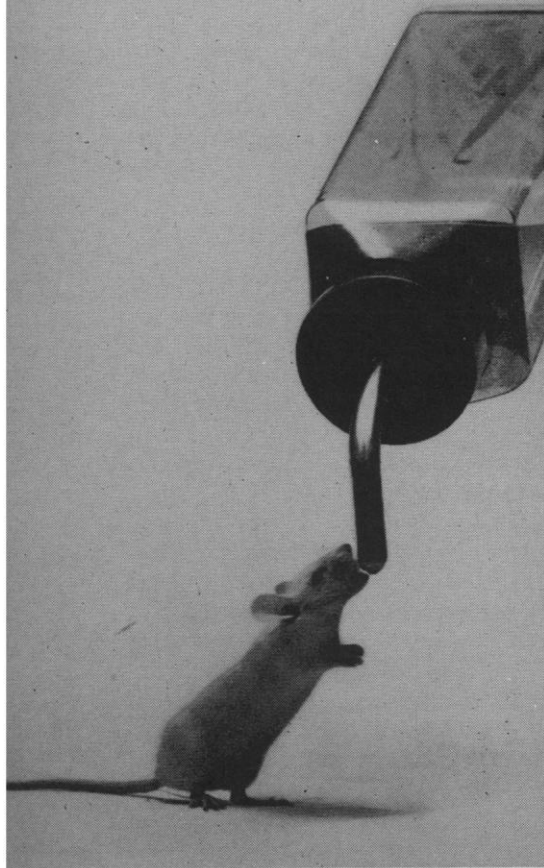


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Urban motorists as such make only a minor contribution, if any, to such costs as urban street maintenance and repairs, street cleaning, snow removal, traffic signals, or traffic police; most of these are generally met out of general city revenues. Urban motorists use valuable land for which they pay nothing equivalent to the rent or the property taxes that other occupiers of scarce land pay. The capital invested in the streets and highways they use bears no tax comparable to the property or corporation income taxes that impinge on users of other forms of capital. Indeed, when highways are financed by borrowing, the interest cost is subsidized through its exemption from the federal income tax. Insurance premiums and other payments by motorists fall far short of providing full compensation to victims of accidents. Out of over \$10 billion a year of such damages (an amount roughly equal to the total amount spent on highway construction and maintenance) over \$1 billion is borne in ways unrelated to automobile use, through Blue Cross premiums, employers' sick pay provisions, income-tax abatements, and inadequate compensation to injured pedestrians and other non-motorist parties. It is perhaps stretching it a bit to bring in air pollution, but it has been estimated that the cost of pollution in New York City that is attributable to automobiles amounts to \$400 per year per car.

The big subsidy, however, is to the rush-hour commuter from the other contributors to highway funds. An extra lane or extra facility added primarily to take care of the rush-hour traffic and needed for only, say 18 hours a week will, for every \$1 million per lane mile of cost, at 9 percent for interest, amortization, and maintenance, cost at least 6 cents per car mile, if 1800 cars travel on one lane per hour for 18 hours a week. A 10-mile rush-hour trip over facilities that often cost \$3 million per lane mile and up can thus cost \$2 or more, compared with the 10 cents or thereabouts that would ordinarily be collected in highway-user charges (if no specific tolls are paid). It is no answer to say that the rush-hour transit rider is similarly subsidized by the off-peak transit rider; each rush-hour transit rider can usually find only one off-peak rider onto whom to shift his costs, while the rush-hour motorist can find four or more off-peak motorists in the same area and can also levy tribute on the rural highway user. To provide the transit rider a subsidy per trip comparable to that enjoyed by the peak-hour motorist, and thus enable him to make

a fair and unbiased choice between the two modes, it would be necessary not only to let the transit rider ride free but also to pay him a bonus.

The only sound solution in the long run is to levy adequate specific charges on motorists who use high-cost facilities that are threatened with congestion. Techniques exist for doing this as flexibly and automatically as we are charged for long-distance self-dialed telephone calls; the problem is to persuade the general public of the rationality, equity, and efficiency of such charges. Transit subsidy by itself cannot do the job; indeed if adequate congestion charges are levied for highway use, much, though not all, of the justification for transit subsidy would disappear. But to bring this about it is essential that there be a realization of the magnitude of the subsidy to urban rush-hour automobile commuters.

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## An "Abundance of Fish"

Schubel and Pritchard (3 Sept., p. 943) imply that the "abundance of fish" reported in the upper Potomac (Patowmack) estuary by Captain John Smith (1) in 1608 was in fact a massive kill resulting from unknown (but clearly nonindustrial) causes. Is this their own judgment, or has it become established in the biological and ecological literature? It is difficult to believe that Smith and his companions could not differentiate between dead and living fish "swimming in the water."

Of course, it could have been a promotional statement, put in Smith's book to attract settlers and investors. John Cabot, in 1497, had reported that he could catch fish on the Grand Banks by letting down weighted baskets over the ship's side (2).

What seems more probable is that Smith witnessed a spawning run of alewives (since he speaks of "small fish"), or possibly shad or suckers. It is impossible to tell where he encountered this school of fish, and in fact he reports finding them in "divers places" and says they saw small cod as far up the bay as "Riccard cliffs." On his map, these cliffs were some distance north of the Patuxent. (The cod may have been what they "found dead upon the shore".)

Mid-June may be too late for anadro-

## NEWER TITLES IN THE BIOLOGICAL SCIENCES

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mous fish to be spawning in the latitude of the Chesapeake Bay. But not too many years ago spawning alewives crowded into the small tributaries of the Hudson River, in the vicinity of Albany, so that they did indeed have their "heads above water," and I have seen the same phenomenon with suckers in small streams. If the fish were cod perhaps a flood on the Susquehanna would have reduced the salinity of the upper bay enough to cause a massive nonindustrial kill.

P. SCHUYLER MILLER

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Pittsburgh, Pennsylvania 15213

### References

1. J. Smith, *The Generall Historie of Virginia, New England, and the Summer Isles: with the names of the Adventures, Planters, and Governors from their first Beginning An. 1584 to this present 1624* (Sparkes, London, 1624), book III, chap. 5, p. 58.
2. J. A. Williamson, Ed., *The Cabot Voyages and Bristol Discovery under Henry VII* (Cambridge Univ. Press, London, 1962), pp. 209-211.

### Multinational Journals

The recent merging of five European astronomy or astrophysical journals into a single journal (see J. L. Steinberg, 30 Apr. 1971, p. 451) is an important indication that, unless "national" conditions are favorable, new scientific journals should be established at the multinational level.

Multinational journals are especially important in the developing regions of the world, for instance, in Latin America, where the lack of high-quality periodicals in the majority of specific scientific areas is felt.

The better papers of Latin American scientists are usually widely scattered in foreign journals, and thus the size and quality of Latin American production is not conveyed. Latin American journals in the English language would create a realistic image of the excellent work being carried out in these areas of the world. They would also foster understanding and cooperation among the scientists from these areas. Such journals would automatically force many investigators to raise the quality of their work, and would influence younger generations, which would in turn stimulate the growth of science.

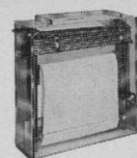
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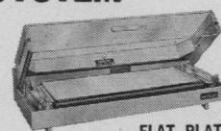
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