



The managing director of Elsevier Scientific, S.A., defends the subscription prices of his company's journals. A spokesman for the American Chemical Society explains the ACS's embargo policy. A pharmacologist maintains that "a freshly minted Ph.D. from any field...is a citizen with a matured sense of intelligence, who possesses heightened analytical skills...has mastered challenges through creativity and innovation, and who perhaps even holds a spark of competitive zeal," qualities that prepare one for "any conceivable career choice." And whether Earth was once a "snowball" is debated.

## Journal Publishing

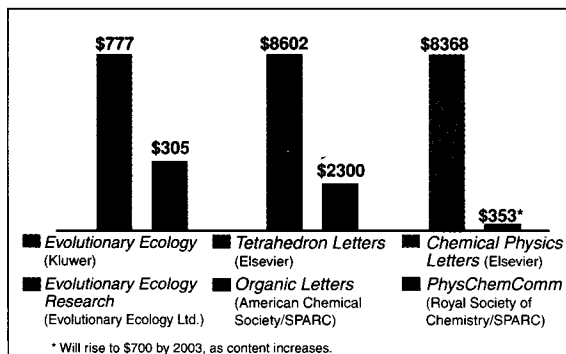
As the publisher of both *Tetrahedron Letters* and *Chemical Physics Letters*, I offer comment on the article "New journals launched to fight rising prices" by David Malakoff (News of the Week, 30 Oct., p. 853). Malakoff draws a comparison between the subscription prices of these journals and the prices of two new journals, *Organic Letters* and *PhysChemComm*. It is also asserted that journals published by commercial publishers are, ipso facto, more expensive than those published by societies. This generalization is not supported by the facts.

*Organic Letters*, we have been informed, will be a twice-monthly journal, also available online, at an initial annual institutional subscription price of \$2300. Elsevier Science already publishes twice-monthly journals in chemistry at or below this price, notably *Bioorganic and Medicinal Chemistry Letters* (\$2033, including online access) and *Tetrahedron Asymmetry* (\$2034, including online access). *Tetrahedron Letters* is altogether a larger-scale operation. It is a weekly journal which rapidly publishes some 2500 articles per year, supported by an international network of eight editorial offices and a central facility in Oxford. It costs library subscribers just over \$3 per article. There are no page charges to authors, and the journal is also available to individuals at low personal and student rates. *Tetrahedron Letters* is excellent value for money.

*PhysChemComm*, an electronic-only journal designed to compete with the well-established *Chemical Physics Letters*, will be available at a subscription price of \$353 in 1999. Again, like is not being compared with like. A more valid comparison would be with a new journal to be launched by Elsevier Science, *Electrochemistry Communications*. Published online and in hard copy, the 1999 subscription to *Electrochemistry*

*Communications* will cost libraries \$350.

It is evident, therefore, that *Organic Letters* and *PhysChemComm* are both more expensive than truly comparable Elsevier Science titles. Yet they are avidly supported by the Scholarly Publishing and Research Coalition, whose declared objective is to encourage lower journal prices. There is a glaring inconsistency in this position.



Subscription prices of established journals and their soon-to-be-launched competitors

My colleagues and I believe that the debate on the future of journal publishing is both necessary and timely. New technology offers publishers many opportunities to improve the services we offer our authors and readers. The recipe for that debate, however, should include more fact and less prejudice and should be based on statistics that enlighten rather than mislead.

Peter T. Shepherd

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The news article about setting up new, cheaper scientific journals to compete with established and expensive commercial ones brings up an interesting point: the question of impact. I think I am not far off the mark by stating that many institutions place significant importance on the impact of the journals their faculty publish in. The impact factor as determined and published by the Institute of Scientific Information is one such criterion for quality research carried out by a faculty member who obviously has his or her career advancement to worry about. It is probably not sufficient

for one to state that he or she is publishing in a journal that most of the other top researchers in the field are also publishing in, if there is no other measure of that journal's impact. Like many others, I am concerned about the escalating subscription costs of scientific journals. I take my hat off to Michael Rosenzweig and his colleagues and hope they succeed in their venture. Yet, at the end of the day, how will the new journal stand up, in terms of impact? Maybe, eventually, they will, but it could take years.

