cylinder supported above a glass plate by short sticks of red sealing wax. Along the axis of the cylinder was placed a thin platinum wire with a bead on the end. The cylinder was open to the air at atmospheric pressure and was positioned within a few millimeters of the exit port of the cyclotron vacuum chamber. Before positioning the Geiger counter, we tested it for the detection of alpha particles from a polonium source. Franz Kurie secured some glass radon "seeds" (from a hospital, I believe), smashed them in a small dish, poured in acid and then inserted a nickel wire. We deposited polonium on the nickel; this served as an excellent source of alpha particles. The potential on the Geiger counter could then be adjusted so that it could be used to detect alpha particles only and not respond to gamma rays or other background radiation.

It was August 1932 when all the equipment was tested and found to be in working condition. A vacuum-tube amplifier and a pair of headphones were connected to the output of the Geiger counter. With the proton beam adjusted for maximum current, we listened on the headphones for the characteristic "clicks" produced by the helium nuclei from disintegrating lithium. We obtained the desired results—the lithium was disintegrated by the bombarding protons.

I left Berkeley the last week in August for my upcoming marriage in Bakersfield and for my new position at St. Louis University. As Lawrence was expected back "at any minute," I left the 11-inch cyclotron with its lithium fluoride crystal, the Geiger counter and other detecting equipment in such good working condition that Lawrence, Livingston and White sent their letter to the editor of the *Physical Review* on 15 September, just a little more than two weeks after we had left!

JAMES J. BRADY
Oregon State University
Corvallis, Oregon

12/82

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Varney wrote, "Late in 1932, heavy water was discovered by Harold Urey." In fact, *heavy hydrogen* was discovered by H. C. Urey, F. G. Brickwedde and G. M. Murphy late in 1931. This date is important because the discovery of deuterium preceded the discovery of the neutron in 1932.

The clinching evidence for a heavy isotope of hydrogen was obtained Thanksgiving Day 1931 and the discovery was reported at the annual meeting of The American Physical Society at Tulane University, 28–30 December (1931) by the three authors named above.

The method for separating the isotopes of hydrogen by the electrolysis of water (the oxides of hydrogen and deuterium) was discovered in 1932 by E. W. Washburn, Chief Chemist, National Bureau of Standards. Urey recognized this in his Nobel Laureate Lecture.

Varney also reported: "In the summer or fall of 1933, Lawrence had visits with Rutherford . . . and they thrashed out the topic of the name for the isotope of hydrogen. According to the story, Rutherford agreed to give up the term diplon [for the nucleus of the heavy isotope of hydrogen] in favor of the term deuton provided the latter were modified to include his initial, *R*, in it and so the term 'deuteron' was coined."

Soon after the discovery and availability of deuterium, Lawrence and Rutherford and their laboratories were busy using the heavy hydrogen nucleus as target and impinging particle in nuclear experiments. Interesting and unexpected results were obtained. For convenience in discussing these experiments and results, a name was needed for the heavy hydrogen nucleus. Lawrence and his co-workers chose *deuton*, Rutherford and his co-workers used *diplon*.

Urey was urged by colleagues to propose a name for the heavy isotope, as it was considered the prerogative and responsibility of the discoverer of a new chemical element to propose a name. In a letter, submitted 15 June 1933 to the editor of the *Journal of Chemical Physics*, Urey, Murphy and Brickwedde proposed the term deuterium for heavy hydrogen. Protium and deuterium were derived from the Greek words *protos* and *deuteros*, meaning *first* and *second*. As proton was already in general use for the protium nucleus, before the discovery of deuterium, the term deuteron was a natural extension.

