

# SCIENCE

VOL. LXXII

FRIDAY, OCTOBER 31, 1930

No. 1870

<i>Polar Exploration</i> : DR. ISAIAH BOWMAN .....	439	<i>ical Legacies of Walter Deane</i> : DR. B. L. ROBINSON .....	458
<i>Obituary</i> :		<i>Scientific Apparatus and Laboratory Methods</i> :	
<i>George Fouché Freeman</i> : PROFESSOR ROGER C. SMITH; <i>Recent Deaths</i> ; <i>Memorials</i> .....	449	<i>An Improved Soil Sampler</i> : L. J. PESSIN .....	459
<i>Scientific Events</i> :		<i>Special Articles</i> :	
<i>The Centenary of the Royal Geographical Society</i> ;		<i>Adrenal Cortex Extract and Cancer</i> : SHIGEMITSU ITAMI and DR. ELLICE McDONALD. <i>The Life Cycle of the Parasite of East Coast Fever in Ticks Transmitting the Disease</i> : DR. E. V. COWDRY and ARTHUR W. HAM .....	460
<i>The Languages of American Indians</i> ; <i>Recommendations of the Advisory Committee on Education by Radio</i> ; <i>Appropriations for Grants-in-Aid by the National Research Council</i> .....	450	<i>Science News</i> .....	x
<i>Scientific Notes and News</i> .....	452		
<i>Discussion</i> :			
<i>Gibbs's Phenomenon</i> : PROFESSOR CHARLES N. MOORE. <i>The Present Status of Lactenin</i> : DR. F. S. JONES and DR. H. S. SIMMS. <i>An Accessible Tropical Vegetation</i> : DR. WALTER N. BANGHAM. <i>The Pronunciation of "Centimeter"</i> : PROFESSOR EVAN THOMAS. <i>Discoverer of the Calculus</i> : SIR RONALD ROSS .....	456		
<i>Special Correspondence</i> :			
<i>Work in Parasitology at the University of Michigan Biological Station</i> : DR. W. W. CORT. <i>Botan-</i>			

SCIENCE: A Weekly Journal devoted to the Advancement of Science, edited by J. MCKEEN CATTELL and published every Friday by

THE SCIENCE PRESS

New York City: Grand Central Terminal

Lancaster, Pa.

Garrison, N. Y.

Annual Subscription, \$6.00

Single Copies, 15 Cts.

SCIENCE is the official organ of the American Association for the Advancement of Science. Information regarding membership in the Association may be secured from the office of the permanent secretary, in the Smithsonian Institution Building, Washington, D. C.

## POLAR EXPLORATION<sup>1</sup>

By Dr. ISAIAH BOWMAN

DIRECTOR OF THE AMERICAN GEOGRAPHICAL SOCIETY OF NEW YORK

It was but yesterday in the procession of "the eternal years" that men sought knowledge of the higher will by consulting the oracle, the shrine where the voice could be heard that told what to do and what would happen. "There mighty Nations shall inquire their doom," and there the individual, if powerful enough, might even hope "to work the oracle" and bring private wish and future event into harmony. What men were striving after was fore-knowledge of the event, forecast, or, in another connotation and using the modern term of a scientist of the Indian Meteorological Department, "foreshadowing." It is rather striking that this early manifestation of human curiosity is reflected in the scientific era. Within the scope of its "laws," or, better said, its generalizations, science to-day sets up forecast as one of its highest aims. *Omitting California*, the most common question

<sup>1</sup> Public address under the auspices of the National Academy of Sciences given at the University of California on the evening of September 18, 1930.

of civilization is, "What will the weather be to-day?" and, as Mark Jefferson has phrased it, if the fore-caster can not tell us whether or not it will rain at least we wish him to tell us if it is prudent to carry an umbrella. In a state so well supplied with observatories and in the presence of such eminent astronomers I do not wish to draw upon even that nearer heaven, the sky, for further illustrations of forecast, but you will perhaps permit me to mention the tides and the celebrated tide machine of the U. S. Coast and Geodetic Survey that permits an operator to pull levers and scan indices and, at length, by what to the layman seems mystery as deep as an oracle, derive the future time of occurrence of the tide at a given point on the earth with all but mathematical accuracy!

It happens that polar exploration has participated in this advance from the place of wish-and-guess to the eye-piece of an instrument of precision and a knowledge of the workings of natural laws, and I have

# Science

**72 (1870)**

*Science* **72** (1870), x-462.

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