

letters

Physics and the military

In his guest comment (October, page 9), Charles Schwartz implies that there is little difference between the bellicose nations known as the Soviet Union and the US. What a silly thing to say—the US and the Soviet Union are very different. For instance, the Soviet Union, as a matter of policy, acts forcefully and pervasively to curtail free public expression of ideas in the press, in the arts, and by ordinary citizens; the US does not. Even in the very same issue of *PHYSICS TODAY*, Benjamin Fain's letter (page 15) strikingly reminds us of the oppressive nature of the Soviet government by telling how his Russian friend, Emanuel Yashchin, has been persecuted by the authorities because he requested an exit visa. For these reasons and others, I find that the US is worth defending; I view our defense efforts as a sensible means for protecting what is valuable to us, not as the "militarism" decried by Schwartz.

Schwartz then suggests that scientists who work on military projects are generally afflicted with pangs of conscience, which they try to alleviate with feeble excuses. I haven't found this to be the case; my two decades of personal experience with hundreds of defense scientists have turned up only two or three who were troubled by their work.

In the bulk of his Comment, Schwartz says that physics professors who do no military work are nonetheless helping US "militarists" by doing basic research and by training other physicists who may take up defense work, and he suggests professors try to prevent these benefits from flowing to the military. I am angered and disgusted by his recommendation that American physics professors should act to weaken the defense of the US. By what perversion of common sense does Schwartz conclude that Americans would or should want to weaken their own country? I truly hope that Schwartz's friends and colleagues will attempt to help him gain a more sensible perspective on such basic issues.

MARVIN KING

11/84 *Riverside Research Institute*

When the Russian army is out of Afghanistan, Poland, Hungary, Czechoslovakia, East Germany and Ru-

mania; when the Berlin Wall and its extensions with the guns pointed inward is gone; when there is free immigration and travel into and out of all the countries of the world; when Khomeini and Ghadafi and their counterparts announce the end of all holy wars; when Israel gives full citizenship rights to all who live in its area; when all nations recognize Israel's right to exist; and, finally, when the world's population growth is stopped at a level at which adequate food and comfort can be supplied to all, the scientists of the free world can abandon their responsibilities to their fellow citizens.

Until that glorious time, it behooves all of us to remember that brave men have worked, fought and sometimes died to gain and preserve the freedoms under which the pacifists prosper.

FREDERICK H. C. SCHULTZ

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11/84 University of Wisconsin-Eau Claire*

While I am offended that Charles Schwartz's views were awarded the stature of a guest comment in this journal, I am glad to see them exposed to examination and to have an opportunity to comment on them.

Schwartz's suggestion that US activities in Central and South America are equivalent to the Soviets' murderous and brutal actions in Afghanistan and Poland (and elsewhere) is nonsense. This particular bit of obscenely distorted logic seems to be popular with the far left these days and reflects an utter disregard of reality. Perhaps by blaming one's own nation for the turmoil in the world, one is comforted by a feeling of having greater control over circumstances; but this seems a dangerous form of self-delusion.

Schwartz ascribes the willingness of scientists to work on weapons-related projects to various factors, including ignorance, but seems blind to the possibility that many may consciously desire to help strengthen the defenses of their society because it is under attack; the motive is akin to self-defense. Beyond this, many, including myself, deeply and sincerely believe that:

► While our society, loosely termed Western civilization, may not have attained the platonically ideal condition demanded by some, it is by current and historical standards the best and highest on earth with respect to individual freedom, human rights and

