recipients who later become teachers. Again, this is a substitute for the ultimately desirable goal of paying teachers salaries commensurate with their abilities and worth. But it is unrealistic to expect immediate adoption of such a salary scale. In the meantime, the opportunity to cancel 20 per cent of the total loan for each year spent in teaching should aid the schools greatly in securing additional teachers.

"The third function of a scholarship program is to encourage and reward scholarship of high quality. This is the function that should be given greatest emphasis. A scholarship of $500 or $1000 a year for four years is a substantial award. A national scholarship program is a sign of national interest in academic excellence. Both the winners and those who compete but fail to win will be more likely to go to college because of their heightened interest and application. In order to make the program most effective in improving scholarship and raising educational standards, I suggest that scholarship winners be selected on the basis of a national examination that emphasizes the fields of subject matter knowledge that are of most importance as a basis for good college work. Administration of these examinations can be local and there can be state quotas, but the national character of the examinations will enhance their prestige and motivational value.

"Senator Pastore has introduced a bill, S.1021, that proposes to offer scholarships to students who make sufficiently high scores on an examination covering high school mathematics. In earlier testimony, Professor I. I. Rabi has endorsed this idea. It is an excellent idea, for it would place clear emphasis upon the universal importance of a sound knowledge of mathematics whatever the field of specialization the student later entered. The idea can well be extended, however, so that scholarship winners would be selected on the basis of an examination covering mathematics, English, and perhaps a modern foreign language and science. Such subjects as these are the core of a good background for college work. They are the subjects we want to emphasize in the education of bright students. A scholarship program that placed such clear stress on these fundamental fields of knowledge would motivate students to do well in their high school work, would offer tangible proof to teachers, students, and parents of the importance attached to the basic college preparatory subjects in the high school programs of bright students, and would leave the students completely free to choose their own fields of specialization after they entered college. Here is a method by which a scholarship program can both motivate individual students to do well in their work, and at the same time encourage teachers, school administrators, and school boards to provide high quality instruction in the subjects that are of greatest value to bright students.

"In conclusion, I would like to commend the wording of the statement of purposes of S.3187. I refer particularly to the words, '. . . assure the intellectual preeminence of the United States. . . .' This is a noble objective. I hope that we mean it, and that we enact legislation that will asure the intellectual preeminence of the United States."

A Security Case in Britain

A British scientist suspended from his position on security risk charges has won his appeal against dismissal and has returned to work. According to a recent Reuters dispatch from London, "Mr. Z" was suspended 4 days before Christmas because he was judged to be "susceptible to Communist pressure." A special investigation officer had reported, after a routine interview to which all civil servants engaged on secret work are periodically subjected, that Mr. Z had "extreme pro-Russian sympathies." Listed against him were the following statements he made to the investigating officer's questions: that what was being done in Hungary by the Russians was no worse than the British government was doing in Cyprus; that there was no more repression in Russia than in other countries; and that Russia was living "in a world opposed to her."

Mr. Z, who was on full pay during his suspension, appealed to the three advisers appointed by the Prime Minister to hear appeals against security dismissal cases. It is reported that he denied that he was pro-Russian and pointed out that he had merely expressed his views freely and honestly in answer to the questions put to him.

Atmosphere Entry Simulator

A new laboratory device capable of simulating the extremely high temperatures and thermal stresses encountered by missiles and space craft flying at great speeds in the earth's atmosphere is announced in the annual report of the National Advisory Committee for Aeronautics. The NACA calculates that a model only 0.36 inches in diameter and weighing 0.005 pound can simulate the reentry flight of a full-scale 4000-mile range missile of diameter 3 feet and weight 5000 pounds.

The atmosphere entry simulator was designed by Alfred J. Eggers, Jr., of the NACA Ames Aeronautical Laboratory, Moffett Field, Calif. Another Ames scientist, H. Julian Allen, conceived the principle of blunt shaping of missile nose cones as a means of minimizing the heating factor.

The main element of the simulator is a trumpet-shaped nozzle through which air at supersonic speed undergoes changes in density from one end of a 20-foot passage to the other. The missile model is launched from a high velocity gun against the air stream. While flying through the nozzle test chamber, the model encounters air of increasing density, thus duplicating the flight course of a full-scale missile. The simulator can provide a variation in density over a range of 100,000 feet. It is used at altitudes up to a maximum of 200,000 feet.

A pilot model of the simulator is in use at the Ames Laboratory and a larger version is nearing completion. The NACA reports that the new reentry simulator will be in operation later this year for use on problems related to missile and space craft research.

News Briefs

At a ceremony last month at Bonn University, the German Council of Arts and Sciences (*Wissenschaftsrat*) was officially established. According to an agreement made between the Federal Government and the states, this council is to coordinate all West German plans for the advancement of the arts and sciences, to draw up a program of matters to be given attention, and to submit recommendations about how available funds are to be used.

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The United States will operate four scientific stations in Antarctica in 1959. Rear Admiral George Dufek announced recently that the South Pole, Byrd, Hallett, and McMurdo Sound stations had been selected for further operations at the conclusion of the International Geophysical Year. Three bases will be discontinued: Little America, Ellsworth, and Wilkes. Little America, however, will be used as a weather-reporting station, and its snow runway will be maintained as an emergency landing strip for flights to the McMurdo Sound and Byrd stations.

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The story of Archimedes, Greek mathematician, physicist, and inventor who discovered the underlying principle of specific gravity, will be seen on Telephone Time's *Man of Principle* over ABC-TV on 25 March at 9:30 P.M. EST and PST (8:30 P.M. other time zones).

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The National Merit Scholarship Corporation has announced that future Merit Scholarship competitions will begin with the testing of high school juniors rather than seniors. Thus, the 1958–59 program will begin this spring with a nationwide