

News and views

NOTE FROM ABROAD

MECHANICAL GODS

Dancer Pearl Primus, in the course of her lecture-demonstration on African dance forms given in May at the American Museum of Natural History, has relayed a message from Africa to the United States. The people of the African bush wish to assure the people of America, reports Miss Primus, that mechanical gods such as they understand atomic bombs to be will not harm people unless people wish to be harmed.

NATIONAL SCIENCE FOUNDATION

COMPROMISE VERSION APPROVED

The Senate-House committee of conference on the question of the Science Foundation bill came to final agreement in late April, and in early May President Truman signed the bill aboard his special train during his "whistle-stop" tour about the country. The crippling amendments relating to security provisions submitted by the House of Representatives were eliminated in the final wording, which in brief has the effect of proposing that existing national security safeguards are adequate and that no radical innovations are needed in the case of the Foundation.

Foundation personnel requiring access to classified information in the atomic energy field will be bound by the Atomic Energy Act of 1946, which requires AEC clearance. Foundation research activities pertaining to other aspects of the national defense will be given security safeguards to be established by the Foundation itself, except where such research is carried on with funds transferred from the Department of Defense—in which case the relevant security requirements will be set by the Secretary of Defense. Provision has been made in the bill for both an affidavit and an oath of loyalty for fellowship holders.

The compromise bill stipulates that a budgetary ceiling of \$500,000 be set for the fiscal year ending June 30, 1951, with a 15 million dollar ceiling for each fiscal year thereafter. This has the possible disadvantage that the Foundation may be tempted to rely more than otherwise upon funds transferred from other agencies, a situation that could conceivably inhibit the Foundation's future independence and vitality. But more serious is the limit thus set on the Foundation's ability to support and encourage science education.

BALANCE NEEDED

MANPOWER PICTURE CHANGING FOR SCIENCE

Far more scientists have been coming off the production line in the last few years than was anticipated by the Steelman Report. In an article on "The Changing Manpower Picture" in the March issue of *The Scientific*

Monthly, Philip N. Powers, advisor on scientific personnel with the Atomic Energy Commission, points out that the problem has now become one of balancing supply with demand rather than filling up the post-war deficiency in technical and scientific personnel.

In the school year 1948-49 more than 130,000 science degrees were conferred which, Powers writes, is over 30,000 more than the Steelman estimate of the deficit incurred during the war. He also remarks that one of the goals put forward by the President's Scientific Research Board was the doubling of the nation's research and development effort by 1957; yet it has just about doubled in one-quarter the decade in which this was to take place.

Powers points out that a surplus of persons in some fields is developing and that a shortage in others continues, that among the trends to be expected is the gradual replacement of less qualified people with more qualified people. He ends with a plea for a systematic gathering of facts about scientists and their jobs for "the best possible insurance against having an unemployed surplus of certain kinds of scientific personnel and a critical scarcity of others".

MAGIC NUMBERS

APS SYMPOSIUM REPORTED

A feature of the New York meeting of the American Physical Society was the symposium on nuclear shell structure held in Columbia University's Horace Mann Auditorium. The symposium, which took place on Saturday afternoon, February 4, was developed to present a summary of theoretical ideas and experimental facts involved in recent theories of nuclear structure. G. Placzek presided.

Nuclear structure is apparently simpler in certain respects than was thought possible a few years ago. The dreary prospect of a continuing accumulation of uncorrelated facts has been replaced by the reasonable hope that a systematic theory paralleling in many respects the periodic system of the elements is possible and not far from realization. In atomic theory the occurrence of closed shells and periodic effects is correlated with the operation of the exclusion principle, the existence of angular momentum quantum numbers, and the relative smallness of the interactions between the electrons. The first two factors are present in nuclear structure, but the absence of a strong central force and the large magnitude of the force between nucleons caused attention to be diverted, until recently, from the possibility of a systematic theory of nuclear structure.

W. D. Harkins, the first of the program's five speakers, reviewed early developments in the discovery of periodicities in the distribution, abundance, and stability of nuclei and of the role of the intermediate nucleus in nuclear transmutations.

Contrasting models based on the independent particle viewpoint and the strong interaction viewpoint were then described by V. F. Weisskopf. The possibility of reconciling these opposing attitudes was discussed in terms of a possible analogy to the electron gas in a metal. Here the