in no way affect later pregnancies and have no ill effects on coming generations. To this end I have thought fit to start a small centre or nucleus called the " Controlled Fertility Research Centre," around which something larger and better endowed than at present will develop in due season.

The facilities already available will suffice for the immediate future, but later, something more consistent with the importance and urgency of the task will, we hope, be made available through funds subscribed by all interested parties.

Human volunteers such as young married women, willing to help their less fortunate sisters, will certainly be needed on whom the effects of the plant extracts could be observed before making them generally available.

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The Biochemistry of Conception Control

To the Editor, Eugenics Review

SIR,—May I through your columns thank Dr. Krohn for his very interesting and informative letter on this subject—and I am sure that I am not alone in feeling most grateful towards him for the trouble he has taken.

I was clearly wrong to say " if the ovum is not fertilized a corpus luteum does not appear " and with renewed thanks to Dr. Krohn would like to correct this and say " if the ovum is not fertilized the incipient corpus luteum does not develop into a mature corpus luteum." Also I note that it is " implantation of the zygote and not fertilization of the ovum " which is the determining factor in this development.

These are definite statements and I am very willing to accept them on Dr. Krohn's authority. But later on in his letter he says " the blastocysts, of rabbits at any rate, depend on the normal functioning of the corpus luteum even when they are floating freely in the fallopian tubes before implantation. The rate at which the blastocysts travel down the tubes and their passage into the uterus also seems to be under hormonal control."

But it is precisely about this hormonal control that I am inquiring. I am not competent to discuss whether it is the development of the corpus luteum which is responsible for safe implantation or whether it is some other factor ; but I would like to know what it is.

Dr. Krohn goes further and says that " therefore an attack on the hormonal equilibrium could be undertaken earlier in the cycle than Mr. Usher suggests " and ovulation itself controlled. But would this not constitute too gross an interference with normal function ?—with the inevitable consequence of starting up compensatory mechanisms. Surely the less the hormonal balance is disturbed the better.

Dr. Krohn then says that I seem to believe that steroid hormones can neutralize each other " rather like inorganic acids and bases " and I must apologize for having given such an impression of *naïveté*. But still, Dr. Krohn can hardly deny that much can be done both to disturb the endocrine balance and to restore that balance should it become disturbed pathologically. And it is for no more than this that I am asking.

Dr. Krohn concludes by quoting the clinically successful prevention of threatened miscarriages by the use of œstrogens with the exactly opposite intention from that put forward by myself. But this is not the anomaly that it at first appears. To account for various phenomena the theory of " œstrogen levels " has been formulated.* According to this theory bleeding takes place when the œstrogen concentration reaches the " threshold level." If or when the threshold level is passed " super-threshold amenorrhœa " results and can be maintained by suitable dosage. On reducing the œstrogen dose the amenorrhœa is followed by " œstrogen withdrawal bleeding " when the threshold is again crossed. Therefore heavy œstrogen doses to control threatened abortion is fully in accord with the theory.

To summarize : The days between fertilization and successful implantation are ones of delicate hormonal balance. It is suggested that a very small modification at this critical time will prevent implantation becoming established and would result in an almost normal period.

Is it not possible that research on these lines might prove profitable ?

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To the Editor, Eugenics Review

SIR,—I am very glad to know that my letter has been of value to Mr. Usher. I can readily agree with him that " the days between fertilization and successful implantation are ones of delicate hormonal balance." The physiology of implantation is a matter of great concern and importance and I hope that some answers to the questions that he raises will soon be forthcoming.

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Human Nature: Its Development, Variations and Assessment

To the Editor, Eugenics Review

SIR,—In his notice of my book, *Human Nature, its Development, Variations and Assessment*, in the October issue of the EUGENICS REVIEW, Dr. Eliot Slater says that " the work of others is not referred to, and despite the author's special interest in social, developmental and dynamic

* Bishop. *Gynæcological Endocrinology*. Edinburgh: 1951. Livingstone. P.9.

aspects of psychology, the name of Freud could not be found in the text."

Both the theory and technique of psychoanalysis are in fact described, and not only is the work of Freud explicitly referred to (p. 116) (as well as the works of Binet, Burt, James, Itard, Jung, Kammerer, Mendel, Murray, Rorschach, Seguin, Shand, Spearman, Terman, Godfrey Thomson, Thouless, Vernon, Wechsler), but there is also at the end of each section a selected bibliography giving particulars of works by Susan Isaacs, Flugel, Woodworth, Macmurray, Allport, Rex Knight, Bell, and Oldfield.

While a review should rightly be critical, for the benefit of readers it should be factually correct, and erroneous statements, if they occur, duly pointed out.

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To the Editor, Eugenics Review

SIR,—I am very sorry if Mr. Raven feels that I was unjust in my review, and even factually incorrect. I could not find Freud's name in the text; but it was there, on one page. Practically all of the references Mr. Raven quotes are in the third specialized section on the History of Mental Testing, and it remains true, in my opinion, that reference to the work of others is extraordinarily scanty in the body of the work. It would be tedious to produce a list of the names of workers who have made important contributions to his subject, and who are not mentioned in Mr. Raven's book. Perhaps one will do. The whole chapter on development in childhood is without reference to a single name; one might have expected to find that of Gesell.

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