Although the earthquake in question was of no greater magnitude than many others that occur every year, the fact that it took place beneath a big city made it possible to study it in greater detail.

The earthquake was connected with a mighty local fracture of the earth's core in the Tashkent area. A certain amount of information is available on changes that occurred in the hydrochemical contents in drilled wells, and these changes are connected with the repeated tremors of this earthquake. Unfortunately, no methods of forecasting the time and place of an earthquake have yet been evolved in any country, although, with available modern equipment, it is now possible to tackle this problem in the USSR, in Japan, and in the United States.

At the moment, a search is afoot to determine the most recognizable forerunners of earthquakes. Among these forerunners are changes in the character of the constantly occurring deformations in the earth's core. It is known, for instance, that mountains are constantly growing, although very closely and imperceptibly. These processes are accompanied by some changes which, according to some data, occur before earthquakes; hence, the importance of carrying on observations in this field. Uzbek scientists consider that the concentration of radon gas that has been observed in drilled wells is in some way connected with the earthquake.

Another important problem is connected with building. Seismologists are not only concerned in studying the forerunners of earthquakes, but must provide builders with data which would help them in erecting quake-resistant structures. The Tashkent earthquake damage was greatly decreased in the case of buildings where this had been taken into consideration. Account must be taken of the extra load taken on by buildings during earth tremors and scientists are now engaged in research into the most precise data on this subject.

INSTITUTE SET UP TO STUDY INVERSION OF ENERGY

Moscow TASS International Service in English 0705 GMT 4 Dec 67 L

[Text] Moscow--Soviet scientists have set up an institute to study the problems of the inversion of energy. The new scientific center will seek more economical and effective ways to use the resources of energy, ways to restore by inversion the energy scattered in space, and ways of centration of energy. Tens of major scientists, engineers, and designers will work on these problems without stopping their main occupations and without additional pay.

The experiments of the scientific center will be staged at the Institute of Introscopy in Moscow. The center is headed by Prof Pavel Oshchepkov, who substantiated the basic points of introscopy as science.

"Scientists have to solve a topical problem--find means for the recovery of diffused energy," Professor Oshchepkov told TASS. As an example, he referred to the galvanic cells which consume heat from ambient space when they generate electricity.

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"To solve the problem of utilizing diffused energy it is necessary, first of all, to 'close the circuit' in the field of, for example, conversion of heat into electricity and back, the conversion ratio being close to one. It is possible that this principle of concentration of energy may be put into practice on the basis of the conversion and transfer of energy inside a solid body by means of electrons," the scientist said.

"According to the principle of conservation of energy, energy can be neither created nor destroyed. Modern natural science makes scientists come to the conclusion that there exists a fundamental third law of nature: the law of concentration of energy mass. This law is an integral part of the entire law of the development of matter from simple to more complicated forms. Diffusion of energy should be regarded as deconcentration of energy. Therefore, concentration and deconcentration of energy are the two sides of the fundamental law of nature," Professor Oshchepkov said.

MELEKESS ATOMIC REACTOR BUILT IN RECORD TIME

Moscow Domestic Service in Russian 0200 GMT 4 Dec 67 L

(Text) A new atomic reactor called Peace [Mir] has been built in record time at the Melekess Atomic Reactor Research Institute. It is the most powerful and perfected of all research reactors not only in the USSR, but in Europe too. It is intended for the investigation of materials inintensive neutron streams and in high temperature conditions.

The new atomic reactor was made for only peaceful purposes, and the word fully corresponds to its designation. It is made up of the initial letters of the name material research reactor [materialovedcheskiy issledovatelskiy reaktor].

The power of the reactor is 100,000 megawatts. In a normal reactor the material has to remain for a number of years to receive the radiation dose which the Peace gives in a few months. The Peace uses highly enriched uranium for fuel. The reactor can work at full power without strain for 20-22 days. The new reactor is of the so-called pool [bassexnyy] type. Its active zone is located under a layer of water.

ATOMIC POWER STATION ON MANGYSHLAK PENINSULA

Moscow TASS International Service in English 0734 GMT 2 Dec 67 L

(Text) Moscow--A fast-neutron reactor is being assembled in the town of Shevchenko on the Mangyshlak Peninsula, on the Eastern coast of the Caspian Sea. An atomic power station will be commissioned in two years in the area where major oil deposits were discovered recently.

The commercial fast-neutron atomic reactor will be the first ever built in the world. This is the type of reactor which reproduces more nuclear fuel than it burns.

Shevchenko, a large industrial center, is using only desalinated sea water. Its desalination plants will be using the power of the atomic station in the future.

The atomic power station in Shevchenko will have three functions simultaneously: It will produce about a 1 billion kilowatt-hours of electricity a year: It will supply steam to the desalination plant with an annual capacity of 40 million cubic meters of distilled water: Its third function will be extensive reproduction of plutonium, nuclear fuel.