ready suffers because of social discrimination. Recent statistics from the Institute of Electronics and Electrical Engineering (IEEE Spectrum, Sept. 1975) show that, even in professional careers, orientals have an annual salary \$1000 less than blacks and American Indians, and \$2100 less than whites.

In contrast, the crime rate of orientals is one-tenth that of whites and onehundredth that of blacks; also their average education rate is higher than any other race in the country.

It is very unfortunate that first-class citizenship in terms of advanced education and least crime rate are not rewarded. To call attention to this doubly discriminated status, should orientals speak up noisily against their traditional moral-or should they make conspicuous problems, such as increasing the crime rate by a factor of two hundred?

> AKIRA HASEGAWA Summit, New Jersey

Short life for physicists

I was much interested in the letter in your July issue (page 11) from John Davis, concerning the possibility of a shorter life expectancy for physicists. As a regular reader of the obituaries in PHYSICS TODAY, I was also impressed by the relative frequency of deaths at quite early ages. However, I resisted the conjecture (I made no studies) that there was indeed a shorter life expectancy, if only because I'm sure I've read some authoritative statistics to the effect that scientists in general were among the longest lived. With archeologists leading, if I remember correctly, physicists were in a satisfactory position.

The question then arises: do your obituaries make up a fair sample? Presumably you are limited to active members of AIP (and similar societies), prominent (or erstwhile prominent) nonmembers, and others you hear about by indirect or informal channels.

But there may be a significant number of physicists or ex-physicists who do not fit these categories. Many men (or persons) may have active, even productive, although undistinguished, careers and drop from sight, as far as the physics community is concerned, in their forties or fifties. This may be more common at present (though it will have a delayed effect on the subject under discussion). The reason for this is that about 1% per year leave physics not by death or retirement, as mentioned in Lee Grodzins's report on the employment situation (see W. K. H. Panofsky's article, June, page 23). I imagine this category as distinct or only partially overlapping the middle-aged dropperfrom sight category. The point is, obviously, that many in both categories may go on to live to ripe old ages, and never appear in a PHYSICS TODAY obit-

Therefore, I repeat: how fair a sample of physicists and ex-physicists are those appearing in your obituaries?

GERALD CONRAD US Geological Survey Albuquerque, New Mexico

THE AUTHOR COMMENTS: Gerald Conrad's remarks are well taken. How good is the obituary column as a source of the needed data? Is it a biased sample?

Since the publication of my letter, S. M. Luria has kindly sent me a copy of an analysis1 of the deaths of scientists reported in Science from January 1958 through January 1968 categorized by major field, radiation experience and

Luria found the mean age at death for archaeologists to be 77 ± 11 years, for physicists 64 ± 16. Radiation workers from all fields had 62 ± 14. Luria also found striking differences in the shape of the mortality distributions.

Luria discussed the significance and also questioned the validity of the obituary sample. But apparently no better data are available.

Reference

1. S. M. Luria, Report Number 609, Naval Submarine Medical Research Laboratory, Box 900, Naval Submarine Base New Groton, Connecticut 06340. Also ref. Public Health Reports, 84, 661-664 (1969).

> JOHN F. DAVIS University of Utah Salt Lake City, Utah

Synchrotron radiation

I should like to make some comments to the letter by G. C. Baldwin "Origin of synchrotron radiation" (January, page

As far as I know, the term describing the energy loss connected with the radiation of energy by the moving charged particle was first introduced into the equation of electron motion in a magnetic induction accelerator by W. W. Jassinsky [J. Exp. Theor. Phys. (USSR) 5,983, 1935; Arch. für Elektrotechnik, 30, 590, 1936]. (It is true that after introducing this term Jassinsky neglected it in further calculations.) D. Kerst in his first detailed paper (Phys. Rev. 60, 47, 1941) cited Jassinsky's article.

In 1945 the paper by L. Arzimovich and I. Pomeranchuk appeared: "The radiation of fast electrons in the magnetic field" (J. Phys. USSR 9,267, 1945: see also J. Exp. Theor. Phys. USSR 16, 379, 1946). This paper should have been cited by Baldwin because Arzimovich and Pomeranchuk calculated the



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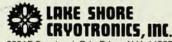
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