

SCIENCE

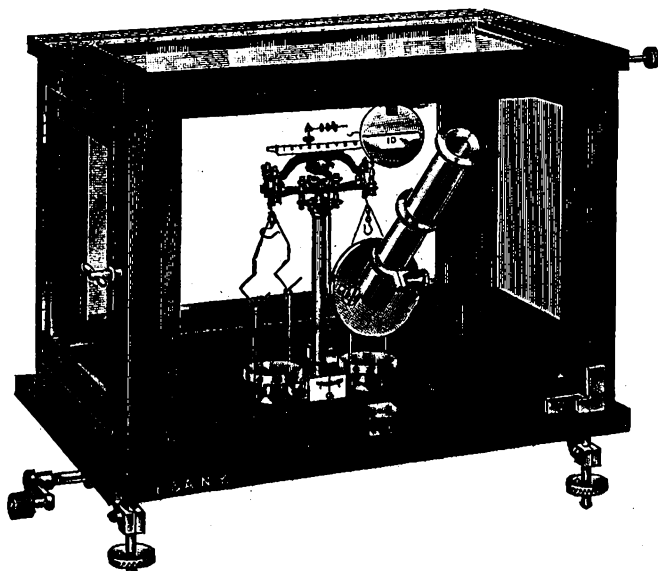
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VOL. LXIV

AUGUST 27, 1926

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CONTENTS

<i>The American Association for the Advancement of Science:</i>	
<i>The Solar System—Some Unsolved Problems:</i>	
PROFESSOR ROBERT G. AITKEN	191
<i>Scientific Events:</i>	
<i>Recent Researches at the National Physical Laboratory of Great Britain; Indian Mounds in Louisiana; Museum of the Peaceful Arts; The Pan-Pacific Botanic Garden; The Retirement of University Professors in Germany</i>	198
<i>Scientific Notes and News</i>	201
<i>University and Educational Notes</i>	204
<i>Discussion:</i>	
<i>Was Paul Guldin a Plagiarist?</i> PROFESSOR G. A. MILLER, PROFESSOR DAVID EUGENE SMITH. <i>CrySTALLINE Tetramethyl Mannose:</i> W. LEE LEWIS and RICHARD D. GREENE. <i>Zoological Nomenclature:</i> DR. C. W. STILES. <i>Robert Simpson Woodward:</i> K. W. WOODWARD	204
<i>Quotations:</i>	
<i>Two Astronomical Authorities on the Waning of Pure Science Research in the United States</i>	207
<i>Scientific Books:</i>	
<i>Calkins on the Biology of Protozoa:</i> PROFESSOR H. S. JENNINGS. <i>Bosman's The Elements of Physics and Chemistry:</i> PROFESSOR W. A. NOYES	207
<i>Scientific Apparatus and Laboratory Methods:</i>	
<i>Optimum Conditions for Music in Rooms:</i> PROFESSOR F. R. WATSON	209
<i>Special Articles:</i>	
<i>The Attenuation of Plant Viruses and the Inactivating Influence of Oxygen:</i> DR. JAMES JOHNSON	210
<i>The Nebraska Academy of Science</i>	210
<i>Science News</i>	x

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THE SOLAR SYSTEM—SOME UNSOLVED PROBLEMS¹

ABOUT forty years ago I attended several of the famous noon-hour lectures in Tremont Street Temple, Boston, by Dr. Joseph Cook. I should not be able now to quote anything Dr. Cook said, but I do recall distinctly that whatever his subject he did not at once begin to speak upon it, but gave first what he called a "prelude" upon some specially timely topic. With this distinguished precedent in mind, I venture to preface my address upon the unsolved problems relating to the solar system, by a plea for instruction in astronomy in our secondary schools.

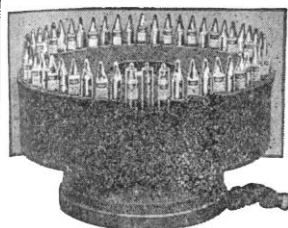
This is a question to which I have given thought for many years, but the decision to speak about it to you to-night was formed as the result of a visit to the Lick Observatory in April by the senior class of one of our state teachers' colleges. I had the opportunity, in the course of the evening, to talk with several groups of these young people, who will, within a few months, be among the teachers to whom we entrust the education of our children.

Frankly, their ignorance of the most obvious of celestial phenomena and of the most elementary facts relating to the sun, the moon and the stars was appalling. Doubtless they all knew that the sun rises in the east, but I question whether they knew that this is also true of the new moon! Certainly, they did not know that the sun and the moon differ in size nor that the moon does not, like the sun, originate its light. They did not know the difference between a planet and a star, nor did they know even the most conspicuous of the stars and constellations. Orion and the Pleiades, Sirius and Arcturus meant nothing to them, so far as I could ascertain. I told them of the teacher to whom I once showed Jupiter, and who, after a single glance at the glorious disk, exclaimed "Is this a star? I thought all stars had five points!" and they looked at me with blank faces. Perhaps they, too, thought that Jupiter was a star and that all stars had five points!

