

cians, and the financial goals of a few corporations.

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Saga of the Surplused Research Professor

A. C. Hall's letter (February 1992, page 9) about "surplused" industrial physicists, of which I am one, prompted me to write.

Upon reaching the age of 60, after some 30 years in industry I was surplus— that is, offered the choice of either getting the mashroom treatment or getting out of the way. I got out of the way and proceeded to become appointed as a "research professor," first in the department of chemistry and then also in the department of physics, at a major university. That was exactly ten years ago. I have no salary, no official duties and no professional prospects. Obviously I have been surplus once again. I have earned the title of Surplused Research Professor.

What does an SRP do? Out of habit, most of the time he writes proposals, just like his 40-years-junior fellow faculty members do. Otherwise not very much. Now and then his monitor asks the SRP, "Listen, when are you going to quit; there are better proposals than yours; please. . . ." Yet the SRP has managed to be funded for the past ten years, has produced a few PhDs and has provided subsistence to several postdocs.

The SRP is not entirely crazy. When he writes a proposal he includes a figure for his support. He must be very careful, though, because on more than one occasion he was told by referees that grants are not for the support of senior faculty, beyond the summer months. The SRP therefore does not dare put more than two months' worth of an imaginary salary—which he doesn't get. Never mind that he works nearly full-time. If he gets the funds, the university collects the standard overhead, and everybody(?) is happy.

The SRP has no idea how many peers he has. Is he pretty much alone in this world, or is there a large community of SRPs?

In the precious little spare time between proposal writing the SRP does his research—not in physics, because that is done on the fly, but on more important subjects. Lately he has had some breakthroughs. He has found that:

▷ Being an SRP is fun. Feeling sorry for oneself is also fun, is normal and is recommended.

▷ The university is in a morally ambiguous position, taking advantage of a hobbyist. The SRP should either be surplus once again or have some modest measure of support from the institution, as long as he measures up to expectations. It is more a matter of principle than of amount.

▷ An SRP is bound to develop some antisocial streaks and phobias. The SRP is conditioned to conclude, sooner rather than later, that salaried, "normal" faculty members should not derive any financial benefit from grants. Such "normal" faculty members are who they are because it better be a part of their vocation to do research. Grants should enable them to do things, buy equipment, write papers, woo graduate students and inflate their egos, but not increase their take-home pay.

This SRP is proud of his findings. He has discovered the key to the spread of happiness and the recycling of a natural resource at practically no cost. Moreover, if his third finding is implemented it will radically reduce the number of mediocre proposals and increase his score.

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3/92

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Politics, Pendulums and the Meter's Making

It isn't clear from John W. Dooley's letter on the origins of the meter (October 1991, page 150) if he is aware that Thomas Jefferson, at George Washington's request, developed a mensuration system using a pendulum as a length standard.

Alexander Hamilton had given the young United States a decimalized currency, and in April 1790 President Washington (who had been a surveyor in civilian life) asked his Secretary of State, Jefferson, to devise decimalized weights and measures. Jefferson proposed a pendulum arm that would take 1 second to swing. Anyone who would count 86 400 swings from solar zenith to solar zenith had an accuracy better than one part in a million. Jefferson proposed 10 new inches to a new foot, and 10 000 new feet to a new mile.

The story is told in Dumas Malone's *Jefferson and the Rights of Man* (Little, Brown, 1951), and of course the report of the Secretary of State is a public document anyone can obtain.

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10/91

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John W. Dooley's letter asking why $g = \pi^2$ (or, less provocatively, why the

period of a 1-meter pendulum is 2 seconds) rang a bell. At the 1989 annual meeting of the American Association for the Advancement of Science, I heard John L. Heilbron, a historian of science, deliver a plenary lecture on "The Politics of the Meter Stick." I had not realized that he would be speaking of the time during and after the French Revolution. He showed that the French decision to define the meter in terms of the meridian that ran through Paris was motivated mainly by political, ideological and patriotic considerations that had nothing to do with weights and measures; a simple definition in terms of a pendulum was rejected in favor of several expensive surveying expeditions.

Policymakers who think that the Superconducting Super Collider or the Human Genome Project is "crucial" would do well to have heard Heilbron's talk.

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DOOLEY REPLIES: I appreciate the responses to my letter. John Wessner of Towson State University sent me a copy of an article¹ that gives the text of John L. Heilbron's AAAS lecture.

The French committees had a number of arbitrary options for deriving a useful length standard from measurements of the Earth. For example, had they chosen the pole-to-pole (instead of pole-to-equator) distance, the standard would have been nearly equal to the old French standard, the toise. Why did they not do this? Perhaps they decided that their standard had a better chance of acceptance if it came close to the length of a "seconds pendulum," the standard that not only Thomas Jefferson² but others including Robert Hooke³ and Christian Huygens⁴ had proposed earlier.

References

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2. S. A. Bedini, *Thomas Jefferson, Statesman of Science*, Macmillan, New York (1990). (Thanks to Robert J. Whitaker, Southwest Missouri State University.)
3. J. F. W. Herschel, *A Preliminary Discourse on the Study of Natural Philosophy*, Carey and Lea, Philadelphia (1831). (Thanks to Kermit R. Mercer, University of Rochester.)
4. J. R. Smith, *From Plane to Spheroid*, Landmark Enterprises, Rancho Cordova, Calif. (1986). (Thanks to J. Donald Fernie, University of Toronto.)

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