sents the sister taxon to the ungulates, which should serve as the most appropriate outgroup to properly root the tree. This dilemma is no less profound for the morphological data than it is for the molecular data.

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Edison's Laboratory

The issues raised by John J. Gilman in his 15 January letter (*Science*'s Compass, p. 327) prompt me to respond both to his remarks and to Bettyann Holtzmann Kevles's review (*Science*'s Compass, 11 Dec., p. 1997) of my book, *Edison: A Life of Invention* (*1*). The book's arguments are actually much closer to those suggested by Gilman than those represented in the review. In her effort to distill a 500-page book into a short review, Kevles chooses language that oversimplifies my analysis of Edison's laboratories and research methods.

I would never use the term "overgrown workshop" to describe Edison's laboratories. In fact, I discuss at some length how he combined the tradition of machine shop invention with laboratory research to construct a new institution—the industrial research laboratory. In addition, I point out how the first of these laboratories at Menlo Park was seen as new by his contemporaries, who then tried to emulate his example. I also note that, during the last quarter of the 19th century, Edison had the finest and best-equipped private research laboratories in the United States. Moreover, Edison pioneered the use of research teams that combined skilled mechanics, able to construct and modify new technologies, with laboratory researchers using the best electrical and chemical apparatus available to investigate and test the materials and mechanical and electrical elements that made up these devices.

The research that went on in Edison's laboratories was certainly much more than mere tinkering, another term I would never use to describe Edison's work. It may be that Kevles and I disagree over the extent to which Edison's research, which was largely empirical, represents research rather than tinkering. But I would argue that much scientific and technological research is primarily empirical. Throughout the book, I discuss at length how the research undertaken by Edison both drew on the best scientific knowledge of the day and often moved beyond that knowledge to provide new understanding of materials or electromagnetic effects that proved essential to his inventive work. Moreover, from 1874 until near the end of his career, Edison periodically undertook basic research designed to discover unknown natural forces; while these might ultimately be useful to the development of new technologies, the creation of new knowledge was the primary goal. The laboratory records that I draw on extensively show us a very different Edison from the commonly held image of a self-taught tinkerer.

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References

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Response

It seems to me that it is a matter of tone that disturbs Israel. It is true that the phrases "overgrown workshop" and "tinkering" are mine, not his. But I did not omit to mention his attention to Edison's interest in and understanding of the basic science of his day. I certainly did not intend to denigrate Edison. I suggest that readers examine this very important biography for themselves and then decide if my review distorted or demeaned Edison's character or contributions.

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Journal Prices

As most of us know, the price of commercial scientific journals (R. Johnson, Letters, *Science*'s Compass, 1 Jan., p. 33; D. L. Roth, *ibid.*; P. T. Shepard, *ibid.*, 27 Nov., p. 1643; H. K. Lee, *ibid.*; D. Malakoff, News of the Week, 30 Oct., p. 853) has increased at about three to four times the consumer price index (CPI). Even allowing that the CPI is not the correct measure of costs in academia and even allowing for an increase in the number of journal pages published, this is an outlandish rate of increase. Most academic libraries cannot keep up with these price increases and, as a result, the number of subscribers for most commercial journals has decreased over the years. This "wastage" causes the commercial publishers to increase their subscription prices even faster to keep their revenues level. Because the users of these journals (the scientists who publish in them) are not the