If this were true of the students in only one institution it would be bad enough, but there would be no occasion for bringing the matter to your attention. Unfortunately, I fear that is true of a large proportion of the students in all our schools. It is entirely possible for a student to pass from the kindergarten

¹ Address of the retiring president of the Pacific Division, American Association for the Advancement of Science, delivered at Mills College, June 16, 1926.

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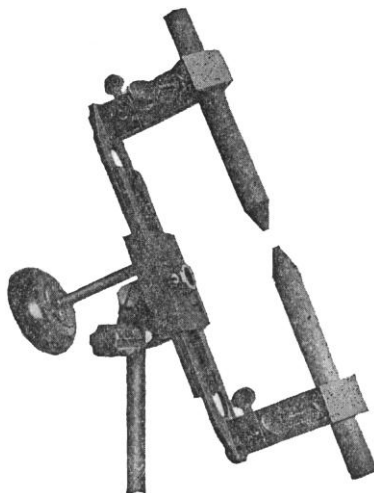
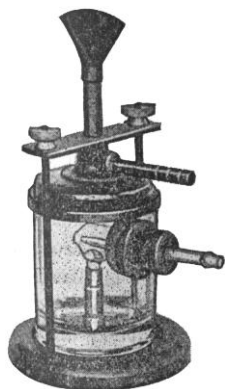
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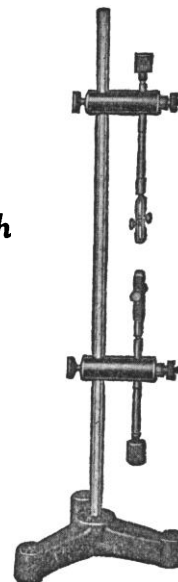
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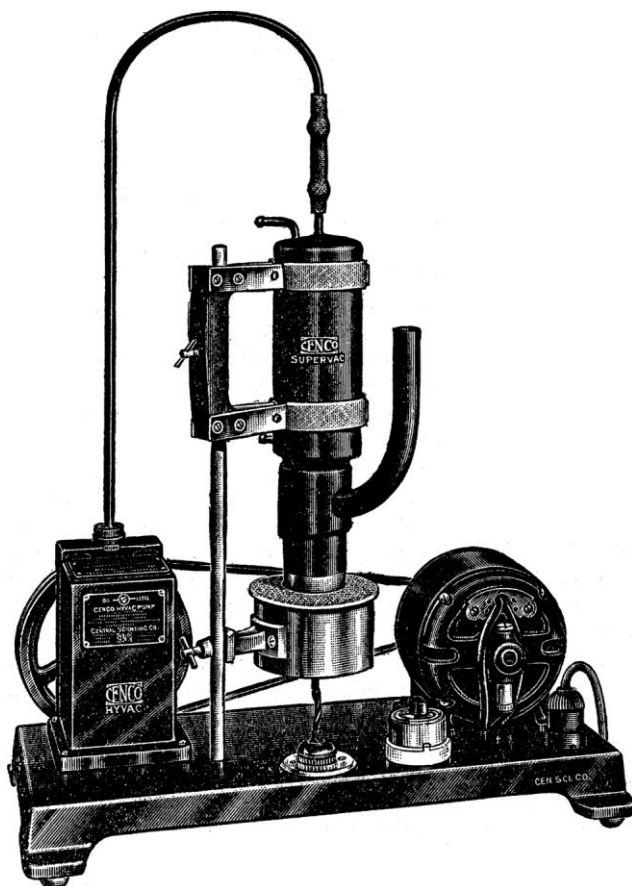
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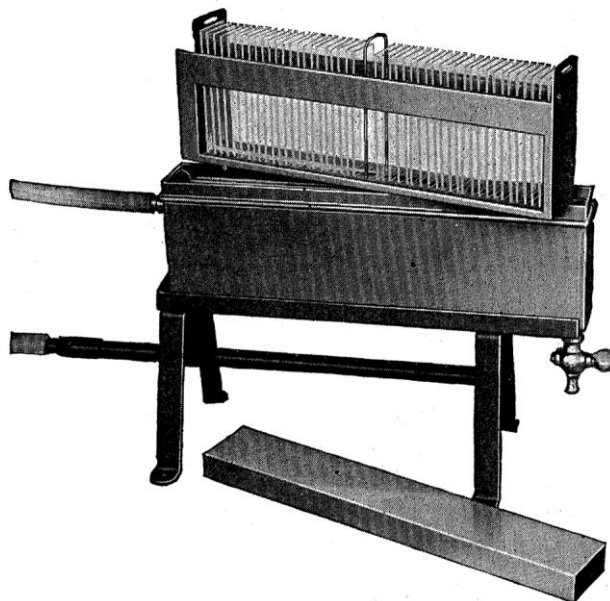
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