

## The Obligations of a Biologist

All I ever really wanted to do was explore the wonders of tropical nature, combining the advantages of a latter twentieth century perspective with the enthusiastic thrill of nineteenth century naturalist exploration. Yet like many, including every member of this society, I have been unable to ignore the havoc being wreaked upon the biology of our planet. In consequence I turned my hand to conservation, and my science to conservation biology.

The global crisis will essentially be played out in the decade we are about to enter. The very intensity of the problems raises difficult tensions and complex questions about the proper role of science. Our fellow society, the venerable British Ecological Society, or at least some of its leaders, takes the view that as a scientific society, it should have nothing to do with conservation. (In a letter in the February 1989 *British Ecological Society Bulletin*, L. R. Taylor and J. M. Elliott, honorary editors of the *Journal of Animal Ecology*, wrote: "The *British Ecological Society* is a Scientific Society, not an Environmental Protection Society. . . . We are supposed to produce the factual information used for whatever purpose, including environmental protection, but equally for environmental destruction if that is where mankind is heading.") Nevertheless, statements we would have made purely on a scientific basis in the past take on a policy significance in today's world. An awareness of this public role, whether sought by ourselves or thrust upon us uninvited, is essential. We do not help either science or society by evading our social responsibilities as experts.

It is the very basis of science that it progresses in a dialectical fashion: evidence, counterevidence, new interpretations, new facts, and testing of long-held points of view. Naturally this can be a source of confusion. The general public, for example, must sort out on the one hand that the greenhouse effect is something that must be taken with utmost seriousness, and on the other hand that some disagreement persists as to whether the warming has begun and that it is impossible to state with any authority how climate will change in any particular spot. The human tendency for denial is so great, it is critical that scientists involved in environmental issues, as we are, put in true perspective the new developments and minority opinions that contradict generally held conservation beliefs.

A good example is set for us by those working on the greenhouse ef-

fect problem. When most scientists state that the chance of a catastrophic global climatic change is greater than 50 percent, they explain that they are making a professional judgment. It is proper to go on to explain, however, that nobody would board an aircraft judged to have such a likelihood of major problems and would be reluctant even if the airplane had only a 5 percent chance of failure.

I would further assert that science must take on an advocacy role with respect to environment. If science does not, we deserve and can expect the future censure of society, for indeed it is our *responsibility*, as those who understand best what is happening and what alternatives exist, to sound the tocsin about environmental deterioration and conservation problems in all their variety. As conservation biologists we have a very special role, for the biota is the ultimate assay of the environmental health of our planet. In essence, we should always be the first to know there is a problem. And we need to build a margin of error into our recommendations. How can we expect to be aware of all there ever will be to know when we recommend a minimum population size for some endangered species? Should we not double the figure to hedge against the limitations of our current ignorance? If we explain what we are doing, we in no way compromise our scientific credibility.

What makes this so particularly difficult is that nothing in our training as scientists has prepared us for a perspective generated by the era of planetary environmental crisis. Because we are both advocates and scientists, we must fight to protect our capacity for searching self-criticism; this is the only way our science can remain true to itself.

Lastly, I do not want to start a tradition of new presidents congratulating predecessors in editorial fashion. Yet surely I should recognize that there would be no Society for Conservation Biology with a presidency for me to succeed to, were it not for the remarkable efforts of our founding president, Michael Soulé.

**Thomas Lovejoy**  
Entering the Orinoco  
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