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USSR SCIENTIFIC AFFAIRS

SCIENTISTS REFUTE CLAIMS OF 'UFO' SIGHTINGS

Moscow PRAVDA 29 Feb 68 p 6 L

[Article by Ye. Mustel, corresponding member of the USSR Academy of Sciences and chairman of the USSR Academy of Sciences Astronomic Council; D. Martynov, doctor of mathematical physics and president of the All-Union Astronomical and Geodesic Society; and V. Leshkovtsev, secretary of the national Soviet physicists committee: "What? Flying Saucers Again?"]

[Text] Recently there have again been sensational reports in some of our newspapers and in television broadcasts about so-called "unidentified objects." "Flying saucers" now figure under this designation, although Soviet and foreign scientists exploded this myth several years ago.

Let us remind readers that what is meant by this are the flashing, flying objects which individuals have observed from time to time in different parts of the world. Some of these people even made sketches and have taken photographs of the "flying saucers."

As Menzel, the well known U.S. astrophysicist, has shown by his painstaking analysis of phenomena of this kind, approximately 80 percent of the information forthcoming about "flying saucers" is linked with information about planes that have been spotted, balloons that have been seen, kites, bright meteors, sounding balloons, searchlights, and even bright planets and the moon as glimpsed through clouds. The remaining objects observed may be explained by various atmospherical optical phenomena: mirages, the reflection and the refraction of light in ice crystals present in the air, and the Aurora Borealis.

In the last decade a lot of changes have occurred in the atmosphere's upper layers and in the space surrounding the earth. On 4 October 1957 a Soviet artificial earth sputnik was launched into orbit. Menzel called this "the first real flying saucer." At present the number of sputniks launched by the Soviet Union in the "Cosmos" series alone amounts to more than 200. The flights of the artificial sputniks and their rocket carriers and the numerous orbiting of meteorological and geophysical rockets may also be mistaken by the inexperienced observer for "flying saucers."

What is the reason for all this fuss about "flying saucers?" Is it perhaps that reliable facts have been picked up which can be analyzed scientifically and yet cannot be explained by modern science?

Scandal mongers at home and abroad usually point out that they have at their fingertips irrefutable facts proving the existence of such objects. When these facts are examined very closely they fall into three categories. In the first category are cases of deliberate misinformation, various shams and shifty dodges. A typical example of these "facts" are the stories of the U.S. charlatan Adamsky. He has described his "encounters" with Martians and Venusians in two books illustrated with copious photographs. It should be said that any amateur photographer can produce photographs of "flying saucers" without much difficulty by using elementary optical effects such as the flashes given off when rays strike an object obliquely.

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COSMOS 204, 205 SATELLITES LAUNCHED 5 MARCH

Moscow TASS International Service in English 1646 GMT 5 Mar 68 L

[Text] Moscow--Sputniks Cosmos 204 and Cosmos 205 were launched in the Soviet Union today. The instruments on board them are designed to continue the study of outer space.

Cosmos 204 has been put into an orbit with the following parameters: initial revolution period--95.9 minutes, maximum distance from the earth's surface--apogee--873 kilometers; minimum distance from the earth's surface--perigee--282 kilometers; orbital inclination--71 degrees.

Apart from scientific instrumentation, the sputnik has a radio system for exact measurement of orbital elements and a radiotelemetric system for transmitting to the earth data on the operation of instruments and scientific equipment.

Cosmos 205 has been put into an orbit with the following parameters; initial revolution period--89.4 minutes; maximum distance from the earth's surface--apogee--310 kilometers; minimum distance from the earth's surface--perigee--201 kilometers; orbital inclination--65.7 degrees.

Apart from scientific instrumentation, the sputnik has a radio transmitter, operating on the frequency of 19.995 megacycles; a radio system for exact measurement of orbital elements, and a radio telemetric system for transmitting to the earth data on the work of instruments and scientific equipment. The equipment installed on the sputnik is operating normally.

The coordination-computing center is processing the incoming information.

BRIEF

KAZAKH ACADEMY OF SCIENCES--A session of the general conference of the Kazakh Academy of Sciences ended in Alma-Ata on 1 March. The session elected Nusupbekov and Takibayev vice presidents of the Kazakh Academy of Sciences, and Baishev, Bok, Dzhangaliyev, Kozlovskiy, (Nemenov), Demchenko and (Taymanov) members of the Presidium of the Academy of Sciences. (Alma-Ata Domestic Russian 1400 GMT 1 Mar 68 M)

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The second category comprises reports of phenomena seen by different individuals: "I was swimming in the sea and a 'flying saucer' flew down to me, hung suspended in midair, and then flew off...." Clearly, information of this sort has no scientific value whatever since it can neither be verified nor corroborated and it is altogether impossible to establish the degree of its authenticity. This is why conclusions deduced from this kind of information have not the slightest scientific significance.

