

# SCIENCE

VOL. 92

FRIDAY, SEPTEMBER 13, 1940

No. 2385

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

## THE SCIENCE PRESS

Lancaster, Pa. Garrison, N. Y.  
New York City: Grand Central Terminal  
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.

## CHEMISTRY WITHIN THE ATOM<sup>1</sup>

By Dr. S. C. LIND

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IN our present age we have become accustomed to a continual acceleration in the development of all phases of human activity. A "Blitzkrieg" in international affairs is but one of the many manifestations of this acceleration.

In the realm of science, particularly in that of chemistry and physics, the rate of development has been no less phenomenal. It is not my purpose to discuss whether there is a direct relation between the two, or to try to determine what effect the advances of science have on our economic, social and political life, but rather to invite your attention to a portion of science which is so far removed from the world surrounding it that it has almost, though not wholly, escaped the

attention of those who make wars. Its only applications to human affairs have been beneficent ones. You may well wonder what branch of science has enjoyed such isolation that it could not be twisted or abused to render disservice to mankind instead of service. You may be surprised that this oasis is at the heart of chemistry far inside the atom.

Paradoxical as it may seem, a half century ago, the inside of the atom was more unknown to us than the distant stars. I suppose the antithesis of a vacuum would be absolute solidity of matter. Such the atom was supposed to be. We know now how wide of the truth this conception has been found to be, but it required several years after the first messages from the interior of the atom before its structure began to be revealed.

<sup>1</sup>Address of the president of the American Chemical Society, given at the centenary meeting, Detroit, Michigan, September 10, 1940.

# Science

**92 (2385)**

*Science* **92** (2385), 227-246.

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