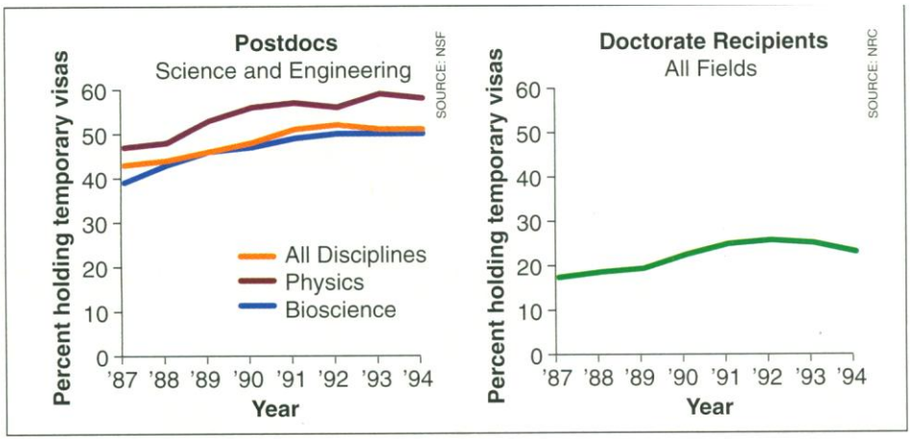
IMMIGRATION REFORM

Proposals That Would Limit Visas Strike Fear at Universities

When the Senate returns from its recess next week and begins debating a bill to reform immigration law, American research universities fear that their cosmopolitan world could be transformed. Since the influx of scientists fleeing Europe in the 1930s and 1940s, a steadily growing supply of foreign talent has helped fuel the spectacular successes of the U.S. research engine. But the system rests on an intricate array of immigration laws that could be radically altered by measures likely to be proposed during the Senate debate. If the more extreme ones end up becoming law, says David Schramm, vice president for research at the University of Chicago, the consequences for U.S. science could be "disastrous."



No longer welcome? More than half of all science and engineering postdocs in 1994 held temporary visas, along with a quarter of Ph.D. recipients.

It's no surprise that research administrators like Schramm are nervous, considering the extent of universities' reliance on foreign researchers. In 1994, for example, more than half of all U.S. postdoctoral positions were filled by workers on temporary visas, according to figures just released by the National Science Foundation. Amendments to the immigration bill proposed by Senators Alan Simpson (R–WY) and Edward Kennedy (D–MA) would have posed a direct threat to that system and shaken up other levels of academia as well. University officials breathed a sigh of relief when neither proposal survived recent votes in the Senate Judiciary Committee. But sources on Capitol Hill say parts of both measures are likely to be reintroduced, perhaps during the Senate floor debate next week, and that their fate is impossible to predict, given voter sentiment for immigration reform. Moreover, even in its present form, the bill could subject universities to stricter enforcement of immigration laws.

Congress isn't targeting the research universities in particular, says Cornelius Pings, president of the Association of American Universities in Washington, D.C. Instead, he says, universities have been caught in a larger battle as Congress grasps for "a universal set of rules" governing immigration, driven largely by growing resentment of illegal aliens. But there's plenty of support for tightening legal immigration as well. Groups representing American high-tech workers, for example, have supported sweeping immigration reform, and some scientists and engineers with freshly minted degrees are complaining about the stiff competition from immigrants for scarce jobs.

At issue in the debate over the Senate bill and a more modest reform effort under way in the House is a complex tapestry of visa categories and requirements. Some permanent visas—"green cards"—are granted because the applicant has a close family member in the United States or has requested political asylum. Others are awarded based on a job offer. If the prospective employee falls into an "Outstanding Professors and Researchers" category, the door is open immediately. More often, though, the route to an employment-based visa is time-consuming and expensive, requiring the prospective employer to attest that no American is qualified, willing, or able to take the same job and to demonstrate that the immigrant will be paid the "prevailing wage"—a requirement designed to ensure that American workers will not be displaced by foreigners willing to take lower pay.

