

state & society

Ray: toward a more effective international science policy

Dixy Lee Ray has a new job—to direct the development of a comprehensive international science policy so that it becomes a more effective part of US foreign policy. Since January, she has been an assistant secretary of state, heading the new Bureau of Oceans and International Environmental and Scientific Affairs. If the Saturday morning we visited her office was typical, the former Atomic Energy Commission chairman and her staff are working six days a week to meet the challenges of developing such a policy.

It is still early to tell if this work will pay off, but in little more than six months, Ray has mobilized the new bureau (made up of four offices) to handle efficiently the functions it inherited from previously existing offices in the State Department and its new and expanded responsibilities in energy and advanced-technology development. At the same time, she has begun a critical evaluation of international science and technology programs and is assembling information on existing cooperative agreements in science and examining the accomplishments of the scientific attachés. All this activity could lead to a new era in international science cooperation, although it is unlikely that major foreign-exchange restrictions will be lifted, she told us.

Congressional mandate. Ray came into the State Department to head a new bureau battling an indifferent bureau-

Ray resigns

Shortly before we went to press with the adjacent story, it was announced that on 20 June, Dixy Lee Ray had resigned her post.

In her resignation letter to Secretary of State Henry Kissinger, Ray said that her office and the bureau she heads had not played a significant role in the formulation of the department's science policy and in the provision of information upon which to base policy. She said she hoped that the department would seriously reexamine its administrative procedures with a view to allowing its bureaus to function efficiently.

It is assumed that Ray will return to her former job as a biology professor at the University of Washington.

cracy there—long known for its reluctance to build up in-house expertise in science and technology. It took a 1973 act of Congress to establish the bureau, but it took the Administration and the Secretary of State a year after that to find an assistant secretary.

Despite this inauspicious beginning, Ray believes it is highly significant that the bureau is the only substructure within the State Department set up by Congress. "This bureau can't be abolished," she said. "We have our mandates and we are answerable to Con-

gress." The bureau's statutes are carried out by four offices headed by deputy assistant secretaries. The Office of Oceans and Fisheries Affairs took over the responsibilities of previously existing offices, whose main concern is carrying out and overseeing the provisions of bilateral agreements and treaties. Another holdover is the Office of Environmental and Population Affairs.

The third and fourth offices of the bureau resulted from a split of the old State Department Office of Science and Technology. The Energy Development Office, a particular favorite of Ray's, will help formulate US foreign policy in energy as it relates to science and technology, an area too long overlooked at the State Department. The Office of Advanced and Applied Technology Affairs will add much needed expertise in high-technology fields unrelated to defense missions, in such areas as information systems, computers and weather modification.

Focal point. To coordinate the activities of these four offices, Ray has established a planning and policy analysis group that draws on the expertise from other offices within the bureau and from other government agencies that have international programs in science. The plethora of these programs spread throughout the government particularly concerns Ray. "There needs to be a central point of focus in the government to prevent duplication, to make certain

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A slow climb in physics for minorities and women

The US population has 51% women and 11% Blacks; the physics population is 4.3% women and 0.6% Blacks. The reasons for these imbalances are complex, and particular problems that minorities and women face in an overwhelmingly white, male profession have received attention recently—including a Workshop on the Pregraduate Preparation of Minority Students in Physics held recently in Atlanta and a paper delivered by Vera Kistiakowsky (MIT) at the April APS meeting in Washington.

Minorities. Aside from the problems that postgraduate minority physicists have, Carl Spight (Morehouse College) sees the major problem as getting enough minority students into graduate

school and once there, having them succeed. Spight is chairman of the APS Committee on Minorities. He outlined two projects to help in these goals: The first is the Atlanta workshop, held during 26–31 May and sponsored by Bell Labs, ERDA, IBM and Xerox. Representatives from predominantly black colleges convened to discuss effective responses to deficiencies in science and mathematics of students entering college from high school, and the innovative use of departmental resources in programs and curricula. Also on the agenda were discussions of critical problems of the undergraduate-graduate transition including effective counseling and reduction of attrition rates

from graduate programs. In general the workshop developed programs and curricula immediately applicable to strengthening the ability of the predominantly black colleges to prepare black and minority students for physics undergraduate study.

The second project is the Mentor Program, a concept that grew out of the Minority Physics Conference held at Fermi National Accelerator Laboratory in November. The program is designed

- ▶ to act as a counseling agency for minority physics graduate students to increase the number that earn doctorates,
- ▶ to identify problems related to minority graduate-student attrition and retention, and



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► to provide a ready mechanism to help physics graduate students in crisis situations.

The Fermi conference resolved that the Committee on Minorities should implement this program.

