

also goes on in electronics, materials science, solid-state physics and so on.

How will DOD conform to section 203? MacArthur told us that each project officer will be asked to write a paragraph showing why his program, contract or project conforms. He went on, "It really comes down to individual technical military judgment in the end. There are some clearly that don't comply, but there will be some for which, if you handed them out to a group of people, you would get different responses from different people. It's very difficult to associate [a project] in one

step with a specific military function or operation; but I could show it in three steps." He was reluctant to say what classes of projects do not conform.

MacArthur said, "We cannot support any project with fiscal year 1970 funds if it does not conform to section 203. When a program is up for renewal and does not conform to 203, if it is good quality work and in the national interest, we'll ask if NSF or any other appropriate agency can pick it up. If it's low-quality work, we'll cancel it. We'll try to make an orderly transition."

It is not clear just when the termina-

tion and transfer (or both) of projects would take place. In a Congressional speech on 18 December, Congressman Emilio Q. Daddario (D-Conn.) decried the present crisis. He urged that any transfers occur in an orderly, time-phased manner; if necessary the transfers should extend over a number of years, he said. He proposed that as a matter of policy, "Congress emphasize the application of section 203 to fiscal year 1971 budget, which is even now being prepared, rather than try to give it full effect in the remaining quarter of this fiscal year."

—GBL

## New Academy Committee Begins Physics Survey

The committee headed by D. Allan Bromley, professor at Yale University, has begun a new survey of physics (see *PHYSICS TODAY*, September, page 71). Recent, major changes in the US (namely the leveling of federal support for science, the reorientation of public priorities, the new attitude of students towards science and technology, and the changes in the areas of physics themselves) led Frederick Seitz and later Philip Handler, past and present presidents of the National Academy of Sciences, to initiate the study (see box).

The study will be carried out in the Division of Physical Sciences and is under the aegis of the Academy's Committee on Science and Public Policy, with support of major federal agencies. It will build upon, rather than repeat, the 1966 *Physics: Survey and Outlook*,

the report of the committee headed by George E. Pake, professor at Washington University (see *PHYSICS TODAY*, April 1966, page 23), but will necessarily consider a broader range of topics.

While exploring physics as a discipline and its interrelationships with technology and other sciences, the survey will be much concerned with the role of physics in the current national and social context. Bromley cites these topics as including "... the structure and operation of the nation's physics enterprise, the cultural and educational significance of physics, the roles of basic and applied physics, its social and economic interactions, its manpower and training requirements and problems, the relationships among government, industry and universities, and the directions which US physics may take in the 1970's."

The committee intends, except possibly for major national facilities, to focus on the development of criteria that underlie funding and program priorities, rather than suggest the priorities themselves. It also plans to compare the structure of, and projections for, physics and other selected sciences in the US, where the required survey information is available. A similar but briefer comparison between physics in the US and in foreign countries is also contemplated.

Bromley and his committee are now studying problem areas and different approaches and urge any member of the physics community to submit a thoughtful presentation to the Division of Physical Sciences of the National Academy of Sciences. The presentations will be reproduced for distribution to the committee and the appropriate panel.

The nine panels, which were created by the committee, are concentrating on

### NEW PHYSICS SURVEY COMMITTEE

D. Allan Bromley, Yale University; Daniel Alpert, University of Illinois; Harvey Brooks, Harvard University; Joseph Chamberlain, Kitt Peak National Observatory; Herman Feshbach, MIT; George B. Field, University of California, Berkeley; Edwin L. Goldwasser, National Accelerator Laboratory; Conyers Herring, Bell Telephone Laboratories; Arthur R. Kantrowitz, Avco-Everett Research Laboratory; Franklin A. Long, Cornell University; Walter H. Munk, University of California, San Diego; Emanuel R. Piore, IBM; Edward M. Purcell, Harvard University; Roman Smoluchowski, Princeton University; Charles H. Townes, University of California, Berkeley; Alvin Weinberg, Oak Ridge National Laboratory, and Victor F. Weisskopf, MIT.

