

Students Majoring in Science, Mathematics Said on Increase

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The number of U. S. college students majoring in science and mathematics rose sharply during the first year of the space age.

The upsurge of undergraduate interest—which bodes well for the nation's future supply of scientists—is dramatically revealed in a statistical survey just completed by the U. S. office of education.

It shows that the number of college juniors electing majors in physical and biological sciences and mathematics increased 10.4 per cent from the fall of 1957 to the fall of 1958.

There were 50,513 juniors majoring in these fields in 1957, and 55,777 a year later.

More Than Expected
The increase was three times as great as might have been expected on the basis of the general growth of college enrollment.

The survey focused on juniors because concentration in a specialized field usually begins in the third college year.

The newly-published figures should offset some of the gloom that spread through official quarters here in the wake of an earlier report from the office of education. That report, compiled several months ago, showed that undergraduate engineering enrollment dropped 4.5 per cent from the fall of 1957 to the fall of 1958.

The decline in engineering enrollment was particularly disturbing because it seemed to mean that American college students were not responding to the national need for more technologically-trained manpower—a need vividly demonstrated on Oct. 4, 1957, when Russia's Sputnik I went into orbit.

Students Switching
It now appears that the mystifying drop in engineering enrollment may have resulted, at least in part, from students switching into math and science majors. Educators point out that a shift of only a few courses can change an engineering major into a math or science major.

This thesis is supported by another set of figures which show there was virtually no change from 1957 to 1958 in the total percentage of third-year college students majoring in science or engineering.

In 1957, the combined enrollment in both fields was 98,896 students or 25.3 per cent of the total third-year student population.

In 1958, the combined enrollment was 102,975 or 25.4 per cent of the total.

Thus, there was relatively little gain in the aggregate number of students preparing for scientific or technological careers.

Entitled To Own Theory
Why did a substantial number of students apparently decide they would rather be sci-

entists than engineers? Since no one has conducted an attitude survey that would provide reliable answers to that question, every one is entitled to his own theory.

One possible explanation is that the new horizons now opening in space have stimulated an interest in pure science among some students who formerly were concerned only with practical applications.

More light may be shed by the figures for the fall of 1959,

which will take several months to compile. Officials are hopeful they will show increases in both science and engineering majors.

As things stand now, U. S. colleges will graduate next spring about 45,000 bachelors of science and 35,000 engineers, a total of 80,000.

No figures are available here on Russia's output of science graduates. But it is known that Soviet universities are graduating 90,000 engineers a year.

Half of Surgery in U.S. Said Done by Unqualified Doctors

Atlantic City, N.J. (Science Service)—One-half of all surgery that is performed in this country each year is done by persons who are not primarily surgeons, the new president of the American College of Surgeons said here.

Virtually all surgery is done by trained and qualified surgeons throughout Europe and Great Britain, Dr. Owen Wangensteen, professor of surgery and chairman of the department at the University of Minnesota, said. This is not true in America, however, he pointed out.

Pioneer Country
The U.S. has been essentially a pioneer country. The American surgeon at the turn of the century did general practice and culled his surgery from it. But the causes no longer exist that preserved the tradition that anyone licensed to practice medicine in our country is also competent to perform operations, he told those attending the annual convocation ending the College's clinical congress here.

If local and national accreditation groups, working together, fail to curb the practice of untrained and unqualified practitioners performing major operations, steps must be taken with licensing boards to establish better controls in the public interest.

These remarks followed on the heels of the last of the College's clinical sessions which drew 10,000 surgeons from across the country.

Transplants Advancing
The visitors heard colleagues at the sessions explain how they were slowly advancing in the field of organ transplant—how puppies' hearts had been dehydrated, frozen, and 24 hours later, sewn into the necks of other dogs and made to beat again; they heard how powerful anti-cancer drugs, too strong to be tolerated by the whole body,

could now be perfused into the head alone, to attack brain cancers without damaging vital brain tissue.

They also heard one doctor's encouraging report on the use of x-rays to increase the supply of blood to the heart muscle.

Gold Film Reflects Radiation of Heat
New York—(Science Service)—Gold film, four-millionths of an inch thick, has been found "unequaled" as a reflector of heat radiation when used on missile and aircraft sections, R. T. Hopper, head of the Hanovia Liquid Gold Division of Engelhard Industries, Inc., has reported. The gold films have been sprayed on such vulnerable surfaces as engine shrouds, drag-chute containers, tail-cone assemblies and blast shields.

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