

SCIENCE'S COMPASS

academia. Almost any university can provide stories of men who spent decades in lowly paid, unrecognized adjunct positions and then left.

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Response

Neither Harvard nor MIT has been hiring mainly women to its senior faculty science ranks in the past 25 years. The graph that Kilty refers to does not address faculty turnover. And the sudden increase in MIT's hiring of women after 1995 is clear evidence that the issue is not, as Kilty suggests, a simple matter of too few jobs. The increase was due directly to Dean Robert Birgeneau's insistence that there were indeed qualified women who were not being adequately considered. As for Kilty's comment on the plight of highly qualified men, surely there are those who languish in lowly paid, unrecognized adjunct positions; but data and anecdotal evidence suggest that a far higher proportion of women have suffered this fate for decades, mostly in silence.

Andrew Lawler

The accounts of how tenured women at Harvard and MIT feel "lonely at the top" were for me a light turned on. The feelings of unhappiness and isolation that accompany academic success are not restricted to women at leading institutions. Even though the chips may differ from one institution to the next (space, salary, involvement in key decisions, administrative support, teaching assignments, time for research), the result is the same. Senior women generally do not receive as much respect from their chairs and deans as senior men with comparable or fewer accomplishments. Somehow this came as a surprise to me because, as a junior faculty member, I was busy establishing my research program and career. Linda Greenlaw, a swordfish boat captain, said it well in her book *The Hungry Ocean* when she wrote she had been "too damn busy working to worry about what others might think of me" (1), when asked about being the only woman in her profession. I felt that setting an example by doing good science was the best way to achieve equality, rather than by forcing the issue through active feminism. It did not work. At least now I have an understanding of why I feel as I do.

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References

1. Linda Greenlaw, *The Hungry Ocean* (Hyperion, New York, 1999), p. 58.

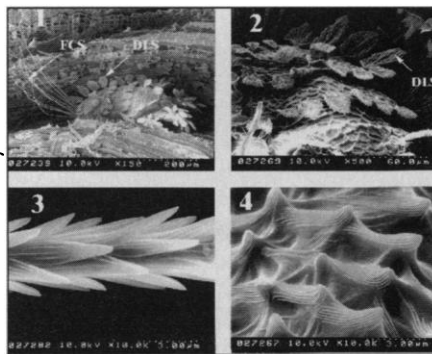
Whatever Margaret Geller's own concerns may be over the offer of a Mallinckrodt chair at Harvard University ("Margaret Geller: Battling discrimination or bureaucracy?" p. 1277), the donors have good reason also to be miffed. There, a full professorial chair traditionally carries, along with an excellent salary, an almost absolute tenure and the clear implication that, beyond a fractional year of scheduled academic obligations, the distinguished incumbent may be trusted to pursue whatever activities her or his scholarly muse may dictate—all this beholden to no external agency. That the latter attributes of tenure and guaranteed free time are important is witnessed by the apparent fears of jealousy their award might engender. But without these qualities, a named chair becomes only a hollow reflection of some nomenclatural and budgetary manipulations and has no genuine substance; it is a "chair without a seat," so to speak. One may doubt that this was what the donors had in mind in their generous efforts to honor the name of Mallinckrodt: both Geller and Mallinckrodt deserve better.

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A "Mite" More Information

The NetWatch item "Mad about mites" (5 Nov., p. 1047) is illustrated with an image of a mite of the genus *Tuckerella*. This genus is known for its beautiful ornamental setae. These mites have been called ornate false spider mites in Australia, peacock mites in Central America, or odd plant-feeding mites in the United States (1). Contrary to what is mentioned in the NetWatch item, the function and purpose of the setae on *Tuckerella* mites is known—they are part of a special defense system (2). The flagellate caudal seta (FCS) [photos 1 and 3 (3)] of the peacock mite are built with prominent spines along its entire length. When predators approach, the caudal setae



Scanning electron microscope images of various setae structures on *Tuckerella* mites.

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are moved forward as powerful whips hitting the body of the attacker. This action confuses the predator and gives time for the peacock mite to escape. Furthermore, the leaflike setae (photos 1, 2, and 4), located around and over the body and legs, work in two ways: first, as plate protection, the strong reinforced spines (photo 4) on each seta are naturally projected, and any predator that bites it will have a nasty surprise; and second, as an anchor and tactile attachment system (photo 2), the dorsolateral (DLS) setae will sit against the open wounds or striations on the host. This helps the mites in their feeding and walking process by keeping the mites closer to their plant host. The palmate setae and their defense and feeding behavior made *Tuckerella* mites the Stegosaurus of the mite world.

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References

1. E. W. Baker and A. E. Pritchard, *Ann. Ent. Soc. Am.* **46**, 243 (1953); B. McDaniel *et al.*, *Acarologia* **17**, 274 (1975); R. Ochoa *et al.*, *Phytophagous Mites of Central America* (El Centro Agronómico Tropical de Investigación y Enseñanza, Turrialba, Costa Rica, Serie Técnica no. 6, 1994), p. 234; D. Walter and H. Proctor, *Mites* (Commonwealth Agricultural Bureaux International, Sydney, Australia, 1999).
2. R. Ochoa, *Int. J. Acarol.* **15**, 205 (1989).
3. Mite material for photos was provided by C. Childers, University of Florida, Lake Alfred.

Funding for the Unexpected

A comment of mine criticizing one aspect of the peer-review system at the National Institutes of Health (NIH) is quoted in the News Focus article "NIH eyes sweeping reform of peer review" by Bruce Agnew (5 Nov., p. 1074). But this comment was only one of several more constructive comments I sent to NIH, such as possible solutions to some of the problems with funding decisions, which I present here.

Many of our major advances in science were based on an element of chance, such as the discovery of penicillin. From a statistical perspective, then, the greater the number of scientists working on diverse projects, the greater the chance of the important, unexpected discovery.

To provide funding to more scientists and thus increase the chance that a grant will lead to the unexpected discovery, I proposed several solutions. (i) Put a cap on funding to individual groups or laboratories. Although there are many talented scientists funded by NIH, none deserves tens of millions of dollars in funding (from government sources) while so many highly qualified researchers and junior scientists go without any. (ii) With the savings from (i), research funding could

be more equitably distributed. This change might bring two benefits. First, it might increase the likelihood of the unexpected discovery and leave some room for serendipity from the unheralded investigator at a small state university. Second, the peer-review situation might be improved. Funding decisions would be more clear-cut and there would be less acrimony and tension because more investigators would be sharing a piece of the research pie. (iii) Grants could be funded on a sliding scale

in relation to their score. Although receiving only 50% of the requested budget for a funded grant would be a disappointment, the reduced funding would still allow the project to proceed. Scientists might learn to become more frugal with the taxpayers' money. Partial funding would certainly be preferable to receiving no funding whatsoever for the project.

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CORRECTIONS AND CLARIFICATIONS

In the Perspective "On the edge of the solar system" by Rodney Gomes (*Science's Compass*, 19 Nov., p. 1487), the words "symbol 176" inadvertently appeared in two temperature values in the third paragraph. The temperatures should have read 40° and 9.5°.

In the report "Differentiation stage-specific inhibition of the Raf-MEK-ERK pathway by Akt" by Christian Rommel *et al.* (26 Nov., p. 1738), the labels and brackets on figures 3 (top) and 5 (bottom) were not reproduced properly. The figures are reproduced below.

