

behind them the search for truth by eager and skeptical minds has been made impossible.

Such are the rather regretful indictments made by President Raymond B. Fosdick of the Rockefeller Foundation in his current annual report.

### Areas of Perversion

There are areas upon the earth where science is being perverted and distorted to serve compulsion and repression. Scientists who remain loyal to their principles are forced into exile, disappear into concentration camps for "protective custody" or even die as the result of their pursuit of truth. Books heretical to the current regime are burned or suppressed. Scientists who follow the world tradition of cooperation with their colleagues in other nations disappear and are heard from no longer.

Germany, the birthplace of so much scientific method and tradition, has had its scientific culture ravished by Nazi doctrine and domination. The Nazi "Aryan" race theory is repudiated by all competent biologists and anthropologists. The shocking pogrom directed against the Jews seeks its justification in a new pseudo-anthropology made in Germany.

Thought is regimented also in Italy under Mussolini, with non-conforming scientists eliminated. In Soviet Russia, where science of the Marxian brand has become almost a religion, there is little tolerance for non-conforming ideas or for science that does not serve the state.

In all three of these dictatorships, the kind of science that can be applied to war preparation, to production of substitutes for raw materials these nations lack, to material things that make the nation more "self-contained," is cherished and cultivated as a farmer cares for

a productive cow. To be sure, in democratic countries this is also the custom.

In the U. S. S. R. scientists see in the doctrine of dialectical materialism, the philosophical basis of Marxism, an explanation of natural law as useful in pursuing scientific knowledge as building a social order. And contrary to the Nazi dogma, the U. S. S. R. practices a theory of racial equality.

All science under a dictatorship is not completely suspect. For example, competent observers find psychology, medicine and some other applied branches of science richly supported in Soviet Russia. German organic chemistry is still productive.

### Abuse of Epithets

If it were not so tragic it might be possible to find humor in the way in which the epithet "dogmatic" is applied to anti-Nazi scientists by the Nazis. For example, Prof. J. Stark, Nobelist in physics in 1919 and now under Hitler president of Germany's Physikalisch-Technische Reichsanstalt, holds that "natural inclination to dogmatic thought appears with especial frequency in people of Jewish origin" and that "the predisposition towards pragmatic thinking occurs most frequently in men of the Nordic race."

The rampant nationalism evident in sorely pressed countries today is counter to the slow, centuries-old growth of the scientific tradition of universal truth and world knowledge. This regression to nationalism and the subjection of intellect to political expediency must not be allowed to prevail.

To quote President Fosdick:

"In the last analysis knowledge cannot be nationalized. No successful embargoes can be maintained against the export or import of ideas. Whether new

conceptions in atomic physics come from Copenhagen or from Cambridge, England; whether the cure for cancer is developed in New Haven or in Berlin; whether it is a Russian or an Italian or an American who takes the next step forward in mankind's struggle with virus diseases—we are all of us, under whatever flag, the joint beneficiaries of the intellectual property of the race. In all the clash of competing nationalisms there is here an underlying principle of unity: the single aim and language of science in the discovery of truth. It is this principle which challenges the twentieth century with the conception of civilization as a cooperative achievement and with the ideal of intellectual capital as an international possession."

The infringement of scientific and intellectual freedom and the intolerant and oppressive nationalism rampant in large areas of the world today are little short of an undeclared war. Because the machine guns do not rattle and the bombers do not drop their deadly eggs, this war on science is largely unheralded. But it is destructive none the less. In the wake of actual warfare, which promises to follow abuses of truth and nationalistic propa- (Turn to Page 126)

### ELECTRON PHOTOGRAPHY

*Streams of electrons focussed by means of magnets, instead of beams of light focussed with lenses, can now be used for making photographs. Although the new electron cameras are commonly used in the laboratory for microphotography, ordinary outdoor scenes can also be photographed with them. At left is a village photographed with a conventional camera. In center, the same scene taken with an electron camera using a long solenoid to focus the electrons. At right, the same scene with another electron camera using permanent magnet as the focussing means.*

