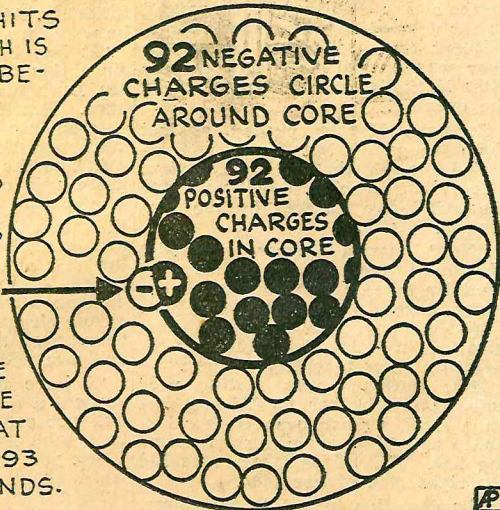


# Element 93 May Prove Baby of Atoms' Family

## Building the new element 93

A NEUTRON HITS URANIUM, WHICH IS ELEMENT 92 BECAUSE IT HAS 92 POSITIVE ELECTRICAL CHARGES IN ITS CORE AND 92 NEGATIVE CHARGES OUTSIDE



THE NEUTRON ADDS A POSITIVE AND A NEGATIVE CHARGE SO THAT THERE ARE 93 OF BOTH KINDS.

Washington, June 16.—(AP)—Science's newest triumph, creation of what may be element number 93, "test tube baby" of the atom family, is calling attention again to the unsolved puzzle of whether solid matter is really solid or just electrical energy.

One of the main differences between any two elements, between hydrogen and helium, gold or lead, is the different electrical charges of the cores of their atoms. The 92 known elements, out of which everything in the universe is built, are arranged in order according to the number of charges composing their cores.

Each element has an electrical charge in the cores of its atoms that is two, three, four or up to 92 times the charge in the core of hydrogen. Hydrogen, the lightest element, has a charge of "one." Uranium, the heaviest, has a charge 92 times as much, so it is labeled element 92. The other elements have charges between one and 92. Electrons, corresponding in number to the charge of the atom's core, circle around the core.

### Nature's Transmutation.

Changing the charge in the core of an atom apparently changes it from one kind of matter into another. This kind of "transmutation" is performed regularly by mother nature when uranium atoms disintegrate by the process of radioactivity and turn into entirely different elements—radium and lead.

Radium and lead have smaller charges than uranium, but in creating "element 93" Dr. Enrico Fermi has reversed the process of nature and made something with a greater charge than uranium, although still using uranium as a starting point. He shot neutrons into the cores of uranium atoms. Precisely what a neutron is has not been determined, but physicists agree that neutrons are important parts of the atomic cores. The neutrons made some sort of a combination which added one charge to the uranium nucleus, giving it a charge of 93, so it ceased to be uranium and became the dif-

ferent substance which may be the new element.

### When Is a Proton?

The number of charges or protons in the core of an atom seems to determine largely to what element the atom belongs. So the next question, which is now puzzling scientists, is whether protons are solid matter, charged with electricity, or nothing but positive charges of electricity existing by themselves. There is a good deal of evidence that they are nothing but electricity, although that is by no means certain.

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