How does Spight feel about the present status of minorities in physics? "The problems are complex and it is difficult to find ways of moving forward," he told us. "There is some reluctance on the part of the APS council to take stands that are activist. We recognize that to some extent, there is support by APS, but at the same time there is a conservatism and a basic ignorance as to the severity of the overall situation." He continued, "There appears to be an attitude these days that the situation is in hand, but we on the committee don't see it that way."

Neither does Kistiakowsky, who delivered a paper on women's issues at the Washington APS meeting. Although lack of data prevented her from discussing minorities in detail at the conference, she did comment, "My impression is . . . that the progress with respect to minority physicists is substantially less than that achieved with respect to women."

Women and affirmative action. Some of the women's progress, she notes, is the result of affirmative action, which has been with us for a number of years. Kistiakowsky said, "... in spite of voluminous paperwork and phony searches for 'qualified' candidates, affirmative action is, on balance, a good and necessary process." She has followed changes in women's employment, and since the 1971 study of the APS Committee on Women in Physics, she has found only a small increase in the percentage of women on physics and astronomy faculties (2.8% in 1971-72; 3.1% in 1974-75). This growth is largely due to increased representation in a

shrinking assistant professor pool and, Kistiakowsky feels, to affirmative action. Of interest is the rise from 0.8% to 2.1% of women assistant professors or higher at the "top ten" physics PhD-granting universities. However, the numbers involved are small—240 women in all faculty positions at colleges and universities and 14 in the "top ten." The picture is somewhat better in a subset of the 240 group—institutions granting bachelor's degrees only, where 5.2% of the faculty are women.

The proportion of women unemployed or seeking employment remains high; a 1973 NRC study shows 7% of women but only 1.8% of men are in this situation. For employed women, salaries remain lower: The best situation is in industry and government (women received 9% lower pay) and the worst is in non-profit institutions (23% less).

Despite the slow progress, Kistiakowsky is encouraged by several signs, including a 15% rise, from 1972 to 1973, in the number of women receiving doctorates: "The causes for this must partly be increased confidence and career orientation of young women, as well as greater peer and professor support for their aspirations, but I am sure that it also reflects a perception of opening doors and wider opportunity due to affirmative action."

San Francisco session. Panelists discussed the specific problems that women encounter as professional physicists at a special session at the December San Francisco Conference on Magnetism and Magnetic Materials. Four of the seven panelists have experienced severe "double-job" problems—either the difficulty of finding suitable positions for both spouses in the same area, or combining home responsibilities with the rigors of professional life. The panel, organized by Jill Bonner (Brookhaven) felt that part-time working options could be helpful here. One panelist felt a lack of women graduate students and faculty to act as role-models and to give professional advice; another felt that women must continually prove themselves and are assumed incompetent until they demonstrate otherwise.

In these times of job difficulties, the effects of tight employment reach beyond the minority and women groups. But the numbers and percentages justify the further concern that Spight, Kistiakowsky and others feel for the status of these two groups in the physics profession.

—RAS

White House science adviser on the way?

A White House office of science and technology is a step closer to reality. President Ford has announced his intention to submit a bill to Congress that

would establish such an advisory apparatus—the first since the Office of Science and Technology was disbanded on 1 July 1973—as a permanent part of the executive structure.

Although details of the bill have not been released, the proposed office is expected to have a single adviser, supported by a staff of 10 to 15 and an annual budget of \$1 million to \$1.5 million. Hearings on the bill began last month.

NAS announces freer access to documents

The public will have freer access to behind-the-scenes documents related to National Academy of Sciences studies. This is the result of a new policy that directs the National Research Council to develop guidelines that will make available, upon completion of a study, the minutes of the study committee and virtually all the information used by the committee during its deliberations. This includes copies of external documents used by the committee, reports from panels, subcommittees and consultants, and comments received subsequent to report publication. Classified and personnel information will, however, continue to be kept confidential by the academy.

New foundation continues work on A-bomb victims

The newly formed Radiation Effects Research Foundation has replaced the Atomic Bomb Casualty Commission which monitored the medical histories of those surviving the Hiroshima and Nagasaki bombings. Japan has chartered the foundation and will share equally its \$8 million first-year costs with the US. Each country will have five members on the board of directors. Hisao Yamashita, professor of medicine at Keio University, has been named foundation president and chairman of the board of directors.

The Foundation will continue ABCC's studies of 110 000 Japanese, including biennial medical check-ups of 20 000 volunteers. Much of what is known about radiation's effects on Man has been derived from these studies. RERF will continue to make its findings available to scientists of all nations.

US participation will be supervised by the Energy Research and Development Administration and, through a contract with ERDA, the National Academy of Sciences. Japanese involvement in the studies has increased steadily since ABCC's establishment in 1947, when the facilities, funding and staff were almost entirely American. In 1973 Japan began to contribute to the program's funding.