

GENERAL SCIENCE

U. S. Losing Science Race?

Our practices for control of subversives may cause the U. S. to lose ground in the science race. Scientific progress is based on free exchange of information.

► THE United States may lose out in the race to stay ahead of other nations in the field of science. If so, the blame will fall on the current government practices for the control of subversives. A warning that there should be a revision of the present loyalty and security programs was sounded in Ithaca, N. Y., by Prof. Walter Gellhorn of Columbia University in the book *SECURITY, LOYALTY AND SCIENCE*. This is the first in a series of eight reports to be issued by Cornell University on the impact on civil liberties of present practices to insure internal security.

"On the whole our national policies about secrecy in scientific matters are intelligently formulated. But the policies seem too inflexibly applied," Prof. Gellhorn states. "All history demonstrates that problems solved by the laboratories of one country ultimately yield to research in others, so that permanent bottling up of 'secrets' is a virtual impossibility," he continues.

Aimed at desirable objectives, the facts still remain that: 1) the progress that produces our "secrets" depends on free exchange of scientific information; 2) scientific teamwork is unnecessarily hindered

by security regulations; 3) scientific research is often duplicated because normal communication channels are blocked off by "compartmentalization;" 4) science students are receiving "imperfect training" in basic subjects because there is not access to new discoveries and 5) that experienced scientists are discouraged from entering research in classified subjects by the "fear of smear."

Prof. Gellhorn makes a strong case for the revision of the loyalty and security programs he believes is necessary. Loyalty clearance should be reserved for "sensitive" areas, he declares. "The extension of personnel security clearances into areas in which they are not demonstrably necessary protects no national interest."

Discussing the Fuchs case, Prof. Gellhorn states that grave as was his dereliction of duty, his misdeeds might "still cost the United States less dearly than would excessively rigorous controls."

"American strength rests upon advance rather than upon nervous hoarding of present scientific knowledge," Dr. Gellhorn concludes.

Science News Letter, September 23, 1950

CHEMISTRY

Non-Mildewing Cotton

► MILDEW-resistant cottons for the battlefield or for the home are promised as a result of a theory advanced on how cotton is attacked by microorganisms.

A thin layer of resistant material would be the protective barrier, and would be produced by a chemical reaction on the surface of the fiber.

Also, Dr. Ralph G. H. Siu of the Quartermaster General Laboratories, Philadelphia, states, since the degree of resistance does not depend upon the nature of the coating material, it should be possible to use substances "which by their very nature possess other desirable characteristics, such as flameproofness, water-repellency and photo-chemical stability."

Although the studies so far have been carried out on a laboratory scale only, Dr. Siu suggests that in plants the finished fabric could be coated by passing it through a reagent bath and a baking oven.

The cotton fiber itself is a twisted ribbon about an inch long and a thousandth of an inch in diameter. It is covered with a thin outer layer and contains a large

central canal running the length of the fiber.

The cellulose of which the cotton is composed is attacked by either fungi or bacteria only at the point of immediate contact between the organism and the cotton fiber. Dr. Siu believes that the organism secretes chemical substances, or enzymes, that make the cellulose soluble. He calls these enzymes "cellulase."

Since the organisms do act only at the point of contact, surface or topochemical treatment of the fabric is practical, he reports (*TEXTILE RESEARCH JOURNAL*, May).

Science News Letter, September 23, 1950

METEOROLOGY

Rain to Continue On East Coast

► THAT rain the East had for the first two weeks in September will probably continue in amounts greater than normal during Sept. 15-Oct. 15 period. The U. S. Weather Bureau's Extended Forecast Section predicts greater than normal rainfall

not only for the east coast, but also for the Ohio Valley until Oct. 15.

West of the Continental Divide, it will not rain as much as it usually does during the mid-September to mid-October period. That goes for along the Gulf Coast, in Texas and in the upper Great Lakes region.

Fall weather, for the next few weeks, will be cooler than usual in the northern plains region, the midwest and the northeast. However, west of the Continental Divide, and in Florida and Texas, it will be warmer than normal until Oct. 15. Other areas of the country can expect temperatures to be just about as usual.

The abundant rainfall in the East, predicted on the first of September for the month of September, has amply borne out the forecast.

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GENERAL SCIENCE

Minority of Drivers Cause Most Accidents

► DEATHS from highway traffic accidents would greatly decrease if all drivers with bad accident records were debarred from driving.

Accident "repeater" culprits are now recognized as the cause of most of our so-called accidents, it is stated in a study made in Minneapolis by the Northwestern National Life Insurance Company. Four out of every five so-called accidental deaths and injuries are "invited" or directly caused by people with "death-and-injury-producing habits."

Several surveys of traffic accident records are quoted in the study. During a six-year period in Connecticut, 4% of the state's drivers had 36% of the accidents. In other surveys in other states, it was found that from 5% to 10% of the drivers regularly contribute more than half the total traffic accidents.

British and American researches going back through 30 years of casualties have demonstrated that about 20% of the population consistently have 80% of all accidents of all kinds.

Drivers with repeated accidents almost always have accompanying records of repeated traffic law violations, the study shows. According to a study in Michigan, 100 accident repeaters had had 528 accidents and had been arrested 769 times for traffic law violations in a ten-year period.

A certain number of accident repeaters are found by various clinical tests to be abnormal personalities needing medical or psychiatric treatment. Some of the drivers were found to be defective in eyesight, hearing or muscular response. The vast majority, however, are simply persons with bad habits and wrong mental attitudes of resentment or contempt toward rules, regulations and common courtesy.

Science News Letter, September 23, 1950