

ASTRONOMY

Pressure Harms Science

Soviets' interference with science involves loss to them and to us because through international cooperation we could make a combined attack on problems.

➤ **ATTACKING** "the present pressure of politics on science in Russia," a leading American scientist said that the Russians, and to some extent the West, are "the losers."

Dr. Harlow Shapley, director of the Harvard College Observatory in Cambridge, Mass., and a former president of the American Association for the Advancement of Science, said that the recently reported interference of the Soviet state with astronomy is nothing new. Dr. Shapley, who is a leading proponent of cooperation with scientists in all parts of the world including the Soviet Union, commented to Science Service on the reports from Russia before his departure for Paris, where he has been invited to participate in a conference on United Nations research laboratories.

Before 1935, a Russian astronomer was "strongly censured by the government for an article he wrote emphasizing that celestial mechanics and related subjects could not be taught according to the tenets of dialectic materialism."

The astronomer, who had previously been on the staff of the Harvard Observatory, was Dr. Boris Gerasimovic. He was later exonerated when someone in the Communist party came to the same conclusions about the teaching of astronomy.

By 1935, when Dr. Shapley recalls talking to him in Paris, the Soviets had elevated Dr. Gerasimovic to the top position in Russian astronomy, director of the Pulkovo Observatory.

"He foretold at that time that there was to be conflict between science and political theory, and that there might be scientific victims, but he believed it was all in a great social cause, and he seemed willing to acquiesce, in hopes of the great future.

"Two years later," adds Dr. Shapley, "he was liquidated along with six or eight other leading Russian astronomers for reasons that are still obscure.

"This purge of 1937-38 has naturally antagonized western astronomers against the Russian system," the American astronomer points out.

"Since the war, we have desperately attempted to maintain cordial relations because the science is naturally international and supranational, and cordiality is a good policy anyway."

Recent attacks by the Soviet on western astronomy are "as yet relatively trivial compared with the operations in the field of genetics," he suggests. This may be because "the science of astronomy touches social relations even less than music or physics."

Some of the reports of the Russian at-

tack on astronomy may be exaggerated. He feels, but they are not the whole trouble.

"Science cannot flourish under the domination of a social system," he declares. "It must be free and not warped to fit an irrelevant plan.

"To the extent that they are prostituting their sciences in this direction, the Russians will be the losers; but we shall lose some also, because they are excellent scientists and they, with us, could help so much in the great scientific attacks on the ignorance, diseases, and the poverty of man."

Dr. Shapley compares the Soviet political pressure on science with the religious pressure on science in this country at the time of famous Scopes trial—the famed Dayton, Tenn., evolution or "monkey" trial in the summer of 1925—and more especially Hitler's distortion of anthropology.

"Whether it is the anti-evolution statutes in some of the American states, or Nazi attacks on the 'Jewish' relativity theory, or the Kremlin's telling the astronomers what cosmogony is good for them and what is bad, the outcome is bad, the spirit demoralization is dangerous."

He believes that nine-tenths of the Russian scientists "are aware of the social mistake, as were many of those who lived under Hitler, and many of the biological teachers in Tennessee, Mississippi and Arkansas.

"The Soviet version of the moment is the worst, because the affliction is nationwide. I wish I had some assurance the malady were transitory.

"There are symptoms in our own Congress," he charged.

"If the political control of free thought, of science, of music, arts and general culture should spread, we have dark ages ahead of us.

"Therefore, we cannot condone the Soviet infringement. Perhaps in some way we can help them discover the error and ultimate futility of their policy," concludes Dr. Shapley.

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ASTRONOMY

Soviet Political Attitude Seen as Blow to Science

➤ "POLITICAL dictation in scientific theory" may be a blow to one of Russia's major sources of strength, her science, Dr. Lyman Spitzer, Jr., Princeton University astronomer, has suggested.

Commenting on reports of attacks on

western astronomers and astronomical theories by the Soviets, Dr. Spitzer declared that if the attacks are continued and expanded, "the future of astronomical research in the Soviet Union will be dim indeed."

"At present," he said, "Soviet astronomy enjoys a very high reputation in other countries."

But pure science cannot exist if ideological and political considerations are permitted to determine theories about nature, he warned.

"A deliberate policy of political dictation in scientific theory could bring only dubious and short-term advantages to the Soviet Union, and would, in the long run, seriously impair the scientific eminence that is now a major source of strength to the U. S. S. R.," Dr. Spitzer concluded.

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CHEMISTRY

"Soapless Soaps" Used in New Cream-Testing Method

➤ **TWO** of the new "soapless soaps", or synthetic detergents, are used in a new method of testing milk for its butterfat content that is quicker and simpler than the long-standard Babcock test. This new method is described in detail in the journal, SCIENCE (July 29) by its originator, Dr. Philip Schain of the laboratory staff of the Staten Island Veterans Hospital.

Chemists know the two detergents as polyoxethylene sorbitan monolaurate and dioctyl sodium phosphate. Solutions of the two are added successively, together with a dye that stains fats red, to make the readings easier. The effect of the detergents is to break up the thin protein films that surround the butterfat droplets in the milk. The fat then coalesces into a continuous mass, easily measurable in the special vessels used.

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ENGINEERING

New TV Glass Gives Better Day and Night Pictures

➤ **BETTER** television pictures are promised by the Pittsburgh Plate Glass Company with a new, especially developed screen face for use on metal picture tubes. The new glass is said to give sharp black and white contrast pictures both in daylight and in artificially lighted rooms.

The glass was developed primarily to meet the needs of the television industry, and is already in use by one major company. Its trade name is Teleglas. It produces a sharp picture directly on the tube face itself. It is claimed that it eliminates the need for costly filtering devices which were formerly placed in front of the tube in attempts to enhance contrast. It also eliminates dazzling brightness as well as faded grays from the picture face itself.

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