effect that C^{14} existed as an unstable isotope. Pollard's was a most remarkable effort in view of the state of cyclotron art at the time. He was able to assign an upper limit of ~ 300 kv for the expected C^{14} beta radiations. His value for the cross section of the $C^{13}(d,p)$ process relative to that for the $C^{12}(d,p)C^{13}$ reaction also was helpful in some of the early calculations I made on the C^{14} half-life. In the initial reports by Ruben and myself [*Phys. Rev.* **57**, 549 (1940); *ibid.* **59**, 349 (1941)] we cited Pollard's work.

My account of the early history of C^{14} was intended primarily to evoke the atmosphere in the Radiation Laboratory just prior to the chemical discovery of C^{14}. Pollard's experiences did not affect this aspect of the history, but they certainly were a significant contribution to the whole early history of C^{14}. I hope that this correspondence will assure their inclusion when the complete story is recorded.

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Congressional Image of NIH

The "News and comment" section [*Science* **140**, 1076, 1194 (7 and 14 June)] has effectively described certain aspects of the relationship between Congress and the National Institutes of Health and has made it quite clear that members of Congress are unfamiliar with, and uninformed about, many of the serious problems encountered in the pursuit and administration of NIH-sponsored research. Improvement in this relationship would improve the congressional image of NIH.

It has been suggested that NIH assume the initiative and undertake an additional educational effort, namely, that of telling "their political leaders how [recipients of federal funds] are using the public's money," through the encouragement of visits and communication between Capitol Hill and the facilities and staff of the Institutes in Bethesda. Providing it does not become an all-consuming activity and a distraction from the basic functions of the NIH, this kind of program should be pursued.

On a different level, more than 80 percent of the NIH appropriation is expended in extramural grants, and grantees are to be found throughout the country. Although the membership of the House Intergovernmental Relations Subcommittee is limited and is drawn from only a few locales, every grantee is represented in Congress by two senators and one member of the House. Grantees themselves can easily take some share of the initiative towards improving the congressional understanding of scientific research by inviting and encouraging their representatives to visit laboratories within their own constituency. This should not involve any additional direct financial burden. Congressmen may be formally invited to schedule such visits at their convenience—on such occasions as they might return to their districts or state for other purposes, for instance, between congressional sessions.

With this in mind, we have invited the senators and representatives from our jurisdiction to visit us, hoping that they will gain a better understanding of the activities in which we are engaged. We hope also to convey some appreciation of the unique problems involved in the formulation, execution, and interpretation of scientific inquiry. These visits will not be conducted as "state occasions," with elaborate programs and speeches, but rather as serious attempts to impart information. We expect, during these visits, to keep local administrative details and intervention at a minimum.

This kind of "grass roots" approach to the problem of inadequate liaison between congressmen and the scientists for whom they appropriate funds can benefit both parties. It requires a modest expenditure of time and energy, but the reward will surely justify the investment.

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Three Princes of Serendip

It is interesting to note that your editorial [*Science* **140**, 1177 (14 June 1963)] puts a meaning on serendipity which is quite close to the structure of its original source, the story of *The Three Princes of Serendip.* This story describes brilliant deductions from apparently unrelated observations, much in the manner of modern detective stories, and the term serendipity as now used is an excellent example of distortion by dependence on secondary and tertiary sources.

The Three Princes of Serendip seems never to have been translated into English, the only easily accessible version being a German translation of the Italian translation of the Persian, which appeared in the journal *Folklore Fellows* about 20 years ago. It was brought to the attention of English-speaking people by a brief and oblique reference in one of Horace Walpole's letters, in which he said that he had heard about it from a friend, but not whether he had read it himself. When the origin of serendipity is mentioned by modern research writers, they sometimes mention Walpole also, but I have never seen such a reference which was made specific by direct quotation or even the date of the letter in question. Hence one may doubt that more than a small fraction of persons who speak and write of serendipity have read Walpole's comment, which is itself only a secondary reference, or worse.

I believe that the literary background of science would benefit by the publication of *The Three Princes* in English. Surely there must be some publisher who would think it worthwhile to translate two hundred pages of German for this purpose.

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In spite of your contention that "the research worker gets no more from his experiments than he puts in . . .," there is a wide and inexplicable area of inspiration. The few times that I was allowed to experience this sudden flash of insight are among the highlights in my life.

I also object to the last sentence in your editorial: "Serendipity is a bonus to the perceptive, prepared scientist, not a substitute for hard work." Serendipity is much more than a bonus, it is a blessing. "Perceptive," yes, "prepared"—not necessarily. This mysterious spark cannot be trained or guided. One either is a prince of Serendip or one isn't.

"Mere thinking cannot give us a sense of the ultimate. I cannot conceive of a genuine scientist without that profound faith. Science without religion is lame, religion without science is blind" (Albert Einstein).

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