

cian—Serge Lang of Yale University. The story of Lang's protest movement is a story of politics and personalities as well as what some sociologists believe are valid, if not long-needed, criticisms of the methods of survey research and the possible uses and effects of such survey data.

Lang, a thin, nervous man who likes to hold court when in the company of mathematicians, is able to command attention by dint of his considerable reputation as a researcher. He has expended much time and effort analyzing the survey questions and letting his colleagues, Ladd, and Lipset know that he finds the questions unsuitable for probing faculty opinions on complex and controversial matters involving politics, research, and education. A separate but related issue is that Lang distrusts Lipset's political leanings. He asks how Lipset will inter-

pret the survey data and what effects Lipset's interpretation will have on educational policy.

Since last April, when he first wrote to Lipset and Ladd criticizing their survey, Lang has recruited a number of mathematicians and a few social scientists to his cause. The mathematicians include leaders in their fields, such as John Tate of Harvard, Saunders MacLane of the University of Chicago, and Lipman Bers of Columbia University. Tate and MacLane, in particular, are not known for taking public stands on issues. Encouraged by his supporters, Lang is hanging onto this issue as tenaciously as the Old Man of the Sea hung onto the back of Sinbad the Sailor in the tale from *The Arabian Nights*.

The survey that raised Lang's ire is a long one consisting of 128 questions, many of which have several parts. It

deals with faculty attitudes toward such issues as research and research funding, collective bargaining, and early retirement. In addition, it includes questions about political, social, and moral convictions of the professors.

The survey responses are now in, and Lipset and Ladd report that almost 50 percent of those who received the survey filled it out and returned it. Since September 1977, Lipset and Ladd have been publishing analyses of the survey data in the *Chronicle of Higher Education*. According to Malcolm Scully of the *Chronicle*, no one but Lang has written criticizing the survey.

Lang's protest began shortly after the survey was distributed last spring. At that time, he read a review of a book by Lipset and David Riesman entitled *Education and Politics at Harvard*. The review, written by Sigmund Diamond of

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### Sakharov Lauds U.S. Society for Strong Stance

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Andrei D. Sakharov, the Soviet Union's most prominent dissident scientist, has written a letter of commendation to the Association for Computing Machinery, which, last year, became the first U.S. scientific society to sever its contacts with the Soviet Union over the human rights issue.

In the letter, received 6 January, Sakharov said the ACM had "hit the right nail" when it severed dealings with the Soviet Union over the imprisonment of Anatoly Shcharansky, a young computer scientist whose application to emigrate to Israel was refused. Shcharansky's cause has also been taken up by the State Department and numerous private organizations. Sakharov wrote:

"The Soviet authorities extremely appreciate the cooperation in science and technology, thus there is nothing to induce them so factually and effectively as a refusal to maintain this cooperation. . ."

Last July, alarmed by developments in Shcharansky's case, ACM president Herbert R. J. Grosch wrote to the Soviet Academy of Sciences saying ACM would no longer cooperate in or cosponsor meetings held in the Soviet Union. The move was approved in October by the council of the 36,500-member ACM. In November, Grosch wrote an even tougher letter on behalf of ACM, this one to So-

viet Ambassador Anatoly Dobrynin, adding that ACM would avoid other, Russian-dominated international meetings, too. He even noted how much the Soviets would suffer from lack of contact with American computer science, because "the U.S.S.R. lags far behind my country in both building and using these fantastic tools."

In severing ties, ACM has taken a step which many other U.S. professional societies have refused to take on the grounds that they would offend the Soviets or provoke further mistreatment of dissidents. But Sakharov wrote: "Do not take seriously any assertion that your decision could only embitter the Soviet authorities and aggravate the situation of Soviet scientists. Do not doubt that your . . . solidarity will bring positive results."

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### Carter Nuclear Satellite Ban Could Hurt Research

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President Carter's suggestion that the United States should "forego" earth-orbiting nuclear powered spacecraft if they cannot be made "failsafe" from accidents—such as the recent fall to earth of one such Soviet satellite—could affect U.S. research. The Department of Energy (DOE) conducts an active research program in developing nuclear power sources for spacecraft, and the Administration's proposed fiscal 1979 budget

contains \$20 million for such projects, including a joint mission with Europe.

Only one of the four projects would be exempt from Carter's proposed ban, according to DOE sources, since only one is a deep-space probe that would not orbit the earth. This would be for a nuclear power source for the next Jupiter mission, scheduled for launch in 1983. The United States has put nuclear power sources aboard only 23 of its 2000-odd spacecraft it has launched since 1958. It tends to use nuclear power for missions far from the sun, where solar panels are less feasible.

Carter's proposal to forego nuclear power on earth-orbiting satellites could conceivably affect a joint American venture with the European Space Agency for a solar-polar mission. This would consist of two satellites to be launched in February 1983 from the space shuttle. Each would be powered with two 100-watt radioisotope generators, sources of low-level nuclear energy.

The DOE also plans research on a slightly more powerful nuclear source, a "dynamic isotope" system, which would produce power in the 1- to 2-kilowatt range, for the Air Force.