F. G. BRICKWEDDE
The Pennsylvania State University
University Park, Pennsylvania

12/82

More on classification scheme

John T. Scott's reply on behalf of AIP to Jeff Hecht's letter complaining about the Physics and Astronomy Classification Scheme (PACS) used for the subject indexes of AIP and most member-society journals (June, page 83) needs some supplementation. The editors of the AIP and member-society journals, who comprise the AIP Publication Board, are well aware of the existence of complaints about PACS, and are concerned about them. PACS has been a much-discussed agenda item at recent Publication Board meetings. Largely as a result, two separate efforts are

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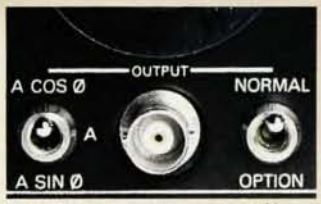

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under way at AIP: For the short run, a procedure has been established for revising and updating PACS at regular intervals to take into account new developments in physics. For the long run, a study has been undertaken of the usefulness of PACS and possible alternatives to it in various contexts (journal subject indexes, abstracting journals, computer-assisted literature searches). While I cannot promise Hecht that he will find journal subject indexes more to his liking in the future, I can assure him that the editors do take his complaints and those of others seriously.

STANLEY G. BROWN
Editor, Physical Review D
11/82 *Chairman, AIP Publication Board*

Founding of the SSRL

I appreciate the notice concerning me in the "We Hear That" section in May (page 96). However, I should not have been mentioned in the context of "... founding the Stanford Synchrotron Radiation Laboratory." Rather, it should have been noted that I was cofounder of that laboratory with Professor Sebastian Doniach of Stanford University's Department of Applied Physics.

WILLIAM E. SPICER
Stanford University
7/82 *Stanford, California*

Trends at PRL

It was most interesting to read the analysis of trends in research output and funding in November (page 9). I am particularly gratified at having statistics—without having to collect them myself—showing the steadily increasing part played by foreign authors in our journal.

My real reason for writing, however, is to correct a presumption made by the authors. The approximate constancy of the total number of letters per year published in PRL was not a matter of editorial mandate. There was one year in which the financial status of The American Physical Society induced the treasurer to request that we keep the journal at the same size it had been the year before, but that was after the plateau had been reached, and we had to make no special effort to implement the request. I could suggest several possible contributing causes, but that is beside the point. The plateau was maintained from outside the journal.

It should be noted that this correction does not vitiate any conclusions of the article. Rather, it strengthens the case for a tendency toward decline in the vigor of the US physics in general, and of our industry-based physics in particular.

GEORGE L. TRIGG
Editor
11/82 *Physical Review Letters*

Heat from junk mail

Having published three letters opposing junk mail (Blosser, April 1981, page 74; Vossen, August 1981, page 71; Elmer, November, page 13) I hope PHYSICS TODAY will air another view. I find and purchase several products per year through junk mail. Others must also, or else advertising this way would not be worthwhile for the companies doing it. Eliminating this mail would force such companies to use other presumably more expensive means of advertising, which would then be reflected in higher prices for their products. Thus eliminating junk mail would raise the price of doing experimental physics. I am opposed to that.

There is another benefit from junk mail on our campus. Combustible trash is used to produce energy for heating and cooling. Burning such trash saves directly on fuel costs, and it also saves on the cost of trucking trash away. Our program has been so successful that we are making arrangements to obtain such material from nearby industries and a junior college. Technical details may be obtained by writing the Utilities Department, University of North Florida, Jacksonville, Florida 32216. Instead of being annoyed by junk mail, we are thankful for the contribution to our heating and air conditioning.

JAY S. HUEBNER
University of North Florida
12/82 *Jacksonville, Florida*

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I find William Elmer's complaint rather devoid of imagination; for many physics- and technology-minded fireplace owners, the arrival of junk mail is an energy-blessed happening for the winter months. It provides an average monthly intake of about 20 kg solid fuel with a combustion heat of roughly 8 liters (2 gallons) of heating oil.

The accompanying gift of business reply cards will not only perpetuate this welcome supply, but also helps to provide job security for the mailman.

R. GERHART
USANVL/ACD
12/82 *Ft. Belvoir, Virginia*

Chandrasekhar and Eddington

With the turn of the year 1982–83 we remember Eddington's 100th birthday.

continued on page 101