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tribution of valuable property. On a variety of scales, from city versus suburbs to this region of the country versus that region, the children are one place and the money is another. (ii) The property tax is very regressive. According to testimony by the National Education Association in support of federal aid to education, "this tax hits incomes under \$2000 almost three times as hard, percentagewise, as it does the incomes of \$15,000 and over."

I am not pretending that these arguments are original. As Vause says, the views expressed in the editorial are "widely publicized." I am merely suggesting that these views, if well known, have also been well defended.—J.T.

Satellite Orbits

I. I. Shapiro and H. M. Jones, of the Lincoln Laboratories, and R. W. Parkinson, their collaborator, now at Aeronutronics Inc., have raised the question of priority with respect to the publication of calculations on the effect of radiation pressure on satellite orbits.

I am more than pleased to put on record the fact that our interest in this subject was stimulated by reports of the work of Shapiro, Parkinson, and Jones, which they subsequently published [*Science* 131, 920 (1960)]. These reports led me to suggest to Peter Musen of our division that he might undertake an investigation of this same problem. As a result of my suggestion Musen developed an independent theory of the effect of radiation pressure on satellite orbits, which he and his collaborators applied shortly thereafter to the orbit of the Vanguard satellite [Musen, Bryant, and Bailie, *Science* 131, 935 (1960)], demonstrating that the discrepancy between theory and observation for the Vanguard orbit was removed by the allowance for this effect.

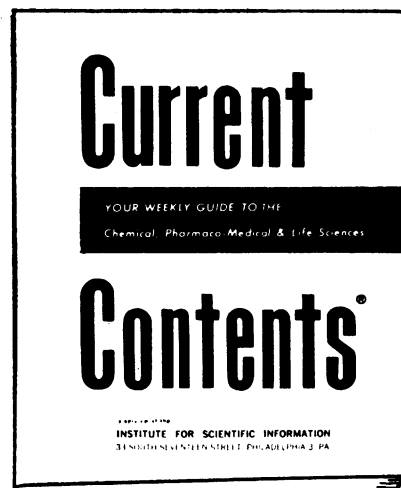
ROBERT JASTROW

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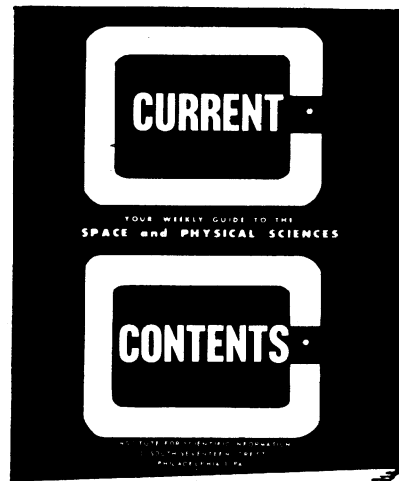
Aims of a Scientists' Association

Theodore C. Kahn's letter of resignation and protest [*Science* 133, 656 (3 Mar. 1961)] will undoubtedly bring many responses. I think that I am with the majority of members of the AAAS in believing that our association is not

TIME SAVERS



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designed for the economic advancement of scientists. I do agree that the economic and social position of physicians is to be envied, but I do not attribute that to the American Medical Association.

The AMA has accomplished a great deal for the science of medicine and for the standards of medical education and medical practice. But I'm amazed that Kahn should wish to have the AAAS emulate the accomplishments of the AMA for the economic and political situation of its members. I thought it was pretty generally agreed that physicians manage their personal relationships very much better than their coordinated public relations. Many of us think that the resourcefulness of AMA is inadequate to the demands of our rapidly changing culture. Understand, I'm not writing about the shortcomings of AMA—of course I wish we physicians knew better what to do. I am only trying to make clear how fatuous is Kahn's expressed desire for a scientists' association that will engineer scientists' success.

R. R. NEWELL

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San Francisco, California

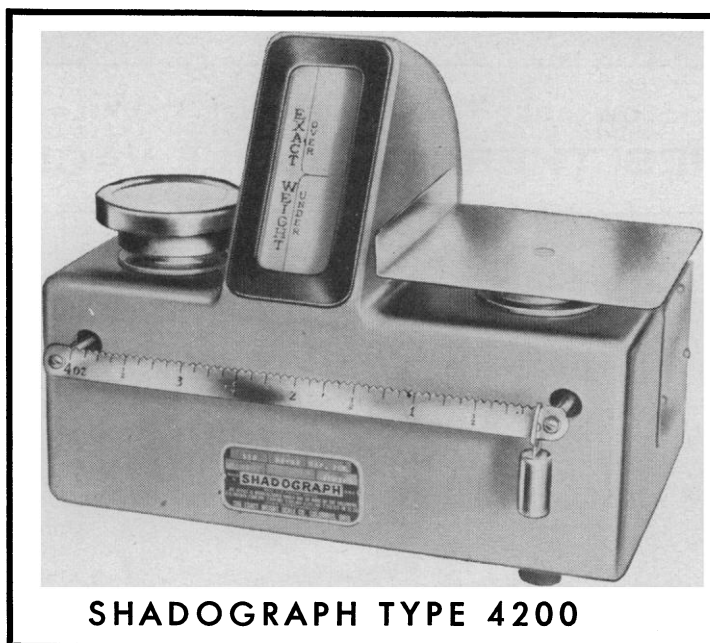
"Xenobiology"

The nominalistic problem of a generic prefix for the sciences concerned with the study of extraterrestrial autotrophs had been faced, and elegantly solved, by at least one science-fiction author long before it had become the putatively realistic concern of such august bodies as the National Academy of Sciences—National Research Council. The proper word, as any science-fiction reader should know, for the study of, say, extraterrestrial biology is "xenobiology," not "exobiology." This neoterism was used by Robert Heinlein some 7 years ago. His arguments in favor of it are set forth in the following personal letter.

You are correct in thinking that I used "xenobiology" (and several other words starting with "xeno-" in *The Star Beast* [Scribner's, New York, 1954]. But I am not certain that I coined the term; it is quite possible that I saw it used elsewhere, in fiction or non-fiction, and made use of it.

Of the several "xeno-" words I have used, I did coin "xenic," and this is a most useful adjective for designating *anything* foreign to the planet Earth—cultures, life forms, customs, history, clothing, food, you name it.

21 JULY 1961



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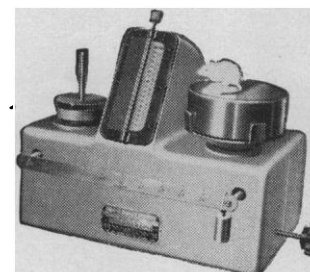
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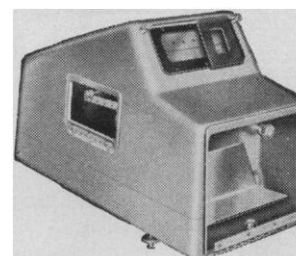
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