told me that critics say, "The time should end when we do things because we think it would be good," he interpreted it as implying that, according to the critics, we should stop making medical decisions on the basis of clinical impressions or less-than-ideal studies and should instead wait for the results of randomized controlled trials.

—GINA KOLATA

Predator and Prey Behavior

Charles W. Thayer (Reports, 28 June, p. 1527) makes a strong case that it is the "shell-protected" tissue of the brachiopod *Terebratalia* that predators find repellent, and my own observations do not refute this conclusion (*1*). But the cover photograph accompanying the paper shows that the brachiopod is covered by a variety of epibionts, notably sponge. Epizoitic sponges can influence the ecology, habit, and even morphology of their hosts (*2*) and, in the case of some pelecypod molluscs, may reduce the effectiveness of predators and so enhance survival.

Influences on predator and prey behavior in the wild are manifold, interactive, and subtle. Consequently, it is important to take into account as many factors as possible when speculating on their underlying mechanisms—especially when extrapolating from field and laboratory experiments to explain a major paleoecological phenomenon such as the "post-Paleozoic decline of articulates."

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References and Notes

1. *Terebratulina* from the Bay of Fundy bear a heavy growth of epizoitic sponge (A. Logan, personal communication). Unpublished observations by A. J. Forester showed that starfishes preferred mussels to brachiopods. Predation on the brachiopods was too low to determine whether the presence of epizoitic sponge conferred protection or not.
2. A. G. Beau, *Trans. R. Soc. N. Z.* **7**, 93 (1965); S. A. Bloom, *J. Exp. Mar. Biol. Ecol.* **17**, 311 (1975); M. L. Forbes, *Bull. Mar. Sci. Gulf Caribb.* **14**, 453 (1964); *ibid.* **16**, 273 (1966); A. J. Forester, *J. Exp. Mar. Biol. Ecol.* **36**, 1 (1979).

There is no doubt that sponges (and probably other epizoa) influence predation on benthos, including brachiopods. I was aware of Bloom's results when beginning my experiments. Epibionts were removed prior to laboratory tests and field transplants. Contrary to Forester's impression, the cover photograph was not part of any experiment. It does, however, show mature brachiopods (approximately 10 years old) that have obviously not been eaten.

The in situ caging experiment used as much of the undisturbed "real world" as possible to assess the kinds of effects Forester mentions, and epizoa (including a sponge usually associated with *Terebratulina,* the most abundant brachiopod) were not removed. The relatively high mortality of brachiopods in this experiment indicates that alternative prey (mussels) are more effective than epibionts in reducing predation.

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Modern Paleontology

I strongly sympathize with the feelings expressed by Farish A. Jenkins, Jr., *et al.* (Letters, 26 July, p. 330). However, I am not certain that the basic issue, as exemplified by the action of the Princeton Geology Department's getting rid of its fossil collections and getting out of the business of teaching paleontology, is that simple. Over the past 20 years it has begun to become clear that more than one of our leading departments of earth science have given up the serious pursuit of paleontology as a discipline involving full-time faculty and graduate student research. What we are apparently seeing is a slow, steady shift of paleontology (or "paleobiology," as it is now sometimes called) from departments of geology into departments of biology. Possibly departments of geology are just too overextended, what with the need for in-depth training in geochemistry and geophysics at the undergraduate level, to be able to cope with paleobiology-paleontology on a modern basis.

Perhaps what we should be doing is vigorously encouraging departments of biology to incorporate a modern approach to paleontology (the study of the life of the past and the history of life) as an integral part of the training necessary for first-rate scientists. Think how invigorating it can be to consider physiologic, biochemical, embryologic, immunological, and parasitic problems—to name a few—on an evolutionary basis buttressed by a sound background in the fossil record, rather than in the all-too-common "cookbook" manner. Possibly we should consider that the geology department's loss is the biology department's gain. I wonder whether the modern biology department could not do a much more effective job with paleontology than does the modern geology department. Perhaps biology departments have been deprived of their "roots" for too long. Certainly 19th-century biology felt comfortable with fossils and profited greatly from the association. It is entirely possible that many of the 20th century's biological problems would also benefit from a more historical viewpoint.

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Evaluations

Daniel E. Koshland, Jr.'s, editorial on "The undesirability principle" (5 July, p. 9) is of considerable interest to a member of Section X, who may or may not soon find herself transmuted into a maker of Social Policy; and especially to one who has just returned from a New England resort where the question of "How many tourists overwhelm the pleasures they have come to enjoy?" is already pressing.

May I, however, challenge Koshland's recommendations for dealing with the problem: "[C]hemical companies advocating less regulation would be required to detail the dangers to water supplies of minimal regulation. Environmentalists advocating stringent precautions would be required to state the cost to the consumer."

I daresay these interested parties should be heard from, but why should the consumer trust their evaluations? "Quis custodet ipsos custodes?" Or is the AAAS about to be invited to evaluate the evaluations?

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Who evaluates the evaluators is an excellent question. My answer would be, whoever is making the decision, Congress, public opinion, or judges, for example. Proponents of a particular position who have competently considered all aspects of other proposals would necessarily have higher credibility than others who reveal a cavalier disregard of the costs, dangers, et cetera of their courses of action.

—DANIEL E. KOSHLAND, JR.