

PHYSICS

Uranium Atom Explosion Covers Range of Only an Inch

Measurement of Effective Cross Section of Neutrons Producing Such Splitting Is Also Just Announced

THE EXPLOSION of uranium atoms, with the release of enormous amounts of atomic energy and the production of two "splitter" particles which are probably barium and krypton, occurs over a volume of space about an inch in radius.

Dr. Edwin McMillan of the University of California radiation laboratory describes studies (*Physical Review*, March 1) which indicate that the splitter particles cast off by uranium in its new-found explosion and break-up have a "range" of 2.2 centimeters or nearly an inch.

The splitting of uranium by impact with neutrons (neutral atomic particles) is being hailed as the most important discovery in physics since radium and radioactivity were found at the turn of the century.

In another report credited to nine scientists at Columbia University estimates were given of the effective cross section of the neutrons which produce such uranium splitting. This cross section, for slow or thermal neutrons, is given as 2×10^{-24} square centimeters or .000,000,000,000,000,000,000,000 square centimeters. These slow neutrons have been found to be especially efficient in splitting uranium. Fast neutrons, found alone to

be able to split thorium, are even smaller by a factor of 20 times.

From the Carnegie Institution of Washington's Department of Terrestrial Magnetism was the report of Drs. R. B. Roberts, R. C. Meyer and P. Wang that the uranium splitting not only gave off energy and two particles but also released a neutron. Potentially this neutron could strike a nearby uranium atom and perpetuate the release of atomic energy.

Science News Letter, March 18, 1939

MEDICINE

Medical Prescriptions Can Soon Go International

MEDICAL prescriptions, or at least the drugs that are called for in the prescriptions, are soon going international with the aid of the League of Nations. Which means, among other things, that if you are travelling abroad and need some more of that medicine the doctor prescribed for your stomach trouble, for example, you will be able to get the prescription made up without the difficulty you had last time you were abroad.

Even if you have never travelled abroad and do not expect to do so, you may benefit from the limited international pharmacopoeia which is now in process of creation.

A pharmacopoeia is a book containing a list of products used in medicine, with descriptions and chemical tests for determining the identity and purity of the substances. The pharmacopoeia also contains formulas for certain mixtures of these substances and usually a statement of average dosage. The Pharmacopoeia of the United States is a legal standard for drugs and medicines in this country. Other nations have their own.

There is considerable variation in the strengths and composition of medicinal preparations as given in the different national pharmacopoeiae. This creates confusion not only in the case of the individual who needs to have a prescription filled while travelling in foreign lands, and with regard to treatment of ships'

crews calling at different ports and replenishment of ships' medical chests, but also for manufacturers supplying the international market and for physicians investigating the value of a new treatment developed in a foreign country.

The move for an international pharmacopoeia to solve these difficulties started in Brussels in 1925. Material for it has been prepared and in May of this year a technical commission of experts, set up by the Health Organization of the League of Nations, will consider this material and approve a final form of what may then become the international pharmacopoeia.

Science News Letter, March 18, 1939

PSYCHOLOGY

Letter to the Editor— Pronunciation as a Trap

(Capt. Gregory is the scientist son of Sir Richard Gregory, for many years editor of the scientific journal, *Nature*. Capt. Gregory is at the Rothamsted Experimental Station, Harpenden, England.)

By CAPT. E. H. GREGORY

I WAS very interested in the short note that you published on page 91 of *SCIENCE NEWS LETTER*, February 11th.

The note had the heading—"Gangsters Use Metaphor as Escape From Reality."

It was the paragraph—"a way of identifying oneself with a certain group and aweing or mystifying the uninitiated"—that caught my attention.

There is no question that in this country pronunciation is used as a means of segregating groups of people. It is a far more accurate way of determining in what set a man or woman moves, than by judging the cut of clothes, or the size of bank balance.

There are certain pit-falls that have been devised, at least one can see no other reason, to enable this sorting out to be carried on.

As you know, it matters not how pronounced a man's Oxford accent may be, or what college tie he is wearing, his pronunciation of—Magdalen College as Mag'dalen College, tells you at once that he was never at Oxford.

