when the protein is coupled to the diazo compound, and (2) that the agglutinin is a non-protein aromatic substance which will form an azo-dye.

Supposing that the dye taken up specifically by the bacteria is protein-dye, the amount can be estimated colorimetrically. In example *A*, 1 ml. of standard agglutinable suspension took up 2×10^{-6} gm.; of the eight minimal agglutinating doses added, less than one dose was left in the supernatant fluid. The minimal agglutinating amount for 1 ml. of suspension is therefore about 2×10^{-7} gm.; an amount less than that required to form a continuous layer on the surface of the bacteria. If this estimate is correct, it is not surprising that preparations of agglutinin should have been prepared in which protein could not be detected.

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Jan. 18.

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Progestin in Placental Extract

SEVERAL facts have led to the supposition that the corpus luteum hormone, called progestin by Allen and Corner, should be present in the placenta; for example, the frequently observed continuance of pregnancy in women after removal of the two ovaries and the increased threshold for the action of œstrin in pregnant animals, even after castration (Courrier).

Collaborating with Dr. A. Luchs, two of us (P. d. F. and M. T.) have tried in vain to extract progestin from the placenta and have published negative results[1]. We had, however, obtained slight indications of activity of such preparations and therefore considered that the search for this hormone in the placenta should be continued. W. M. Allen and R. K. Meyer[2] have recently described a method for the quantitative separation of progestin from œstrin and emphasised the importance of their method for the isolation of progestin from sources which are very rich in œstrin.

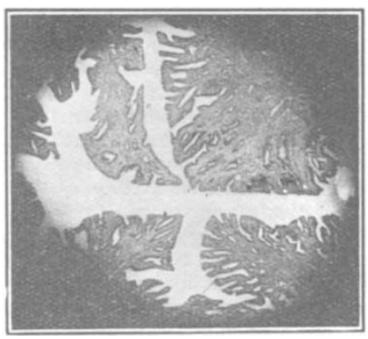

FIG. 1. Proliferation of rabbit uterus after treatment with placental extract.

Using their method, we have now demonstrated the presence of progestin in two lots of placenta. The first batch was extracted from full term human placenta and tested on an infantile rabbit (activated with œstrin after Clauberg's method) and gave distinct proliferation in a dose corresponding to 600 gm. of fresh tissue (Fig. 1). The second batch was prepared from placenta of pregnant cows and tested on an adult castrated rabbit (6,800 gm.) and on an infantile activated rabbit (500 gm.). Both animals showed distinct proliferation of the endometrium in doses of 1,500 gm. and 500 gm. respectively of fresh tissue. The output of hormone is still rather low and our investigation is now being extended to a quantitative study of human and animal placenta obtained during pregnancy for other reasons than abortion.

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Fine Structure of the $K\alpha$ Line of Beryllium

THE $K\alpha$ line of beryllium, occurring at the very long wave-length of 115·7 A., was measured by Söderman[1], who found it to consist of a broad band 10 A. wide. In view of the recently discovered fine structure of the carbon $K\alpha$ line, I have re-investigated the beryllium soft X-ray spectrum, and, as the spectrogram (Fig. 1) shows, have found it to consist of two diffuse components. That at the longer wave-length is the stronger. The separation is 5·3 A. or 4·8 electron-volts. The measurement of the long-wave component is, however, difficult, as it coincides with the fifth order of oxygen $K\alpha$. A comparison of the width of the component with that of the fourth order of oxygen $K\alpha$ shows that it is too wide to be due to the oxygen line.

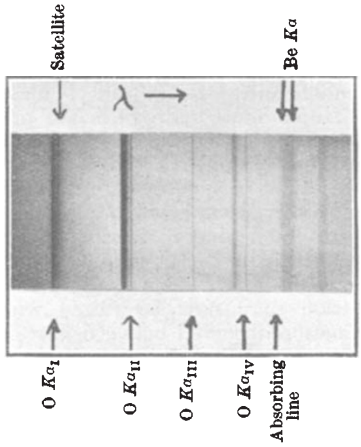

FIG. 1.

There are two possible explanations of the duplicity of Be $K\alpha$. The first is suggested by the carbon $K\alpha$ structure[2]. The carbon line consists of two (or possibly more) components. The stronger of these is attributed to the C $K\alpha_{1,2}$ line and the weaker, short-wave component is probably the ordinary satellite $K\alpha_3$. A simple calculation of the expected separation agrees with the observed value. A similar calculation for beryllium also is in rough agreement with the separation given above. The second possible explanation arises out of the fact that the surface of the beryllium is heavily oxidised in my experiments, and it is