Many students and postdoctoral researchers instead seek temporary visas, which are easier and quicker to get. They come in "a whole alphabet" of categories, says Kathryn Sands, Immigration Services Manager at Texas A&M University, including the F1 student visa and the H-1B visa. The latter may be issued for a maximum of 6 years to a professional worker in a "specialty profession"—say, a postdoc in molecular biology or particle physics.

One of the Simpson amendments, however, would have cut the time limit for an H-1B temporary visa to 3 years, meaning that in the middle of a typical research project, a postdoc would be told to "pack up and go home," says Mary Cay Martin, director of the Office of International Affairs at the University of Chicago. Another would have eliminated the fast-track route to the green card for "outstanding researchers." That measure, say opponents, could deprive the United States of the next Einstein or Fermi—to which Simpson's chief counsel, Dick Day, responds, "Other people like to point out that the next person we keep out might be an Adolph Hitler."

In a meeting of the Judiciary Committee 2 weeks ago, Simpson withdrew these amendments in the face of widespread protests, especially from high-tech businesses, which also depend heavily on immigrant talent. But the game is far from over. Day suggests, for example, that some of the Simpson amendments could re-emerge during debate on the Senate floor. And immigration experts say that the set of amendments sponsored by Kennedy, although much less extreme than Simpson's, could also have a wide impact on research if they make it into the final bill.

Intended to protect American workers from the abuse of temporary visas by private businesses, notably in the software industry, one of Kennedy's amendments would impose the green card's rigorous "recruitment" provisions on the H-1B. "That would make a tremendous difference," in part because of the resulting delays, says Sands. "I think a lot of our foreign workers would just disappear." The Kennedy amendments were voted down in committee, but they, too, are likely to be reintroduced on the Senate floor, say Democratic sources on Capitol Hill. "I have no guess as to how successful that will be," says Day.

Sands also expresses reservations about an amendment the committee did approve. The measure, proposed by Senator Arlen Specter (R–PA), would permit the Department of Labor to investigate possible visa

infractions by any employer whose work force is made up of at least 20% H-1B workers. That could include many university programs if officials classify individual departments or research grants as "employers." The investigations, which could be initiated even if no complaint had been filed, could bring normal departmental business to a standstill as administrators scramble to provide records and documentation, says Sands.

Still, another part of the Specter amendment is "certainly good for educational institutions," says Catheryn Cotten, international adviser at Duke University and its medical center. The language, first proposed by Senator Paul Simon (D–IL), would give universities more flexibility in setting an appropriate wage scale for foreign workers. That way, biologists at universities, for example, would not be locked into the higher wage scales paid by industry, as sometimes happens. With the Specter amendment, says Cotten, "we're not required to, in some cases, pay aliens more than we pay citizens."

Compared to a month ago, the immigration bill "certainly seems to be going in a more rational direction," says Chicago's Schramm. But some scientists who find themselves competing for jobs and fellowships with foreigners disagree. The original Simpson bill "encouraged employers to look down the street, in their own state, in their own country for workers" rather than going abroad, says Jennifer Cohen, a former researcher at Los Alamos National Laboratory who is teaching physics at Shippensburg State College in Pennsylvania. Cohen—who is also an organizer of the Network of Emerging Scientists, composed of researchers who are "emerging" into the job market after completing their degrees or being laid off from earlier jobs—says the Simpson bill is "the best thing we've seen at this time."

Day, for his part, says the universities' stance is partly "self-serving." Universities "want to have access to [foreign students]," says Day, because the students are reliable sources of tuition money. Schramm responds that Day's assertions "show a lack of understanding of how a research university works." In most cases, he says, "a faculty member's research grant would pay the tuition whether the [doctoral] student is foreign or domestic."

"What we're really concerned with," says Schramm, "is getting the best possible students to do the best possible research—independent of where they come from." Whether that attitude will have to change should become clear over the next few weeks on the floors of the House and Senate.

