

106 (1038)

**Comparative physiology of immune and anaphylactic smooth muscle. (Preliminary communication.)**By **WILLIAM H. MOORE** (by invitation).

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The typical anaphylactic reaction in smooth muscle (guinea-pig uterus) is a rapid marked contraction, with little or no tendency toward recovery. The muscle usually remains fully contracted at the end of an ordinary experiment (30 to 60 minutes).

The typical reaction in an immune muscle is a similar contraction, followed by a fairly rapid recovery. Relaxation usually begins in from 2 to 3 minutes. The muscle may be fully relaxed by the end of 15 minutes.

If an immune muscle is rendered bloodless by transfusing it with Locke's solution, its reaction to the foreign proteid is increased. The muscle also loses its power of recovery (relaxation) after the contraction. The transfused immune muscle, therefore, reacts in the same way as a transfused anaphylactic muscle.

From this it would appear that the fixed cellular elements are identical in the two muscles, and that the differences in their reaction are due to differences in the circulating substances they contain.

107 (1039)

**Relation of dosage to reaction in anaphylactic shock. (Preliminary communication.)**By **MARCUS C. TERRY** and **E. R. ANDREWS** (by invitation.)

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In support of the anaphylatoxic theory of anaphylaxis it has been pointed out that to produce a fatal dose of anaphylatoxin *in vitro* certain quantitative relations must be maintained between the foreign and the anaphylactic serum. An excess of the foreign protein results in the production of a non-fatal dose of the toxin.

That a similar quantitative relation can be demonstrated in anaphylactic animals tested directly with the foreign protein is shown in the following table: Here an excess of the foreign protein above a certain definite dose per body weight results in a decrease in the toxic effects (percentage of deaths).

The guinea-pigs here reported were sensitized by subcutaneous injections with 0.01 c.c. pooled human serum. They were tested 14 days later by intravenous (jugular) injections with pooled human serum. Test dose recorded as c.c. per 200 grams of body weight.

Test Dose.	Animals Tested.	Died.		Per Cent. of Deaths.
		3 to 8 Min.	1 to 3 Hrs.	
Under 0.20 c.c. ....	8	0	1	12.5
0.20-0.31 c.c. ....	23	12	2	61
0.34-0.37 c.c. ....	5	0	1	20
0.40-0.45 c.c. ....	7	0	1	14

108 (1040)

### The question of tonus in skeletal muscle.

By THEO. C. BURNETT.

[From the Rudolph Spreckel's Physiological Laboratory of the University of California.]

The idea that the tonus of skeletal muscle is dependent upon the sympathetic system, as asserted by De Boer,<sup>1</sup> is an attractive one, as it brings the tonus of striped muscle into the same category with vaso-constriction and vaso-dilation; but De Boer having been criticized by Beritoff,<sup>2</sup> it was determined to work out the problem independently, in order to arrive at a definite conclusion if possible. The work has been done on frogs at intervals during the winter, but it was not intended to publish until the results of experiments on mammals had also been ascertained, if at all. The appearance of an article by Yas Kuno,<sup>3</sup> however, in the current number of the *Journal of Physiology*, has determined me to publish my results on frogs, as they seem to be confirmatory of his findings.

<sup>1</sup> DeBoer, S., *Folia Neuro-biologica*, Vol. 7, 1913, p. 378.

<sup>2</sup> Beritoff, J. S., *Folia Neuro-biologica*, Vol. 8, 1914, p. 421.

<sup>3</sup> Kuno, Yas, *Jour. Physiol.*, Vol. 49, 1915, p. 139.