letters

The real world

I will add my "amen" to David Weinflash's "sermon"—"Advice to exphysicists on entering the real world" (5 March, page 9). He preaches the truth, and does it eloquently and succinctly, without one wasted word. My first thought was that every university physics department should prominently display this article, but that would be like Luther's theses.

Those of us employed in industrial laboratories can be fooled. Our surroundings look so much like the labs we knew in graduate school. Occasionally, techniques from out of our physics pasts seem to solve a technical problem, and we think we are about to show the world the splendors of physics. But then we hear the knock at the door. There stands the real world, the God of Expediency, saying, "Follow me; I will make you fishers of Mammon."

So, we lay down our equations, take up our balance sheets, and follow him. Only by cleansing our hearts of the evil thoughts of a life devoted to the search for natural truth can we truly listen to the world, and begin moving with it.

Nearer, my God, to Thee!

JAMES I. BERG

4/9/80 *Granville, Ohio*

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The guest comment by David Weinflash must have struck a responsive chord in ex-physicists "ex-ed" by age, by competition with new blood, and so on, as well as by personal choice. My own vibrating chord was that things I thought should be done, weren't. This makes a brave new world harder to enter, and also suggests that this journal could serve an added function. Consistent with Einstein's terse dictum "Research is dialogue," both with Nature and with others of like interests, a column of letters describing special interests of a "Physics" nature or its application could help the formation of dialogue. This could be important if complementary specializations were joined. As one example, Chris Gregory has done amazing work in 5-dimensional math-physics. Working through his extension of Einstein–Infeld equations-of-motion results could be worthwhile. Again, some years ago I noticed that there really is an extremum in the safety and simplicity of the nuclear-reactor concept. But, no one wants to fund construction for any purpose, even for such natural uses as exploring the deep oceans. Again, as unlikely as it may seem to some, the claims that God really is very much alive seem to check out. This is a very active area. Again, the man who noticed that ion beams are better than radiation for C^{14} dating must have wanted advice on the art of ion-beam formation, and so on.

It is certainly true that the big labs have an advantage, but in new areas of work this may be more than balanced by the direction provided by Washington. This effect could be an answer to Tsang's question on innovation (March, page 11). A physicist is one who works on reality, preferably for tangible results but not only for financial ones. Those we admire have frequently found others to serve at least as a sounding board, and companions are helpful. My experience with making suggestions of interesting problems is that they are caught on the fly by editors and referees. But, one really shouldn't work alone, if somewhere other interested people exist.

In the same issue (page 114) it was suggested with some force by Morton and Judy Tavel that a body of experts should examine the energy problem and draw conclusions. They will, I trust, hear from some of the many people who have made just such studies in past decades, since a constructive letter should be answered. Those who have been active in applied physics have been most productive in making such surveys, since they know the difficulties better than any others. They have found that generally the less one knows about nuclear power the stronger is the anti-nuke stand.

C. B. MILLS

4/1/80 *Santa Fe, New Mexico*

Russian boycott

I just read Herman Feshbach's editorial in March (page 160) addressing the question of a Russian boycott. I have the feeling that what he said was "Let's

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keep telling them neat things they want to know but let's scold them a lot." My question is what good will that do? They already know that we don't like what they did. The only important consideration is whether their actions will cost them anything of importance or not. A boycott would perhaps slow everyone down somewhat but would surely slow the Soviets more than the rest of the world and would get the point across.

If the worst that happens is that a few Soviet scientists have to suffer a little embarrassment I see little to be gained by the Soviet leadership in acting in a more acceptable way.

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Here is an interesting exercise to perform with the March editorial by Herman Feshbach: Whenever you come across the words listed below substitute the words in italics:

The American Physical Society/*The American Olympic Committee*
scientific communication/*athletic competition*
scientific/*athletic*
physics community/*discus-thrower community*
summer Olympics/*scientific congress*
IUPAP/*International Olympics Committee*
planning sessions/*bull sessions*

We can expand by the appropriate substitution of words like farmers, wheat growers, agricultural congress, . . .
or
engineers, nuclear engineers, computer manufacturers, . . .
or
business men, marketing directors, AAM, . . .
or
MY group
MY profession
MY community
THEIR meeting

DORIT L. NOETHER
4/16/80 *Summit, N.J.*

THE AUTHOR COMMENTS: As these letters demonstrate, the nature of the relationship between Soviet and US scientists has become an emotional issue. It is also clear that the attitudes of the individual members of the US physics community cover a wide spectrum, but that all, without exception, condemn the Soviet authorities for their callous and savage actions taken against our colleagues in the Soviet Union. This diversity is a reflection of the fact that we live in a democracy, that individuals can make their decisions based upon their own conscience, and are not constrained by governmental pressures.

