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A Forty-eight Hour Test for the Female Hormone with Capon Feathers as Indicator.*

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We have, as described elsewhere, obtained entirely female plumage in male brown leghorn fowls and capons by injections of female hormone prepared from human placenta, human pregnancy urine and from cow placenta.

The procedure consists in plucking definite areas and injecting the female hormone during the period of replacement which lasts about 3 to 4 weeks. The response of the feather could only be read in about a fortnight or more after plucking as this time is required for the feather germs to regenerate and pierce the sheath.

Since the feather changes are distinct and unmistakable we wished to make use of them as indicators of the female hormone. At the same time it was desirable to obtain readings in a short period of time and with small amounts of hormone. To this end the following method was developed: The breast feathers were used exclusively because their color is black in the male and salmon in the female, offering very distinct contrasts. Furthermore, the feathers in the breast regenerate more rapidly than in other regions of the body.

Breast feathers were plucked in similar regions, at the level of the shoulder, in a number of capons. The feathers were permitted to regenerate for 15 days. At the end of this time the young feathers were about 2.5 cm. in length. Each bird then received 6 cc. of a female hormone preparation containing by assay 100 rat units per cc. distributed in 4 simultaneous subcutaneous injections.

Forty-eight hours after the injections samples of the regenerating feathers were plucked. The sheath was slit, the inner pulp folded back with fine forceps and the feather itself spread out flat against a slide. The female, salmon, pigment deposited during the injection of the female hormone could be seen at once and with the naked eye at the base of the feathers in the majority of test birds. In occasional birds the feathers do not react to a single dosage described above. If the young feathers were plucked 72 hours after the in-

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jection, the female region was yet more distinctly visible as a salmon bar in the black, male feather.

Permanent preparations may be obtained by mounting the feathers in euparal after drying.

Apart from the interest attached to the determination of any new indicator for the female hormone, the method described seems to offer special advantages since it requires the minimum of equipment and errors in reading can scarcely occur.

It is to be hoped as well that the individual variation of the test animals may prove less than in the rat.

Further work is being done on the same line of investigation.

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A Synthetic Substitute for Ascitic Fluid in a Medium for Cultivation of *Gonococcus*.*

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Ever since its first cultivation by Bumm in 1885, the gonococcus has maintained a reputation for fastidiousness as regards its growth requirements. In consequence, a great number of media have been devised for it, the most successful and reliable of which are those containing human ascitic or hydrocele fluid. It is generally believed that the efficacy of these transudates depends, in large part at least, upon constituents other than their inorganic salts. To determine whether the rôle played by transudates in supporting the growth of gonococci may be attributed to substances other than the biologically important inorganic ions, a study of the function of the individual ions has been undertaken. Although this study is still in progress and will be published in detail later, we wish now to report that it is possible to cultivate the gonococcus on an agar medium containing only beef infusion and dextrose, providing it is made up in an aqueous solution of inorganic salts in kind and concentrations corresponding to those found in an ultrafiltrate of mammalian blood plasma. The solution, which for the sake of brevity we have called van Dyke-Hastings solution, is similar to that used

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