Finally, reflecting increased concern in military circles about making future American spacecraft invulnerable to Soviet attack, the DOE seeks \$2 million for a study at the Los Alamos Scientific Laboratory for a full-scale space reactor, fueled with plutonium, that would produce up to 100 kilowatts of energy. The military has planned for some time to

Columbia University, appeared in the 28 April 1977 issue of the *New York Review of Books*. In his review, Diamond accused Lipset of glossing over an episode at Harvard in which Diamond was denied a job—allegedly on political grounds.

Lang received a copy of the survey and, provoked by Diamond's review, fired off a hostile letter to Lipset and Ladd, which he describes as "vintage Lang" (blunt and abrasive). In the letter, he impugned Lipset's scholarship and integrity. He cited Diamond's review as evidence of Lipset's bias and "cover-up abilities."

From this inauspicious beginning, a protest movement grew. As Lipset answered Lang and other mathematicians wrote to Lipset, more and more mathematicians were recruited by Lang to the movement. The protest took on the air of

a personal matter, fueled by almost childishly nasty remarks in letters from some academically prominent people. Lang, however, believes that the issues being debated are serious and denies that he is waging a vendetta. "I have some apprehension that already I have been too much sucked into this thing," he says.

Lang and his supporters claim the questionnaire has two major, but related, flaws. First, many of the questions are worded so that either their meanings are ambiguous or, as Lang puts it, the issues are prejudiced. Second, when questions are worded in biased ways, undue emphasis can be put on relatively unimportant issues when the analyses are reported. Thus the issues can be altered by the measurement process. Lang calls this the "Heisenberg principle of the social sciences."

Lang has written a 15-page critique of the survey, detailing his objections to specific questions. One group of questions he objects to deals with grading. Respondents are asked to note whether they agree with statements by checking boxes marked "Definitely yes," "Only partly," or "Definitely no." For example, one statement is "'Grade inflation' is a serious problem at my institution."

In analyzing this question, Lang first points out that it can be interpreted in several ways. Suppose that a person checks "Definitely no." The respondent could mean that grade inflation is not a problem per se, that it is a problem but not at the respondent's institution, that it is a serious problem but not a serious problem at the respondent's institution, or that it is a problem per se, but not a serious one.

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launch larger spacecrafts from the space shuttle, and many of these would be put in a very large earth-orbit, where solar panels may not be feasible as a power source. In addition, the military envision doing away with the bulky, conspicuous solar panels on many of its close-in satellites and powering them with nuclear reactors instead. Finally, nuclear reactors could serve as power sources for future, space-based laser weapons. Hence, the Department of Defense interest in the Los Alamos research project.

But the crux of the President's remarks was that the United States would give up nuclear power sources only if they cannot be made "failsafe" against the kind of accident that occurred to the Soviet satellite, which began an unsteady, descending orbit several weeks ago and landed unpredictably in the Canadian wilderness. Officials in DOE and at Los Alamos told *Science* that their new systems could be made fail-safe.

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### ACS Group Urges Anti-Smoking Drive

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The National Commission on Smoking and Public Policy, an offshoot of the American Cancer Society that was founded with a \$168,000-grant 1½ years ago, has issued a stiff report recommending many policy changes, both on the part of the federal government and

organizations like the ACS to combat smoking in the United States. The commission's recommendations are far more sweeping than the "vigorous new program" to combat smoking announced in early January by the Secretary of Health, Education, and Welfare (HEW), Joseph A. Califano, Jr.

The commission's report recommends a wide range of federal actions, including that the Department of Defense stop selling cigarettes free of taxes at PX's, where a pack of cigarettes can sell for from 7 to 10 cents. It also recommended the adoption of a graduated cigarette tax that would make cigarettes more expensive as their tar and nicotine content increased.

The commission also echoed the view of some consumer activists that the Food and Drug Administration (FDA) should regulate cigarettes. It urged HEW to seek clarification from Congress, so that FDA will have this authority. In the past FDA has said it lacks authority to regulate cigarettes.

(In a similar vein, Action for Smoking and Health, a Washington consumer action group, has petitioned the FDA to regulate cigarettes both because the nicotine they contain is a drug and because cigarette filters constitute "medical devices" under FDA rules. The petition is still being considered by FDA.)

The commission report also chided the American Cancer Society (ACS) and other large private organizations concerned with public health for not having devoted more money and attention to the health

hazards of smoking since the Surgeon General's report was issued 14 years ago. It recommended that ACS, for example, spend the maximum allowed by law on public education and lobbying to cut down the incidence of smoking, which overall has not changed since 1964. The ACS currently spends about \$200,000 annually on smoking-related matters. Its annual budget is more than \$100 million. The advertising budget of the tobacco industry is estimated to be more than \$400 million.

John Banzhaf, director of Action on Smoking and Health, calls the recommendations for ACS and the other large private health organizations among the most important in the report, since, in his view, the efforts of such powerful groups could be instrumental in getting Congress and federal agencies, such as HEW, to take action.

Califano announced an HEW program to combat smoking on 11 January, but it was limited largely to actions within the department, such as making it harder to smoke in HEW buildings, and things he will recommend to other groups, such as the Federal Trade Commission and the broadcast networks. The most weighty part of the Califano plan was to elevate the Clearinghouse on Smoking and Health to a more conspicuous place in the HEW hierarchy, and to try to increase its budget from \$6 to \$23 million. After they were issued, Califano's proposals were criticized by consumer groups as too weak, and by the tobacco industry as too strong.

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