which evolution is taking place in Hungarian science. Equal attention is being paid to new ways of encouraging links between Hungarian science and the global marketplace in high-technology products.

Hungarian science already depends heavily, perhaps more than that in any other socialist country, on close relations with scientists in the West. Over the past 20 years, for example, the government has actively encouraged its scientists to travel abroad, particularly when this enables them to work with research equipment and computer facilities that they would not otherwise have access to. The government also encourages joint research projects between Hungarian-based and Western scientific groups.

"Hungary is exceptional in the Eastern bloc; even in the universities there are many possibilities for travel and cooperation," says biochemist Andor Udvardy. "The situation has improved significantly over the past decade. In the 1970s, it could take 6 months to get permission to go abroad; today it's possible to get such permission in less than a week." Thanks to this openness, 584 scientists visited the United States in 1984, some on government-sponsored exchanges but the majority on privately arranged visits that often include part-time teaching positions in U.S. universities.

One reason for this relatively liberal attitude is that it helps relieve hard-currency pressures. For example, many scientists in Hungary rely on foreign research partners to order laboratory chemicals and other equipment for them—a move that can also be far quicker than ordering the equipment domestically. Another is that the government hopes Hungarian scientists will feel less tempted to become permanent emigrés if they can take up research posts abroad at the same time as retaining responsibilities with their home institution, or if they can accept foreign research contracts from which they generate some personal income.

"It is one of the only ways that we have to keep bright people at home," says Lajos Alföldi, director of the Szeged Biological Research Center of the Academy of Sciences. "Otherwise this brainpower would be drained from the country."

These international links have an additional value: the possibility of carrying out research in Hungary under contract to foreign companies. Such arrangements could provide a way of exploiting Hungary's intellectual skills and gaining venture capital and marketing expertise—two components needed for commercial success of high-technology fields that the country now lacks.

In the field of computer science, research institutes such as the Institute for Computer Science have already carried out considerable work on a contract basis for Western companies, while software companies such as Comporgan provide teams of computer scientists as consultants to a range of Western enterprises.

Similarly in biotechnology, a small company known as Biotechnica has recently been established by the Szeged Center and charged with establishing links with Western firms in a way that will make it easier for research carried out in Hungary to find direct outputs in Western markets.

A new applied research center is being built in Szeged to carry out contract research separately from the Biological Center itself, but it will use their research scientists. The creation of such new types of organizations is strongly supported by Pál Tétényi, chairman of the National Committee for Technological Development. "Up to now, direct contracts have been the main channel of communication between universities and industry, but we have to start looking for new methods, especially in those areas—such as biotechnology—where we are trying to develop new technologies based on scientific discoveries."

Close attention is being paid to creating the conditions under which foreign capital will be prepared to invest in Hungarian scientific skills. This includes safeguards against transferring technology to other countries, in particular the Soviet Union.

For foreign companies, the attractions of hiring Hungarian brainpower is that it can be considerably cheaper than that available in the West. Low salaries for scientists are a source of continual complaint in Hungary itself; a university professor, for example, receives about $300 a month, about the same as a bus driver in Budapest.

Not everyone is pleased with the implication that Hungary is offering its brainpower for sale relatively cheaply in the international marketplace, rather than finding ways in which it can be more directly applied to building up the country's own technological resources. "It is a pity that it has to be done this way," says one theoretical chemist at the University of Budapest.

Others argue, however, that a nation that has always found itself at the meeting point between powerful political or religious blocs may have little choice if it wishes to survive with its national identity intact. "We have had more than 1000 years in which we have had to live on our wits, starting from the period in which we were originally caught between the Byzantine and the Western church," says Vámos. "Look at the number of nations that have disappeared over this period, while Hungary has managed to survive." ■ **DAVID DICKSON**

AIDS Panel Gets Reagan's Approval

A White House spokesman announced last week that President Ronald Reagan has approved the establishment of an advisory panel on AIDS. It will not be the powerful coordinating council that some scientific groups and members of Congress have advocated, however.

"It would be wrong if anyone thought this body was going to coordinate national AIDS policy," says Gary Bauer, assistant to the President for domestic policy. Instead, the group will be composed of "seven to ten distinguished Americans" and will act as a "sounding board" for the President, advising him about many aspects of the AIDS crisis, Bauer indicates.

Last fall, in its report "Confronting AIDS," the Institute of Medicine recommended that a "national commission on AIDS be created as a presidential or joint presidential-congressional commission." The Institute proposed that the commission monitor all research, health care, public health, legal, and ethical aspects of the AIDS epidemic; advise Congress and the President about these issues; and report to the public. Several members of Congress drafted bills that would establish a national AIDS commission or panel along these lines.

"We are looking for something that will be helpful to the President, rather than responding to congressional pressure," Bauer says. "We are not interested in a policy-making group at this point. We already have a policy board. Health and Human Services Secretary [Otis] Bowen, Education Secretary [William] Bennett, and all the other department secretaries sit on it. When there is an issue, they air that issue, and these concerns are taken to the President. We think the system is working just fine." Bauer's reference is to the Domestic Policy Council, which is headed by Attorney General Edwin Meese.

One of the issues the new panel is likely to address concerns screening people for antibodies to the AIDS virus. About 2 million persons in the United States today probably carry the virus; about 35,000 have developed full AIDS and more than 20,000 have died from it. "I think it's outrageous that public policy-makers are trying to devise policy without knowing how many people are infected with the AIDS virus," Bauer says. He indicates that his views are similar to those of Education Secretary Bennett in that both advocate wider testing for infection by the AIDS virus among prisoners, marriage license applicants, and immigrants,

for example. Surgeon General C. Everett Koop, in contrast, has called for voluntary testing only.

