

pruning of a tree can promote . . . its health," application of this philosophy to individual small science projects would undoubtedly be detrimental. Many modest continuing grant awards are already marginally operational because they lag behind inflationary pressures. Cutbacks in the total amount of federal monies available for competing renewals or new proposals would shrink the level of such activity, and rather than select for innovation could give rise to the survival of "safe" data accumulators. The net result of "pruning" 12 to 15 percent of federal basic research funds would be contrary to the national interest. The deliberate implementation of such a sustained policy would bring about the disappearance of the current cadre and the next generation of highly qualified, university-based, academic researchers; this would cause, in turn, the eventual dependence of the United States on foreign developments for its future agricultural, medical, energy, and defense technology transfers.

STUART W. TANENBAUM
School of Biology, Chemistry, and Ecology, College of Environmental Science and Forestry, State University of New York, Syracuse 13210

Scientific English

The report by B. J. LaBonte and R. Howard (20 Nov., p. 907) reassures me, not only that the sun's radius still conforms to specs, but also that scientific English is alive and well. After reading the second sentence in the third paragraph, I cannot resist adding:

Strange new words I relish
 Like nectar or tonic.
 I now know my line printer
 Is boustrophedonic.

DAVID P. STERN

31 Lakeside Drive,
 Greenbelt, Maryland 20770

Newton's Malady

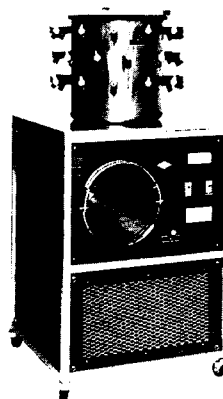
Leonard Goldwater's criticisms of the use of hair to demonstrate possible mercury poisoning of Isaac Newton (Letters, 13 Nov., p. 742) should not pass without comment. Numerous investigations into mercury in hair have shown that it is a reliable and sensitive method for assessing mercury ingestion. For example, when thousands of Iraqi peasants

ate grain contaminated with extremely high doses of organic compounds of mercury there was a strong correlation between the concentration of mercury in their hair and the severity of the symptoms of mercury poisoning (1). People who have consumed fish contaminated by mercury (minimata disease) show very high hair concentrations of the element, as do those who have eaten contaminated meat (2). A study in Italy of workers exposed to mercury contaminations from industry showed that hair was a more sensitive method of monitoring than blood (3). It is difficult to believe

therefore that the high levels of mercury in Isaac Newton's hair were not due to mercury poisoning.

I also question Goldwater's etymology of the phrase "as mad as a hatter." I can find no reference to the phrase "as mad as an adder" in any contemporary dictionary or in *Roget's Thesaurus*. Nor does it occur in the *Oxford Dictionary of Proverbs*, which, however, gives the date of the first recorded use of "mad as a hatter" as 1837. Although there are no contemporary references to the use of mercury in the treatment of felt hats before the middle of the 19th century, it

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