

Letters

Plethora of Phycology Journals

The progressive action and international spirit of astronomers, who in 1968 successfully merged five existing journals into one (see 30 Apr., p. 451), is to be highly commended. It suggests that, by similar consolidations in other fields, we may be able to combat the present deplorable trend toward the proliferation of journals. Phycology, the study of algae, would seem to be a field in which this would be quite practicable. Personal funds could be saved, as well as the organizational time and effort that is spent in the maintenance of subscription lists, costs of mailing, and so forth. Most phycologists now subscribe to two or more journals in their field (some American phycologists spend more than \$50 a year on such journals). Moreover, unlike fields such as mammalogy, phycology involves the study of many species that are not confined by national or even continental boundaries; although seaweed distributions tend to be somewhat localized, the freshwater algal floras of all continents (except perhaps Antarctica) are very similar.

As a start, one might give serious consideration to consolidating *Phycologia* and *Botanica Marina* (both international) with the *Journal of Phycology* (American), the *British Phycological Journal*, *Revue Algologique* (French), *Phykos* (Indian), *Bulletin of the Japanese Society for Phycology*, and *Algological Studies* (Czechoslovakian, currently incorporated and issued with the German journal *Archiv für Hydrobiologie*). These are the main phycological journals, although papers on algae are published in many other journals, notably *Nova Hedwigia* and *Physiologia Plantarum*. I suggest that we could profitably and conveniently replace this plethora of publications by two, each with a separate international editorial board, dealing respectively with experimental phycology and with

general phycology. They could be published as often as necessary under common auspices, with a standard format, a general editorial policy, and possibly a single editor-in-chief with a sufficient number of national or specialist subeditors to alleviate the work load.

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Stomach Trouble

To judge from the contents of the 25 June issue of *Science*, some members of the editorial staff have stomach trouble. One editor (or referee) doesn't know the difference between "stomach" and "abdomen" (figure 3, p. 1331) and another seems to believe that brains have stomachs (abstract, p. 1342). These lapses may be consequences of an endemic linguistic malnutrition or of indigestion occasioned by editorial overindulgence. In the legend of figure 2 on p. 1330, we also read about an "infarcted dog"; there are other unpalatable morsels in these and other reports.

The editors of *Science* set high scientific standards, but standards of style and precision of expression seem to be slipping.

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Sulfur Dioxide Pollution

In our report (29 Jan., p. 381) we were attempting to reduce the emotionalism that surrounds many environmental questions today. But MacKenzie (Letters, 21 May) seems to have missed the point of our report, which is that

the "bogyman theory" of pollution control is not tenable.

We were not absolving the power plants. Control of sulfur dioxide (SO₂) pollution is not a question of controlling the power plants *or* the smaller sources of SO₂, but rather a matter of controlling *both*. When the large "bogyman" sources of air pollution are cleaned up, the considerable task of cleaning up the pollution resulting from small sources directly connected with the day-to-day activities of our rapidly growing population will remain. Space heating, an important source of SO₂ in eastern U.S. cities, is an example of these smaller sources.

We agree that national standards for SO₂ should include 1-hour standards, but we must comment on some of the other points raised by MacKenzie.

MacKenzie does not, in fact, disagree with us at all. We repeatedly stated that our arguments applied to long-term (1 year or more) averages only. Since it is widely known that an "emphasis on annual average concentrations from large power plants obviously fails to present the total impact of these sources," we expressly stated that "large point sources must be a prime target for control" precisely because of the high short-term pollutant concentrations these sources can produce at ground level.

Nobody knows which is more damaging to public health and welfare, chronic exposure to moderate levels of SO₂ or short exposures to higher levels of SO₂. Thus, it is not yet clear that statements about annual average dosage are misleading. Controls must seek to eliminate *both* kinds of exposure.

The damage to public health and welfare in those short-duration episodes in which a power plant plume fumigates an area would undoubtedly be reduced by lowering the sulfur content of a utility's fuel. But even if power plants were completely eliminated, high short-duration pollutant concentrations caused by smaller sources could be expected to occur. In the long run, *all* sources (including power plants) that can cause high SO₂ concentrations must be tightly controlled. In the short run, the important (and difficult) question is whether to direct the major control emphasis and available supplies of low-sulfur fuel toward large sources such as power plants or toward smaller sources located in the affected areas. Our work indicates that long-term average SO₂ concentrations might be reduced by directing considerable control effort and