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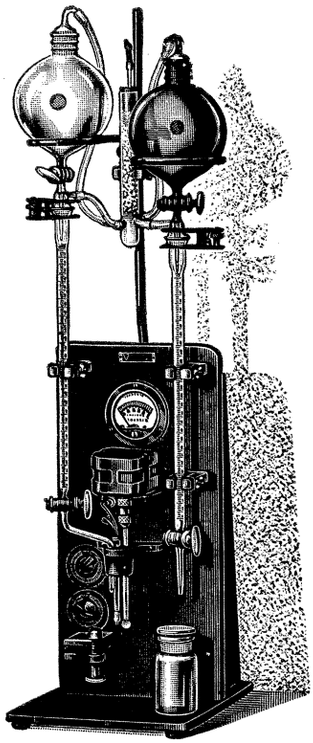
. . . for Karl Fischer Moistures



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dresses itself to a challenging and fascinating problem. The problem is frequently a timely one in that techniques have become available which offer a new leverage with which to pry answers from nature. These factors apply to the "fashionableness" of elementary-particle physics today. This field has very little trouble in attracting bright, imaginative, and creative people. The limitation at present lies not in the technology and not in the availability of interested scientists, but only in the availability of support for an expanding program. The planning of a reasonable level at which such support should be provided requires much careful thought and review. In indulging in this planning scientists must be careful not to cut off capriciously and completely any other promising field of study.

McVittie appears to resent the participation of scientists in the mass communication media of radio, TV, and the press. In view of the fact that large amounts of public funds are being spent for research programs in cosmology as well as in elementary-particle physics, it is not unreasonable or even undesirable that scientists should be eager to have their results quoted in the New York *Times* or to lecture on the BBC. If the public is not involved at some level in these programs, why should public funds be used for them? Scientists should be much more aware than they have been in the past of their responsibilities to the public. Scientific research in all fields is becoming more and more costly, and the motivation for carrying on this research must be very carefully examined and interpreted to the public if a stable program is to be achieved.

In one paragraph McVittie expounds the dangers to branches of science "where quick results are expected." In another he asks whether the total flux of energy from an extended source of radiation can be determined "satisfactorily and relatively quickly from the earth's surface" or whether it may "require an orbiting astronomical observatory." Why should anyone be motivated to get this information relatively quickly? I can answer for McVittie that all of us would like to see the questions that perplex us answered within our lifetimes. I can also answer that creative people will be attracted to a field of research only so long as there is some hope for their creativity to bear fruit within a time that will provide for them a satisfying professional career. As the scale of apparatus that is required in various fields of research becomes ever larger, the time scale for accomplishing anything grows commensurately. It would be my guess that for the health of our science and probably for the health of our entire culture it is important that cosmologists should get their orbiting astronomical observatory, if it is feasible to launch and profitable to use, and that elementary-particle physicists should get their accelerators if these are feasible to construct and useful to have.

No one could take exception to McVittie's plea for careful planning. The costs for all these programs are large. Competition is not the end toward which we strive, but the human being is a competitive animal and as long as there are interesting things to do, more than one man of talent will be engaged in the doing. All would like the satisfaction of success. In a large sense, each scientist gets satisfaction from the success of another, but we all get special satisfaction, as well as recognition, from our own successes. We cannot abolish competition, but we should certainly not support hasty and slipshod work. Elementary-particle physicists are investing enormous time and effort in trying to establish a responsibly scaled program in their field. They need help from other scientists.

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Aid for the University of Skopje

In the months since the first appeal appeared in *Science* (Letters, 19 June 1964, p. 1409) for aid in replacing scientific equipment destroyed by an earthquake in Skopje, Yugoslavia, negotiations between UNESCO and the government of Yugoslavia have cleared the way for immediate shipment of gifts in kind to the University of Skopje. Scientists around the world are reminded that there is still great need for equipment for teaching and research. Lists of items required by the various departments will be provided at once, along with instructions for shipping. Please write to UNESCO Gift Coupon Office, Place de Fontenoy, Paris 7e, France.

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