

while others strike me as clumsy and unappealing. Could it be that physics and mathematics are *not* totally cold and emotionless? Or have I simply been a physicist too long?

As an undergraduate, Johnson complains of having to continually prove her academic and intellectual skills to those around her (predominantly males). Developing these selling skills could, however, give her a long-term advantage. It is impossible to overemphasize the value of learning, early in a scientific career, how to promote your contribution. As successful physicists know, attracting funding requires skillful selling of the quality and importance of your work.

Most men and women do not choose careers in physics. Why? The answer to that question is simple: It is because they do not perceive physics to be interesting and lucrative.

How do you attract more men and women into physics? The answer to that question is not simple!

DALE GEDCKE

1/91

Oak Ridge, Tennessee

I spent a few minutes looking at Sidney Harris's cartoon in the April 1990 issue, trying to figure out why it was supposed to be amusing. Finally it occurred to me that the "humor" relies on the concept that women *must* show warmth and feeling even if it means not doing math properly.

And while I was distracted from reading science anyway, I decided to check what other subtle messages you give your women readers. What, for example, is the gender ratio in the ads? In the ads depicting persons whose gender was evident, only 11% of those people were women. Granted, this is better than the status quo, but my vision is that the scientific societies (at least the ones to which I belong) in this country should be encouraging women and minorities. (There were *no* people of color shown at all.) I am frankly disturbed by this. Women models cost no more than men, last I heard, so guidelines requiring 50% women and people of color on new ads wouldn't cost the advertisers money. And if they say, "But that's not realistic!" tell them that the times are changing and you want them still to be in business in ten years.

BETH HUFNAGEL

Lick Observatory

9/90

Santa Cruz, California

APS Aid to Women and Minorities

The news story on APS outreach committees (May 1990, page 93)

amused me at first and then made me angry. The APS has committees on the "status of women in physics" and on "minorities in physics." I was amused at the silliness of these ventures. At first, it seemed to me that APS had merely succumbed to the pop sociology that saddles many American institutions with the useless (at best) counting of women and minorities in all occupations. Setting aside the serious issue of quotas, I could smile at my colleagues whose overstimulated consciences had overcome their common sense.

Then I read about the APS-administered scholarships for minorities. No Asians or white males need apply! Who are the sexists and racists here: the majority who would leave physics an open profession of choice or the conscience-stricken committees who would herd women, African-Americans, Hispanics and Native Americans into the physics corral until even the most sensitive sociologist would smile and say, "Now we are equal?"

N. C. NICHOLAS

5/90

Silver Spring, Maryland

THE 1990 PRESIDENT OF APS REPLIES: APS wants to leave physics an open profession of choice and has no desire to "herd" anyone into the "physics corral." If "choice" is to be more than an empty phrase, the options must not be constrained by obsolete hurdles, of whatever origin, that make our science distinctly less open to large segments of our society. The removal of these hurdles has been a goal proclaimed consistently for decades by the elected council of APS. It represents the consensus of an overwhelming majority of our membership, who see it as an enlightened policy not only rooted in elementary fairness but also contributing to the health of physics.

EUGEN MERZBACHER

University of North Carolina,

10/90

Chapel Hill

The Paradoxical 'Unities' of Physics

The introduction of special sessions on "The Unity of Physics" at meetings of The American Physical Society reflects a widely held concern that physics is being fractured into specialties, with insufficient communication among them.

The situation was highlighted by the following experience. The late Luis Alvarez was one of our most versatile and fruitful colleagues. He was one of the very few to show friendly interest in my own work on

the physics of wood energy and its application to domestic heating. I offered to come to Berkeley to give a seminar on my work, but Luis told me that "if you don't talk about quarks, you won't have an audience." I have been turning that remark over in my mind, and find that it reveals an interesting paradox about the unity of physics.

Interest in quarks, and in particle physics generally, is propelled most particularly by the quest for unity in physics—by the search for grand syntheses at the most fundamental level of knowledge. What Alvarez's remark brings home is that the quest for unity has become a specialty that narrows so intensely the intellectual focus of its devotees that they are unwilling to be interested in anything else in physics. Is that what we want to encourage when we speak of "the unity of physics"? Or does such "unity" condemn one to a snobbish isolation from the mainstream of scientific and human concerns?

I believe the traditionally held conception of the role of the physicist is that he is a generalist who can turn his physics training to use in the most diverse ways—for example, as a "consultant-entrepreneur" (see my Guest Comment in *PHYSICS TODAY*, June 1978, page 9). Or as has happened in many notable instances in the past, he can enrich other branches of science with his physics training and habits of mind. I believe it is just such diversity that is the actual goal being sought by those who talk of "the unity of physics."

Perhaps that goal is better expressed by our speaking of "the diversity of physics," or, reaching for a compromise, let us talk of "the diversity and unity of physics."

LAWRENCE CRANBERG

12/90

Austin, Texas

Pauling Biographer Rebuts Rigden

Although I appreciated John Rigden's kind comments (May 1990, page 81) on my book *Linus Pauling: A Man and His Science*, I must challenge some of his other claims. Particularly bizarre is Rigden's claim that "out of a total of 202 references in the book, only three cite primary literature and they concern vitamin C." This is not only false, but surrealistically false. In fact, there are over 500 references, and almost 200 references to primary sources. Such primary sources include letters, monographs and books, as well as political, philosophical and scientific documents written by Paul-