It is Maudlin College.

The same thing applies to the—High Street, in Oxford, it is always called—"the High".

There are many other examples at Oxford.

At Cambridge, Caius College, is "Keys" College. The Kings Parade is always known as K. P.

The pronunciation of the name "Ralph"

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is, Rafe, but the ordinary man in the street calls it Ralph.

Not many years ago it was the fashion of what may be called "the tweedy-gentry of England" to clip the "g", that is to say hunting, shooting and fishing, became huntin' (often 'untin') fishin', and shootin'. Ridicule has done a great deal towards killing this fashion.

The average Englishman says—girl, as it is spelt. The lower classes say—gurl, but the right people, say "gel" or a mixture of gel and gal, very difficult to pronounce.

From time to time these pronunciation "signs" undergo a change.

Many years ago "the best people" said "honour", that is sounding the "h", whereas now it is 'onour, but at that time hospital was pronounced 'ospital, dropping the "h". There can have been no reason for this, except that it was a deliberate trap.

As the father once said to his small son—"You may have Haddock and Ham at school, but in this 'ouse you 'ave 'ad-dock, and 'am".

Quite recently, that is to say, within the past 15 years, it has become the fashion to pronounce "valet" as an English word, and not as a French, also in restaurant, the first "t" is now sounded by—"the best people."

Science News Letter, March 18, 1939

ASTRONOMY

Foreign Astronomers To Lecture at Harvard

OUTSTANDING foreign astronomers will join the visiting faculty of Harvard during the coming summer for the 1939 Harvard Summer Conferences on Astronomy.

Courses in stellar astronomy and seminars on celestial mechanics, star structure and other special problems will be given from July 5 to Aug. 15.

The following will be visiting lecturers during the sessions: Dr. Jan Oort, University Observatory, Leiden; Dr. Freeman D. Miller, Denison University, Granville, Ohio; Dr. Svein Rosseland, Institute of Theoretical Astrophysics, Oslo; Dr. Zdenek Kopal, University of Prague; Dr. Richard A. Prager, Berlin; Dr. E. F. Freundlich, Prague.

Science News Letter, March 18, 1939

American nurses, says the Pan American Sanitary Bureau, have made quite a name for themselves in such countries as Cuba, Chile, Panama, and Colombia where they have helped organize hospital and public health services.

ARCHAEOLOGY

Says Lost Viking Found America On Detour

LEIF ERICSSON sailed to America on a tip from a daring young Norseman who got there first. At least, so it appears from studies reported by a Norwegian archaeologist, Prof. A. W. Brogger of the University of Oslo.

How Leif Ericsson happened to sail on that voyage which landed him in Vineland, somewhere in America, has been almost as mysterious as the exact location of Vineland itself. It has been said that Leif was doing missionary duty, carrying Christianity to Greenland at request of King Olaf of Norway when he lost his way and discovered the land of the vine. But Prof. Brogger is convinced that Ericsson sailed to America deliberately, not by chance.

His conclusions bring into prominence a headstrong young Viking named Herjulfsson, who technically may be the discoverer of America.

The story is that when Leif Ericsson's father, Eric the Red, had sailed from Ice-

land to establish the first Norse colony in Greenland, in the tenth century, he had been followed by this young Herjulfsson, who got lost on the way and made a landfall in a strange country—Labrador. Herjulfsson got lost because he had insisted on navigating his own ship, despite inexperience. A hard gale and fog drove his ship away from the course, and the detour took him, so Prof. Brogger figures, to Battle Harbor, Labrador, thence back to Baffin's Land and to Greenland.

When Eric the Red heard of it, he dispatched his son Leif to investigate the strange land. The expedition, concludes Prof. Brogger, was a sound and well-prepared venture, conducted by 35 men set to repeat deliberately Herjulfsson's mistake. He says they reached Baffin's Land and named it Helluland; continued to Labrador and called it Markland; and then went farther than Herjulfsson to discover luxuriant Vineland.

Science News Letter, March 18, 1939

Advance Announcement

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