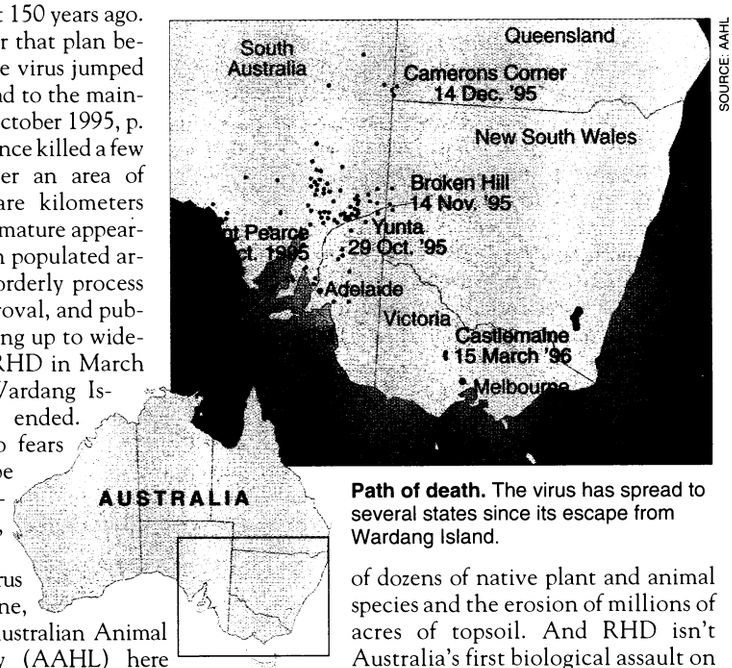
–James Glanz

VIROLOGY

Australia Fends Off Critic of Plan to Eradicate Rabbits

GEELONG, AUSTRALIA—Last spring the Australian government began a 2-year biological warfare experiment with a potent, imported virus. The target: wild rabbits, which have spread economic and ecological disaster throughout Australia. The plan was to study the natural course of the Rabbit Hemorrhagic Disease (RHD) virus, also known as Rabbit Calicivirus Disease, among a quarantined population of rabbits on tiny Wardang Island off the South Australia coast. If the deadly experiment was a success, the next step would be a large-scale release targeting the country's estimated 300 million feral rabbits, descendants of a dozen animals brought from Europe almost 150 years ago.

But last October that plan began to unravel. The virus jumped the fence and spread to the mainland (*Science*, 27 October 1995, p. 583), where it has since killed a few million rabbits over an area of thousands of square kilometers (see map). The premature appearance of the virus in populated areas precluded an orderly process of evaluation, approval, and public education leading up to widespread release of RHD in March 1997, after the Wardang Island experiment ended. And it has led to fears that RHD might be capable of infecting other animals, and even humans.



Path of death. The virus has spread to several states since its escape from Wardang Island.

Now that the virus is out of quarantine, scientists at the Australian Animal Health Laboratory (AAHL) here want to move up their scheduled release of large quantities of RHD throughout the country, in the hope that it will deal a knockout blow before the rabbits have developed immunity. Three government regulatory bodies are expected to decide shortly whether it is safe to go ahead. John Anderson, minister of primary industry and energy, says that the government plans to proceed as early as next month if the Biological Control Authority, the Environmental Protection Agency, and the National Registration Authority approve RHD virus as a biological control agent.

As the government weighs the pros and cons, caliciviruses—an obscure research field with a relative handful of experts—have been elevated to a topic of intense public debate. Standing virtually alone in one corner is virologist Alvin Smith of Oregon State University, an expert on caliciviruses, who accuses government scientists of moving too quickly into field trials without sufficient understanding of the virus. Lined up against him, by his own count, are some two dozen government agencies that have voiced support for using the RHD virus, along with a host of prominent virologists who discount Smith's warning of possible cross-species infection.

The stakes are high: The rabbits' ravenous appetite results in an estimated $115-million-a-year loss to the native wool and meat industries, along with the decimation of dozens of native plant and animal species and the erosion of millions of acres of topsoil. And RHD isn't Australia's first biological assault on the prolific scourge. The government scored a temporary victory in the 1950s by releasing the myxomatosis virus, but its deadly punch weakened over time.

Smith, who has spread his message via press releases, Internet postings, interviews, and letters to top officials, says he chose to enter the fray in December after being angered by the "positive tone" of a local newspaper account of the virus's escape. "I thought I knew something about calicivirus that other people didn't know," he told *Science*. His initial press release warned that the Australian government is "playing with dynamite" because, he says, it hasn't demonstrated that the virus won't cross into other species, a charge that was repeated last month on the Australian *60 Minutes*. His