

on Native Americans in Science constitutes a major effort by a national organization to change the pattern of Indian underrepresentation in the sciences, and that Project is continually increasing its capacity to serve as a clearinghouse for information on Indians in science and science education. Other programs, based in national, state, and tribal institutions and agencies, also operate to address needs and an article in a future AAAS News section will discuss some of these projects.

RAYNA GREEN

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*Project on Native Americans in Science*

## AAAS Section News

This announcement marks the beginning of an effort to disseminate Section information through the AAAS News section of *Science*.

Section W (Atmospheric and Hydro-spheric Sciences) has arranged seven symposia for the AAAS annual meeting in Denver. These symposia will address droughts (21 February), weather modification and legal issues (22 February), Viking results (22 February), urban weather modification (23 February), Denver air pollution (24 February), and large-area air pollution (25 February). There will also be an open business meeting of Section W at 1 p.m. on 22 February. All Section W members are encouraged to attend.

Section W members are invited to submit news items to the Section W secretary, Stanley A. Changnon, head of Atmospheric Sciences, Illinois State Water Survey, Box 232, Urbana, Illinois 61801.

## Manpower Data

### Supplement Released

The Scientific Manpower Commission has issued the second supplement to its book, *Professional Women and Minorities—Manpower Data Resource Service*, which was published in May 1975. The new 132-page supplement, prepared for insertion in the appropriate sections of the basic book, includes updated statistics on doctoral degrees granted in all fields through 1975, and introduces new data on both undergraduate and graduate degrees granted in architecture, law, business and management, social work, and education. New data on minority men and minority women in the pro-

fessional work force also are included.

Published in loose-leaf format with appropriate subject divider tabs, the complete four-part reference book includes basic information on affirmative action; manpower data in all fields from more than 130 sources; recruitment resources; a bibliography; and a comprehensive cross-index. In the original volume, approximately 400 tables and charts include totals and breakouts for women and/or minorities in the areas of enrollments, degrees, and the general, academic, and federal work force.

The original 320-page volume is available for \$40. The continuing subscription service which presently includes two supplements issued in February and October of 1976 may be ordered for the additional price of \$25 per year.

The publication and its supplements are available from the Scientific Manpower Commission, 1776 Massachusetts Avenue, NW, Washington, D.C. 20036.

## Educators Review

### Chautauqua Courses

How might the National Science Foundation Chautauqua-Type Short Courses Program better serve the needs of small colleges and their science faculty? This question was addressed at a series of four regional drive-in meetings recently held in Texas, Louisiana, Georgia, and North Carolina.

Participating were academic deans or their representatives from sixty small colleges and universities, AAAS staff members from the Office of Science Education and Office of Opportunities in Science, Chautauqua Field Center coordinators, course directors, and a representative from the NSF Faculty-Oriented Programs Group.

The AAAS Office of Science Education convened the meetings with the cooperation and help of the four host colleges—Austin College (Texas), Xavier University (New Orleans), Clark College (Atlanta), Bennett College (North Carolina)—and the North Carolina Center for Independent Higher Education.

The half-day meetings were crisp and well-spiced with ideas for improving the program. A variety of perspectives emerged amidst some fundamental shared concerns.

It was clear that some small colleges are struggling to keep their programs for physics or chemistry majors alive. Funding is difficult, especially if programs are kept up to date. And a science program

with few majors is even more difficult to justify. Consortia are only one solution; other possible solutions are less clear at the moment. However, one department chairman reported that his school had recently terminated its program for chemistry majors. Another expressed the need for sound guidelines for physics programs at small colleges that no longer offer a major in physics.

Smallness of science departments also puts a constraint on faculty who might attend short courses. If an entire science department consists of only two or three faculty members, covering classes for faculty attending a short course is a major obstacle.

College policies for faculty development can also inhibit attending a short course. A budget may earmark money only for credit programs or only for tuition and not for travel. Or the program must be broadly applicable to the college and not narrowly tuned to the individual faculty member.

Participants frequently reported that inadequate travel budgets inhibit participation in the short course. In contrast, others reported that time, and not money, was the most important factor. Faculty could not afford to take the time to attend a short course. The AAAS might reach more teachers who are now very far from the current field centers with a "floating" field center that changes locations from year to year.

Alternatively, the AAAS might augment its present system of field centers with TV extension centers. Groups would receive a "live" short course via television with two-way audio. AAAS might also distribute the content of current courses more widely via videotapes. However, this procedure would result in diminished personal interaction—an often-praised feature of the short courses.

The content of the courses in the Chautauqua-type program stimulated a valuable interchange of ideas and differences of opinion. Some felt the course offerings were too narrow; others thought that more specific courses were needed. Some suggested less emphasis on human implications, whereas others felt the AAAS should continue the broad, cross-disciplinary courses. Some perceived the courses as "too much social science and not enough natural science." Some felt that the current courses were in the fringe areas of science; another suggested more emphasis on "what's hot" at the big universities.

