different percentages of cells in large and small embryos having been capable of division at any given time in the course of development. Such an effect may be produced at any time during the growing period of the animals by many different sets of conditions, for example, by differences in food supply. Castle and Gregory,[1,5] and Gregory and Castle[6] maintain that there is an inherent difference in rate of cell division between their large- and small-race rabbits. Such a difference must be present throughout the period of growth of the normal animals.

Gregory and Castle have collected conclusive evidence that large-race-rabbit embryos have more cells than small-race embryos at the 40- and 41-hour stages. However, their data for hybrid embryos between the two races does not rule out the possibility that the difference in cell number at those stages is due to some factor in the environment of the embryo or in the previous history of the egg. Hybrid embryos from a large male and small female mating had significantly fewer cells at 41 hours than large-race embryos of the same age. The difference in average cell number was 2.39 ± 0.568, 4.2 times its probable error. The difference between small-race embryos and those of the hybrids was only 0.62 ± 0.592. This is not a significant difference since it is only slightly greater than its probable error. Therefore, whatever factor inhibited or delayed cell division in the small-race embryos may also have operated on the hybrid embryos from small females and need not have been inherent in the embryos.

In summary, Byerly[2] offered the more probable interpretation of his data. This has been supported by the results of subsequent investigations. Gregory and Castle[6] have not yet precluded the possibility of other interpretations of their own data.

THEODORE C. BYERLY
BUREAU OF ANIMAL INDUSTRY,
U. S. DEPARTMENT OF AGRICULTURE

OESTRUS-PRODUCING HORMONES

RECENTLY Doisy and his coworkers[1] have reported the isolation from the urine of pregnancy of a crystalline substance possessing oestrus-producing activity, which is distinct from the active substance theelin previously described by them. The latter substance to which they gave the formula $C_{18}H_{21}(OH)_2$ was shortly afterwards isolated by one of us[2,3] and by Dingemanse and coworkers.[4] It was shown subsequently[5] that this substance is represented by the formula $C_{18}H_{22}O_2$ and that it behaves either as a hydroxy ketone or as a dihydroxy alcohol.

There is no doubt that the second substance isolated by Doisy and his coworkers to which they give the formula $C_{18}H_{21}(OH)_3$ is identical with that fully described earlier by one of us.[6,7] Although Professor Doisy refers to the triol previously isolated, there is no suggestion in his papers that it had also been characterized as a trihydroxy substance of the formula $C_{18}H_{21}(OH)_3$. His view that the substance described by one of us is a mixture of both active substances is apparently based solely on a difference between the uncorrected melting points. The evidence of the analytical data, which clearly shows this supposition to be untenable, is ignored.

A year ago when the presence in urine of two distinct oestrus-producing substances was clear to us, we were considerably puzzled over the relationship between them. The suggestion was tentatively advanced[7] that the substance $C_{18}H_{22}O_2$, on treatment with hot alkali, took up the elements of water to form $C_{18}H_{24}O_3$. This supposition was subsequently shown to be incorrect,[8] since the former substance proved to be unchanged by such treatment. At the same time it was shown that both substances occur together in urine, and that by distillation in a high vacuum with potassium bisulphate, $C_{18}H_{24}O_3$ could be converted into $C_{18}H_{22}O_2$. Professor Doisy has made no adequate reference to this work and has advanced the earlier view which has been shown to be untenable.

G. F. MARRIAN
A. BUTENANDT

LONDON AND GÖTTINGEN,
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AN ADDITION TO THE HERPETOLOGICAL FAUNA OF KANSAS

A SINGLE specimen of *Bufo punctatus* Baird and Girard was secured in the vicinity of Elkhart, Morton County, Kansas, by W. H. Burt and a party of students from the Museum of Birds and Mammals, University of Kansas, between June 25 and July 5, 1927.

I believe this to be the first record of this species in Kansas. The systematic papers on Kansas herpetology, including the recent "List of Reptiles and Batrachians of Morton County, Kansas,"[1] make no mention of it.

[5] *Jour. Morph. and Physiol.*, 48, Sept., 1929.
[6] *Jour. Exp. Zool.*, 59, April, 1931.
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[2] A. Butenandt, *Naturwiss.*, 17: 879, 1929.
[3] A. Butenandt, *Deutsch. Med. Woch.*, 55: 2,171, 1929.
[4] Dingemanse *et al.*, *Deutsch. Med. Woch.*, 56, 301, 1930.
[5] A. Butenandt, *Zeit. f. physiol. Chem.*, 191: 140, 1930.
[6] G. F. Marrian, *Chem. and Ind.*, June 20, 1930.
[7] G. F. Marrian, *Biochem. J.*, 24, 1,021, 1930.
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[1] E. H. Taylor, *Univ. Kansas Sci. Bull.*, XIX, 6: 63–65, 1929.