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THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

THE SAN DIEGO MEETING OF THE PACIFIC DIVISION

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THE twenty-second annual meeting of the Pacific Division, American Association for the Advancement of Science, and of twenty associated societies was held in San Diego, California, during the week of June 20, 1938.

It is no exaggeration to describe these meetings as probably the most successful in the history of the division. It may be recalled that the second meeting of the division some twenty-two years ago was held in San Diego with a total registration of 133. Since that time there has been a steady increase in the number of scientific organizations in the Pacific Coast states and of members in attendance upon the annual meetings. As an indication of the growth of interest in science on the Pacific Coast, it should be mentioned that the total registration of 832 members and guests established a new record.

The general sessions and the meetings of the participating societies were held in Balboa Park. The material facilities provided by the host institutions were excellent in every respect. Not only were the buildings in which the sessions were held conveniently grouped together and within easy reach of registration headquarters, but the luxuriant gardens of the park provided a setting of great beauty which added much to the pleasure of the visit in San Diego.

Six organizations joined in sponsoring the meeting and served as hosts to the visiting members and guests: San Diego Society of Natural History, Scripps Institution of Oceanography (La Jolla), San

cm allows sufficient movement of the chain, and a width of about 27 cm is suitable for the vertical board. A coat of shellac prevents warping.

The dish containing the liquid for surface tension measurement is most simply held in the hand, but is best supported at the proper level for greater accuracy with an adjustable platform.

A graduated scale (sheet of graph paper) on the supporting board makes it possible to record accurately the changing positions of the end snap or any other marked link in the aluminum chain. To make a reading the beam is leveled so that the end at the right (with projecting wire pointer) points directly to a "rest mark" or heavy line appropriately drawn on the sheet of graph paper pasted on the board. The clean vessel of liquid is raised until contact is made with the ring and the chain adjusted so that there is no pulling away from the liquid. If ethanol or other liquid of low surface tension is to be used, the chain must be pulled up rather high before releasing the beam. The chain is lowered cautiously until the increasing weight of the sagging loop just tears the ring from contact with the surface of the liquid. This procedure is repeated cautiously until the scale reading corresponding to the breaking point can be determined accurately. At the breaking point the position on the arbitrary vertical scale of the snap or other marked link of the chain is observed. This position on the scale is set down as the scale reading corresponding to the surface tensions of that particular liquid, at room-temperature.

To prevent violent movement of the beam as the ring pulls away from the liquid, we placed a small right angle hook on the vertical board so that the beam in level position moves only a little above or below it. This was possible because of the two-splint construction of the beam. The ring must be cleaned before use (and on changing liquids) by dipping in alcohol, in water, and finally by brief heating in a blue flame. Fingers must not touch the ring.

To calibrate the apparatus, such scale readings are determined for a few pure liquids of known surface tension.

To illustrate the application to an unknown, we offer the "key" diagram for one particular tensiometer built by a student. A sheet of graph paper pasted on the vertical board serves as scale and permits plotting of a reference curve. On the horizontal axis is a scale of surface tension values in dynes, while on the vertical axis is an arbitrary scale of such units as are read with this particular tensiometer. For seven pure liquids, points on coordinate or graph paper were plotted in accordance with scale readings, and true surface tension values (corrected to the temperature of operation) obtained from reference books. In actual practice with this particular tensiometer, these seven points

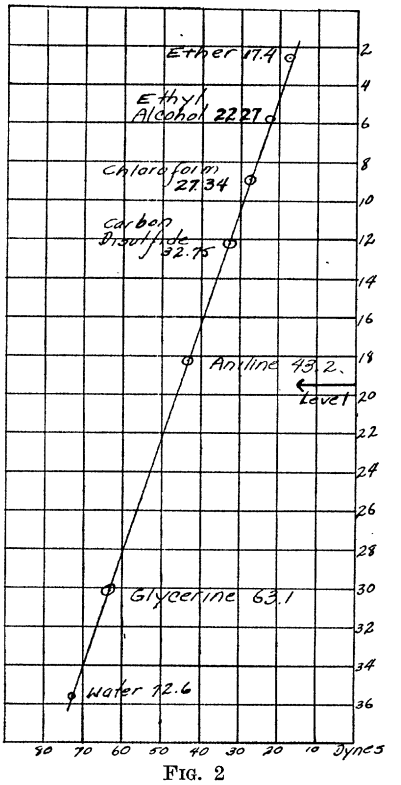

FIG. 2

were connected with a single straight line—excellent confirmation of accuracy.

After determining the scale reading for an unknown, as 22.5, for example, a glance at the diagram indicates a corresponding surface tension value of 50 dynes.

(Excellent detailed instructions for use of the Du Nouy tensiometer are found in Bulletin 101, printed by the Central Scientific Company of Chicago. An elaborate chainomatic tensiometer is sold by the Arthur H. Thomas Company of Philadelphia.)

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BOOKS RECEIVED

BROWN, HARRY B. *Cotton; History, Species, Varieties, Morphology, Breeding, Culture, Diseases, Marketing, and Uses.* Second edition. Pp. xiii + 592. 140 figures. McGraw-Hill. $5.00.

COWDRY, E. V. *A Textbook of Histology; Functional Significance of Cells and Intercellular Substances.* Second edition. Pp. 600. 323 figures. Lea and Febiger. $7.00.

HOGG, JOHN C. *An Introduction to Chemistry.* Pp. xiv + 365. 115 figures. Oxford University Press. $2.00.

MESSER, HAROLD M. *An Introduction to Vertebrate Anatomy.* Pp. xvi + 406. 374 figures. Macmillan. $3.50.

ROGERS, CHARLES G. *Textbook of Comparative Physiology.* Second edition. Pp. xviii + 715. 158 figures. McGraw-Hill. $5.50.

WEISNER, LOUIS. *Introduction to the Theory of Equations.* Pp. ix + 188. 16 figures. Macmillan. $2.25.