Part of the current indecision about the precise form and function of the new panel may stem from a combination of factors—particularly the Reagan Administration's reluctance to take an active role in coordinating AIDS policy and the fact that policy issues related to the AIDS crisis now touch nearly every department within the Cabinet. As a result, it may be inappropriate to assign primary control over an AIDS panel to any single department secretary.

Bauer says that the composition and the responsibilities of the presidential AIDS panel (which still has no formal name) should be announced within the next 4 to 6 weeks. Robert Redfield of Walter Reed Army Medical Center calls the formation of the AIDS panel a "very important first step" in addressing the crisis at a national level. ■

DEBORAH M. BARNES

Cuts Promised in U.K. Military R&D

Britain's Ministry of Defense has come under increasing criticism in recent years for absorbing a disproportionately large part of the nation's research budget. The ministry has now responded by promising to reduce the costs of its research, as well as the number of qualified scientists and engineers that it employs. It also argues that greater efficiency will be achieved primarily by increasing the amount contracted to the private sector and by seeking greater cooperation on weapons development with its Western allies.

Critics of Britain's high expenditure on military R&D have included not only opposition politicians, economists, and leading industrialists, but also both the senior scientific adviser in the Cabinet Office, John Fairclough, and his immediate predecessor, Sir Robin Nicholson. Government-funded defense R&D currently consumes 0.68% of Britain's gross domestic product, compared to 0.49% in France and 0.11% in West Germany. The difference in these figures is frequently blamed for contributing to Britain's relatively poor performance in many fields of civilian technology.

In a White Paper (policy statement) published in London last week, the Ministry describes as "regrettable" the prospect of defense research attracting so many professional scientists and engineers that the competitiveness of Britain's civilian high-technology industries could become "seriously impaired." Ministry officials have been quoted as saying that they expect "significant reductions" in 2 or 3 years' time as the nation's overall defense R&D effort becomes more efficient and competitive.

So far, however, the cuts are just promises. The White Paper says that spending on military R&D will rise from $3.66 billion in the past financial year to $3.81 billion next year, slightly less than the anticipated rate of inflation. And George Younger, the Minister of Defense, said last week that there were plans over the next few years "to look more closely at defense programs with a large R&D element to ensure that their government funding is essential."

The government is still highly embarrassed, for example, by its recent decision to abandon work on Britain's planned advanced warning airborne radar system, Nimrod, which failed to reach performance specifications after more than $1.5 billion had been spent on development work. An in-depth study of the cost-effectiveness of military research spending is now being prepared by the government's Advisory Committee on Applied Research and Development, one of the military's fiercest critics.

Ministry of Defense officials in London, however, admit that most of the cost savings being planned in the short term are expected to come from the reorganization of research—the number of military research jobs in government-run laboratories has already been reduced from 30,000 to 23,000 over the past 10 years—rather than through any significant reduction in the amount or type of work being carried out.

"Our research needs have already been defined since we already know what our commitments are, and we do not imagine that there will be any reduction in these" a ministry spokesman said. He added that the main savings would result from contracting research out to private companies, where teams of research scientists could be switched more easily than in the public sector between military and civilian projects according to shifts in demand for their skills.

With no definite figures on future commitments to reduce military R&D spending, some have suggested that the timing of last week's statement may have coincided with the run-up to the General Election, which Prime Minister Margaret Thatcher has announced will take place on 11 June. "The proof of the pudding will be in the eating," says Philip Gummett, lecturer in science and technology policy at the University of Manchester. "There is nothing concrete in the figures yet to tell us what is really going to happen, and suggestions about future reductions may turn out to be pious hopes." ■

DAVID DICKSON

Adjusting to an Aging Population

Japan and the United States have something in common other than their desire to be Number One in the world: their aging populations. As people are living and staying healthy longer, it is becoming increasingly apparent that dropping out at 65 (the age established a century and a half ago by Otto von Bismarck) is inappropriate. Pensions and medical care for nonproductive citizens are getting too expensive, and the economies of both countries need to retain more experienced workers now that the postwar Baby Boom has tailed off. Also, people tend to be happier and healthier when they have work to do.

That was the message of a conference on "the promise of productive aging," held on Capitol Hill last month. Sponsored by the Japan Shipbuilding Industry Foundation, it featured scientists from both countries, politicians, and social commentators.

"Aging has come of age," announced conference director Robert N. Butler of Mount Sinai Medical Center, who was the founding director of the National Institute on Aging. Twelve percent of the American population is now over 65, and the figure will rise to 20% by 2020. In Japan, the fastest aging country in the world, the proportion will grow from 10 to 23%.

Advances not only in medicine but in improved health habits and education are altering the meaning of being old. For example, Alvar Svanborg of the University of Göteborg in Sweden related that the Göteborg longitudinal study of aging has shown that today's 70 year olds are healthier, more vital, and "intellectually significantly more capable" than 70 year olds of a decade ago.

Speakers said that most older people would like to work, but the system does not readily encourage flexibility. Mandatory retirement ages were eliminated by Congress last year, but everything is still set up to encourage retirement—for example, Social Security pensions are withdrawn from those making modest incomes. Observed Thomas Maloney of the Commonwealth Fund: "we thought we could remain a world economic leader while we sent an entire generation of productive people off to play golf."

In Japan, obstacles to bringing older people back into the work force may be even greater, with the "lifetime employment" system in large firms leaving many productive people (mostly males) with no work options after mandatory retirement at age 55. Takao Komine of the Economic Planning Agency of Japan pointed out that jobs for older