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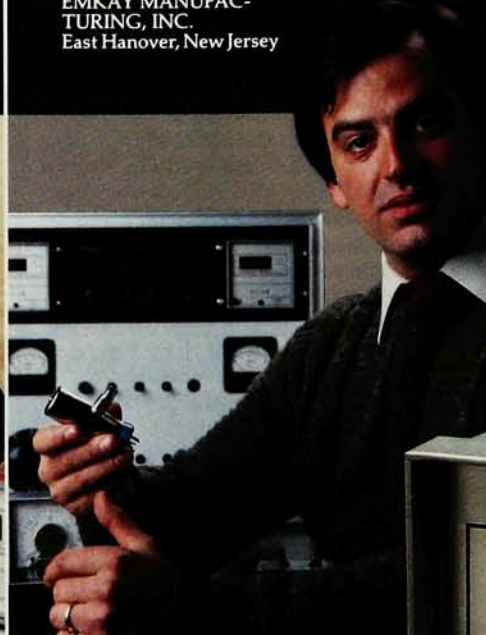
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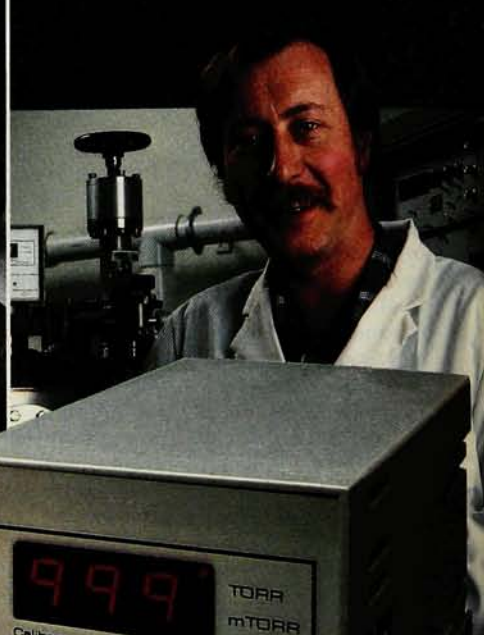
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letters

physical well-being, and must be preserved

► Our society is clearly in peril from a brutal totalitarian empire (the USSR) bent on controlling other nations and imposing its own unworkable economic system on them

In calling for a grass-roots movement against "the nuclear arms race and excessive militarism in general," Schwartz does not tell us how it will be able to spread into the politically poisoned soil of the Soviet Union. As long as such a movement is confined within the limits of our own free society, it seems probable that it will be nothing but a force for unilateral disarmament. Thus the danger exists that well-meaning peace movements may weaken our defenses to a degree that the only response to aggression will be surrender or a nuclear strike. I do not believe any sane person wants our leaders to have to make that decision.

Schwartz's central question, "Which side are you on?" (peace or war) is vacuous and unhelpful because all rational people are on the side of peace. The cause of peace would be better served by asking questions such as: What policies will best resist Soviet aggression without a major military confrontation? How can our society maintain an effective military defense for an extended time without becoming militarized? What can we or our institutions do to induce the Soviets to desist from their unrelenting attempt to propagate communism? and Why are some nations rich and others poor?

I believe that addressing these and many other complex questions will do considerably more to promote the world peace we all long for than will damning our own society, turning our backs on the military, and in other ways deluding ourselves, as Schwartz seems to advocate.

JACK F. BUTLER

Lexington, Massachusetts

11/84

In his recent guest comment, Charles Schwartz highlights the role that all of us who teach physics play in training students who later work on military projects. His article is particularly timely because over the next few years Star Wars and other new programs are likely to absorb an increasing fraction of physics graduates. Many of us feel a responsibility to educate students about the arms race to help them make informed decisions about their choice of careers while they still have their options open.

To this end, a group of postdoctoral physicists at the Institute for Theoretical Physics in Santa Barbara have prepared a 30-page booklet entitled *Your Career and Nuclear Weapons*—A

Guide for Young Scientists and Engineers. The booklet's style is factual rather than polemical, and it contains short chapters on the history of the arms race; the relationship between the Defense Department, universities and private industry; and the future developments that are presently planned.

We hope that those teaching courses related to the arms race and those who advise on career choices will find it useful for their students. The booklet is free, and we urge anyone interested to write to us for a copy.

