RANDOM SAMPLES

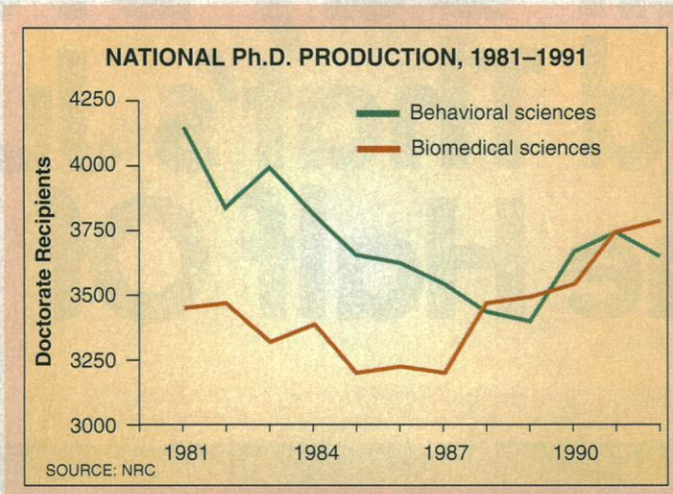
edited by LISA SEACHRIST

Viral Clues Add to The ALS Puzzle

It's a disease without a cure, and also without a cause—at least a known one. The fatal neurodegenerative disease amyotrophic lateral sclerosis (ALS), or Lou Gehrig's disease, has been blamed on a wide variety of causes over the years, including genetic mutations in the enzyme superoxide dismutase (*Science*, 17 June, p. 1663), viral infection, and chemical exposure. No theory has conclusive proof behind it, but a new discovery adds some evidence for a potential viral role.

Researchers led by virologist Geoffrey Clements of Ruchill Hospital, Glasgow, Scotland, report in the 11 June issue of the *British Medical Journal* that they found evidence of infection with enterovirus—a family of viruses including poliovirus—in nine of 13 ALS cases. The team examined preserved spinal-cord specimens for sequences of RNA common to the 60-odd members of the enterovirus group. They found that one of two cases occurring within a family and eight of 11 cases occurring sporadically harbored the enterovirus RNA sequences. The six control patients did not have the sequences. Virologist Mark Pallansch of the Centers for Disease Control and Prevention in Atlanta says "this is a potentially significant finding," but warns that a larger sample needs to be studied.

Clements admits that no one knows how infection with an enterovirus—the second most common group of viruses in humans—might lead to ALS. Infection with poliovirus has been suggested to be a predisposing factor in ALS, and Clements says his result "keeps the viral theory alive." And his group intends to see if the virus sequences they are finding are abnormal. Clements speculates that an abnormal virus could escape the immune system and potentially cause damage. However, he notes that a viral role does not preempt other causative agents: "There may be multiple causes" of ALS, he says.



Tracking Ph.D. Trends

A recent report recommends that a National Institutes of Health (NIH) training program pump up funding for behavioral scientists while keeping training funds level for biomedical scientists.

The numbers of Ph.D.s in the biomedical sciences have steadily increased since the mid-1980s, while numbers of behavioral science Ph.D.s declined over the decade studied (see chart above). In a report entitled "Meeting the Nation's Needs for Biomedical and Behavioral Scientists," a committee convened by the National Research Council (NRC) recommends that NIH increase the number of behavioral science graduate students and postdocs funded by the National Research Service Award (NRSA) from 1069 to 1450, while keeping biomedical trainees level at 9010. NRSA is a training program that recruits scientists to health research careers.

While the overall Ph.D. numbers seem to indicate an abundance of behavioral scientists, economist Michael Rothschild of the University of California, San Diego, points out that most behavioral science Ph.D.s are clinical psychologists who do not focus on behavioral research areas that impact health care such as prevention, nursing, and health services. The committee suggests that increasing funding in these areas will attract more students.

There is good news for all students and postdocs supported by NRSA: The committee recommended substantial pay increases for both groups. It remains to be seen, however, how a budget-conscious NIH will react to that suggestion.

New Chief Named for Canadian Federal Labs

After a 6-month search, Arthur Carty, a chemist and administrator at the University of Waterloo, was selected to head the troubled National Research Council of Canada (NRC), a network of federal government laboratories that has been plagued by budget cuts and plunging staff morale.

Carty succeeds Pierre Perron, who resigned as president last fall, almost a full year before his 5-year appointment was set to expire. At the time Perron warned of future budget cuts at the agency. But a change in government put such plans on hold. Instead, the new liberal government allocated an additional $9 million to the NRC's annual budget of about $470 million and made it known that the NRC was going to play a significant role in the government's plans to wrestle more jobs and economic growth from science by focusing on "strategic research."

Although the money crunch is no longer the most pressing issue, staff morale has replaced it as a major concern, Carty says. Researcher morale has been plummeting as a result of a 20% staff reduction since 1986 and long-standing human rights litigation (*Science*, 9 October 1992, p. 223).

Carty intends to restore some of the group's past glory as Canada's premier research organization. "NRC has had in the past a tremendous reputation for research," he says. "It's true that NRC has lost some good people. I have to rejuvenate it, improve the climate. The key is research excellence."

Carty comes to the politics of Ottawa with, as he puts it,"no axes to grind." But he does have a dual agenda. As he has done for the past 15 years while in various administrative posts, Carty plans to keep up his research in organometallic chemistry.

Kyoto Prizes in Math And Medical Imaging

A French mathematician and an American chemist will receive $430,000 apiece as part of their 1994 Kyoto Prizes for lifetime achievement—Japan's highest international honor. André Weil and Paul Christian Lauterbur, named as winners this month, will also receive a commemorative gold medal in Japan in mid-November. The prizes are awarded annually by the Inamori Foundation.

Weil, professor emeritus in mathematics at the Institute for Advanced Study in Princeton, New Jersey, won the Kyoto Prize in Basic Sciences. He is best known for advancing abstract algebraic geometry and number theory. His theories have played an important role in the development of superstring theory in elementary particle physics, and in computer coding and encryption.

Lauterbur, director of the Biomedical Magnetic Resonance Laboratory at the University of Illinois, won the Advanced Technology prize. He proposed the principles of magnetic resonance imaging (MRI), a noninvasive medical imaging method.