

MILITARY SCIENCE

No USSR A-Bomb to China

► IF COMMUNIST CHINA wants the atomic bomb, it will have to build its own, without help from Soviet Russia or any of the industrially advanced Soviet satellites, the Institute for the Study of the USSR declared in Munich, Germany.

There are no signs that an atomic bomb has been built or tested in China, A. Kashin in the Institute Bulletin, 8:17, 1961, reports. There is no concrete evidence to show that the two countries are collaborating on production of nuclear weapons, or that the Soviets have offered to supply China with the necessary aircraft or missiles to make them effective.

China's industry is too primitive for a nuclear weapons program without the aid that Soviet leaders "seem reluctant to provide," Mr. Kashin states.

China lacks both money and materials, and is hard-pressed to maintain its present level of industrial production while trying to pay for grain imported from Canada and Australia.

Meanwhile, Chinese propagandists attempt to convince the army and the people that if war comes, an enemy armed with nuclear weapons and rockets would have no real advantage over conventionally equipped Chinese forces.

Chang Chieh, a Communist leader, has

referred to atom bombs as "paper tigers" used by "American reactionaries" to frighten people. Chinese Defense Minister Ling Piao has urged his countrymen to concentrate on forging "a spiritual atomic bomb," based on "man's ideological consciousness and courage," which he said would be more useful and powerful than a real one.

Mr. Kashin recalls that pre-1949 Soviet propaganda, in the days before Russia had the bomb, also took the line of belittling nuclear weapons and denying that they could have any overall effect on the course of a new world war.

Mr. Kashin says Western observers have been wrong in predicting, as they have done since the early 1950's, that Communist China might be ready to explode an atomic bomb at any time.

He notes, however, that lack of capable scientists is not a factor. Researchers now working in China include a number of native nuclear and rocket experts, some trained in the United States, as well as foreign experts.

The Institute is made up of refugee Soviet scholars with the announced aim of providing "reliable information" on current Soviet trends and conditions.

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MEDICINE

New Clues to "Blue Baby"

► NEW CLUES to "blue baby" condition and its treatment may result from an experimental demonstration of how the infant's circulation changes following its first breath.

Dr. Nicholas Assali and associates of the University of California, Los Angeles, Medical School have demonstrated for the first time a long suspected relationship between pressure in blood vessels leading from the heart and blood flow patterns in these vessels before and after birth. The study was supported by the Los Angeles County Heart Association.

Since the unborn baby (fetus) does not utilize its lungs but obtains its oxygen from its mother's blood, its pattern of blood flow differs from that which takes place after birth.

The pulmonary artery, leading from the heart's right side to the lungs, carries only a small fraction of blood to lung tissue. The larger portion passes to a special channel, the ductus arteriosus, which shunts blood from the pulmonary artery to the aorta, the main artery emanating from the heart's left side.

After birth the lungs are activated with the first breath, and blood flowing through the pulmonary artery all goes to the lungs.

By placing tiny flow meters around the pulmonary artery, ductus arteriosus, and aorta in unborn lambs, Dr. Assali was able

to chart the change in pressure and resistance to flow, which bring about the new blood flow patterns.

Normally the ductus arteriosus closes shortly after birth. However, in some infants this does not occur, and blood continues to be shunted between the pulmonary artery and aorta before it has a chance to be properly oxygenated in the lungs. This is one of the conditions that causes "blue babies." At this point the surgeon may be called in to close the channel.

There is, however, the possibility that certain drugs could be used to constrict the unwanted duct in "blue babies," thus eliminating the need for surgery. Dr. Assali believes the flow meter techniques may be useful in exploring the use of such drugs.

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NATURAL RESOURCES

Need Modern Techniques To Tap More Ocean Food

► MODERN TECHNOLOGY must be projected into the fishing industry to capture efficiently the wealth of ocean food for the hungry people of the world. However, the supply does have a definite limit and must be used wisely by man.

This was the general conclusion reached at the meeting in Washington, D.C., of an

international conference on fish in nutrition sponsored by the Food and Agricultural Organization of the United Nations.

"Although man has not yet fully exploited the marine fish resources, it is not so vast as some would have been led to believe," Dr. Robert L. Edwards of the U.S. Bureau of Commercial Fisheries Biological Laboratory, Woods Hole, Mass., said. Many of the most productive fishing areas are probably approaching peak production now.

Dr. Edwards recommended developing totally new fishing gear and practical "harvesting" techniques such as controlling the type of fish species and fertilization to raise the fish "crops."

These new methods are needed because a "great proportion of the world population suffers from a low amount of nutrition," Dr. B. C. Guha of the University College of Science and Technology, Calcutta, India, told the conference. Protein malnutrition, so strongly evident among young children in his country, can be reduced by an increased amount of high-protein fish food from the oceans, he said.

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PSYCHOLOGY

Engineers Urged to Find Tactics for Waging Peace

► Engineers meeting in New York were challenged to create organization and tactics for "waging peace" to match the achievement of nuclear bombs and other engines of destruction.

The United States Government, itself, was the creation of the engineering type of mind, Dr. Francis F. Bradshaw of New York, psychological consultant, told the Engineering Management Conference held jointly by three engineering societies, ASME, AIEE and AIIE. Franklin and Washington had the engineer's way of thinking, he said, and Jefferson also was a kind of engineer.

"There are values on both sides of the cold war," he said, "and yet there is no visible, unified, long run, stably led, comprehensive strategy for doing anything else besides provide a military resistance or a military retaliation."

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TECHNOLOGY

Drive-In Banking Now Possible Using TV

► WITHOUT LEAVING their automobiles, drive-in customers at the First National Bank in Waukesha, Wis., can see a teller on closed circuit television, talk to him on a high fidelity audio, and exchange cash and banking documents with him through high-speed pneumatic tubes.

Called Autobanker, the system was designed by the Mosler Safe Company and engineered by International Telephone and Telegraph Corporation, New York. The four customer units in the initial installation at Waukesha are in a drive-through building 300 feet from the bank.

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