



Considering what the goals and practices of restoration ecology are, perhaps the term "ecological architecture," it is suggested, "more aptly describes what we have been doing all along—conceiving and then trying to realize a new vision for a natural landscape." The plans of the nonprofit German organization BIOPAT to sell names of new species as a source of funds for taxonomic research and conservation efforts worldwide draws comments from members of the International Commission on Zoological Nomenclature. The cooperative efforts of the National Cancer Institute and the Environmental Protection Agency to understand the etiology of childhood cancer are outlined. And research on the decay rate of beryllium-7 in different environments is discussed.

### "Restoration"—A Misnomer?

Keith Kloor's News Focus article about the restoration of North America's forests (28 Jan., p. 573) suggests to me that it might be time to retire the word "restoration." There are at least three problems with the field of restoration ecology. First is the arbitrariness of determining which time period in the past should be the target of restoration efforts. In the United States, this has typically been assumed to be before settlement by Europeans. But why should that be the target any more than the time before the native Americans settled the region? Perhaps the most common environment in the past 15,000 years should be the target. In Minnesota, this would mean that much of the landscape would be restored to several hundred meters of ice. The second problem is that there is an implication of stasis with the word "restored." Not only do we try to replicate some past environment, but then we try to maintain it in that form through management. Yet nature is not static. The third problem is that true restoration is simply impossible. The climate is no longer the same, and key-stone species are absent or new species are present that make it impossible to truly restore the habitat to any prior state.

The goals of restoration ecology are certainly worthy ones and have captured the imagination of many of our students who have gone on in careers in the field. What seems to have become outdated is not the passion to better our environment, but the word "restoration" itself. Some students initially attracted to the field end up disenchanted as they come to realize that restoration ecology is at best a fiction and at worst motivated by a particular dominant cultural perspective. "Ecological enhancement" or "ecological enrichment" more accurately describes what we are really doing when we say we are "restoring" a site, and these terms avoid at least some of the assump-

tions and pretenses inherent in the word "restoration." As a formal discipline, perhaps restoration ecology should become a subdiscipline of landscape architecture and referred to as "ecological architecture." Of course, the goals and methods will still be arbitrary, developed by the various stakeholders, because nature itself provides no specific prescription for human intervention. But "ecological architecture" more aptly describes what we have been doing all along—conceiving and then trying to realize a new vision for a natural landscape.

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### Irony: The Spice of (Online) Life

Hans Kende's point in his letter about the "e-knowledge hullabaloo" potentially wasting scientists' time is well taken (*Science's* Compass, 28 Jan., p. 591). My responding to it is ironic for two reasons. First, I came across it while scanning through the online version of *Science*. I would not have read it had it not been easily accessible (just a mouse click away). Second, by spending time reading and then responding to his letter online, I did exactly what Kende feared I would; to wit, I spent my time online rather than saving it for creative activities.

To paraphrase Kende, an electronic copy of a journal led me astray from my narrowly focused personal key words, and I learned things that widened my horizon.

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### Names for Cash

Sabine Steghaus-Kovac's News Focus article "Researchers cash in on personalized species names" (21 Jan., p. 421) draws attention to BIOPAT, an organization formed by several well-known German institutions

to promote the selling of new taxonomic names of animals and plants. BIOPAT's Web site carries illustrations of newly recognized species of (among other organisms) frogs, bees, and orchids and invites both individuals and corporations to name them for a fee of several thousand dollars per taxon. A similar plan already exists in Australia. Many thousands of new species are described and named every year, so the potential global income would be millions of dollars; the resource of names for cash is almost inexhaustible, even though many kinds of organisms would be unattractive to name-sponsors.

We wish to make some comments on this situation. We are the president, past-president, and secretary of the International Commission on Zoological Nomenclature (ICZN), but ICZN has not yet discussed the issue and we write in our personal capacities. However, ICZN has been asked to address the subject.

BIOPAT plans to divide the revenue between the institution hosting the taxonomic research and biodiversity conservation efforts in the country from which the organism comes, but it seems likely that name-selling would soon spread to those whose intention is simply their own financial gain. This has already occurred for some names of asteroids and stars, but those names do not have official international status and little harm is caused other than to the wealth of the "purchaser." The situation is different for a biological taxon: The scientific name is the unique label that enables a species to be referred to without ambiguity.

