believed to be either antuitrin, from the pituitary gland, or the so-called antuitrin-like hormone, from the placenta. Any chemical test that would be specific for either of these hormones would in all probability constitute a satisfactory test for pregnancy, which, if the test could be made simple enough, would have great advantages over the biological tests now in general use.

We have found that under carefully controlled conditions, that is, in a solution neutral to brom thymol blue, the commercial preparation of antuitrin will invariably reduce the oxidation-reduction dye, o-chlorophenol indolphenol, from blue to pink. The antuitrin-like hormone, commercial antuitrin S, will not cause this reduction, but both it and the antuitrin will reduce l-naphthol-2-sulfonate indophenol in an alkaline solution. These reactions can be obtained in water solution or with non-pregnant urines to which comparatively large amounts of the commercial preparations have been added. This test, simple and definite, gives promise of an excellent test for pregnancy.

In its practical application, however, it is necessary to extract the

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very small amounts of the hormone present in the urine before applying the test since otherwise it may be masked by interfering substances. In the case of pathological urines, also, other proteins, unless previously removed, may give a similar reaction. It is in this extraction that we have encountered the greatest difficulties in the way of the method. It has not yet been worked out to a degree of accuracy that will permit the application of the test in a practical way. After trying, however, the various methods found in the literature for the extraction of these hormones, we have devised from them, with some variations introduced by us, a method of extraction that permits us to check the results of the Ascheim-Zondek test in a great majority of the cases.

At the present time we are using the following method: 13 cc. of urine, from the first specimen voided in the morning, collected without preservative, is precipitated with 1 cc. of 10% sodium tungstate, in a solution made acid to tetra brom phenolsulphonphthalein. After centrifuging down the precipitate, the liquid is decanted and discarded. The precipitate is shaken up with water, extracted with very dilute pyridine, and again centrifuged. The solution is decanted into acetone, made acid to the same dye, and the resulting precipitate centrifuged down. The acetone solution is discarded and the precipitate extracted with very dilute sodium hydroxide. The remaining precipitate is discarded and the dissolved portion poured into acetone, acidified for maximum re-precipitation, and then centrifuged. The final precipitate is dissolved in water, adjusted to neutrality with brom thymol blue, and the o-chlorophenol indophenol added dropwise. This dye, used in a 0.07% aqueous solution, deteriorates rapidly and should be prepared each week, but should stand several hours before using or be further diluted. Extracts from non-pregnant urines, without hormone, turn a distinct blue; those from pregnant urines, containing the hormone, fade to an almost colorless solution. While with very dilute urines, larger amounts must be used, ordinarily 13 cc. is sufficient. We have used this volume routinely since it is all that can be handled in 15 cc. conical centrifuge tubes, which fit the centrifuges available in most laboratories.

Using this technic we have tested 19 unknowns, specimens sent to us for the Ascheim-Zondek test. In 14 cases our results agreed with the Ascheim-Zondek findings. Of the remainder, 4 were false negative and one, false positive. Three of these negatives, dilute specimens, gave positive results when repeated with larger quantities of urine. Lack of material prevented a similar retest on the 4th. The

specimen giving the false positive caused an enlargement of the uterus and opening of the vagina of the test animal, but, in the absence of ripened follicle or corpus luteum, was read negative.

Seven specimens from normal non-pregnant women were run without an error, but one out of 4 which contained albumin gave a false positive. Using larger quantities of non-pregnant urines did not give positive results. Five specimens from known pregnant cases, ranging from the 2nd to the 9th month, gave one false negative. This gives a total of 31 correct findings in 35 cases, or 88.5% correct.

A similar test may be made by adding the l-naphthol-2-sulphonate indolphenol to the final neutral water solution, then adding dilute sodium hydroxide, which will bring out the dark color in the negative samples, while the ones with the hormone remain colorless. Antuitrin S will give this latter test, but is not extracted by the above method satisfactorily, and unless present in unnaturally large amounts, as when deliberately added to the urine sample, will not be obtained in amounts sufficient for the test.

Since neither of these hormones has been completely isolated, the basis of the above described tests is circumstantial. Even so these tests constitute an advance, and may assist in the identification of the hormones. Meanwhile, we are continuing our study to perfect a method of extraction that will permit the practical application of these reactions to the determination of pregnancy.

7749 C

An "Extinction" Phenomenon on Stimulation of the Cerebral Cortex.*

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In the course of stimulation experiments on the motor cortex of the monkey an interesting phenomenon was met, which we wish to report.

The monkeys (macacus) were anesthetized with "Dial" and ether; in two experiments ether was used exclusively. The motor cortex was exposed for stimulation. The electrical stimulations, which were

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