

SCIENCE

A Weekly Journal devoted to the Advancement of Science, publishing the official notices and proceedings of the American Association for the Advancement of Science, edited by J. McKeen Cattell and published every Friday by

THE SCIENCE PRESS

11 Liberty St., Utica, N. Y. Garrison, N. Y.

New York City: Grand Central Terminal

Single Copies, 15 Cts.

Annual Subscription, \$6.00

Entered as second-class matter January 21, 1922, at the Post Office at Utica, N. Y., under the Act of March 3, 1879.

VOL. LV FEBRUARY 17, 1922 No. 1416

<i>The Spectroscopy of the Extreme Ultra-violet</i> : PROFESSOR THEODORE LYMAN.....	161
<i>American Association for the Advancement of Science</i> : <i>Report of the Committee on an International Auxiliary Language</i> : DR. S. W. STRATTON	166
<i>The Psychological Corporation</i>	169
<i>Scientific Events</i> : <i>List of Scientific Periodicals; The Gorgas Memorial Institute; The Reorganization of Mathematics in Secondary Education; The British Columbia Expedition of the University of California; Bache Fund of the National Academy of Sciences</i>	171
<i>Scientific Notes and News</i>	173
<i>University and Educational Notes</i>	177
<i>Discussion and Correspondence</i> : <i>Kentucky and the Theory of Evolution</i> : PROFESSOR ARTHUR M. MILLER. <i>Relativity and Star Diameters</i> : DR. REGINALD A. FESSENDEN. <i>The Etiology of Tipburn</i> : DR. JOHN R. EYER.....	178
<i>Quotations</i> : <i>Economy in Publication</i>	181
<i>Scientific Books</i> : <i>Fernald's Applied Entomology</i> : PROFESSOR GLENN W. HERRICK.....	182
<i>Special Articles</i> : <i>High Speed High Vacua Mercury Vapor Pumps</i> : PROFESSOR CHAS. T. KNIPP. <i>The Neuromotor Apparatus of Paramecium</i> : DR. CHARLES W. REES.....	183
<i>The American Chemical Society</i> : DR. CHARLES L. PARSONS.....	185

THE SPECTROSCOPY OF THE EXTREME ULTRA-VIOLET¹

In the year 1914 I published a monograph under the title of "The Spectroscopy of the Extreme Ultra-Violet"; to-day I wish to trace the progress of the subject to the present time. The part of the spectrum with which we are concerned has for its less refrangible limit wave-length 2,000 A.U.; it now extends to a region separated from X-rays by less than 200 units.

It is more than thirty years ago since Victor Schumann led the way into this undiscovered country, and gave his name to the region he explored. His methods and his results are familiar to all spectroscopists, but it may be well to remind you of the nature of the difficulties which he conquered. The extension of the spectrum in the ultra-violet is opposed by three factors, the opacity of the materials usually employed in the making of prisms and lenses, the opacity of gelatine, and the opacity of the air. By the use of fluorite, by the invention of a special photographic emulsion and by placing his spectrograph in vacuum, Schumann demonstrated that the spectrum could be extended by nearly eight hundred units.

The result, though easily described, was only reached after years of patient toil, for experimentation in this region was, and still is, beset with great difficulties. Every contribution which Schumann made to the subject is marked by the greatest exactness and finish; his field was limited, but within that field not only his technique but also his reasoning remain a model to this day.

The first and most characteristic product of his labors was a series of exquisite spectrograms of hydrogen; but owing to the lack of a dispersion curve for fluorite, it was out of the question to attach wavelengths to the lines

¹ Address of the president of the American Physical Society, Toronto, December, 1921.

Science

55 (1416)

Science **55** (1416), 161-188.

ARTICLE TOOLS

<http://science.sciencemag.org/content/55/1416.citation>

PERMISSIONS

<http://www.sciencemag.org/help/reprints-and-permissions>

Use of this article is subject to the [Terms of Service](#)

Science (print ISSN 0036-8075; online ISSN 1095-9203) is published by the American Association for the Advancement of Science, 1200 New York Avenue NW, Washington, DC 20005. 2017 © The Authors, some rights reserved; exclusive licensee American Association for the Advancement of Science. No claim to original U.S. Government Works. The title *Science* is a registered trademark of AAAS.