LETTERS

Student labs or none?

The series of articles in PHYSICS TODAY for March dealing with introductory physics courses were informative and fascinating. I find one point, perhaps just a detail, a little bothersome.

The Physical Science for Nonscientists staff tells us on page 61, "Experimental experience is central to physical science. It should be central to any course in physical science."

Hulsizer informs us, on page 57, "There are no laboratories connected with introductory courses at MIT." This is qualified slightly by mention of a project laboratory which, however, would not have to be taken in physics.

I do not know what to conclude from these observations. Has the PSNS overstated the case for laboratory work? Does MIT think that experimental experience is central to physical science? Is laboratory work essential to nonscience students but deferable until a later time by those intending to become scientists?

Enos R. Wicher
Harvey Mudd College

Testing and teaching

Let me congratulate you on your excellent editorial, "What Happened to Mark Hopkins and the Log?" in the March 1967 issue of PHYSICS TODAY. By asking, "Can you ask a student, for purposes of learning, to bare his ignorance to the teacher who next day will be testing him to find out what he knows?" you have shown the inherent incompatibility of putting teaching and testing functions of education in the same individual, however perfect he may be.

After recognition of the problem has been made, the solution should not be far. As a matter of fact, in many parts of the world including Europe and Great Britain, the educational system clearly separates these two functions. Teaching is a subjective matter, but testing should be as objective as possible. For example, one should reasonably expect a uniform standard from the high-school and junior-college graduates from a regional unit, which could be as large as a state or as small as a city. This uniformity is being accomplished by delegating the authority of testing and final grading to a central board of examination. It carries out the grading function using the same teachers on a random basis, and the complete tabulation of grades is done at the central office. This procedure provides a screening method based on objective tests rather than personal and human prejudices.

I personally feel that with the changing times, we should now introduce such a uniform standard in American education. The above system of objective test is the rule rather than the exception in many parts of the world.

R. C. Nigam
Los Angeles

Beating logs into computers

The March issue of PHYSICS TODAY was particularly interesting. Of special interest was your editorial, "What Happened to Mark Hopkins and the Log?" because we have been devising possible models for education in 1980. You may be interested to know that with new education concepts the log may again become an important factor in education.

In our work on modification of teaching for the AB, we have been considering putting all course work, including physics, on programed learning devices and, more particularly, using inexpensive printed material with only a sliding window. It now appears feasible to program all course material in this way. Data show that a person completing such a course probably will do much better than one attending classes as they are held today. It is most encouraging that the course work can probably be completed in two or three years instead of the usual four. We feel now that one year, presumably after all the course work is completed, should be spent at a college or university.