

## EDUCATION

# Academy Under Fire

► THE BILL to establish a science academy, for science training, like West Point or Annapolis, now the subject of hearings before a subcommittee of the House Committee on Science and Astronautics, continues to draw nation-wide fire from leading scientists and educators.

Dr. Alan T. Waterman, director of the National Science Foundation, reports widespread belief that "the expense and effort to create such an institution would definitely outweigh its desirability."

The bill sponsored by Rep. Victor L. Anfuso (D.-N.Y.) calls for an academy and research institutes, patterned along the lines of U. S. service academies. Both undergraduate and post-graduate training would be offered in science or engineering. After completing training, the student would be committed to a set period of Government career service. Qualified trainees would be in the 17-to-25 age bracket.

Rep. Anfuso said foreign students, if not classed as security risks, would also study at the academy, which would "draw talent from all over the free world."

Dr. Waterman has cited some objections to the academy concept.

Students best qualified would probably be able to attend other colleges and universities, and would not apply for academy admission if they wanted to avoid Government service, he said. This raises serious doubts as to whether the academy provides a basis

for developing a competent Federal scientific service.

The academy may be less desirable than steps to strengthen "the many excellent, existing institutions of higher education."

The staffing problem is important. The supply of persons "competent to provide high quality teaching and research services" is limited.

First priority for appropriated funds, Dr. Waterman believes, should go to improving "highly obsolescent" instructional and research facilities at established schools.

Dr. Thomas H. Carroll, president of George Washington University, Washington, D. C., told the subcommittee he was "not too greatly impressed with the need for a new academy to establish nation-wide standards" for scientific training. He also believes first emphasis should be on building up "the resources of our present institutions."

Rep. Anfuso said the subcommittee is "prepared to make changes (in the bill) to overcome some of the objections raised by colleges and universities."

The mounting wave of opposition parallels results of a SCIENCE SERVICE Grand Jury poll, conducted in 1959. Heads of leading American scientific societies were almost unanimously against the idea of a Federally supported academy for science training. The vote was 95% "no" and only 5% "yes."

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are available at 35 cents each from the National Education Association, 1201 16th Street, N.W., Washington 6, D. C. Dr. Benjamin C. Willis, general superintendent of Chicago schools, heads the Commission.

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## NSF Director Sees Need For More College Grants

► MORE GOVERNMENT GRANTS to educational institutions and graduate research laboratories are needed to slow the "drain on universities" by private industry hiring top scientific and engineering talent, Dr. Alan T. Waterman, director of the National Science Foundation, believes.

Industry, using its own and Government funds, frequently offers "greater opportunities, higher salaries and better equipment," he said. University salaries "have not gone up fast enough to provide a competing situation."

Testifying before the House Committee on Science and Astronautics in its annual review of NSF activities, Dr. Waterman said more funds also are needed for "adequate salaries and equipment" at the Government's own research laboratories. "Otherwise the caliber goes down," he said.

Dr. Waterman said "plenty of people are going into nuclear physics" at colleges and universities—enough student talent to meet known demands, he believes. He said institutions also are trying to meet the need for astronautical engineers by "attempting to start departments, or at least adding a series of courses."

Answering a question by Rep. Joseph E. Karth (D.-Minn.), Dr. Waterman said he personally thought an 11-month school year, instead of the traditional nine months, was "a very logical system" for stepping up America's educational progress. But he said it was not NSF's responsibility to recommend it.

Main objections, he said, would stem from "inertia toward radical change" and the question of what to do about students who depend on summer employment for money.

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## VITAL STATISTICS

## Farmers' Average Age Is Now 50.5 Years

► THE AVERAGE AGE for American farmers has been creeping slowly toward the 65-and-over mark for 50 years so that today the average age is 50.5 years and 16.7% of all farmers are 65 or older.

The increasing age of farmers in general is causing concern to the Federal Government, a House appropriations subcommittee report said, because many farmers are employed only part of the year, and the older they are the less eager they are to relocate where there is more work.

The state with the oldest farmers is West Virginia, where the average age is 54.4 and one-fourth are 65 or over. At the other extreme is Alaska, where the average is 46 years and only 8.2% are 65 or over.

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# Thinking Is School Goal

► UNITED STATES SCHOOLS need to focus on developing the ability to think as the central purpose of teaching efforts, the Educational Policies Commission said.

The 19-member independent deliberative body, composed of outstanding educators, issued a statement citing "the development of rational powers supported by substantive knowledge" as the key to strengthening all other educational purposes and better achievement of all traditional school obligations.

They compared human rational powers to "the hub of a wheel," stressing that persons with such powers can live to the fullest.

"And the society which best develops the rational potentials of its people, along with their intuitive and aesthetic capabilities, will have the best chance of flourishing in the future," the Commission said.

Commission members said studies of "an abstract subject like mathematics or philosophy" do not necessarily add to reasoning powers. The ability to analyze, deduce or infer may come from work in "aesthetic, humanistic and practical fields, which also involve perception of form and design," as well as from mathematics studies.

"Music, for example, challenges the lis-

tener to perceive elements of form within the abstract. Similarly, vocational subjects may engage the rational powers of pupils."

The Commission urged extended research on learning processes, aimed at "constantly higher levels of aspiration and attainment" for everyone.

"There is no upper limit to human ability, and much of what people are capable of doing with their minds is probably unknown today," they said.

Members rejected "the idea that a few should be educated and that the majority should be trained." All pupils, they said, "have latent, unrealized powers of creativity." They called for an educational program "suffused with creativeness and innovation," rather than "a narrow and exclusive intellectualism."

They said pupils who develop the ability to think and "learn to apply it to all the problems that face them" will have a solid basis for competence in other traditional school areas—development of good mental and physical health, worthy home membership, vocational competence, effective citizenship, intelligent use of leisure time, and development of ethical character.

Copies of the Commission report, "The Central Purpose of American Education,"