factors, such as anterior pituitary influence playing an active part in the hormonal balance during this state, is freely admitted. Although it has been proved that the placental hormone is capable of activating an immature ovary, one may nevertheless consider such an effect as fortuitous. Accordingly, in the theory which is proposed the active principle is considered as a pregnancy principle primarily, but as an ovary-stimulating substance it may be found effective in the activation of ovaries which are hypofunctioning.

The relationship which the hormone described in the communication bears to the so-called anterior pituitary principle found in pregnancy urine cannot be definitely stated. As yet we have confined our attention to the placenta as a source of active extracts. It appears to us more than likely that the placental hormone with which we are dealing should be present in the urine. Recently Aschheim and Zondek have taken a viewpoint somewhat similar to that of Wiesner, namely, that there are two principles which act upon the ovary—Rho I and II (Wiesner), or Prolan A and B (Aschheim and Zondek). The former is considered as œstrogenic only, in that it induces œstrus in immature animals without luteinization. Our own work lends a considerable measure of support to this point of view. In our earlier work with sulphosalicylic acid extracts and with 50 per cent acetone extracts, corpora lutea were found in the ovaries of the treated immature rats, associated with the first œstrous cycle. The purified hormone, however, has not given evidence of any luteinizing action. One point which may be of considerable significance is the observation that immature animals which have been brought to sex maturity as a result of hormone treatment show after the second or a later œstrus period definite evidence of ovulation followed by corpora lutea formation.

It was only after it had been shown that the placental extracts described were non-toxic in character and exercised no unfavourable influence in normal animals that we formulated the theory as outlined above, simply as a working hypothesis. These studies also gave us ample justification to proceed with clinical experiments, the results of which have been most encouraging. Perhaps the most important practical point of the laboratory studies has been the demonstration that this active principle is non-protein in character and is unaffected by digestive enzymes. It may therefore be administered orally.

The experience with the method of assay which has been had makes it evident that an absolute biological assay will be a matter of great difficulty. The type of method recently suggested by Coward and Burn for the assay of œstrin appears to hold the most promise. It is suggested that immature female rats three weeks of age, and not more than 35 grm. in weight, should be used. It will be necessary to use a large number of animals and to apply the statistical method of Coward and Burn to arrive at a true unit. In our work thus far only a few rats have been used at any one time, and the weight of a unit of the purified product has been found to be of the order of 0.0015 mgm. This value is not in any sense to be considered as final. It should be possible, however, at a later date, to use the purified product as a standard of reference in the standardization of extracts intended for clinical use. Absolute purity of the final product which has been described cannot be claimed until the results of further work justify such a step. However, the results which have been obtained seem to indicate that one is dealing with a pure substance.

Those workers who have attempted to obtain some measure of purification and concentration of the so-called anterior pituitary hormone in pregnancy urine have made use, for the most part, of fractions obtained by submitting concentrates to precipitation by alcohol. It is of interest to note again that the hormone of the placenta described herein is soluble in alcohol. It is altogether possible that some of this principle might be entrained or adsorbed in a precipitate resulting from the addition of alcohol to a mixture containing it. One could, however, never hope to concentrate and purify the hormone further by such methods. It is felt that if any true anterior pituitary hormone analogous in its physiological action to the pituitary implant be present in placenta, the method which we have used would exclude it even from our partially purified and concentrated extracts. It is our intention to study the physiological effects of fractions which may be separated from the precipitates and residues which have been