This diversity has its advantages. It is not at all clear that a particular strategy is most effective in influencing the actions of the Soviet authorities with respect to human rights. It is my experience, at least in securing relief for individuals, that one must "press all the buttons." The message we wish to send the Soviet government is clear. A boycott is one way to deliver it, but not the only way. Those who have the opportunity to deliver the message personally to influential persons, scientists and officials, in the Soviet Union, should do so. Those who can encourage the more liberal elements in the Soviet Union should do so. Those who can personally transmit a message of support to the refusniks and dissidents should do so.

There is an "experiment" to which one can refer for guidance—namely, the first Scientific Forum organized under the Helsinki Accords, held 18 February to 2 March in Hamburg. The US delegation was urged by some Soviet emigres not to attend; that the main achievement of Western scientists "will be the endorsement of the *status quo* with respect to . . . the imprisoned human rights activists." "Those scientists who are prepared to take a strong action in protests over the imprisonment of a scientist . . . invariably find themselves in the minority so that only a very mild, if any, resolution can be passed." What in fact happened was that in the opening statements at the plenary session "leading personalities in science from France, Great Britain, Italy, Switzerland and the US reproached the USSR for specific violation of human rights and scientific freedom." All observers of the Forum commented on the severity of the impact of these statements on the Soviet representatives. "Soviet delegates and their colleagues left Hamburg with a full appreciation of the profoundly Western concern for the human rights of scientists and the level of Western exasperation with diverse aspects of Soviet behavior in the exchange programs and international scientific meetings." And indeed an important resolution on human rights was passed by the forum. Would it have been better not to go? I don't think so.

Does this mean that I believe that Scientists for Orlov and Shcharansky should not organize a boycott? Of course not! But I and many others will not join it. We all seek the same goal. But each of us will have to decide for himself what is the best way to proceed.

Until now I have focused upon the possible effects of scientific meetings (or absence therof) on the actions of the Soviet government. However it should not be forgotten by anyone that the

main business of a scientific meeting is science. There are many brilliant physicists in the Soviet Union and it is nonsense to assert that there is little we can learn from them. It is however important that these brilliant people attend the scientific meetings. Obviously standards, which I need not spell out here, must be rigorously applied.

The freedom of communication between scientists is a right the scientific community has stubbornly defended since Galileo. This is certainly not the moment for us to relax our vigilance.

HERMAN FESHBACH
President
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Women in physics

Thank you for Vera Kistiakowsky's exceptionally fine article on women in physics (February, page 32).

It will be an invaluable resource for all physicists who are concerned with young people and the future of our profession.

DINAH L. MOCHE
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3/18/80 *Bayside, New York*

Nuclear misinformation

The science section of the Italian newspaper *Il Tempo* (Time) of 5 January published a short note entitled "Le Armi Nucleari" (Nuclear Weapons), which had been taken from a letter on "Nuclear Weapons Disposal" published in the August 1979 issue of PHYSICS TODAY (page 13). I feel that a few comments on this letter are appropriate.

In the first place the author of the letter, Richard McDonald, refers to the catastrophe that would befall Mankind if the superpowers should unleash their nuclear weapons against one another, and then he adds that, though less catastrophic, the dangers of nuclear reactors are still serious. The message that an uninformed reader gathers from these words is that the hazards of nuclear reactors are somehow comparable to those of a nuclear war, even though less catastrophic.

Such a statement is certainly disconcerting, because I don't think that the risks of a nuclear war have ever been equated to the risks to the population from the operation of nuclear power stations. It is true that the writer admits he is neither an expert in nuclear weapons nor is he familiar with the nuclear fuel cycle (so that one wonders why he should speak out on these matters), but the public opinion has still be impressed because of the authority of the magazine that published the letter.

After a quarter of a century of inten-