SHRINKING WORLD III

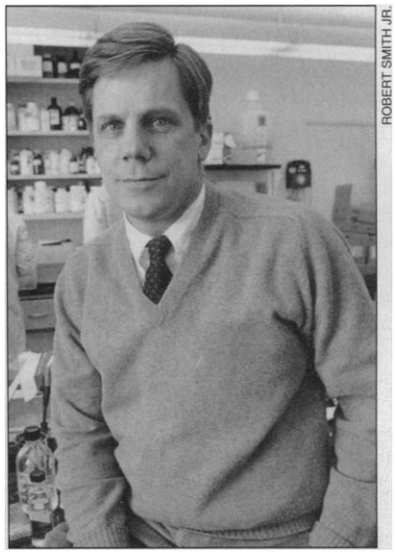
Opportunities in Europe: Away From The U.S. Rat Race

Twenty years ago, most aspiring American academics would step off the U.S. career ladder for a couple of years to "go to a fine institution in Europe for all-around culturing," says metal physicist John Mydosh of the University of Leiden in the Netherlands. Indeed, in Mydosh's case, a 1970 sabbatical spent in England, Holland, and Germany evolved into a permanent stay in Europe. But today, he laments, the transatlantic flow of young U.S. scientists has slowed to a trickle. "It used to be that the majority of our postdocs were American," agrees cell geneticist Mary Weiss of the Pasteur Institute in Paris, another American who has worked in Europe for more than 20 years. "Now, it's definitely a minority."

The smaller-scale, more collaborative work style is what attracts some Americans.

No one keeps data on the overseas movement of U.S. scientists, but the trend is recognized by the National Science Foundation (NSF). "We're concerned," says Jeanne Hudson, who runs NSF's Western Europe program, which provides travel grants for U.S. scientists to pursue collaborative research. "[O]ur impression is that the demand for our program is not commensurate with the opportunities." Indeed, the message from interviews with more than 20 senior American scientists now holding permanent positions in Europe is not only that the opportunities to work as a postdoc in Europe are as good ever, but that Europe also offers prime openings in some fields for senior scientists.

The explanation for the fall-off in visiting postdocs is simple: Young researchers are nowadays reluctant to leave the United States for fear of getting sidelined in the competitive U.S. job market. But American emigre scientists insist that these fears are greatly exaggerated. "I wish that this rumor wouldn't be perpetuated," says biochemist Howard Riezman of the University of Basel Biozentrum, who has worked in Switzerland since 1980. Indeed, most of the scientists surveyed by *Science* say that their U.S. postdocs typically have few problems getting jobs back in the United States. But for those who are still worried, the expatriates offer a few key words of advice: First, make sure that you're going to an internationally recognized lab; second, go back to the United States once or twice a year to attend meetings; and third, make some preliminary contacts with prospective U.S. employers before you leave.



ROBERT SMITH JR.

From Hopkins to Cambridge. Douglas Fearon got lucky thanks to Wellcome windfall.

Advising young researchers on how to get funding for a postdoc in Europe is more tricky—not because there's a shortage of money, but because the potential funding sources are so many and varied. NSF and the National Institutes of Health, for instance, both run traveling postdoc schemes. And some European agencies, such as Germany's Alexander von Humboldt Foundation, also pay to bring young Americans across the Atlantic. But most European postdocs are funded out of labs' own research budgets—and the best way to plug into these is through the scientific grapevine, or by scouring the classified ads in journals like *Science* and *Nature*.

Going for good. The same holds true for established U.S. scientists looking for permanent jobs in Europe. While such positions are generally as hard to obtain in Europe as they are in the United States, Europe may be a viable option for some senior scientists who've grown tired of the grant-chasing treadmill that is modern U.S. science—and who are prepared to adapt to another language and culture, and maybe accept a lower salary. Not many American researchers have taken this bold step, but those who've made a permanent move to Europe say that the rewards of switching continents can justify the upheaval involved.

Foremost among Europe's attractions is the fact that many of the continent's research agencies fund a significantly higher proportion of the grant requests submitted to them than do their U.S. counterparts. So while many U.S. researchers have to become professional grant writers to keep their labs afloat, most Europe-based Americans are still having few problems getting research support. And many European institutes also provide tenured staff with central funding to cover essentials like computing time and basic supplies—so that a short period of time spent without a grant need not spell disaster. "If you have a bad year, you still have a stable basis," says Leiden's Mydosh. "In America, you would die."

The downside, however, is that European grants are usually smaller than those from U.S. agencies. "If you want to work with 20 postdocs, you just cannot," says human geneticist Ellen Solomon, an American with a permanent position at the Imperial Cancer Research Fund in London. But the smaller scale, more collaborative European work style is just what attracts some Americans. The dog-eat-dog U.S. system forces scientists to work on problems that will quickly yield results, says immunologist Douglas Fearon, who has just traded his Johns Hopkins post for a senior position at Cambridge University. "The environment here is more conducive to a somewhat longer term view of one's research projects."

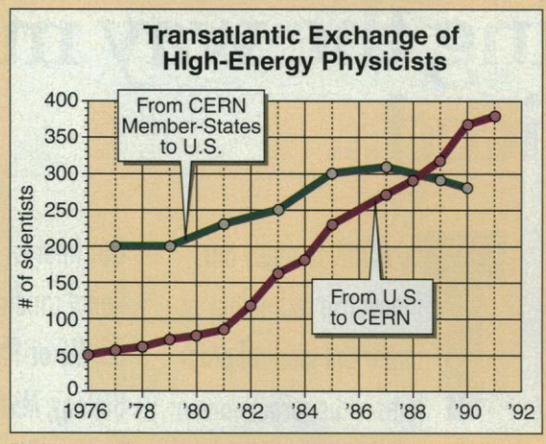
Carpe diem. That's not to say that Europe has all the answers for scientists looking to escape the U.S. rat race. As in the United States, attractive permanent positions are thin on the ground and keenly fought for. But the message from the scientists surveyed by *Science* is that good job opportunities in Europe are there for researchers prepared to ferret them out.

