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## MOVEMENT OF THE PEOPLE

How shall we deal with "movement of the people" at the beginning of a new millennium? I believe emigration and immigration should be a matter of concern to American scientists. The intellectually exhilarating enterprise of science depends on free communication. And over the last 150 years science has only benefited from the movement of scholars between countries—I think of those Russian students in Bunsen's mid-19th century Heidelberg laboratory who, returning home, helped shape modern and Russian chemistry. What is new in the last 50 years is that study abroad, especially in the United States, often turns into emigration.

Science, open as it is, does not operate in a vacuum. It is done in countries, cultures, and economies. In the service of knowledge, scientists also train the most skilled component of the work force—at no cost to the employers. And the movement of these newly trained experts may deprive another country of its desperately needed human potential at a critical stage of development. Scientists in the United States, in their addiction to what gifted foreign hands and minds bring to their research groups, should not turn their eyes away from the negative effects that immigration of a scientist to the United States may have on the scientist's home country.

Here are some facts and feelings that shape my concerns about immigration:

- I was born in southeast Poland. Part of my family survived the Nazi occupation and the abiding anti-Semitism around us. The United States eventually received us, the true stateless refugees that we were. It did not receive us all that graciously—do you remember the racist immigration quotas of 1921 to 1965, which delayed our immigration by a few years and completely discouraged so many others? But once we came, the world was open to me, as it was to the rest of "Hitler's gifts to America."
- A foreign postdoctoral researcher has asked me to write a letter supporting her application to switch to permanent-resident status. She has consulted a lawyer, who sends along an oft-copied form, suggesting the extravagant language I should use.
- My research group has two postdoctoral associates or senior visitors from Germany, one from Morocco, one from Switzerland, one from Korea, and two from Argentina. Of my four graduate students one is Armenian, one Northern Irish, one Chinese, and one American. Thirty-nine percent of chemistry Ph.D.'s last year were not U.S. citizens or permanent residents. In engineering fields the percentage was much larger.
- If Cornell admitted its entering class of chemistry Ph.D.



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students without regard to language ability, and only on academic merit (measured as imperfectly as that may be), I estimate that our class of 32 students would have 24 students from the People's Republic of China (PRC), 3 Indians, 2 Russians, 1 Korean, 1 Taiwanese, and 1 American. In fact, in 1997 we enrolled a majority of U.S. citizens or permanent residents, 5 PRC students, 2 from India, and one each from Hungary, Israel, and Liberia.

• Ninety-five percent of the PRC graduate students now in the United States will probably try to stay here. The vast majority will succeed in doing so. Yet they will likely face discrimination. In hiring new faculty, U.S. universities may subtly discriminate against American-trained, Asian-born Ph.D.'s—to the benefit of industry, which pays Asian immigrant Ph.D.'s less than Americans.

I feel the agony around emigration and immigration very personally—can I tell that Chinese or Russian student not to aspire to what came to me? When I talk to people about the problem, I typically hear: "Oh, in time it will be one world, and it does not matter where people work." Or, "If my students go back, they will never be able to do the science they are capable of doing here. I am actually saving

them by helping them stay." Or, "It's up to the government to set immigration policy; that's not my job." And, "How can I say no to the pleas of an individual to help him change his visa? He's my student!"

I will argue against two of these responses, express some anger over the third, and respect the fourth. But let me begin with some observations about immigration to the United States.

*Things we can agree on.* The United States tolerates diversity and provides tremendous opportunities for immigrants. It is something to be proud of—our record on immigration is much better than that of any other developed country, except perhaps Canada. Not that immigration here is an unalloyed delight—it is often the most wrenching personal decision.

We depend on immigrants—mostly those at the bottom of the economic ladder—to be the nannies and cleaners in our society. And remarkably, we also depend on those at the top of the ladder—to provide the Ph.D.'s that American students, especially American males, now avoid—and that the economy craves. For the United States, immigration is an unquestionable boon.

Our immigration laws are capricious and porous. The national will to enforce them at the top (those Ph.D. students trying to change their visas) and bottom (illegal working-class immigrants from China and Latin America) is just not there. Illegal immigrants often manage to stay. And an interesting alliance of the affluent (industry) and the less wealthy (Hispanic political pressure groups) ensures this status quo.

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