

## GENERAL SCIENCE

# Soviet Press Criticizes

RUSSIA'S INTENSIVE program to translate all the world's scientific literature is beset by troubles.

This is evident from two recent criticisms in the Soviet press made by members of the All-Union Institute of Scientific and Technical Information in Moscow—headquarters for the massive Russian translation effort.

The Russian critics of the Russian program charge that present translation methods are too costly, result in needless duplication and waste, and suffer from an acute shortage of trained personnel. The criticisms imply that there are serious weaknesses in Soviet foreign language training. They also pay a back-handed compliment to non-Russian scientific research.

Russian foreign language institutes should concentrate more on science and less on Shakespeare, charges N. Krinitsin, chief of the translation department of an Institute branch.

"Anyone who is in daily contact with translators who have attended the foreign language institutes," he says, "is confronted with their absolute helplessness in dealing with scientific and technical texts."

Mr. Krinitsin partially blames the faculties for this situation charging that although they are "well-grounded in the theory of language, (they) are impotent to handle scientific and technical terminology." He also lashes out against letting young specialists take any job they want, particularly those proficient in Oriental and other difficult languages.

Despite recent Russian successes in science, the translator warns Soviet scientists they cannot "as yet" ignore non-Russian research.

In this respect, he calls for special attention in the study of Oriental and uncommon Western languages, such as Czech, Hungarian, Dutch and the Scandinavian languages.

"When you look into foreign technical literature," he states, "you come to the conclusion that in some cases scientific and engineering thought is considerably more advanced in China, Czechoslovakia, Japan, Sweden and other countries than it is in the U. S. A., Germany or Great Britain."

A colleague, Ye. Pashkin, a senior scientific editor at the Institute, charges that bureaucratic ramifications have led to needless duplication of translations.

"It can be said without exaggeration," Mr. Pashkin asserts, "that this duplication costs the state tens of millions of rubles annually." (The official exchange rate is four rubles to the dollar). Another shortcoming, he notes, is the lack of qualified and systematic selection of foreign materials to be translated.

From the criticisms of both Mr. Krinitsin and Mr. Pashkin a picture can be drawn of some of the costs in rubles and talent of Russian scientific translation: The translation of 6,000 words of an "uncommon" language, such as Japanese, costs about 1,000 rubles (\$250). The same number of English or French words cost 600 rubles (\$150). It takes a non-scientist translator about one month to translate 18,000 to 30,000 words of scientific text.

The criticisms appear in *The Current Digest of the Soviet Press*, an American publication devoted to the translation of Russian articles.

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ground, without flight tests, from the specifications of a new vehicle. This and other plans to make autopilots self-adapting are being tried out in aircraft now.

One important advantage of the MIT system over other proposed methods of improving autopilots for the space age is that the self-adaptor can be independent of the automatic pilot. This will prevent a failure in the self-adapting circuitry from knocking out the automatic pilot.

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## PSYCHIATRY

## Motive-Less Murderer Often Warns Early

TWO STUDIES of the mental workings and background of men, ordinarily law abiding and "normal," who suddenly "run amok" and murder someone were reported to the American Psychiatric Association meeting in Philadelphia.

In most of these cases of murder without apparent motive, the murderer actually reported to legal officials or psychiatrists before the murder that they feared they would lose control and kill. But the warning was disregarded.

So reported Drs. Joseph Satten, Karl Menninger, and Irwin C. Rosen, of the Menninger Foundation, Hospital and Clinic.

The murderers had a history of extreme parental violence in childhood. They generally stuttered or had speech difficulties in childhood. During their whole lives they had erratic control over aggressive impulses and periodic episodes of violence.

Examination of the murderer himself showed that he had difficulty in distinguishing between reality and fantasy and had a tendency not to feel angry or enraged in connection with aggressive action. Some showed ambiguous signs of organic brain damage. Such persons may pass as normal for a long time, but they are potentially dangerous and capable of great violence.

Drs. James M. A. Weiss, Joseph W. Lambert and Nathan Blackman of Washington University School of Medicine, St. Louis, Mo., reported comparing 13 of such "sudden murderers" with 13 habitual criminals and 13 sex deviates.

In contrast to the habitual criminals who usually came from broken or troubled homes and early in adolescence began a continuous succession of crimes, and to the sex deviates who are generally introverted, insecure individuals, the sudden murderer is a lonely wanderer who feels isolated from people in general.

"When such persons seemed to be getting along quite well, when they could not blame others and when society seemed to expect them to be even more conforming and mature," the report stated, "these offenders became more and more tense and more and more angry. At such a time even a slight insult or provocation set off a violent surge of rage which resulted in murder.

"After the crime, the murderer most often gave himself up, admitted his guilt, and appeared bland, relieved, or even righteous."

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## ASTRONAUTICS

# Autopilot to Use "Book"

AN ELECTRONIC "reference book" for an automatic pilot to use while flying very fast aircraft and spacecraft has been designed by the Instrumentation Laboratory of the Massachusetts Institute of Technology.

These space age vehicles will encounter environmental changes far greater than men have previously mastered. Flight-testing robots to fly them will be time-consuming and costly. Several laboratories, therefore, have been seeking ways to make automatic pilots "self-adaptive" to a vehicle's capabilities in different environments.

The system proposed by H. Philip Whitaker, Joseph Yamron and Allen Kezer is described in the *Technology Review*, published at M.I.T. This system is intended to make the automatic pilots of the future "self-optimizing."

A self-optimizing person's work would be up to standard no matter how much or fast his working conditions changed. An automatic pilot can have a "performance reference model" to help it optimize its

work. By transmitting the same orders to this reference model that it is issuing to the vehicle, the automatic pilot can ascertain the differences in the ways the vehicle is responding and those in which it ought to respond. Then the automatic pilot, with this information in its wires, can so alter its adjustments and expectations that they will be adapted to the vehicle's capabilities in the environment at the instant.

"Suppose," the scientists suggest, "that you were cruising home from the moon at a satisfactory speed. Your ship would have to plunge from a near vacuum into an ocean of air that became increasingly dense. Its deceleration through this changing environment would have to be carefully controlled, but as you approached terra firma its responses to your guidance and application of the brakes would change. Your landing would be happier, certainly, if you could relax and leave the driving to a self-optimizing automatic pilot."

The performance reference model designed at M.I.T. can be prepared on the