RANDOM SAMPLES

edited by CONSTANCE HOLDEN

Impressive Track Record for Immigrant Scientists

With rumblings in the U.S. Congress about measures to reduce the number of immigrant scientists or to make them more expensive to hire (*Science*, 19 January, p. 281), lawmakers might consider research by two economists who say immigrants' contributions may be well out of proportion to their numbers.

In a presentation at the annual meeting of the American Association for the Advancement of Science (publisher of *Science*) held last month in Baltimore, Paula Stephan of Georgia State University and Sharon Levin of the University of Missouri, St. Louis, described how they set out to determine the quality of foreign input. They first identified about 4800 heavy-hitting scientists and engineers working in the United States through the following criteria: membership in the National Academy of Sciences or National Academy of Engineering, citation rates, awards for research or innovation, patents, and involvement in setting up biotech companies.

What they found, said Levin, was the foreign-born "clearly are disproportionately represented." The National Science Foundation's (NSF's) Post Censal Survey of 1982 found 15.2% of the nation's scientists and engineers to be non-U.S. natives. But among the major contributors, 22.5% of those in the life sciences and 31% of the physical scientists were foreign-born. Stephan explains that the markers she and Levin selected (with the exception of "hot papers") are relevant to the 1982 population because "most of the things that made these people distinguished were done in the 1980s or earlier."

Stephan says the results are not surprising considering that it's usually top students from other countries who seek training in the United States, and the best of these are snapped up by U.S. employers. "Levin and Stephan have highlighted the potential costs of limiting access to the U.S.," said commentator Edward J. Hackett of Rensselaer Polytechnic Institute after their presentation.

FOREIGN-BORN SCIENTISTS IN U.S. (%)

	Life Sciences	Physical Sciences
NAS members	21.2	26.6
Most cited papers	29.1	*
"Hot papers,"** 1st author	17.0	35.5
"Citation classics,"*** 1st author	25.6	*
Founders/chairs of biotech cos.	25.0	n/a

* Total number of papers too small for significant result because most highly cited papers are in the life sciences.
** Most cited papers in a 2-month period, according to the Institute for Scientific Information (ISI). In this case, hot papers in 1992 and 1993.
*** A paper that, according to ISI, has had "a lasting effect on the whole of science."

Stephan says she and Levin want to explore new NSF data—the soon to be released National Survey of College Graduates—to obtain a more current benchmark against which to assess foreigners' scientific contributions.

Our New Relation

A newly discovered primate genus—found not in the field, but in a drawer—may help cast new light on murky areas of the primate family tree.

Anthropologist Jeff Schwartz of the University of Pittsburgh was browsing through the specimen drawers at the University of Zurich when he came across two decades-old sets of bones labeled "potto"—a genus of primitive African nocturnal primates. But, says Schwartz, the skeletons bore little resemblance to those of known pottos. Pottos have short stumpy tails, and this animal has a long tail. It also has primitive teeth—in particular lacking a molar crest found on all pottos—and it's smaller than most pottos. In short, says Schwartz, it looks like "a small potto that's been on a diet and has a tail." Schwartz concluded that the animal needed its own genus and named it *Pseudopotto martini* after a pioneer in studies of primitive primates, Robert D. Martin of the University of Zurich.

J. SCHWARTZ

Hot potto. Top, the primate *Perodicticus potto*. Bottom, with long tail, the new *Pseudopotto*.

Taxonomists sometimes elevate existing species to the generic level, but this is the first time in decades that a truly new genus of primate has been discovered, says Schwartz, who published the find in the January issue of the *Anthropological Papers* of the American Museum of Natural History. "This is something really new," agrees Ian Tattersall, anthropologist at the American Museum. "It shows that even in this [primate] group we don't know all the players."

