Letters

Presentation before Publication

It was a surprise to me to find that the editorial entitled "Behind the *Times*" [*Science* **129**, 301 (1959)] suggested a journal policy of refusal to release any information to newspaper reporters prior to publication of an article. In many cases the researcher, or member of the research team, has already released such information in full by presentation at national conventions, regional meetings, or state-level programs. Large professional gatherings have established press rooms where abstracts or manuscripts originally submitted to the program committee have been made available to journalists. To further temper journalistic extrapolation with scientific caution, interviews have been arranged between speakers and reporters.

The editorial writer noted ". . . that journals are not the only means of communication in the scientific world. . . . Consequently, on occasion a reporter will come upon a piece of research that he finds newsworthy, but which . . . has not yet appeared [in print]." The phrase *on occasion* seems too limited; *often* or *frequently* would seem to be better choices.

A previous editorial [*Science* **127**, 1145 (1958)] reminded us that science did not exist until communication was established among scientists. Denial of scientific information to the wide audience covered by newspapers may possibly hamper the development of science. For surely scientists today do not wish to communicate exclusively with their colleagues. Hyperspecialization has made that undesirable. What scientists read in their professional literature may contain no more information than what they hear at their periodic assemblages. Since reporters are encouraged to attend many such gatherings, it seems churlish to deny them access to the contents of journals prior to publication.

The responsibility for an accurate report lies with the scientist. The responsibility for an accurate interpretation lies with the reporter, whether he reads a manuscript, hears a paper, or studies an article.

DELL LEBO
Child Guidance and Speech Correction Clinic, Jacksonville, Florida

The Word "Ecology"

It has been stated by a number of historians of science that the word *ecology* was coined by the German naturalist and Darwinian Ernst Heinrich Haeckel (1834–1919). Indeed, the *Oxford English Dictionary* attributes the first use of the word to Haeckel's *The History of Creation* (1875), quoting both from the preface of this work (in translation, "The great series of phenomena of comparative anatomy and ontogeny . . . chorology and oecology") and from Haeckel's *Evolution of Man* (1879) ("All the various relations of animals and plants to one another and to the outer world, with which the Oekology of organisms has to do . . ."). The *Encyclopedia Britannica* says in its article on "Ecology": "In 1869 Ernst Haeckel stated that the individual was a product of co-operation between the environment and organismal heredity. This relationship was called 'oecology'." Paul B. Sears in his book *Charles Darwin: The Naturalist as a Cultural Force* (Scribner's, 1950) writes (page 42): "Haeckel's grasp of the problems of living nature is suggested by the fact that he coined the word 'oecology,' now 'ecology,' to cover the study of the broad configurations which exist within and among communities of organisms," and in the same work (page 56) Sears pins down the date of this coinage to the year 1866. George Sarton, in *A History of Science* (Harvard University Press, 1952), repeats this attribution to Haeckel.

Recently, in reading *The Correspondence of Henry David Thoreau*, edited by Walter Harding and Carl Bode (New York University Press, 1958), I came across a use of the word *ecology* antedating Haeckel's by several years. In a heretofore unpublished letter to his cousin George Thatcher, of Bangor, Maine, dated 1 January 1858, Thoreau wrote: "Mr Hoar is still in Concord, attending to Botany, Ecology, &c with a view to make his future residence in foreign parts more truly profitable to him." Edward Hoar was Thoreau's Concord neighbor and his companion on several trips, including the famous journey to the Maine woods in 1857. The casualness with which Thoreau used the word *ecology* would certainly indicate that it was not of his own mintage and that his cousin would understand it. The inference, too, is that Hoar knew it also.

Thoreau was a wide reader in the literature of natural history. He had read *The Voyage of the Beagle* and quotes it in his *Journal*. We have no record that he had read Haeckel. In fact, in 1858 Haeckel was only 24 years old, probably then studying medicine, with his biological career still ahead of him.

So, who did coin the word *ecology*? And where did Thoreau and Hoar pick up the word? It would be interesting to know, for Thoreau was certainly an ecologist and possessed a fundamental understanding of the principles of ecology, though it did not attain the stature of a recognized science until long after his day.

PAUL H. OEHSER
Smithsonian Institution, Washington, D.C.