Fearon, for instance, had toyed with the idea of coming to Britain for some time, but dismissed it as unrealistic, given the gripes of native British scientists throughout the 1980s about low government research spending. But U.K. biomedicine is now benefiting from a sudden expansion of the budget of the Wellcome Trust, the world's largest medical research charity (*Science*, 22 May 1992, p. 1132)—which gave Fearon the break he needed. Indeed, his Cambridge position came complete with the offer of 5 years of guaranteed Wellcome research funding.

Tracking shifting trends like the sudden growth of

CERN: A Mecca for U.S. Physicists

If one field bucks all the trends when it comes to the transatlantic flow of American scientists, it's high-energy physics. While U.S. researchers in most disciplines are more reluctant to come to Europe than they used to be, the number of Americans at Europe's premier accelerator center, Geneva's CERN, has grown steadily since the early 1980s (see figure). That's due to the construction and operation of CERN's Large Electron-Positron (LEP) collider, the world's leading high-energy physics machine. And CERN isn't the only facility that's luring Americans to Europe: Germany's DESY laboratory in Hamburg is exerting a similar magnetic effect.



Paths crossing. Trend will intensify if SSC is canceled.

But rather than becoming enmeshed in a foreign institution and culture, as many American emigres do, most Americans working at CERN and DESY remain cloistered in groups of similar expatriates. Their lifestyle follows the money: Salaries and research funding for most of the 400 Americans working on CERN experiments are paid from the United States. "Most of the Americans who come to Europe join an American group," says Sau Lan Wu, an American who heads the University of Wisconsin group at CERN.

At DESY, physicists at least know they're in Germany as soon as they step outside the lab. But at CERN, this "home away from home" environment can extend beyond the workplace. Geneva itself has an international flavor as it hosts a slew of United Nations agencies, and physicists can, if they wish, live in an English-speaking "UN ghetto," says Robert Clare of the Massachusetts Institute of Technology's CERN group.

More American physicists can be expected to go to Europe over the next few years—particularly as LEP is to be upgraded to double its present energy in 1995. In the long term, the relative attractiveness of Europe to U.S. high-energy physicists depends largely on the U.S. Congress. "If the Superconducting Super Collider is shot down," notes Clare, "it would be very difficult for me to return."

–P.A.

the Wellcome Trust is important for researchers who are serious about moving to Europe. As another example, U.S. scientists based in Germany say that the next few years may not be the best time for Americans to think about coming to their adopted country. Germany's current economic difficulties are squeezing research budgets in general, and the institutes poised to suffer most are those that have traditionally been most open to foreigners—the large national research centers funded by the federal government.

Scientists also would do well to keep an eye on opportunities arising in some of Europe's smaller nations—which are often ignored by U.S. researchers. In a country like Denmark, the small size of the research community means that home-grown talent just isn't available in some disciplines—which forces universities wishing to branch out into new areas to cast their nets internationally. Oceanographer Gary Shaffer, an American who has spent his entire 20-year research career in Europe, for instance, joined the University of Copenhagen last year, and is now hoping to hire an associate professor to join him in developing a climate modeling research program. There's nobody in Denmark who would be qualified for the post, he says. "[We'd] love to get someone from the United States."

Whatever the advantages of forging a career in Europe, money is not one of them. "I took a significant cut in pay" in moving to Paris in 1984 to help set up the genome effort at the Centre d'Etude de Polymorphisme Humain, says human geneticist Howard Cann. The exception is Switzerland, which combines excellent academic pay with a truly international hiring policy. Which is why Switzerland competes with English-speaking Britain for Europe's highest density of U.S. scientists.

Many researchers making a long-term move to Europe also have to work hard to become fully integrated. This is often easier if you join a lab run by a government agency, as such labs tend to be more open to foreigners than Europe's ultra-traditional universities. But although European scientists invariably speak English, fluency in the local language is often the key to a successful European career. In the Netherlands, for instance, says radioastronomer Bob Sanders of the University of Groningen, "if you really want to be in the inner circle of science policy, you'd better speak Dutch." And that—in a nation of expert linguists who are keen to practice their English—takes effort, says Sanders, who in 1979 traded a post at the University of Pittsburgh for his present job.

Come back later. For all their enthusiasm about work in their adopted lands, emigre American scientists say they would discourage U.S. postdocs in Europe from trying to stay and work their way up through the system. The reason? The absence across most of Europe of tenure-track-positions to bridge the gap between postdoc and permanent job—which means that scientists must struggle by on short-term fellowships until they either get tenure or drop out of academia. Hence this advice from biochemist Ellen Fanning of the University of Munich, an American who has worked in Germany since 1971: If you come to Europe and decide you'd like to stay, go back to the United States, get yourself a tenured position, and then return as a professor.

If you're aware of the potential pitfalls, however, the message from the scientists surveyed by *Science* is that Europe has plenty to offer. Says biochemist Lawrence Aggerbeck, an American who works at the Centre National de la Recherche Scientifique's campus at Gif-sur-Yvette, near Paris: "There is nothing more enriching than spending a year or two in another culture."

–Peter Aldhous