

CHEMISTRY

Elusive Element No. 87 Reported Discovered

Discovery Made in France, Although Not Yet Reported To Science Journals, Is Announced in California

THE DISCOVERY of element No. 87—the last but one of the missing elements in the periodic table—has been achieved in France. The finding of this elusive element, whose discovery has been previously reported and afterward disproved, was made by Horia Hulubei, in France.

The discovery has not yet been reported in scientific journals but was revealed by Dr. F. R. Hirsch, Jr., research fellow at California Institute of Technology, speaking at a seminar of the physics department.

Dr. Hirsch reported that Hulubei's discovery was made as a result of a suggestion of Dr. Jesse W. M. DuMond, research associate at California Institute. In 1930 Dr. DuMond first suggested an apparatus, known as the curved crystal focusing spectrograph, which was modified by the French scientist Cauchois and used by Hulubei in the discovery of element No. 87.

While at Cornell University Dr. Hirsch, one of the 17 or 18 scientists who sought the formerly missing element, reported to the American Phy-

sical Society that he was unable to confirm a prior claim by Prof. Jacob Papish and Eugene Wainer, for the discovery of element No. 87.

Dr. Hirsch predicted that the last missing element, No. 85, in the periodic table, might also be discovered by the powerful instrument used in France.

This instrument is so sensitive that it can detect one part of a given element in 10,000,000,000 parts of pollucite or any chemical or mineral. Pollucite is the mineral in which Hulubei discovered element No. 87, which has been named Madavium.

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PHYSICS

First Estimate of Size Of New Subatomic Particle

THE PHYSICISTS' unchristened baby, the subatomic particle discovered almost exactly a year ago, is between 100 and 160 times as massive as the electron.

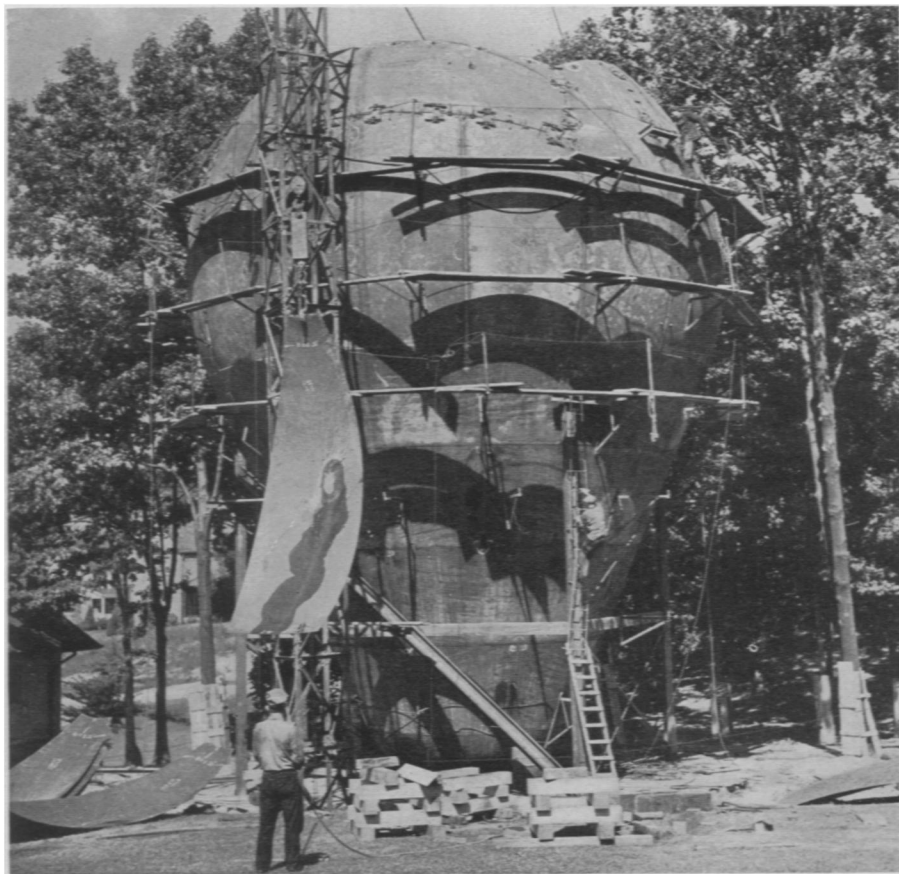
This first estimate of the size of the most recent addition to the family of building blocks of the universe was reported (*Physical Review*, Nov. 1) by Drs. J. C. Street and E. C. Stevenson of Harvard University.

One thousand photographs of particle tracks produced by the bombardment of matter by cosmic rays were taken by the Harvard scientists in order to secure one photograph of the new particle, it is stated. The estimate of the size is based on the shape of the track the particle left behind it and on its penetrating power.

First reported by Science Service almost exactly a year ago, discovery of the particle, credited to Dr. Carl D. Anderson, California Institute of Technology Nobel Prize winner, and his associate, Dr. Seth Neddermeyer, occasioned a keen rivalry between the California scientists and their Harvard colleagues. The official announcement of its discovery by the Californians last spring was made almost simultaneously with a similar announcement from Harvard.

The particle is believed to carry the same negative electric charge as an electron, for the two Harvard scientists made that assumption in proceeding to analyze results of their lengthy experiments.

Four Geiger counters—devices for counting atomic discharges—were lined up in an ingenious experimental "telescope" layout in order to track the new particle. The first three counters were



ATOM SMASHER

This great pear shaped instrument is the new atom smasher now being built by the Carnegie Institution of Washington, in the capital city. Seventy tons of steel are going into its 55-foot high shell. The photograph on the cover of this week's Science News Letter is of the same frame work looking directly upward toward the workmen at the top.