### PHYSICS SURVEY Panels and Chairmen

**Astrophysics and Relativity**, Robert Christy, Cal Tech; **Data**, Conyers Herring, Bell Telephone Laboratories; **Electronic, Atomic, and Molecular Physics**, Nicolaas Bloembergen, Harvard University; **Elementary Particle Physics**, Robert G. Sachs, University of Chicago; **Nuclear Physics**, Joseph Weneser, Brookhaven National Laboratory; **Physics in Biology**, Robert Shulman, Bell Telephone Laboratories; **Physics of Condensed Matter**, George Vineyard, Brookhaven National Laboratory; **Plasma Physics and Physics of Fluids**, Stirling Colgate, New Mexico Institute of Mining and Technology, and **Space and Planetary Physics**, Richard M. Goody, Harvard University.

certain subfields and areas. Additional areas may also later require the work of small groups. In particular, a small group headed by Marvin Goldberger, Princeton University, is studying the



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## STATE AND SOCIETY

general topic of physics and the environment.

All the panel chairmen have been appointed and some panels have held preliminary meetings. The nuclear-physics panel was organized in June 1969 in response to a specific governmental request for a study to parallel the AEC elementary-particle physics study, which was headed by Victor F. Weisskopf (PHYSICS TODAY, October, page 65). Ten subpanels are assisting in the preparation of this nuclear-physics study, which is scheduled to be completed in the spring of 1970. The panel will then turn to the longer-range aspects of the survey charge, which it and all other panels have received from the committee.

The nuclear-physics panel members are Joseph Weneser (chairman), Henry H. Barschall, Bromley (ex officio), Edward Creutz, Herman Feshbach, Bernard G. Harvey, Robert Hofstadter, O. Lewin Keller, Thomas Lauritsen, Malcolm H. Macfarlane, Leon Lederman, Philip Morrison, Louis Rosen, Martin Walt, Gian-Carlo Wick, Eugene P. Wigner, Chien-Shiung Wu and Alexander Zucker.

The nuclear-physics subpanels and their chairmen are: Development of Nuclear Physics, Macfarlane; Nuclear Facilities, Rosen; Management and Costs of Nuclear Programs, Daniel J. Zaffarano; Manpower and Training, Zucker; Impact on Industry, Martin Walt; Food Industry, Medical and Biological Industries, chairman to be named; Medical Practice, Victor P. Bond; Impact on the Reactor and Fusion-Devices Industries, including Nuclear Safeguards, Creutz; Military Applications, Richard F. Taschek, and Nuclear Astrophysics and Other Sciences, Morrison.

### AIP and APS Suspend Delay For Unsupported Papers

The 1969 publication delay for papers not supported by page charges has been suspended for the beginning of 1970 by the American Institute of Physics and the American Physical Society; but a delay will probably be adopted by the Acoustical Society of America.

AIP and APS decided to suspend the delay because of increases in paying publication charges by authors' institutions. Since the delay was implemented early in 1969 (see PHYSICS

TODAY, February, page 69) the rate of supported papers has increased for *The Physical Review* from 83.5% in the first three-quarters of 1968 to 88.15% in the first eight months of 1969. AIP reports an increase for its journals from 75% in 1968 to the current rate of 85% to 90% for the last half of 1969 (which includes *Journal of Applied Physics*, *Journal of Mathematical Physics*, *Journal of Chemical Physics*, *Physics of Fluids* and *Review of Scientific Instruments*).

ASA, because of the significant drop in page-charge revenue, has set a limit on the number of unsupported papers that will be published in 1970 in the *Journal of the Acoustical Society of America*. It expects to delay papers for which page charges have not been honored.

In order to monitor its revenue, AIP and APS are still asking after an author's paper has been accepted, to state whether or not his institution plans to honor the page charge (see PHYSICS TODAY, Dec. 1968, page 61).

### IUPAP Elects Officers Creates Plasma Commission

The International Union of Pure and Applied Physics elected new officers and created an international commission on plasma physics at its general assembly meeting, held during September in Dubrovnik, Yugoslavia. A new Yugoslavian physics journal, *Fizika*, was also distributed.

Robert Bacher, Cal Tech provost, was elected president, succeeding Dmitrii I. Blokhintsev, director of the theoretical department at the Joint Institute of Nuclear Research in Dubna. He was also chosen as IUPAP representative on the executive committee of the International Council of Scientific Unions. Named first vice-president was Heinz Maier-Leibnitz, a West German who is director of the Institut Max von Laue-Paul Langevin at Grenoble. He will serve with Alfred H. Kastler of France, L. Pal of Hungary and Victor Weisskopf of MIT, who were elected vice-presidents. Clifford Butler, professor at Imperial College, was reelected as secretary-general.

The assembly also voted for a separate international commission on plasma physics, which has been since 1966 a division of the atomic and molecular physics and spectroscopy commission. This is the Union's twelfth topical commission (see PHYSICS TODAY, May 1968, page 53). Lev A. Artsimovich, director