NIGEL GOLDENFELD

NEIL TUROK

Institute for Theoretical Physics

University of California

Santa Barbara, California

12/84

While probably well intentioned, Charles Schwartz's guest comment suffers from the semantic confusion that is all too common among those who are quite properly concerned about this country's present military posture; but even more dangerously, it advocates a course that would almost surely lead to war.

Schwartz's clear implication is that working on militarily useful research:

► Equals "militarism"

► Equals "warmongering," that is, being against peace

► Equals being in favor of more nuclear weapons.

Unfortunately, Schwartz's view is shared by many students (perhaps as influenced by their professors) as well as by many of the well-meaning so-called "peace groups."

First of all, as has been my position for many years, it is evident that an excess of nuclear arms is the antithesis of an effective defense; I have suggested that in the interest of our own security we should unilaterally start dismantling our excess of nuclear weapons.

But I am equally concerned that, to avoid war, we must have a conventional military force so technically superior to that of any possible aggressive adversary that no one will ever have the incentive to test our preparedness. Therefore I tell students whenever the occasion arises that at this stage of human evolution the best thing they can do to preserve humanity from destruction is to assist in any way they can in the development of more effective defense weapons.

My views on this subject were very strongly influenced by a series of talks² given by Walter Lippman, the great geopolitician, at the University of Chicago in 1938. In these talks he traced the history of world turmoil from the time of the Roman empire to that day. He showed that peace in the world existed only when one country was so powerful that no other country dared

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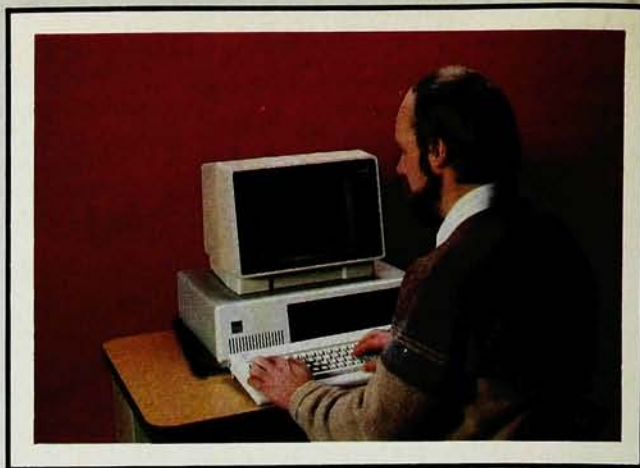
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attack it. He stated that World War I resulted from Britain's having lost its superior power; that after that war it was the US that had the power but refused to accept it; and that there would be no peace in the world until the United States accepted its responsibility.

This was in 1938. Anyone who is old enough to remember what was going on at that time cannot help but recall with the greatest of regret the terrible consequences of our failure to heed Lippman's teachings. We have, however, since World War II accepted our responsibility, albeit often in a misguided and less-than-perfect manner. But let us never return to that misguided path of the 1930s until the world arrives at the millenium of human understanding!

Physicists, just as those in other lines of work, should confine their public utterances to their areas of competence. Having worked on the Manhattan project, and having been responsible for the development of several other weapons systems, I believe this subject is within my area of competence. Other physicists whom none would consider to be "warmongers" and who know much more about the subject than I do express³ similar views as to our duty to remain prepared.

References

1. F. F. Offner, *Bull. At. Scientists*, October 1984, p. 47.
2. Walgreen Lectures, delivered by Walter Lippman, February, 1938; University of Chicago Archives, Box 4, Folder 1.
3. See, for example, *The nuclear chain reaction—Forty years later: Proceedings of a University of Chicago commemorative symposium*, R. G. Sachs ed., U. Chicago P. (1984).

