it appears that hebin does not contain the active maturity principle of the anterior lobe of the hypophysis in toads.

Thinking that it might be possible to obtain ovulation in a time of greater sexual activity, both hebin and oestrin were used. Therefore, 4 toads were injected simultaneously with hebin and oestrin into separate lateral lymph sacs with doses of 1, 2, 3, and 4 rat units of hebin and 10, 20, 30, and 40 rat units of oestrin over a period of 4 days; injections being made every 6 hours. No ovulation occurred.

It therefore appears that neither hebin alone nor hebin with oestrin is capable of inducing ovulation in toads. Reichert and his associates,[4] Evans and his coworkers,[5] and Iimuro and Murata[6] have suggested that hebin is not the hormone identical with the gonad stimulating hormone of the hypophysis. Our work with toads substantiates this view.

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A Simple Method for Detecting Abnormal Hearts.

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On the basis of a pulse-ratio method Tuttle and Wells[1] showed quite conclusively that in the case of the normal heart the increase in rate caused by exercise is directly proportional to the intensity of the exercise and that the form of the curve representing the relationship between heart rate and exercise intensity is rectilinear. It occurred to us that if abnormal hearts did not conform to this principle a simple method for detecting them is provided.

By using the pulse-ratio technique data were collected from 32 University freshmen reported as having abnormal hearts. The physicians' report of these cases at the time of examination was as

[4] Reichert, F. L., Pencharz, R. I., Simpson, M. E., Meyer, K., and Evans, H. M., PROC. SOC. EXP. BIOL. AND MED., 1931, **28**, 843.

[5] Evans, H. M., Meyer, K., and Simpson, M. E., PROC. SOC. EXP. BIOL. AND MED., 1931, **28**, 845.

[6] Iimuro, Syozo and Murata, Miyakita., *Trans. Japan. Path. Soc.*, 1931, **21**, 156. (From *Chem. Abst.*)

[1] Tuttle, W. W., and Wells, Geo., *Arbietsphysiol.*, 1931, **4**, 519.

follows: 6 cases of functional murmur, 16 cases of organic lesion in which there was definite evidence of decomposition, 6 cases of organic lesion with no signs of heart failure, 2 cases of neurogenic lesion* and 2 cases which could not be agreed upon as to class. Each case was examined upon 2 different occasions by the pulse-ratio test.

The data show that in cases of functional murmurs, compensated organic lesions and neurogenic lesions, the response to exercise is exactly the same as with normal hearts. However, where non-compensated organic lesions are present the response to exercise is not always directly proportional to the intensity of the exercise and the curve representing the response is never rectilinear.

In 2 cases in the group there was a difference of opinion as to the nature of the heart lesion. Repeated examination by the pulse-ratio technique placed both of these cases in the non-compensated organic lesion group. In these cases the physician agreed that there was sufficient evidence of heart lesion to justify restricted activity.

The results of this investigation indicate that the pulse-ratio technique is reliable in detecting non-compensated organic lesions. The agreement between the results of this test and the other methods of diagnosis indicates that this simple procedure is of value as a guide in determining what restriction, if any, should be placed on individual activity. Furthermore, it has proven of use as one of the indices of the condition of the heart in the physical examination.

* Hearts which are very easily accelerated by reflex stimulation.