In fact, anthropologists are debating whether a new genus is enough to accommodate this particular player. "It's such a strange combination of things that it's difficult to decide exactly what it's most closely related to," says Tattersall. Schwartz thinks the creature is so different from its nearest relatives that it might even merit its own family. Primate expert Simon Bearder of Oxford Brookes University, more cautious, thinks a new genus would certainly suffice. One way to settle the matter, of course, would be to find a live specimen and conduct DNA comparisons. And Bearder says that's not out of the question. Because of the "mind-boggling variety" of new nocturnal primates that continues to be uncovered, Bearder says he wouldn't be surprised to find a *Pseudopotto* in Africa today.

Scientists Help Craft Gene Testing Law

Scientists' concerns about the potential misuse of genetic testing results have reached receptive ears in the Massachusetts legislature. State lawmakers last month formed a committee of biomedical researchers, ethicists, and legislators to draft laws and policies governing the use and abuse of genetic information by employers, insurers, and the health care system in general. Committee members hope this could become a model for eventual U.S. legislation.

Spurred by meetings with a genetic privacy task force formed at the Whitehead Institute for Biomedical Research in Cambridge 2 years ago, the legislature set up a 12-member committee called the Special Committee on Genetic Information. The group will consult with scientists, public interest groups, and industry as it explores the implications of genetic testing technologies. Panel member David Page, a human geneticist at the Whitehead, says that genetics researchers "have a special responsibility to bring these issues to light and to convey a sense of urgency. We're in a unique position to know where the science is headed, and the pace at which it's headed there."

The committee plans to hold several public meetings and to prepare draft legislation by the summer. Committee member Philip Reilly, director of the Shriver Center for Mental Retardation in Waltham, Massachusetts, says the effort "is one of very few that is going to seek a comprehensive solution at the state level" to the problems posed by genetic information. More than a dozen states have passed laws regulating health insurers' access to the results of gene tests for specific conditions such as Huntington's disease. But the Massachusetts effort will go further, proposing a framework for how information on genetic con-

(continued on page 1237)

(continued from page 1235)

ditions is gathered, stored, and distributed throughout the health care system. Adds state representative and committee co-chair Jay Kaufman: "My hope is that it will not only become a model for other states but potentially for federal legislation as well."

Investors Sought for AIDS Vaccine Trials

Genentech, the South San Francisco biotechnology superstar, has spun off a new company to raise money for testing its battle-scarred AIDS vaccine.

Incorporated in November as Genenvax, the new company will attempt to pull in at least $20 million from investors to stage efficacy trials of the Genentech vaccine—a genetically engineered version of the HIV surface protein known as gp120—in the United States and Thailand. Epidemiologist Don Francis, president and sole employee of Genenvax, says it's a "social experiment" that directly asks the public whether it is "willing to invest" in this vaccine.

The public's representative, the U.S. government, has refused to do so. The vaccine was a lead candidate for an efficacy trial until the National Institutes of Health decided in June 1994 that the data were not promising enough to warrant further U.S. trials. [Thai researchers have been testing the vaccine and may launch a trial by the end of this year (*Science*, 10 November 1995, p. 904)]. Genentech subsequently decided that "vaccines are not in its portfolio," says Francis.

Francis, who ran Genentech's AIDS vaccine clinical trials, says the new company "gives us the freedom to do what's necessary" to conduct a full-scale trial. He is confident that Genenvax will be able to raise lots of money. The company has as its board chair Robert Nowinski, a retrovirologist with a Midas touch who has helped bring in hundreds of millions of dollars for other start-ups, earning him the nickname "No-lose-ski."

How to Live in Japan

Is working as a foreign researcher in Japan the experience of a lifetime or a waste of time? According to *Gaijin Scientist*, a book that bills itself as a guide on "how to find a research post in Japan and what it's like when you get there," a Japan stint can be either of the above. The difference may lie in your knowledge about the country. That's where the book comes in. Published by the British Chamber of Commerce in Japan, the book, an expansion of a guide first published in 1990, was created by a group of *gaijin* (foreign) researchers, primarily British ones, living in Japan. It draws on surveys of and discussions with other foreign scientists as well as Japanese lab managers and professors. One university researcher, for example, wrote, "My professor did everything in his power to make sure my stay was productive and enjoyable." But another reported: "Both [the professor] and everyone else in the institute are not reliable. I was told many things, and almost nothing became true."