FRANKLIN F. OFFNER
Northwestern University

11/84

THE AUTHOR COMMENTS: The guest comment published in the October *PHYSICS TODAY* was an edited version of a talk that I gave in May 1984 at a special symposium, held by the physics department of the University of California at Berkeley, on "Connections between physics and the military." The faculty of this department agreed formally to sponsor this symposium—at which three professors and one graduate student presented varying perspectives on the issue—after a group of physics students made a request of the department chairman in a letter, which began:

A group of physics undergraduates, graduates, and faculty has been meeting informally to discuss issues related to the militarization of physics. The group is motivated by concern about the threat of

nuclear war and the role physicists play in the evolution of that threat. We believe these issues merit wider discussion under the official auspices of the department.

At that symposium I heard plenty of voices that disagreed with my views but none at the level represented in the letters received by *PHYSICS TODAY*. I know that there are very many citizens whose views about the nuclear arms race are confined by the simpleton creed—Our country is good, theirs is evil; we must be the strongest to preserve peace and our freedom; deterrence works—yet I hoped for a broader spectrum of responses from the physics community.

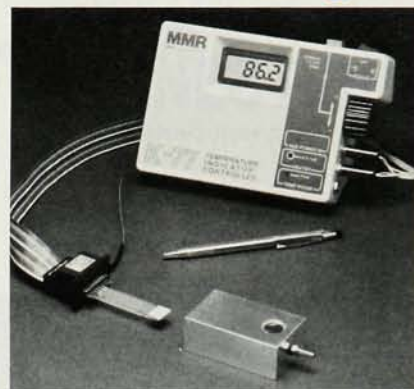
While I cannot expect to change the world views of these five letter-writers in this small space, I should correct a few of the misinterpretations that they have placed upon my writing:

► My expressed opposition to "militarism" led some to conclude—falsely—that I was a pacifist or wished to weaken the country's defense against attack. Webster defines the word *militarism* as "a policy of aggressive military preparedness," and I think none could deny that this description fits the Reagan administration. One need not be a pacifist to oppose US military intervention (covert as well as overt) in Central America; and many before me have noted that the current buildup of nuclear weapons is not making this country stronger but is more likely to lead us into a nuclear war that will destroy us along with all our noble principles. Militarism means the choice of using weapons and the threat of destruction to resolve international problems rather than constructive diplomacy (serious arms-control negotiations, for example)—and the militaristic priorities of the current government are amply clear.

► The comparison of US and Soviet systems, so fervently presented in the letters, sprang from the following sentence in my piece: "For many people outside of the US and the USSR there is little difference between these two superpowers in how they use their military might." I think this statement is not only objectively true, but it also presents a balanced view of the excess of militarism in both superpowers.

► I did not use any words like "warmongers" to describe scientists who work in weapons laboratories or defense industries. My harshest characterization of them was the assertion that "patriotism, economic pressure and team loyalty are potent forces" in keeping them at their present work. However, if I accept Marvin King's statement, "my two decades of personal experience with hundreds of defense scientists have turned up only two or

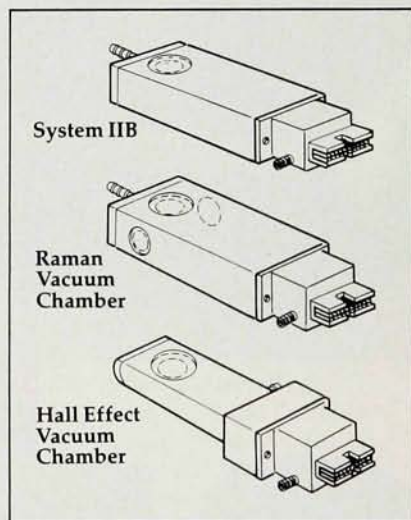
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letters

three of them who were troubled by their work," then maybe I have been too kind.

