the potentiality of computer-assisted instruction, it has largely been addressed to the issue of economics." The authors cite Oettinger's Run, Computer, Run as support for their statement. But is Oettinger informed only when he is skeptical about the economics of CAI? To quote Oettinger further: "The basic needs ... common to most enterprises [are] better ideas, better people, and more money. . . . Every attempt to introduce technological change into education has revealed [that] we know precious little about the psychology of learning, and what we know is more relevant to the laboratory than to the classroom" (7). We wholeheartedly share his concern and skepticism, especially with respect to the helter-skelter attempts to incorporate the computer in a conventional educational environment without defining a cohesive instructional model for the individual (8, 9, 10).

Is the plasma display panel the key to an expensive student console? For the large quantity price of $1800 per console or terminal, existing engineering technology can provide a TV quality image with color and 3-D, speech recognition and speech output, plus a light pen for identifying any aspect of the display. This terminal could store all text centrally, rather than in each student's console, providing distributed costs for centrally located terminal capabilities, facile updating, flexibility in operation, and in "library" management.

Alpert and Bitzer's opening assertion that CAI is a "medium of instruction" is later followed by "the introduction of the major new technology into the educational process. . . . " The latter properly negates their characterization of CAI and stands as a direct contradiction. Resolving this inconsistency would alleviate some of the remaining misconceptions.

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References and Notes
4. D. N. Hansen, W. Dick, H. Lippert, "Re-


We believe Seidel et al. present little evidence to substantiate the "four misconceptions" which they list as a consequence of reading our article. For example, they assert that in our paper "valid instructional processes or models . . . . seem to be taken for granted, rather than . . . . viewed as the primary and fundamental problem whose continuing solution must progressively guide hardware and software design." This conclusion is antithetical to our approach. If there is a feature which uniquely characterizes the PLATO program, it is that the designs of hardware and technological software are defined by the educational objectives rather than by the availability of existing commercial technology. With this in mind, the PLATO system was designed for maximum adaptability, not only to accommodate teaching strategies, formulated in accordance with a variety of educational theories, but also to encourage research and development leading to the systematic establishment of valid educational models.

Further, Seidel et al. assert that we have ignored the economic evaluation of CAI by other agencies, in particular the economic evaluation of lesson preparation. This is immediately contradicted by their citing our reference to the study of the Committee for Economic Development (1), a study which did not include the PLATO system in its analysis of the economics of computer-assisted instruction. We stated that the cost of lesson material preparation using the PLATO III system is much lower (by at least a factor of 10) than for the systems evaluated by the CED. Our data cover the preparation of almost 1000 hours of completed lesson material in a wide variety of subjects. Assuming the economic validity of both analyses, and we see no reason...
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Marital Success of Scientists

Robert Graves's comments on scientists' wives ("The human toll of science," 3 Apr., p. 96) are unfair to scientists and, I think, statistically unsound. As a scientist's wife, I know many more cases of satisfactory marriages among our colleagues than unsatisfactory or broken ones. Of these, half a dozen have celebrated their golden anniversaries and a great many have passed 20 years of marriage. We talk of the broken marriages, thus publicizing them out of proportion to their numbers.

Graves says that scientists "cannot communicate with their wives about their work in the way open to most husbands." There he pinpoints the problem in most unsatisfactory marriages: lack of communication. A scientist is no more to blame than is a poet or historian who doesn't talk to his wife.

Successful wives of scientists have made one of several choices: they have studied some science before or during marriage, or through conversation they have acquired a superficial knowledge of the field in which the husband works, or they have held up the social and stimulating side of the partnership, or they have developed an interest of their own in which they can communicate. Most scientists marry college-educated women. Science is a major part of daily life, and no woman—or poet—has a right to consider that scientists "live in an exclusive world in which things are viewed in a strange and different way."

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