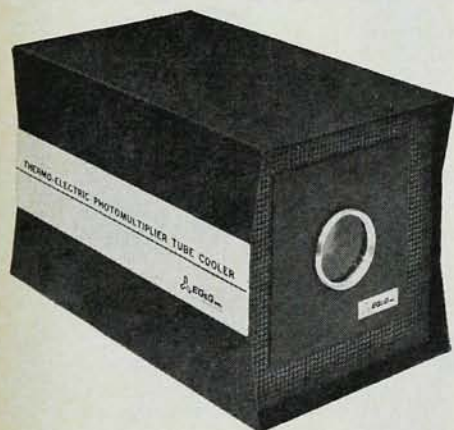


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LETTERS

(Continued)

do not provide the students with *solid* accomplishment. They do not leave the high school course with the feeling that enables them to say (a) "I have learned something that I did not know before I took the course;" (b) "I understand it *well*;" and (c) "I can calculate numerically what will happen in a given set of circumstances with such confidence that I feel I can control my environment as well as just understand it." Physics, more than all other disciplines, should emphasize this third point, because physics is the basis of all other sciences.

In the newer approaches, both content and method have been changed. I do not want to quarrel about the change in method from the "plug into that formula" deductive approach to the experimental and inductive approach of the Physical Science Study Committee. But I do suggest that the content of such courses be severely restricted so a sense of mastery of the subject matter can be observed in the majority of students.

Instead, with the PSSC type emphasis, the content is so broad that we skim the top, and merely understand, but do not predict and control enough. The number of concepts and topics is increased in number to such an extent that (a) when students face an examination, they are at the mercy of the instructor's whim because the large amount of content they are to master is too much and (b) it takes a super-Ph-D to teach the up-to-date high-school course that includes everything from the antisymmetrical eta-zero decay to the Josephson effect and on to the 9/10 conversion factor of relativistic gravitational collapse (using *Time* magazine as the textbook!). No wonder the students think physics is difficult.

I now make a revolutionary (old-fashioned) suggestion. Let us include in the high-school course certain topics that will be studied in depth and that shall not be covered in a university course. They might be uniformly accelerated motion, simple friction, energy, elementary calorimetry, the lens formula, Ohm's law, the atomic and

nuclear periodic tables and the nuclear reactions in stellar energy generation. These are all important things for the terminal high-school graduate to know. Other exotic topics of the teacher's special interest could be included. If a student should get to college without physics (we hope not), we charge him extra for the no-credit "bone-head" physics course. If the university teachers build on the high-school foundation, this will lend much more prestige to the high-school course; physics will appear to the high school students as something that can be mastered in a finite amount of time, and the university teacher would not have to spend time on these topics; so he can get to more advanced topics sooner. All of this would be a good improvement for everyone.

Alfred A. Kraus Jr.

West Texas State University

Alienation of physicists

In response to your July editorial, I submit the problem of alienation or partial polarization of physicists vis-à-vis the rest of society may not be due so much to indifference as to their apparent inability to communicate with it. Certainly one of the greatest chances to do just that is being lost today among nonphysics majors both in colleges and high schools. Thus, a large number of professional physicists have known sin again if only because they are failing to create a large class of potential fellow travelers. Are these not the "grays" who will fill the gap between the physicist and so-called "nonphysicist"? If so, why thin them out?

Michael J. Smith

Howard University

Correction

In a story on "New Astronomy Officers" (PHYSICS TODAY, September, page 109) it was erroneously stated that Leo Goldberg is the incumbent president of the American Astronomical Society. In fact, Bengt G. Strömberg has been president of the society since 27 July. Goldberg is now a past president. □