quired characteristics, is more precisely the stable inheritance of *adaptive* changes induced in an individual organism by an altered environment. In other words, the acquired characteristics that are inherited must be adaptive with respect to the environmental change that induced them if the inheritance is to be considered Lamarckian. So far as I know, no authenticated evidence for this type of heredity exists, although many false claims have been made.

In the cases described by Marx, the phenotypic changes seem to have had no *adaptive* relation to the altered environments that provoked them and therefore have nothing whatever to do with Lamarckian evolution. They are, to me, not "reminiscent" of Lamarckism, but of a number of misguided attempts to use experimental results showing nonadaptive hereditary change induced by an environmental alteration as evidence for the Lamarckian model of evolution; these experiments, like those cited by Marx, are interesting and important, but do not constitute evidence for, or even bear on, "the Lamarckian concept of evolution."

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On Making Comparisons: Reminded Again

As scientists we frequently make comparisons: between arbitrarily defined groups, between species, between countries, between ideas, theories, or whatever else takes our fancy. Yet, in making these comparisons, we are frequently guilty of a gross illiteracy. I refer to the common, almost universal, practice of comparing one thing *to* another. The verb *to compare* may be used with either the preposition *with* or *to*, but the two uses carry almost opposite meanings. If one thing is *compared with* another, the two are set side by side and the degree to which they differ is determined. This is the meaning usually implied in scientific writings. If one thing is *compared to* another, however, the two things are being likened and their similarities emphasized, as, for example, in "Shall I compare thee to a summer's day?"

It could be argued perhaps that the common usage of *to compare to* is sanctioned, by the frequency of its use, as an acceptable alternative to the less common (but correct) usage of *to compare with*. At the risk of being pedantic, I do not think this argument can be accepted even for common American parlance; the latest edition of *Webster's Unabridged Dictionary* clearly reiterates the above distinctions.

Scientists pride themselves on their clarity and precision of thought. We should be no less concerned about the clarity and precision of what we write. This applies not only to authors of scientific works but more important to their editors, who have a particular responsibility to ensure the accuracy of the written word; the latter could surely afford the extra two ems to make comparisons *with* instead of *to*.

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Recombinant RNA Research

I would like to offer supplementary information about the article "The birth of recombinant RNA technology" by Roger Lewin (23 Dec. 1983, p. 1313). First, in vitro recombinant RNA has been practiced in many laboratories for several years, thanks to the pioneering work of Uhlenbeck, Gumport, and their co-workers at the University of Illinois. Lewin's article attributes this technology to E. Miele, D. Mills, and F. R. Kramer (*1*). It is clear in Lewin's article that the major impact of the work by Miele *et al.* is the in vitro amplification of RNA with biological function by the introduction of foreign RNA into a vector derived from $Q\beta$ RNA. However, in a similar article published in May 1982, Shen Tongjian and Jiang Meiyan reported the introduction of poly(A) into $Q\beta$ RNA, which was subsequently used to infect and thereby amplify the RNA insert. Although characterization of both the in vitro recombinant RNA and the product of replication in vivo was not fully described, it appears that the Chinese scientists have achieved the in vivo amplification of recombinant RNA.

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References and Notes

1. E. Miele, D. Mills, F. R. Kraker, *J. Mol. Biol.* **171**, 281 (1983).

Erratum: In the last paragraph of Arthur L. Robinson's Research News article "High spatial resolution ion microprobe" (14 Sept., p. 1137), J. Ronald Hass' name was misspelled.