PHYSICS

Two More Elements Identified In Splitting of Uranium Atom

TWO MORE elements — xenon and strontium — have been identified chemically as the products of the splitting of uranium in atom smashing experiments, it is reported by Prof. Otto Hahn and Dr. Fritz Strassmann at the Kaiser Wilhelm Institute for Chemistry at Berlin-Dahlem.

It was Prof. Hahn's discovery that the bombardment of uranium with neutrons would not only split the uranium into fragments but also that tremendous amounts of atomic energy would be released in the splitting. Energies of over 100,000,000 electron volts have been already reported experimentally.

Prof. Hahn's new discovery, announced in *Die Naturwissenschaften,* (March 10) brings to six the number of chemical elements which have now been identified in the uranium splitting under bombardment. These elements are: barium, lanthanum, strontium, yttrium, xenon and caesium.

As the fragments of the exploding uranium atom are further identified chemically, it becomes apparent that there are no set rules for the production of uranium's fission products. It seems only necessary that the fragments should have atomic weights which add up to the atomic weight of uranium 238 plus a neutron of mass one, or a total of 239.

In a simple picture the two splitter fragments might each have approximately half the atomic weight of the unstable form of uranium having mass 239. This would be a chemical element of atomic weight 119 and the nearest thing to this number is the element tin. Actually this element, obained by a true 50-50 splitting, has not yet been found.

Barium, atomic weight 137.9, was the first one identified and its complementary element (to bring the total mass to 239) is the inert gas krypton.

How relatively light elements like strontium, atomic weight 87, and yttrium, atomic weight 88.9, can appear is a bit puzzling, but can be explained by picturing the splitting of uranium into three fragments instead of two.

A combination of three such fragments that would have an additive mass of 239 would be two strontium atoms each of mass 87 and a zinc atom of atomic mass 65. Strontium has already been identified, but zinc is yet undetected.

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ICHTHYOLOGY

Twin to Dinosaur-Age Fish Washed Ashore and Lost

THE STRANGEST true fish story in history, just unfolded in South Africa, has developed one oddly conventional twist—the big one got away.

Scientists of three continents are all agog over the catch, near the port of East London, on the southeast coast of South Africa, of a big blue fish belonging to a family supposed to have become extinct 50 million years ago. (See *SNL,* April 1) Dr. J. L. B. Smith of Rhodes University College, describes the five-foot, blue-scaled, archaic-styled monster. (*Nature,* March 18). He adds:

"After careful inspection of the mounted specimen, a responsible citizen-angler of East London stated that about five years ago he had found precisely such a fish, only considerably larger, partially decomposed, cast up by the waves on a lonely part of the shore east of East London. When he returned with assistance, the monster had vanished with a risen tide." The big one had got away.

However, Dr. Smith draws some comfort from the fact that a second fish of the same kind has been seen, even if not kept. Deep-sea trawling might conceivably bring in more specimens. The one now in the East London Museum was brought up with a haul of other fish from a depth of 240 feet, but it is considered likely that its actual habitat is deeper than that.

One argument for its belonging to deep water is found in the great size of its eyes. Fish from considerable depths are likely either to have very large eyes, to catch what few scraps of light there may be, or else to give up the struggle altogether and get along eyeless and blind in the dark.

It is a great disappointment to scientists that owing to inadequate facilities for preservation in East London the flesh and internal organs of the "dinosaur-age" fish could not be kept. Spoilage was so rapid that the carcass had to be disposed of, and only a few small parts were kept, apart from the skin which was mounted by the East London Museum taxidermist.

Dr. Smith has given the strange fish the scientific name *Latimeria Chalumnae.* The first or generic name is a scholarly bow to Miss Courtenay Latimer, curator of the East London Museum, who was the first scientist to examine it. The second or specific name is a reference to Chalumna, the point on the South African coast in sight when the trawler hauled in its astonishing catch.

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GEOGRAPHY—BIOLOGY

Cocos Island Is Still Largely Unknown World

COCOS Island, proposed as a site for outlying defenses of the Panama Canal, may yield scientific surprises if it is acquired by the United States and systematically explored. It is still largely an unknown world so far as its plant and animal life is concerned.

Of particular scientific interest is the presence on Cocos of a number of species, among the smaller animals, that show relationship to the fauna of the more remote Pacific islands. Better acquaintance with these "disjunct" species may reveal facts of importance concerning ocean currents in the past.

Most recent of the expeditions that have touched on Cocos' shores was the Presidential party aboard the U. S. S. Houston when a stop was made during President Roosevelt's fishing cruise last July and August. The Houston lay to off the island Aug. 1 to 3. Among the party was Dr. Waldo L. Schmitt of the U. S. National Museum, who examined all fish caught for matters of biological interest, and also made landings to collect along the beach and up into the hills.

Most important of his collections ashore were specimens of a genus of palm trees hitherto unknown to science. It is being described and named in a forthcoming Smithsonian Institution

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