

Strassenburg, division director, called the meetings.

Wood interviewed 116 persons, among them curriculum designers, teacher educators, local and state school officials and staff members of national education organizations. Most of all she talked to those on each end of the pedagogical log: science teachers and science students.

What did she find? The gap between the level of the courses and texts used in the schools and the abilities of both the average teacher and the average student has widened steadily (see figure). Science curricula have been upgraded. As one rural teacher put it: "Today's school science is yesterday's college science." At the same time schools are teaching science to a greater fraction of their students, including potential dropouts, and teaching it earlier. The gap shows up when a science student does not have enough background or vocabulary to grasp the meaning of the text when he reads it.

The same pressures have diluted the quality of the "average" science teacher. The widened teaching of science, together with the overall school-population explosion, has created great demand for science teachers. School administrators sometimes face opening day without even a "warm body" for the science class.

Some of the recommendations seek generally approved reforms. Others call for new departures in the approaches of individual teachers and their school systems. A sample:

- Teachers should at least be consulted in the choice of a text. They should have a petty-cash fund (perhaps \$50-\$100) for minor equipment.
- Special materials should be developed for students who have trouble with reading and writing but who would enjoy using their manual skills in experimental work. A "science truck" could circulate through city streets in summer, giving idle youngsters something constructive to do.
- Those teaching slow students should have their own workshops and could produce a manual of successful methods, possibly during a summer institute.
- Consideration should be given to the creation of an organization, analogous to the college commissions, to meet the needs of school science.

Copies of the report are available from AIP.



NUCLEAR-PHYSICS HISTORY. Fitting together the pieces during the American Academy conference are, beginning in the foreground, Philip Morrison, Robert Serber, George Uhlenbeck, Lewis Slack, Maurice Goldhaber and Victor F. Weisskopf.



ACROSS DISCIPLINARY LINES. Participants include physicists John A. Wheeler and Hans A. Bethe, historian Martin Klein and sociologist Robert K. Merton.

History Conference Probes Role of Nuclear Theorists

The role of theories and theorists in the development of nuclear physics from about 1930 to about 1950 was the theme of the Second Exploratory Conference on the History of Nuclear Physics held at the American Academy of Arts and Sciences in Brookline, Mass., on 18, 19 May. The 20 invited participants included physicists as well as scholars concerned with the history, sociology and philosophy of

science. The conference was part of the joint American Institute of Physics-American Academy project to document and analyze the emergence and growth of nuclear physics as a major research field (PHYSICS TODAY, November, page 71).

Victor F. Weisskopf and I. Bernard Cohen, cochairmen of the AIP-American Academy project advisory committee, opened the conference.

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Charles Weiner, director of the AIP Center for History and Philosophy of Physics, described current research and archival efforts, including tape-recorded interviews with several physicists who played significant roles in the development of nuclear physics



NOBEL LAUREATES Emilio Segrè and Hans A. Bethe talk during a break.

Fewer Prospective Employers Use AIP Placement Service

New numbers compiled by the American Institute of Physics Placement Service reveal a continuing buyer's market in physics employment. Final totals from the Washington American Physical Society meeting show the

in Great Britain, France and Italy as well as in the US.

Hans A. Bethe provided the highlight of the first day, informally describing the circumstances of his writing the famed review of the 1936-37 status of nuclear physics. The three articles in *Reviews of Modern Physics*, written with M. Stanley Livingston and Robert F. Bacher, soon became a standard reference subsequently dubbed the "Bethe Bible."

Roundtable discussion the next day was devoted to lively discussion, based on several of the participants' own experiences, of the motivations and circumstances surrounding the introduction, reception and impact of theoretical ideas that influenced the overall growth of nuclear physics. The AIP center will use the information, insight and suggestions developed during the discussion for the next phase. Work is already started on the role of experimentalists, instrument designers and others in the development of the field.

number of individuals seeking jobs rose from 786 in 1968 to 870 in 1969, whereas the number of employers present fell from 69 to 47.

The big difference at the Washington meeting showed up on the aca-

BIOLOGIST NAMED DIRECTOR OF NSF

A biologist who is no stranger to the physics community, William D. McElroy of Johns Hopkins University, has been named by President Nixon to be the next director of the National Science Foundation. McElroy technically will take over 1 July but will be a part-time director until September.

The new director has served on government panels — including the President's Science Advisory Committee in 1963-66 — and on boards of research consortiums — including Associated Universities, which operates Brookhaven National Laboratory and the National Radio Astronomy Observatory.

He told *PHYSICS TODAY* he felt it only natural that physicists might be concerned over the prospect of a biologist in the office and said he wanted to assure them that long exposure to the field has made him well aware of the needs and the problems of physics. While he said it was too early to make any very detailed comments, McElroy did outline his thinking on several key

issues he will face in office:

- The foundation has been absorbing new programs without receiving new money. He wants the NSF share of federal basic research money to be around 30% instead of the present 17%. "It should approach a billion dollars a year within several years."

- He believes very strongly in the individual grant system, which offers the advantages of scrutiny by peers, but also feels strongly that some form of institutional grants must be adopted.

- He does not accept the argument that some areas of science are producing too many new scientists. "We need good men," he said, and added that ways must be found to avoid sudden rises and dips in scientific effort.

McElroy was approached just three weeks before his appointment was announced by the White House 19 June. He said he will serve part time during the summer while he winds up his affairs at Johns Hopkins.

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