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* * *

Based on a talk given at the 1977 Annual Washington Meeting of The American Physical Society, where Joel Primack and Frank von Hippel were awarded the APS Forum on Physics and Society Award for Promoting the Understanding of the Relation of Physics to Society through their book, Advice and Dissent: Scientists in the Political Arena (*Basic Books, 1974; New American Library, 1976*).

Support for history

The AIP Balance Sheet and the Summary Statement of Operations for 1976 as published in the July issue of PHYSICS TODAY do not reflect the support provided by the physics community and its friends to the Center for History of Physics. In these necessarily highly condensed statements many details of AIP activities, though present and accounted for in a financial reporting sense, are inevitably combined or dispersed in a way that makes difficult, if not impossible, an understanding of what is going on in any particular program. Another kind of reporting is required.

In the calendar year 1976 the following funds were raised or pledged for the Center for History of Physics. Foundations: $70 400; Industry: $32 056; Physicists and Friends: $14 020. Some of these funds were pledged over a period of three years, and some were for an endowment. Also, federal agencies gave or promised $103 092 for specific studies and programs. The Center for History of Physics will be happy to give details upon request regarding specific activities and programs.

On behalf of the Council of the Friends of the Center for History of Physics, I want to express my gratitude for the contributions and grants received. The American Institute of Physics is continuing to provide annual basic funding for the Center, amounting to about $120 000 per year.

The Center is a unique activity in the history of physics and has received enthusiastic acceptance within the scholarly community. Other groups are modeling their history programs on the Center's. Greater funds are needed as physics activities have grown and as physicists have increased their participation throughout society. We are still trying to catch up so that reliable historical documentation can be available to contemporary and future scholars. The needs are expanding. The Center needs long-term stability.

I do hope that those who contributed in the past can continue to contribute and that an interest can be generated to obtain additional contributions.

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8/22/77

Nuclear error

Before an inadvertently perpetrated mistake grows into a perpetuated error, may we rectify a statement made in our article on "Recent Advances in Neutron Physics" (February, page 40) when on page 49 we wrote that "the phenomenon of intermediate structure in sub-threshold fission was discovered in the neutron bombardment of Pu^{240} some eight years ago, and other examples have meanwhile been brought to light, as reviewed by Andre Michaudon."

In the review to which we referred,[1] as indeed in other detailed reviews[2] and in a report in PHYSICS TODAY,[3] it is made clear that the first discovery of intermediate structure was in fact made as early as 1966 in the neutron-induced fission of Np^{237} by the Saclay group of A. Michaudon, D. Paya, J. Blons, H. Derrien, A. Fubini and P. Ribon. The results were presented at several meetings, including a joint Saclay-Geel seminar, following which similar measurements at Geel in

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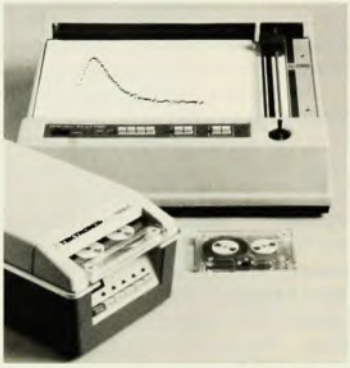

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1968 by E. Migneco and J. P. Theobald[4] demonstrated the same dramatic grouping of resonance clusters in the neutron-induced fission of Pu^{240}. Subsequently, the effect was confirmed further in other non-fissile nuclei, such as U^{234} and U^{238}

The Np^{237} results, of which we were well aware but had accidentally transposed with the later Pu^{240} findings, should have been accorded their deserved precedence, and due credit should have been given to the above Saclay group. As Andre Michaudon is currently preparing an abridged version of the above ICINN Conference review paper for publication in PHYSICS TODAY, we hope that this timely correction may set the matter straight and apologize for any misconceptions that may have arisen.

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7/11/77

More physics in poetry

Further to the remarks of H. A. Klein (January, page 84) and V. F. Weisskopf (June 1976, page 23), your readers may be interested in a remarkable (if unwitting) anticipation of special relativity in Wagner's "Parsifal." In Act I, as Parsifal is led through a forest to the Hall of the Grail, he sings[1]

"Ich schreite kaum—doch wähn' ich mich schon weit."

To which Gurnemanz replies:

"Du siehst, mein Sohn, zum Raum wird hier die Zeit."

A literal translation is

"I pace hardly at all, nevertheless I feel I have come far already."

"You see, my son, that here time transforms into space."

This is not the "official" translation,[1] which is modified by the constraints of rhyme, meter and dramatic singing in English.

Why Wagner chose this phraseology is not at all clear. The idea does not appear in his medieval sources, and he gives no explanation in his own writings. The discussion by Paul Bekker,[2] although complicated, does explain what Wagner probably meant, although there is no clear agreement among the experts. The actual choice of words again may have been dictated by poetic requirements.

I find no indication in Einstein's biographies, nor in talking with several of his biographers and colleagues, that he was ever aware of these unusual lines. In fact, Einstein's tastes in music ran to more classic composers, and he apparently showed no interest at all in Wagner. Banesh Hoffman relates one story: he invited Einstein to join him at a performance of "Tristan and Isolde." Einstein declined, saying "They have died too often."

This passage in "Parsifal" was first called to my attention in a *son et lumiere* lecture by Edwin Land at John Hopkins' Rowland-Wood Symposium on 21 November 1975.

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6/13/77

Origin of solar system

I am writing in reference to Grace Spruch's news story in your May issue (page 17) on the origin of the solar system directly from a supernova. I would like to point out that many years ago Fred Hoyle suggested that a solar system might arise from a binary star in which one of the components becomes a nova.[1] In 1971, I published my own theory of formation of solar systems from fragments of a supernova shell.[2] More recently, I have written a concise review of this model and its extension to the formation of galaxies.[3]

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6/6/77

Optics today

In his review of our text, *Contemporary Optics for Scientists and Engineers* (May, page 74), Charles Frahm raised

continued on page 82