Geophysics staff man arranged for me to speak on the telephone to a reporter from the Los Angeles *Times* about E-Quest. I did so for about 15 minutes, as he took notes. The reporter repeatedly tried to draw me out on Mohole, and I refused. I kept saying, "Just look at the record and judge for yourself," and he kept saying, "When are they going to do something?"

At that time, after repeatedly having made it clear that I had no remarks on the subject for public record, I did say, "I don't know when it will get off the ground." On the following day when the story appeared I was exceedingly angry, called the *Times*, and emphatically said so. I may also have written them a letter about this irresponsible reporting. Their piece made little or no mention of the subject for which the interview had been arranged.

This does not constitute "sniping," and I wish you would print this letter or otherwise withdraw the remark.

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Unknowns in Entomology

In "Trends in scientific research" (*Science*, 17 Jan., p. 222), I find the following statement: ". . . the rate of discovery and description of new species has slackened." Information on total numbers of new species of animals described is not readily available, but data on the numbers of new genera are and should show a similar trend. In recent volumes of the *Zoological Record* I find: in 1945, new genera and subgenera 1619; 1950, new genera 1587; 1955, new genera 1963; and in 1959 (last on shelf), new genera 1863. Except during wars, there has been no slackening but only some fluctuation since long before 1900. A glance at any file of the *Zoological Record* will verify this fact.

In the tropics many groups of the smaller animals are almost unknown, and in such groups as Acarina even new families are being described from the United States. Recently in a short period I collected, reared, and attempted to get identification for all insects feeding on or associated with corn in Guatemala [*J. Econ. Ent.* **48**, 36 (1955)]. Qualified taxonomists in the respective groups were able to identify only about 80 percent of the species. Here within a few hundred kilometers of our borders, on one of our most important crops, about 20 percent of the insect species are completely unknown. On a less well-known plant the numbers of undescribed insect species would be much higher.

If the numbers of papers on taxonomic subjects has decreased proportionally to those on other aspects, it has not been because of lack of work remaining to be done. It is rather because of the lack of "glamor" of the work for many people and because of lack of financial support. For example, the staff of taxonomists in the Department of Entomology of the U.S. National Museum has actually decreased in numbers since 1932, whereas the amount of identification required has increased. This has resulted in marked decrease in research time. What is needed is not a disparagement of this type of work but rather an encouragement. Classification is basic to all other kinds of biology.

The immature stages of insects are still largely unstudied, in some whole families unknown. Certainly there remains much to be done in biology, in addition to that in molecular biology!

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How History Is Made

It is common practice among scientist authors to supply the readers of their monographs, textbooks, articles in handbooks, encyclopedias, dictionaries, and so forth, with bits of historical information. I have a strong suspicion, however, that the majority of such authors present names, dates, and technical data, associated with more or less memorable events in the development of the sciences, without having consulted original sources.

The collected information obtained from different scientist authors can be bewildering. Anyone who would care to look for himself to find out what they have to say about the origins of the law of Grotthuss and Draper should be able to verify that the following collection represents the situation pretty well.

One is told that this "first law of photochemistry" was proposed first by Grothus, Grotthus, Grothuss, or Grotthuss in 1817, 1818, 1819, or 1820 and rediscovered by Draper in 1839, 1840, 1841, 1842, 1843, or 1845. (That makes 96 different sets of four "data"!) One is informed, furthermore, that Grotthuss arrived at the absorption principle in question "in studying the fading of solutions of ferric chloride and other iron salts" or, alternatively, "on the basis of certain theoretical considerations." Again, "The 'law' was a simple phrase in his book *Abhandlungen über Elektrizität und Licht*." (If I am not much mistaken the book alluded to is that collection of some of Grotthuss's publications which appeared in 1906, 84 years after his death!) One can easily be misled to believe that Grotthuss collaborated with the boy Draper, when reading that the "law was formulated by these scientists when they noted that natural coloring matter bleached when exposed to light." Other scientist authors can tell, however, that Draper rediscovered the law "in the course of investigations on the photochemical combination of hydrogen and chloride," or, again, through experiments on daguerreotype plates.

The inclusion in books, say, of references to supposedly original sources of information is suggestive of reliability. Appearances are often deceitful, however. Thus, one can find authors who lead their readers to look in vain for Draper's formulation of the absorption principle in a paper which turns out to be a description of a photometer, and in vain for Grotthuss's explicit proposition in a paper which is but an excerpt of the relevant publication.

If the exposition of a deplorable situation is a prerequisite to its being improved, this letter may not be entirely worthless. The phenomenon commented on is by no means a new one, however. Scientist authors of today appear to be neither any worse nor any better than their predecessors. As much as 120 years ago, Draper, while accusing a fellow scientist of presenting historical misinformation, stated: "It is time that scientific men should set their faces against these things" [J. W. Draper, *Phil. Mag.* **25**, 49 (1844)]. Unfortunately, his words do not seem to have had a lasting effect.

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