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Rapid determination of surface tension.

By ROBERT G. GREEN (by invitation).

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An apparatus was demonstrated by means of which the surface tension of a liquid is rapidly determined by the drop-weight method. From one to six drops of the liquid to be measured is required. The apparatus consists essentially of a delicate torsion wire balance and an adjustable scale on which the surface tension is read in dynes per centimeter.

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The influence of the surface tension of the culture medium on bacterial growth.

By W. P. LARSON.

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Pellicle-forming bacteria such as the *B. tuberculosis*, *B. subtilis* and others of that group which habitually grow upon the surface of liquid medium, will grow throughout the body of the medium by depressing its surface tension from 59 dynes, the S. tension of ordinary broth, to 40–45 dynes. By analogy with the floating needle experiment it may be assumed that when the pellicle-forming bacteria are properly wetted they no longer grow upon the surface of the medium but throughout the body of the broth or even at the bottom of the flask.

The further observation has been made that the *B. subtilis* and *B. anthracis*, when grown in media of low S. tension, finally become asporogenous. Cultures of *B. anthracis* grown under such conditions and sterilized by heat at 60° for 30 minutes protect guinea pigs. The enhanced wetting of the bacteria brought about by the addition of soap probably creates better nutritive conditions which cause the organisms to grow without forming spores. Castor oil soap when in aqueous solution is perfectly clear, does