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## ACS Embargo Policy

In Eliot Marshall's otherwise excellent and comprehensive look at journals and embargo policies (News Focus, 30 Oct., p. 860), he concludes early on that the American Chemical Society (ACS) has "virtually scrapped" embargoes due to our faster online publishing policy. This is not the case.

While embargoes are offered for shorter periods of time than at other journals, we are still embargoing material offered to reporters in advance of publication, and our guidelines for authors continue to note that extensive prepublication publicity of journal article contents is not recommended.

Marshall notes that we only offered "selected" articles under an embargo, and that has always been the case, given that we publish more than 18,000 journal articles each year. It is our hope that this does not add to the apparent confusion that already exists in this area, for either journalists or scientists.

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## Valuable Skills

In a recent letter, "Preparing graduate students in biology" (*Science's Compass*, 30 Oct., p. 881), Andrew J. Gale states that "absolutely nothing [is being] done to prepare students for careers outside academic research." I could not disagree more. Distill a freshly minted Ph.D. from any field to its core, and you do not see a highly specialized expert on some arcane topic. What remains is a citizen with a matured sense of intelligence, who possesses heightened analytical skills, who has mastered challenges through creativity and innovation, and who perhaps even holds a spark of competitive zeal. Irrespective of academic credential, these are attributes that almost all successful people tend to possess, whether they work out of boardrooms or within ivory towers.

## SCIENCE'S COMPASS

I find that graduate students in the sciences, at one time myself included, tend not to realize just how well they are being prepared for any conceivable career choice. It seems that the trauma of the graduate school-postdoctoral daze must first be given time to subside before most can appreciate the universality of their training. Some self-inspection is necessary, as Gale implies, to realize that academic appointments are just one among the many rewarding ways to translate these increasingly valuable skills into a livelihood.

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### Environmental Health: Nickel-and-Diming It

Researchers in environmental toxicology should endorse the argument advanced by B. M. Lester, L. L. LaGasse, and R. Seifer (Policy Forum, *Science's* Compass, 23 Oct., p. 633) on how to interpret the outcome of cocaine abuse during pregnancy. A predicted epidemic of "crack babies" never materialized. Instead, they note, the offspring exhibit subtle deficiencies such as IQ reductions of about 3%. Although

small magnitude, it is a gap with vital public health and policy implications that even many scientists fail to appreciate.

I urged such a perspective for neurotoxicity risk assessment some time ago (1) and for grasping the consequences of maternal drug abuse (2). The definition of excessive lead exposure in children is now based largely on shifts in the population distribution of IQ scores (3), as are many of the economic benefits flowing from the removal of lead from gasoline (4). The debate about the health risks of methyl mercury in fish is essentially a debate about similar shifts in measures of neurobehavioral development (*ScienceScope*, 18 Sept., p. 1779). The health risks of polychlorinated biphenyls (PCBs) and endocrine disruptors can be viewed from the same vantage point (5). Environmental health protection, so to speak, is a nickel-and-dime business.