Some argued for separate courses for 2-year faculty, who have different interests and needs. Their students are much

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## NEWS AND COMMENT

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primarily from different assumptions about the appropriate population base to be considered in estimating probabilities. This is a problem that traditionally frustrates cluster analysis. Does one ask how likely it is that three deaths would occur normally on a given day among the relative handful of people who were vaccinated during the critical hour at that one clinic, or among the 1200 who were vaccinated at the clinic that day, or among the 8000 or so elderly who were immunized in Allegheny County that day, or among even larger groups of elderly immunized in the state or nation?

Using one set of assumptions, the Center for Disease Control, which is promoting the immunization campaign, has managed to calculate the odds as low as 1 in 50 that the deaths would occur normally. Using another set, the county coroner's office, acting as devil's advocate, puts the odds as high as 1 in a million. One neutral expert—Robert J. Armstrong, chief of mortality statistics at the National Center for Health Statistics—has a gut feeling that the deaths were “an extremely rare event—a tremendous long shot.” But he notes that highly improbable events do in fact occur.

Federal officials also stress that, on a nationwide basis, the death rate following vaccination is far less than the normal death rate for the elderly population, a statistic which tends to exonerate the vaccination campaign as a cause of mortality. But skeptics put little stock in such figures. They doubt that the reporting of deaths after vaccination is complete. They also suspect that most of those who are about to die on any given day are too sick to venture out for a flu shot. Thus the population that visits clinics might be expected to show fewer deaths.

One federal investigator who is skeptical that the three deaths were coincidental is Philip Graitcer, one of two specialists from the Center for Disease Control who masterminded the investigation here. Graitcer speculates that some of the deceased might have been killed by hysteria or stress at the shock of seeing others collapse, receive oxygen treatment, and then get carted away on a stretcher, amidst a wailing of sirens. He hopes to return to Pittsburgh soon to investigate this hypothesis more thoroughly. If his theory proves plausible, it might explain how the million-to-one shot occurred. It might also suggest the need for new procedures aimed at minimizing the hubbub caused by medical emergencies.—PHILIP M. BOFFEY

## RESEARCH NEWS

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depression led Friedman to invert the proposition—an essentially stable private sector operates as a shock absorber to the shocks imposed by an erratic and “unstable” government sector. This inversion created much intellectual heat. It is noteworthy, however, that Friedman provided us with the only piece of evidence we have on an issue of fundamental importance. The issue is anything but settled. But again, Friedman raised a radically unfashionable question and we should hope that scholarship will attend to its serious examination.

My presentation of Friedman's work to a wider group in the scientific establishment has concentrated on his extensive scholarly work. But the new Nobel Prize winner is far removed from “academia's ivory towers.” He has been embroiled for many years in important issues of public policy. This aspect of Friedman's life deserves some clarification. He is frequently presented as an ideologue, as a man who lets his politics dominate his economics. He is also referred to patronizingly as a “controversial figure.”

The accusation that politics plays an important role in Friedman's work thoroughly distorts the actual situation. The remarkable fact is that many of Friedman's “political or policy views” were guided by a strong commitment to a relevant empirical use of economic analysis. His “politics” emerges to a major extent as an assessable consequence of his economic analysis. Analysis led him to a series of quite radical questions bearing on many of our social institutions, or more specifically, on the prevalent views of stabilization policies. The proposal for a monetary rule was not motivated by any “laissez-faire preconception” but evolved from his appreciation of the unpredictable variability of monetary lags.

And, lastly, there is indeed a commitment. It involves the value and freedom of an individual human being, and a commitment to rational discourse and the cognitive adventure called science. But views about social institutions, their mode of working, and their consequences remain a matter subject to the procedures of empirical science. Perhaps we may hope that Friedman's lifelong struggle to insert such scientific commitment into economics may yield a broader application of relevant analysis over the full range of social institutions and political processes.

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## AAAS NEWS

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less homogeneous and their teaching load very heavy. In contrast, others viewed a mix of both 2-year and 4-year college teachers in the same course as mutually beneficial.

There was some sentiment for courses specifically designed for academic deans and faculty development officers. One participant felt that several of the short courses would also benefit nonscience faculty, and another thought that the current program seems more profitable for nonscientists than scientists.

A potpourri of suggestions for the content of the short courses emerged:

- more emphasis on lab-centered and hardware-type courses, perhaps 1 or 2 weeks in duration;
- the latest laboratory techniques—what's going on at the leading laboratories in the country;
- courses on the current year's happenings in biology, chemistry, or physics; and
- more on improved methods of teaching the sciences, such as how to develop teaching materials; how to reach nonmajors; how to apply the techniques of modular instruction to the all-important introductory course.

A suggestion that the AAAS consider arranging some sort of credit for short courses highlights a basic question which was asked and discussed, but not resolved: How do you motivate faculty who are comfortably uninterested in self-improvement?

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Office of Science Education

## Nuclear Power Seminar

### Scheduled

A regional seminar on nuclear power, cosponsored by the AAAS Division of Public Sector Programs and Knox College, will be held on 1 December on the Knox College campus in Galesburg, Illinois. The program will include a discussion of the Illinois energy picture, the nuclear fuel cycle, and a number of concerns associated with the safety and waste management of nuclear power.

AAAS members in the Galesburg area are invited to attend. For further information, contact Dr. Herbert Priestley, Knox College, Department of Physics, Galesburg, Illinois 61401. Telephone: (309) 343-0112, Ext. 248/485.