Name-selling could lead to spurious



taxonomy because many vendors could "discover" species and invent genera for profit. To do so would be easy: compose a description of any animal or plant, designate a name-bearing type, ensure that the relevant code of nomenclature is complied with, advertise, and await offers. Although many such names would not be universally recognized, they would all irreversibly obscure science and hinder conservation efforts and other initiatives. We note that the authorship of names bestowed for cash

## SCIENCE'S COMPASS

### "Science Wars"

might often give rise to nomenclatural uncertainty, especially because under the nomenclature codes, impersonal (corporate) authorship disqualifies a name from biological nomenclature.

On the other hand, the temptation to sell names is understandable. The proposals of BIOPAT and others are a striking departure from scientific tradition, but they reflect, and attempt to provide some local relief from, a very real problem—namely, the financial difficulties faced not only by the institutions contemplating name-selling, but also by taxonomy and other branches of biology. We hope that these plans will be abandoned, but we also hope that, by their proposal, they will focus attention on the need for more orthodox and less harmful means of support.

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Stephen Jay Gould proposes in his essay "Deconstructing the 'science wars' by re-constructing an old mold" ("Pathways of Discovery," 14 Jan., p. 253) to temper dichotomies by taking a "golden mean." Forming a mean, even in mathematics, involves minimizing the extremes, the outliers. In my view, this is a dangerous process to apply to science; many of our greatest scientific advances involve extreme modifications of current consensus. Taking the mean, golden or otherwise, would minimize these extremes.

In explaining the reasons why dichotomies develop and are such barriers, Gould refers to Bacon's "idols of the cave" and "idols of the tribe"—the "peculiarities of each individual's temperament and limitations," and "foibles inherent in the very...('evolved') structure of the human mind," respectively. I suggest another set of idols, similar to Bacon's idols of the tribe, for explaining dichotomies. I suggest the idea of "idols of the group": peer support and peer pressure. The need to belong lies deep in the human mind, and the pressure of the group, whether it is a group of scientists working in the same field or an

entire country's population, can exert remarkable pressure on members. Most all group mores and "foibles" are those of an esteemed leader.

It would take a very strong member of an indoctrinated group of geographers to read the work of Alfred Wegener and announce to all that he believes Wegener's new science to be true. It would take an even stronger researcher to stand up for his beliefs, even to the point of building his own supporting group. So Wegener leaves quietly while muttering, in the spirit of Galileo, "still, they move," and we wait 200 years for the truth of moving continents.

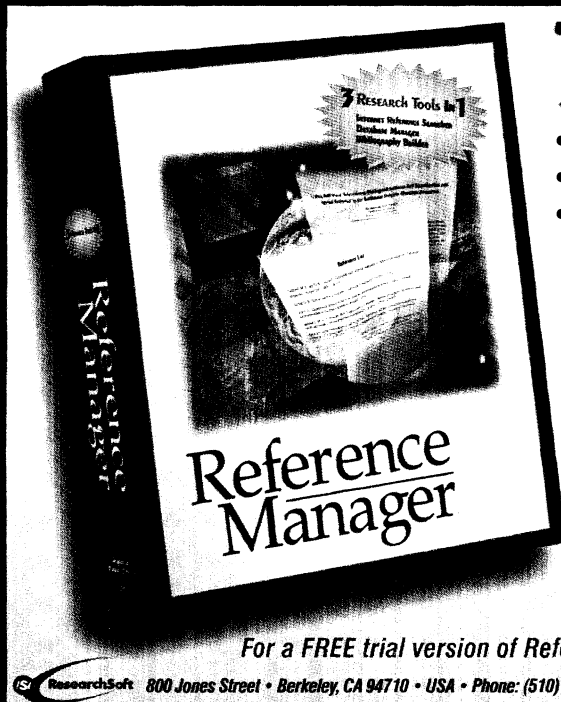
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### Designer Labs

In Jon Cohen's News Focus article "Designer labs: Architecture discovers science" (14 Jan., p. 210) that describes modern designs for research laboratories, I found especially noteworthy the plan in which "principal investigators have individual offices that line the exterior of the main building, separating them from the distractions of the lab." Great concept! Heaven forbid that a principal investiga-

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