The guide contains a wealth of tips for daily living (bring underwear and shoes from home if you need extra-large), work-related advice (get a detailed written description of the work you'll be doing), and anecdotes (one researcher reported that when he went for his interview everyone was wearing suits, so he arrived equipped with several new suits only to find that everyone wore jeans and T-shirts in the lab). There's also advice on dealing with colleagues and bosses (avoid losing your temper at all costs), "getting a life" outside the lab (forget cricket and squash, and golf is ruinously expensive, but many employers have tennis and exercise facilities), and even preparing to return home (it can be hard to look for jobs back home while living in Japan). There's also a 12-page index listing fellowship schemes and private companies with formal visiting researcher programs.

The book, which costs £8 or 2000 yen, can be ordered from the British Chamber of Commerce in Japan (telephone: 81-3-3267-1901) or Insight Japan, 19 Hugh Street Westminster, London SW1V 1QJ.

Nobelist Spreads The Wealth

Mario Molina, the atmospheric chemist who won the 1995 Nobel Prize in chemistry for helping to demonstrate how chlorofluorocarbons (CFCs) deplete ozone, will donate part of his prize to help train environmental researchers from developing nations.

Molina, a professor at the Massachusetts Institute of Technology, announced on 8 February that he will put $200,000 of his $330,000 into a new fellowship program, aimed at young researchers from Latin America and elsewhere, so they can come to MIT for training in advanced research techniques. "Scientists will be expected to play a big role in helping to solve the environmental problems developing nations face," says Molina, a native of Mexico. "There are a number of scientists in Latin America and in other areas who are willing to switch fields, but they need training and scientific exchange." He expects that the first fellows will be selected in 1 to 2 years.

Molina hopes to solicit an additional $1.8 million for the program from industrial donors. "It's clear that multinational corporations will have to participate in the solution to many of these big challenges," he says. Molina shared the Nobel Prize with atmospheric chemists Sherwood Roland and Paul Crutzen.

The World's Oldest Flower

A British scientist claims to have discovered the world's oldest flower in 130-million-year-old clay rocks in the south of England.

Flowering plants or angiosperms, which range from grasses to oaks, reproduce via ovules borne in an enclosed cavity. They have dominated the world's vegetation for the last 65 million years, but paleobotanists still argue over fundamental questions such as which group is the most primitive and from what did they evolve.

CHRIS HILL

Ancient bloom. Cretaceous flower imprint in English clay. Inset: computer-enhanced image. Actual size is 7 mm.

Some scientists have suggested that the earliest flowering plants were large, woody, magnolialike shrubs. But the new find, reported by paleobotanist Chris Hill in the February issue of *Cretaceous Research*, bolsters the notion, first suggested by U.S. scientists 6 years ago, that the plants started small.

Hill was prompted to search rock formations called Weald Clay in southern England after reading a report in *Science* (9 February 1990, p. 702) by David Taylor and Leo Hickey of Yale University. Their analysis of angiospermlike fossil plants from this geologic period, the Cretaceous, in Australia indicated that early flowering plants may have been simple, fragile herbs with small reproductive organs—that is, flowers.

Hill's plant fossil, found at the Smokejacks Brickworks in Surrey, seems to fulfill this prediction. It was a relatively small (25 cm high) herb. Most important, it combines a primitive fernlike anatomy and leaves with more advanced branching and small flowerlike reproductive structures. It probably lived in water (it was found in waterland sediment, and some leaves resemble those of modern aquatic plants). Hill, who has christened his find *Bevhalstia pebja*, says that its form is quite unlike any other plant from the Early Cretaceous.

David Batten, an expert on Cretaceous pollen at the University of Wales, says the find is "interesting because it forms a continuation of the macrofossil record of angiospermlike plants deeper into the Lower Cretaceous." Pollen believed to be from angiosperms had already been located at this level, but no flowers. Now that Hill has found a flower, the hunt is on for pollen that will clinch its identification.