SCIENCE

VOL. 89 FRIDAY, JUNE 23, 1939 NO. 2321

North American Responsibilities for the University, 1934–1954: DR. ALAN GREGG 569

Scientific Events:

Visitation Day at the Greenwich Observatory; Survey of the Central and South Pacific Ocean; The New York Institute for Hospital Administrators; Meetings of the Third Commission of the International Society of Soil Science; The Sixth Pacific Science Congress 575

Scientific Notes and News 578

Discussion:

The Discovery of Antarctica: A Reply to Professor R. N. Rudmose Brown: PROFESSOR WILLIAM H. HOBBS. *Hyphenation of English Compound Names:* DR. H. J. CONN. *Use of Parentheses in Zoological Nomenclature:* DR. ARTHUR N. BRAGG 580

Quotations:

Distribution of the Younger Starred Scientists: PROFESSOR STEPHEN S. VISHER 583

Special Articles:

Pre-linguistic Sign Behavior in Chimpanzee: DR. ROBERT M. YERKES and DR. HENRY W. NISSEN. *Synthesis of Ascorbic Acid in Excised Roots of the White Moonflower:* DR. MARY E. REID and DR. ROBERT L. WEINTRAUB. *A New Meningotoxoid:* TALAT VASFI OZ. *Increased Sensitivity of Hypophysectomized Rats to Radiation:* EVELYN ANDERSON and OTHERS 585

Scientific Apparatus and Laboratory Methods:

A Simple Mechanical Thermoregulator: A. C. BRATTON. *Use of Latex Dry Adhesive for Kymograph Paper:* DR. F. H. PRATT 589

Science News 6

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NORTH AMERICAN RESPONSIBILITIES FOR THE UNIVERSITY, 1934–1954[1]

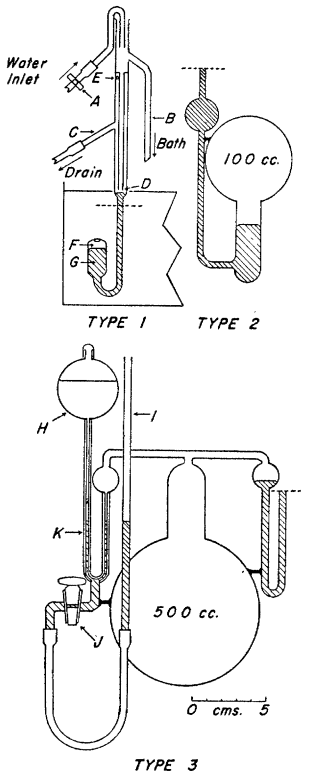
By Dr. ALAN GREGG

THE ROCKEFELLER FOUNDATION

FOR the past sixteen years I have had occasion to visit medical schools and institutes of medical research in some thirty countries. In the variety one encounters in such an experience—variety of methods, of purposes and of circumstances—one is reminded of a saying of Oscar Wilde: "When you break the little laws the big laws begin to operate," for out of so many contradictions and differing practices emerge certain underlying principles. I can not forget the first time I saw an Irish jaunting car. My impression was that if that was a vehicle then one could design almost anything for transportation purposes and it might work, for if one sees underlying principles in a great variety of forms the end result is a great sense of freedom to tackle almost any new task.

Now, one question which I should like to ask you this evening is this: Are we prepared here in North America to assume responsibility for the maintenance and continuation of one of the greatest traditions of Western Europe, the university? Everywhere I have gone and seen institutions of higher learning there are traces of that tradition—sometimes strong, sometimes weak, but there is no doubt that in the world of teaching and of scholarship the university as it has developed in Western Europe is the source and the paradigm. How much do we understand of this tradition? If we accept Hegel's definition of freedom as "the recognition of necessity" then are we

[1] Presented at the annual banquet of the Federation of Societies for Experimental Biology, Toronto, April 28, 1939.



head are shown below the dotted horizontal lines in the sketches. Type 1 is quite compact; the expansive medium is a liquid, F, with its vapor phase, standing over mercury, G, as shown. The liquid should boil 5–10° above the bath temperature (carbon disulfide is suitable for 35–40°), and a small bubble of air is included to preserve the vapor phase. The sensitivity of this type is about ± .01°, but a 5 mm change in barometric pressure may change the temperature 0.3°.