I would like to turn briefly away from these letters and address the closer set of criticisms that I received from my colleagues when I gave this talk several months ago. While I cannot fully represent their views, the main thrust was as follows: Given that there are serious worries about the nuclear arms race, still it is best for physicists to continue doing what they have been doing for decades past; the country will need well-trained people and some of these may be able to have a constructive influence on the government, to help avoid ill-conceived weapons programs and to devise good arms-control proposals.

My own opinion is that if these pollyanna views were ever valid in the past, the success of the Reagan reelection campaign has made them clearly obsolete. Serious arms control is not on the national agenda, but a reckless arms buildup is given top priority. This is not a time for complacency or escapism, when the terrible danger faces us all. All physicists—especially those in academic positions, to whom my piece was primarily addressed—have a large responsibility in this present struggle between the runaway militarism of our present government and the diffuse movement for peace and nuclear sanity. I wish I would hear from more of you.

CHARLES SCHWARTZ
Department of Physics
University of California
Berkeley, California

11/84

Faculty unions

I found myself partially agreeing with both sides in the debate of whether faculty unionization has a good or bad net influence on university quality. Having recently departed from the faculty of a unionized university, my conclusion is that it depends on the institution and on the forces that control it. The faculty at my university had become unionized before my arrival, and therefore I cannot evaluate the appropriateness of that decision based on the existing conditions. Apparently the faculty felt that it was losing its voice in university affairs and that the usual channels, such as the faculty senate, were insufficient. I found this very credible because, during my five years there, the state government was seriously eroding the university budget while the university administration and board of regents were acting more as an arm of the government than as independent representatives of university interests. It was left to the faculty,

through the union, to stand up for quality in higher education—meaning especially, but not solely, improved faculty salaries. The union was the only faculty organization whose voice was meaningful, because only it had any meaningful power to back up its statements.

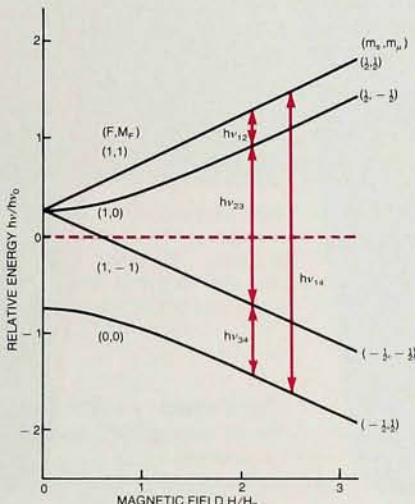
It is true, however, that the union was more concerned with holding the line for the general faculty than in rewarding or promoting the more productive professors or academic programs. It was indeed a force for mediocrity, as detractors of unions have claimed. However, mediocrity seemed to be a praiseworthy goal in the face of actions by the administration and state government. The lesson I took from the experience was that faculty unions are inappropriate in a well-run university in which the governing powers understand and are sympathetic to the goals of higher education and research. At universities where mediocrity is a standard below which the faculty is trying not to fall, unions certainly can be a force for good.

JOEL N. SCHULMAN
Hughes Research Laboratories
Malibu, California

12/84

Corrections

December, page 44—In the article entitled "Muon spin relaxation," by Robert H. Heffner and Donald D. Fleming, figure 6 was printed incorrectly; the correct diagram appears below.



January, page 9—In the Guest Comment "Remembering Peter Debye in Munich," by Paul P. Ewald, the last sentence in the second paragraph of the second column should read: Besides, the long summer vacation came, and this was the end of my endeavor.

page 124—In Donald Lyons's letter on degeneracy in perturbation, the second summation should also be performed over all t greater than g .

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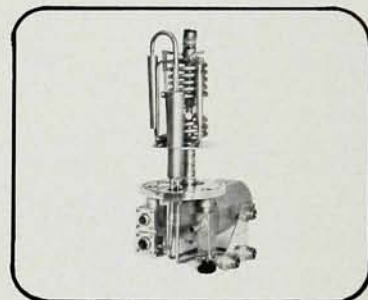
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