

## Briefings

edited by CONSTANCE HOLDEN

### NAS Condemns Soviet Anti-Semitism

The National Academy of Sciences, at its annual meeting on 22 to 25 April, adopted a resolution condemning the reportedly growing anti-semitism in the Soviet Union.

The resolution, approved by a vote among the approximately 500 academy members present, says, "we have become greatly troubled by the information emanating from the U.S.S.R. that scientists who are Jews, and Jewish citizens of the U.S.S.R. in general, are the victims of harrassment or worse."

The statement warned that such attacks could undermine Mikhail Gorbachev's effort to reform his country and jeopardize international support for

those reforms. "We urge that the responsible authorities condemn these practices of anti-semitism and persecution, and use all legally available measures to prevent their further occurrence," the resolution concluded.

### New Home for Ehrlich Institute

On 3 May, to the sound of a Haydn string quartet, West Germany's minister of health was scheduled to hand Reinhard Kurth, president of the Paul Ehrlich Institute, the keys to a vast new research campus. The institute, Germany's quality control lab for immunological drugs and diagnostic tests, is also at the forefront of the country's AIDS research.

Founded in 1896 in Berlin, the institute is moving to a site 10 miles south of Frankfurt,

where it has been since 1899. The new campus boasts 50,000 square meters of the most up-to-date laboratories that money—DM 335 million (\$200 million)—can buy. Kurth, an immunologist and virologist, believes his is the largest such facility in the world.

A prime consideration in construction has been safety. "The air we put out is cleaner than the air we take in," Kurth crows; "the same goes for the water." Several labs meet P3 criteria which allow work on dangerous organisms such as HIV. One of them is big enough to hold as many as 1000 rhesus monkeys. Not yet completed is a P4 lab that will satisfy the tightest containment rules of all. "We don't need [it] right now, but we are building it in case something nasty is imported into Germany," says Kurth.

The Paul Ehrlich Institute is

made up of seven research divisions. Kurth's own, virology, is the largest. Its primary focus is AIDS and the various immunodeficiency viruses. Kurth is juggling a waiting list of foreign collaborators and the institute has already begun a collaboration with Jonas Salk, to extend his work on an AIDS vaccine. "What he did with four chimps we're now doing with many rhesus monkeys," says Kurth, referring to Salk's recent efforts to protect chimps against HIV challenge using a killed virus preparation. "We'll know in less than a year if we can repeat his success."

### Pressing the Japanese

National Academy of Sciences president Frank Press thinks the Japanese should be shouldering more of the costs

### Did Queen Write Shakespeare's Sonnets?

Who wrote Shakespeare? That question has bedeviled a certain community of people since the mid-19th century. Among the strongest contenders in the melee, each with his own champions, are Francis Bacon and Edward de Vere, the 17th Earl of Oxford, poet and patron of the arts.

But a new computer program developed by mathematician Robert Valenza of Claremont McKenna College in California advances an unlikely entry in the Shakespeare sweepstakes: Queen Elizabeth I, whose known poetic output consists largely of translations of the Psalms.

Valenza's new technique, called modal analysis, was put to work in the course of a 3-year project carried out by Ward E. Y. Elliott, professor of political science at Claremont. Elliott claims his study involves the most comprehensive

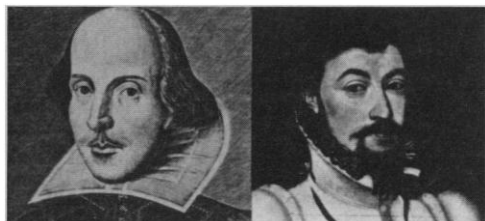
computer-based testing yet of the various "claimants" to the mantle of the Bard.

Aided by a grant from the Sloan Foundation, Elliott and Valenza built on the work of statisticians Ronald Thisted of the University of Chicago and Brad Efron of Stanford University, who during the 1970s, developed techniques based on the frequency of word use to clarify issues of literary authorship.

In the first 2 years of the 3-year study, researchers applied a variety of additional tests comparing elements of Shakespeare's poetic style with those of 12 authors, including Bacon, de Vere, Christopher Marlowe, and John Donne. De Vere came out way ahead of the others, Elliott says.

But that was before Elliott applied Valenza's method, which he advances as a "touchstone" for resolving questions of authorship. Instead of simply counting the frequency of stylistic usages, modal analysis seeks to measure "structural relationships" among a set of selected "keywords." Using that technique, which "has been remarkably effective in distinguishing Shakespeare from non-Shakespeare poems," according to Elliott, de Vere emerged "badly wounded." The Virgin Queen came out ahead of the rest.

And what does all this say about the validity of computer analysis of literature? Elliott says such methods are "very good at disproving authorship," although possibly not so good at proving it.



**Shakespeare versus Oxford.** Among those who believe "the man from Stratford" could not have been the Bard, the learned Earl of Oxford has outstripped Francis Bacon as the most likely contender.

From the cover of *The Mysterious William Shakespeare* by Charlton Ogburn (distributed by EPM Publications Inc., McLean, VA, 1984).



**Frank Press**

of getting its future scientists and engineers trained in the United States.

At the NAS annual meeting last week, Press criticized what he called "a negative balance of trade in training." He observed that in 1988, 24,000 Japanese came to the United States for training in science and engineering—ten times the number of Americans who go to Japan to study those subjects. Since most of that accrued knowledge goes home to the benefit of Japan, Press suggested that Japanese industries with subsidiaries in the United States could correct the imbalance by kicking in \$100 million a year for facilities at American universities.