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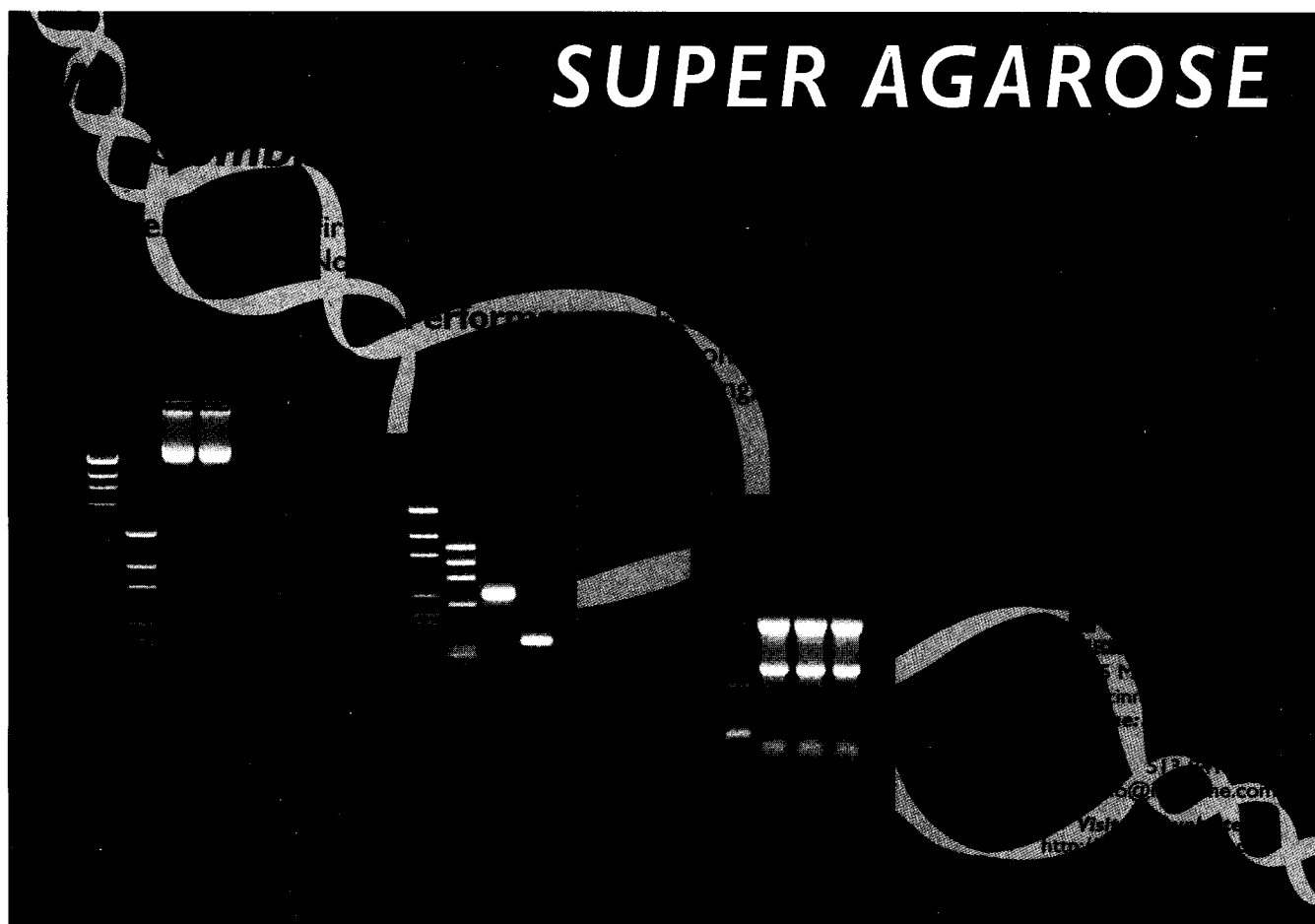
4. *The Benefits and Costs of the Clean Air Act, 1970 to 1990* (U.S. Environmental Protection Agency, Washington, DC, 1996).

5. B. Weiss, *Neurotoxicology* **18**, 581, (1997); J. L. Jacobson and S. W. Jacobson, *N. Engl. J. Med.* **335**, 783 (1996).

### An Early Snowball Earth?

In their article "A Neoproterozoic snowball Earth" (Reports, 28 Aug., p. 1342), Paul F. Hoffman *et al.* report that global ice-house conditions existed during the Proterozoic, as inferred from negative carbon isotopes in carbonate rocks from Namibia. These conditions are said to have led to the near termination of life on Earth. In summary, the hypothesis suggests that global glaciation existed until volcanic outgassing increased carbon dioxide (CO<sub>2</sub>) concentrations to 120,000 parts per million of volume, at which time the global ice-house conditions collapsed. Several issues of geology and climate, however, remain unresolved.

First, how did global glacial conditions come about? Reduced solar forcing could not have been the cause, because the solar constant was lower before the breakup of the Rodinia supercontinent. A positive ice-albedo feedback triggered by reduced CO<sub>2</sub>



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