Type 2 is filled completely with a liquid of high coefficient of expansion, *e.g.*, ethyl acetate. It is not influenced by changes in barometric pressure; the sensitivity is ± .03°, but may be improved to ± .01° by inserting metal foil or wire gauze in the bulb.[2]

Type 3 is recommended for large baths where high sensitivity (± .003°) with ease of alteration of temperature setting is desired. The setting is changed by transferring solvent in the reservoir, H, to or from the expansion bulb through a capillary (1 mm internal diameter) bend, K, which is closed by mercury from the manometer, I, during operation. The stopcock, J, which sustains the mercury column, does not leak, since it only comes in contact with mercury. For quite large baths (100 liters), the diameters of the tubing used in the control head should be multiplied by one and one-half. A rubber sleeve is slipped over the water-filled portion of the control head immersed in the bath to prevent undesirable heat loss from the bath to the stem.

[2] R. D. Stiehler, SCIENCE, 83: 40, 1936.

A. C. BRATTON
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USE OF LATEX DRY ADHESIVE FOR KYMOGRAPH PAPER

SURFACES that stick fast to "themselves," but to nothing else, are familiar in envelopes where a turned-down margin separates the latex-treated flaps before use. Adhesion is immediate without moistening.

In the class laboratory we have found during two years' experience much satisfaction in the use of a similar method for wrapping kymograph cylinders. The liquid preparation can be rapidly applied with a brush to a large number of sheets. These are laid out on the bench so that each projects beyond the next a half-inch or more according to the circumference of the drum used, which must of course determine the appropriate coincidence. After drying in place, the set of sheets is inverted and the opposite ends are similarly treated. Stacked flat, the sheets can not adhere; but a sheet wrapped about the drum is firmly sealed in place by mutual contact of the prepared surfaces. The latex seal resists the heat of smoking and does not loosen, yet is readily separated for clean handling of the completed record. Sheets remain adhesive after months in storage. The method not only saves time for the student, but contributes distinctly to neatness in technique.

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BOOKS RECEIVED

FREUD, SIGMUND. *Moses and Monotheism.* Pp. 218 + vi. Knopf. $3.00.

GREEN, CHARLOTTE H. *Trees of the South.* Pp. xiv + 551. Illustrated. University of North Carolina Press. $2.50.

HARTNACK, HUGO. *202 Common Household Pests of North America.* Pp. 319. Illustrated. Hartnack Publishing Co., Chicago.

HENDERSON, I. F. and W. D. HENDERSON. *A Dictionary of Scientific Terms.* Third edition, revised. Pp. xii + 383. Van Nostrand. $7.00.

LINCOLN, FREDERICK C. *The Migration of American Birds.* Pp. xii + 189. 22 figures. 12 plates. Doubleday, Doran. $4.00.

SAUNDERS, E. R. *Floral Morphology; a New Outlook with Special Reference to the Interpretation of the Gynaeceum, Vol. Two.* Pp. xiv + 609 + vii. 48 figures. Heffer, Cambridge, England. 10s. 6d.

SEMAT, HENRY. *Introduction to Atomic Physics.* Pp. xv + 360. 147 figures. Farrar and Rinehart. $3.50.

SIMONS, LAO G. *Fabre and Mathematics, and Other Essays.* Scripta Mathematica Library, No. 4. Pp. v + 101. Yeshiva College, New York. $1.00.

THOMPSON, MAURICE DE K. *Theoretical and Applied Electrochemistry.* Third edition. Pp. xxi + 535. 234 figures. Macmillan. $5.00.

WALTER, HERBERT E. *Biology of the Vertebrates; a Comparative Study of Man and his Animal Allies.* Second edition, revised. Pp. xxv + 882. 736 figures. Macmillan. $4.00.