

intermenstrual period of the same individual, is in harmony with the general principle obtained from work on the lower mammals. It is believed that the uterine end of the tube, through its varying degrees of patency, is to a great extent responsible for the differences in pressure he obtained. Furthermore, the material examined thus far indicates that the greatest patency occurs about the period of ovulation, probably a little before that time.

### 164 (2687)

#### The locus of the action of veratrin in the sciatic nerve of the frog.

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In a former paper<sup>1</sup> it has been pointed out that if the end of a sciatic nerve is immersed in a veratrin solution there results, after a widely variable latent period, spontaneous muscle twitchings in the gastrocnemius. If, at this time, the sciatic nerve is sectioned between the point of immersion in the veratrin solution and attachment to the muscle, the writing lever falls to the base line. It has also been shown that direct stimulation of the gastrocnemius, when the nerve is immersed, elicits a contraction with delayed relaxation. The question arises as to whether some of the veratrin solution actually travels along the nerve fiber to the muscle by capillarity and thus functionally affects the muscle fibers. If this should be the case, the wide range of latency might be accounted for by rapidity of transmission or length of nerve. Moreover, with this conception of the phenomenon, a nerve-block applied between the supply of veratrin and the muscle should not inhibit muscular twitchings due to chemical stimulation by veratrin, nor characteristic contracture of the muscle, following direct electrical stimulation. In order to test this theory experiments were made with nerve muscle preparations of the frog arranged as previously described<sup>1</sup> and using the same con-

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<sup>1</sup> Wible, C. L., *J. Gen. Physiol.*, 1924, vi, 615.

centration of alkaloid solution. An ethyl chloride nerve-block (Gebauer's ethyl chloride) was employed between the veratrin container and the muscle.

If the nerve-block be applied before the nerve is immersed in veratrin solution, direct stimulation of the muscle over a period of 45 minutes results in normal contractions. If, after the nerve has been immersed in veratrin and the muscle twitchings have begun, the nerve-block is now applied, the writing lever returns at once to the base line. Direct stimulation of the gastrocnemius at this time and at intervals over a period of one hour elicits only normal contractions. In the above experiments the nerve-block was known to be complete, since mechanical stimulation of the nerve did not result in contraction of the muscle.

The results obtained show that the characteristic reaction of the gastrocnemius, as a result of the immersion of the sciatic nerve in a veratrin solution, is inhibited by an ethyl chloride nerve-block. For this reason it must be concluded that there is no actual transmission by capillarity of the alkaloid to the muscle by the nerve fiber. And therefore rapidity of transmission or length of nerve does not play a part in the wide range of latent period. This evidence also confirms the interpretation of former observations, namely, that the drug has an excitatory action only on that portion of the medullated nerve fiber which is actually immersed in solution.

### 165 (2688)

#### The effect of surface tension on the growth of *Lactobacillus bulgaricus* and *Lactobacillus acidophilus*.

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The close similarity, both morphologically and culturally, between *Lactobacillus bulgaricus* and *Lactobacillus acidophilus*, makes differentiation between these two important members of the aciduric group of bacteria difficult. Their similarity is so