

## PUBLIC SAFETY

## U.S. More Vulnerable

► THE UNITED STATES is now more vulnerable to Soviet attack because of the locations and characteristics of its missiles and nuclear weapons systems. Soviet advances in the accuracy and striking power of intercontinental ballistic missiles have added to the danger, Dr. Ralph E. Lapp of Alexandria, Va., warned here.

Particularly vulnerable are the Atlas and Titan missile sites, Minuteman and B-70 systems, he told the American Association for the Advancement of Science meeting in New York.

Atlas and Titan missile sites, with an individual capacity of about a five-megaton nuclear warhead, could be wiped out by three or four Soviet missiles per target. The explosion of nuclear warheads of this size from such an attack would destroy an area about 20 times greater than that blasted by the Hiroshima bomb.

Dr. Lapp estimated that there are 270 such missile sites in the U.S., many near enough to urban areas to make the recently announced Air Force policy of "spare the cities" in the event of nuclear war a "paradox."

An example of the paradox of this "incredible policy," he said, are the 18 missile bases in the Rome-Utica area of New York.

"Because of their location, an enemy attack—even one limited just to these sites—would subject the entire civilian population in the area to disastrous fallout," he predicted. This would apply also to Minuteman bases concentrated in the northwest and western United States, and those that can be moved on trains.

The only weapons system that has the location, mobility and concealment characteristics that perhaps could allow cities to escape destruction in the event of war is the Navy's submarine-based Polaris missile, Dr. Lapp said.

He also challenged the need for continued stockpiling of fissionable material. The U.S. nuclear stockpile already exceeds 500 tons, he reported. In terms of Hiroshima bombs this is equivalent to 100,000 bombs if totally converted.

Dr. Lapp said he hoped the Kennedy administration would make a searching examination of U.S. weapons system and nuclear policy, meanwhile continuing the ban on testing for at least one year.

He said the administration must be of a single mind and voice in order to control the chaos that has resulted from variance of opinion and policy in the past.

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## GENERAL SCIENCE

## USSR Wants Disarmament

► PRESIDENT-ELECT John F. Kennedy's closest pre-election adviser on nuclear weapons and disarmament problems, Dr. Jerome B. Wiesner, reported he is convinced that the Russians are "sincerely interested" in putting an end to the threat of nuclear war.

His confidence in Soviet good intentions is based on his experiences in Moscow last month at the Pugwash conference, he said. This was an international meeting of scientists interested in disarmament and in devoting the atom's energy to uses that will benefit mankind.

"In Moscow, I was heartened by the fact that the Russians got a better understanding of our position on arms control; and, I believe, we now have a clearer understanding of their position. One can be hopeful

that if both countries are willing to make concessions and conduct experiments in a spirit of mutual trust, an agreement on arms control can be reached," the director of the research laboratory of electronics at the Massachusetts Institute of Technology stated.

Dr. Wiesner reported on the Pugwash conference at a White House meeting of the Science Advisory Committee with President Eisenhower. He served on the Committee advising the President even while he was actively campaigning for the President-elect.

Dr. Wiesner has been prominently mentioned as the possible chairman if such a group were to be continued by the President-elect.

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## GENERAL SCIENCE

## Red China Bans Journals

► COMMUNIST CHINA has placed an effective embargo on export to the United States of most of the science journals just when the United States Government and Western scientists are awakening to the need of learning what is happening technically in mainland China.

Only about 20 out of more than 140

science journals previously seen have been available since about October, 1959. Evidently the Chinese authorities decided that money they have received in subscriptions to their journals did not offset what they had to pay out for the American journals they desired.

Barter by individual scientists to send

United States journals in exchange for particular Chinese publications seems to be working despite the official reluctance.

Plans are now being made to locate these volunteer receipts and distribute them more widely by full copy in microfilm in original Chinese or translation. The Massachusetts Institute of Technology library has the largest collection of current Chinese journals at the present time.

The critical situation became known during the sessions of the American Association for the Advancement of Science meeting in New York where a score of experts reported advances in Red China that surprised many American scientists.

A crash program to teach American scientists sufficient Chinese to allow them to read, digest and report to their colleagues what is happening in mainland China scientifically was advocated by one conference at the meeting. It was believed that perhaps enough Chinese could be taught in a half-year of intensive study to allow scientists to become as competent in Chinese as some have become in Russian in a relatively short time. The possibility that China will adopt an alphabet for writing its language is foreseen for the next 10 to 15 years. Although this would greatly aid translation, it would probably come too slowly to affect the need for carrying on a relatively extensive program for learning Chinese and making possible its translation for technical and scientific purposes.

Under present conditions some scientists believe that exchange of scientists between the People's Republic of China and the United States is desirable. However, any concerted efforts toward this aim is hampered by political considerations that are not yet resolved.

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## More USSR Moon Photos

► THE RUSSIANS may have better pictures of the dark side of the moon than those they have made public, Dr. Edward Anders, University of Chicago scientist, reported. Dr. Anders received the Newcomb Cleveland Prize at the American Association for the Advancement of Science meeting in New York for his new theory on the life and death of meteors.

The rear-view pictures of the moon were taken from the lunar orbiting satellite launched by the Russians Oct. 4, 1959. Suspicion that the Soviets may have better pictures was brought to Dr. Anders' attention by Avram Katz of Rand Corporation, who made a detailed analysis of the Soviet lunar photos.

On the basis of this analysis, Dr. Anders said, it is believed the Soviets may have pictures of the dark side of the moon as good as those taken of the moon's face. If the Soviets have such detailed pictures, Dr. Anders was at a loss to explain why they did not make the photos public.

Other than the photos, the Soviet lunar probes revealed little new about the physical properties of the moon or the solar system, Dr. Anders said.

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