

## GENERAL SCIENCE

# Protest Tight Regulations

Top scientists have gone on record as opposed to the tough security regulations included in the National Science Foundation Bill.

► THE nation's top scientists have officially protested the inclusion of precedent-breaking tough security regulations in the bill setting up the National Science Foundation.

President Alfred N. Richards of the Council of the National Academy of Sciences declared that persons who may receive scholarships under the act on the basis of character, loyalty and competence can be selected "without resort to the F. B. I."

The Council's opposition to the security restrictions was contained in a letter to President Truman over Dr. Richard's signature and a statement of principles by the Council.

An amendment voted into the Science Foundation bill by the House of Representatives would provide that employees and persons receiving scholarships from the Foundation be investigated by the F. B. I. and that the F. B. I. pass judgment as to their loyalty. Heretofore, the F. B. I. has never been directed—and never wanted—to act in a judging capacity.

"Investigation by F. B. I.," said Dr. Richards, "of large numbers of young persons who are not suspect is not only unnecessary but may be positively detrimental to the objectives of the bill."

The National Science Foundation would pay for basic research, mainly in non-military fields, and also provide scholarships to train young scientists.

Dr. Richards' letter pointed to the decision of the National Academy of Sciences last year not to administer the Atomic Energy Commission fellowship program when loyalty provisions were attached to the program by Congress. Although the Council did not take up the issue, it is believed that many of the nation's top scientists would refuse to serve on the Science Foundation's board if the F. B. I. amendment should remain in the final bill.

Speaking of the F. B. I., Dr. Richards' letter said: "Faulty evidence or unfounded opinions which might be contained in an F. B. I. report might lead to adverse decisions which could be irretrievably damaging to innocent persons.

"There is ground for apprehension that the imposition of F. B. I. investigation upon young persons in the Science Foundation program, for no apparently justifiable reasons of security, would lead to similar restrictions in other areas of education and science with further contravention of our traditional freedom of thought and action."

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# From the Winners' Essays

## Sternberg Writes

*"When I first learned about the new technique for research in nuclear physics—the technique utilizing photographic emulsions to record the tracks of charged particles, I was immediately attracted to it, for this method of research combined three of my most vital interests—photography, microscopy, and physics. I decided to investigate a specific nuclear reaction with the aid of Nuclear Research Plates.*

*"Basically, my work consisted of obtaining two values for the energy of a certain particle released in the reaction—one from my own experimentation, the other from certain accepted principles (including the much popularized  $E=Mc^2$ ) and comparing the two results.*

*"If we assume that the physical principles used in the theoretical derivation are correct ones, then my experimental procedure was valid. If we assume that my experimental procedure was valid, then the success of the experiment has added another bit to the great mass of evidence supporting the theory of relativity.*

*"The results of this study, however, imply more than the pat statement above. Observed track lengths varied. After investigating all the possible reasons (presented in Appendix E) for deviations from the agreeing mean, I was unable, even on the basis of the maximum possible deviation, to explain this wide variation in track lengths.*

*"Thus, one problem has led to another*

The letter also stated that the Council fully agrees that investigations and security clearances are necessary in classified fields.

Enclosed with the letter was a broad statement of general principles. The Council it said is "gravely disturbed" to see that "security measures are being extended widely over the scientific life of the country, even in those areas remote from possible military application. This development," the Council's statement continued, "will defeat the growth of science by inhibiting the free exchange of information so vital to it, by discouraging the bravest and most original minds, and by the pervasive threat of irreparable injury to individuals inherent in all counter-intelligence measures."

Science News Letter, March 18, 1950

*more intricate one which cries for solution. Perhaps, after I shall have delved more deeply into modern physics, it will yield its solution to me. Perhaps it, too, will lead to other problems, seemingly enigmatic, but inevitably to be solved by the advancing tide of an ever-growing science."*—From the essay of Saul Sternberg.

## McCormick Writes

*"I ran some comparative quantitative analyses with some common stem galls from goldenrod (the Eurosta and Gnorimoschema) and the Large Oak Apple. From these tests I found that the tannin content of goldenrod stem galls is quite low as compared with that of the Large Oak Apple; thus, these stem galls have little or no commercial value.*

*"While many galls do a great deal of damage to valuable plants and crops, others are almost indispensable to mankind. From various gall nuts, we obtain tannins (glucosides of tannic acid) which are used in tanning leather, making ink, as mordants in dyeing, as medicinal astringents, and many other important ways.*

*"Recently galls, particularly crown gall tumors caused by bacterium tumefaciens, have been shown to be a definite type of plant cancer; thus, it is my hope that by continued research and work on these neoplastic conditions, I may do some small bit to aid in the conquest of cancer."*—From the essay of Donald McCormick.

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**HOBBY SHOW ATTRACTIONS**—Left to right: Saul Sternberg exhibits track-length measurements of nuclear emulsions; Donald McCormick, plant cancers; David Lubell, a theorem in projective geometry; Victor Rosen, Jr., hypertension in the rat and the nervous system of a cat; Sol Krongelb, a public address system; Donn Martin, determination of the ideal concentrations of chemicals in obtaining rapid hydrogen production; Cynthia Wyeth, a sensitive magnetometer; Alice McKinney, the neutralizing effect of chemicals on alkaline soils to permit crop growth; John Rippon, control of the Colorado potato beetle; Dennis Malone and Robert Detenbeck inspect Dennis' Van de Graaff generator; Lenore Taylor, mutations of the fruit fly from X-radiation; Stanley Korenman, survey on the effect of comic books on school children.