

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.

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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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