was to actually join—or attempt to join—Nazi German institutions.

Giving aid, comfort, and scientific knowledge to countries run by barbarous regimes is not necessarily a good thing, no matter how virtuous it might make some of us feel.

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Sanders replies: These letters provide a welcome alternative viewpoint to my support for scientific conferences independent of politics. The central disagreement between me and the writers of these letters is whether a conference should be held completely independently of the host nation's politics—provided of course that safety of participants is guaranteed—or whether political matters, such as banning people based on citizenship or human rights violations, should militate against organizing such conferences.

I support the goal of the universal right of all scientists, regardless of citizenship, to participate in open scientific meetings, and equally support the goal of universal respect for human rights. The question before us then is whether it is better to hold conferences, even under compromised conditions, or not to hold them, with the hope that the lack of engagement will drive change.

In our complex world, we need the yin and the yang of political and cultural engagement. Sanctions and boycotts have a place, but scientists in every country have a need for contact with others with whom to share ideas, to collaborate, and to learn and teach.

In the sports, music, and science worlds, we are seeing exchanges that somewhat transcend politics. This year the Summer Olympics were held in China, and the New York Philharmonic played a concert in North Korea. In 2007 the 38th International Physics Olympiad was held in Iran. These events are important in bringing together athletes, musicians, and scientists, but also in catalyzing change in our global society.

The letter writers have in common the view that holding these conferences is tantamount to appeasement. If they think that threatening to cancel a conference or holding it once and refusing to do so again is an effective tool for creating a better world for science, they may do so, either on their own or with some allies. Personally I regard threats and cancellations as counterproductive. Perhaps the letter writers see a way forward that I do not see.

As I write this letter (1 October 2008), I am returning from the First International Iran Summer School on Quantum Information, which I co-organized and which featured top international speakers. Sixty-eight students chose to participate, including several international students; unfortunately Israelis were forbidden. In our imperfect world, the students were grateful for the opportunity to learn, and the speakers for the opportunity to share knowledge. Despite the compromises, the school was a positive event that built scientific discourse independent of politics but constrained by reality.

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Physics: A calling or assembly line

I find my physics education useful nearly every day in my job for a large semiconductor chip manufacturer, and I am still glad that I struggled through a PhD from the University of California, Berkeley, about a decade ago. However, I agree with Anita Mehta (PHYSICS TODAY, June 2008, page 50) when she suggests that the physics research enterprise must overcome challenges if it is to remain relevant.

Around the beginning of the 20th century, one of Max Planck's professors famously declared that there was nothing significant left to be discovered in physics. Einstein's relativity and quantum mechanics followed; physics became paramount when the atom bomb helped end World War II and largely maintained the global peace for decades afterwards.

Times have changed. The Soviet Union is gone. The challenges with global climate change are also mostly political and economic. The microelectronics revolution has transformed the world, but with personal computers, cell phones, and the internet being everywhere, it is easy to take the underlying physics for granted. Do most people care, for instance, that the storage of songs and videos in iPods depends on the precise control of electrons' quantum tunneling through an insulating barrier?

Nearly all the practical successes of physics in the recent past are the consequences of physical understanding developed more than half a century ago. Meanwhile, nuclear fusion remains unavailable for power generation; high-temperature superconductivity is inadequately understood; and no mass-market application of carbon nanotubes has yet been found.

So what is new, and why should the taxpaying layperson care? Any new research proposal raises two pertinent questions: Is it likely to reveal anything fundamentally new about how nature works? If only confirming established physical theories, is the work going to be of any practical consequence in the near term?

Physics, like everything else, has to compete in the marketplace of ideas. Further inquiry in physics may remain relevant only if it continues to be widely perceived as a useful art or otherwise generates concepts that excite the imagination of young people.

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In Anita Mehta's collection of inconvenient truths, she chronicles the evolution of the physicist from a craftsman doing research for "pleasure rather than work" to a "physics professional" working for the research corporation that is the modern university. Having earned a bachelor's in physics and a doctorate in psychology, I feel compelled and ever-so-slightly qualified to conclude that, if anything, Mehta has done us a disservice by being far too polite.

Mehta uses artful prose to address issues that already make many people uncomfortable. Her insights ring true. As she notes, the broad promise of early theoretical advances made by Renaissance men gave way to specialization in which the skills needed to solve problems became more important than the original thinking needed to recognize them. Mehta writes that too few people are allowed "the postdoctoral researcher's birthright—the luxury of dreaming." But she passes over a concurrent and inseparable phenomenon: the decline in the status of graduate students and postdocs from colleagues doing independent research to glorified laboratory assistants.

Specialization, Mehta writes, has brought coexisting but contradictory interpretations of nature, often achieved through computer simulations rather than experiments; that specialization has led to "the growing estrangement of subfields within physics." Mehta courteously skirts the root cause of what she calls the "assembly-line mindset" and of all the other problems she notes: the advent of international competitiveness as the core motivation for science. In that realm, nations accumulate knowledge to gain economic and military advantage