continued from page 15
research abroad, and that was because, as he bluntly replied when pressed, China didn't really need sophisticated physicists, so graduate students like me should return after finishing their doctoral work. I was puzzled by his answer. Why should we return if the country does not need us? Well, it didn't take too long before I puzzled out what he was really implying. It seems that the government cares more about exercising its control over students abroad than worrying about the "brain drain."

The second factor influencing our decisions whether to return home or not, namely the lack of respect of basic civil rights, is perhaps more important to some of us. The views of Fang Lizhi [former vice president of the University of Science and Technology in Hefei, dismissed in early 1987] are widely shared by the vast majority of Chinese students both at home and abroad. While Fang's call to us to speak out and to live up to our responsibility as scientists has had a tremendous impact on the Chinese student community, many of us are more concerned with some of the specific issues confronting the daily life of every Chinese citizen. In practice, there is no freedom of speech, no freedom of association, no freedom of travel, not even freedom of thought, even though these basic rights are nominally guaranteed by our constitution. In many respects, our ability to work as scientists inside China is intimately related to the degree of political democratization. For instance, traveling abroad is strictly regulated. While travel restrictions are considerably looser for those with privileges and for established senior scientists, it can sometimes take months or even years for young researchers with few connections to be permitted to visit another country. These travel restrictions ought to be completely abolished, for they seriously reduce channels of communication between researchers in China and the rest of the world. Many of us fear that we may never be allowed to visit the US or to attend international academic conferences once we return home.

Moreover, as physicists, freedom of speech and freedom of thought are of vital importance to us, since we are trained to challenge things that are irrational and not to accept any "traditional" dogma without critical examination. The fact that China has not been able to produce research worthy of consideration for a Nobel Prize is not unrelated to the fact that independent thought deviating from the official line has been suppressed. It reflects the so-called "tradition" of following the standard. It is debatable, however, whether this lack of creativity can be attributed solely to government policy. Nevertheless I contend that the government should move beyond verbal promises and take decisive actions to improve the living conditions of intellectuals in the middle class, not just those with high rank. It must allow diversity of thought, even "perverse" thought, and fully recognize the individual. Until China's government alters its fundamental attitude toward the intelligentsia, both economically and politically, any attractive promises it makes will be met with deep suspicion.

Some of us are eager to contribute our scientific knowledge, as well as what we have learned of Western culture, to the modernization of our country. Some of us wish to stay abroad, for various reasons. For example, those who have aggressive personalities and strong motivations for success in their scientific careers may find it difficult just to survive the relatively close society in China, where individuality is yet to be fully recognized, let alone pursue a vigorous scientific career. Because they adopt Western life styles more easily and tend to be more self-centered, they are often condemned as having been corrupted by bourgeois liberalism. They are most likely to be resented by colleagues and treated with suspicion not only by their political supervisors but also, and perhaps more frequently, by the people in their immediate surroundings. Unfortunately, such scientists are the people that my country needs most if China is to catch up with the developed Western nations and regain its position as a world power. In any case, it is a citizen's basic right to choose a place to live if one can, and the government does not necessarily have, in my opinion, the right to prevent citizens from traveling abroad at their own expense. The only sensible policy is to create an atmosphere in which scientists and intellectuals are free to voice their opinions and exchange ideas with their colleagues both inside China and abroad. It is the government's duty to improve the poor living conditions of intellectuals and to guarantee every citizen the basic civil rights granted by the constitution, rather than to impose various limitations aimed at controlling students abroad. Any coercive policy is doomed to fail.

7/88 NAME WITHHELD BY REQUEST

SSC Costs: Compare and Contrast

Each issue of PHYSICS TODAY adds another chapter. Virtually every colloquium, seminar or even conversation inevitably turns in its direction.

Five billion dollars (or is it $4.2 or $6.3 billion?) is a large expenditure and apparently of great concern to many. But is it really the figure of merit for the SSC?

Spread over the 8- to 10-year projected construction period, the project can be viewed as costing approximately $500 million per year, a relatively modest sum, especially to those of us jaded by a $5.2 billion nuclear plant that won't open, multi-giga-dollar submarines and aircraft carriers, and a Stealth bomber rated at $500 million per flying wing. In addition, the $250 million estimated yearly operating budget (1988 dollars?) seems positively trivial.

The academic arguments have been amply aired and debated and seem fairly straightforward. When the subject came up at the meeting of physics chairs in Arlington, Virginia, on 19–20 February, I was pleased to add my name to the significant support expressed by that group. If the project is vetoed, one might contemplate, in a decade or so, a subscription to the relevant organ of the Physical Society of Japan for timely reports on the Japanese Super Collider located 50 miles south of. . . .

GERALD A. FISHER
San Francisco State University
6/88 *San Francisco, California*

One aspect of your insert (May 1988, page 70) briefly describing the seven remaining proposed sites for the SSC caught my eye. Only one site was characterized as having a life-cycle cost slightly higher than those for other sites, one had a cost about equal to the average, and the remaining five had below-average costs. I couldn't help being reminded of Garrison Keillor's "Prairie Home Companion" characterization of Lake Wobegon, "where all the children are above average."

ROBERT VANDENBOSCH
8/88 *University of Washington, Seattle*

Of Particles, Pyramids and Piper-paying

Having just finished reading the Letters column in PHYSICS TODAY of May 1988 and the articles on space science, I happened to pick up Aristotle's *Politics*. In book V, chapter 11, I read the following: "As examples of works