Finally, to the third category may be relegated genuine observations of phenomena of various kinds which have been made, generally speaking, by people unfamiliar with science. A typical example were the reports printed in the Bulgarian press about the appearance of a luminous object above Sofia. This strange object resembled a balloon or a parachute which moved at an approximate altitude of 30 kilometers in a direction perpendicular to the wind; its outlines and colors changed all the time. If similar reports have been made once they have been made a thousand times, but whenever they have been checked there has always been a perfectly natural explanation for them. Even the object that was spotted over Sofia was not "unidentified." In fact it was nothing other than a gigantic spy sounding balloon which had been released by one of NATO's intelligence centers. Being at a great height, it was entirely feasible that it should proceed "against the wind." After all, it is common knowledge that the direction of the wind in the atmosphere's upper strata often does not coincide with the way the wind blows just above the earth's surface. As for the color changes and the fluctuating contours of the sounding balloon when seen from the earth, as the Bulgarian astronomer Bogomil Kovachev so rightly remarked, these were only the optical effects arising at sunset.

Just imagine for a moment that our astronomers have carried out a routine launching of the astronomical station described in some detail not so long ago in PRAVDA. A polyethylene balloon having a capacity of more than 100,000 cubic meters has lifted a sun telescope and goodness knows what other intricate astronomical apparatus to an altitude of 20 kilometers plus. Observers on the earth, who happen to be in direct line of the station's flight, see a peculiar object flashing in the skies. Once the propagandists have laid hands on the reports about these observations of "unidentified flying objects" this is one-upmanship. As there is not a single specialist in their midst who has any inkling of the scientists' astronomical program they will treat this object, which has indeed been seen by everyone and his wife, as a "typical representative of an unidentified flying object."

The fact is that nobody has produced any new facts which can successfully support the theory of "flying saucers." If astronomers searching the skies day in and day out cannot see them, who can? Scientists examining the state of the terrestrial atmosphere have not encountered them. Neither, for that matter, have the country's PVO units picked them out. So this means that there is no justification for resurrecting ludicrous, long buried rumors about some sort of secret excursions made to our planet by Martians or the inhabitants of Venus.

Exactly the same conclusions were reached not long ago by U.S. scientists. In the course of two decades they have chucked the veracity of 11,000, more or less reliable reports about the sighting of "flying saucers", and are fully convinced that there is not a grain of proof in the existence of such objects.

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All the objects flying over our territory have been identified either by scientists or by those who stand guard over our motherland's security. If there really were such "unidentified flying objects," the scientists would be the first to extract vital information about them and investigate their nature.

It is interesting to note that the question of the propaganda of "flying saucers" has become a subject of discussion at the USSR Academy of Sciences, in view of the reports about "unidentified flying objects" which keep cropping up in our newspapers and television broadcasts. The USSR Academy of Sciences general and applied physics department listened to a report delivered by Academician L. A. Artsimovich at a recent session of the subject of this propaganda, and noted that it had all the makings of unscientific sensationalism and that "these conjectures have no scientific foundation and the objects observed are well known phenomena."

DETAILS ON 1-TEV ACCELERATOR PROVIDED

Bonn DIE WIRTSCHAFT DES OSTBLOCKS 16 Feb 68 p 6 X

[Text] A model of a 1-trillion electron-volt accelerator has gone into operation in the Soviet Union. A new principle of acceleration will be tried on this model, since it should be possible in the future to build enormous installations for hundreds and thousands of billions of electron volts. The Soviet scientists who are working on the development of this project expect to obtain the greatest effect from the automatic control of the path of the accelerated particles.

The coming "generation" of physical installations for 200 to 1,000 and more billion electron-volts will differ from the present large annular accelerators by having a special cybernetic system. With its 8.5-meter diameter installation having a 100-plate electromagnet with a total weight of 16 tons and a vacuum chamber with a cross section of 3 square centimeters, the Soviet design also presents practical proof that a proton beam can be directed through a minute chamber of the accelerator without loss. At present, experiments are being carried out on the model with protons which will be accelerated to an energy of 270 million electron volts.

BRIEFS

FAST BREEDER REACTORS--The BOR-60 fast research reactor will have a thermal output of 60 Mw. It is presently being constructed on the site of a Soviet nuclear research center. The reactor will serve primarily for the development and testing of the components of fast, high-temperature breeder reactors with sodium coolants. The first fuel elements for future high-capacity breeders will be tested in it, the start-up of the reactor is scheduled for 1968. The BN-350 reactor is being built on the banks of the Caspian Sea. It will have a thermal output of 1000 Mw. That is sufficient either for an electrical output of 350 Mw or, as is presently planned, for only 150 Mw and a daily production of 120,000 tons of distilled water for irrigation purposes. At present the BN-350 reactor is the largest fast reactor in the world. [Text] (Berlin NEUES DEUTSCHLAND 24 Feb 68 p 13 X)

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American scientists recently made public the information they had received. At the point where the Surveyor 5 landed, the surface of the Sea of Tranquillity was covered by a mineral of volcanic origin--a substance similar to the composition of terrestrial basalt. The oxygen content of the substance was from 53-63 percent, silicon 15-21 percent, aluminum 4-8 percent, a group of iron, cobalt and nickel with an admixture of sulphur occupies next place with more than 3 percent, and it also contains magnesium, carbon, sodium, and other elements heavier than nickel in minute quantities. A magnet on the side of the cosmic apparatus attracted small particles of the iron.

As can be seen, the information from Surveyor 5 supports information concerning the composition of the moon's surface which Soviet scientists received 1½ years ago on the basis of gamma-spectrometrical measurements. The data now reported by American scientists will be of a preliminary character. In addition, it relates only to a single, chance spot on the moon surface. Factual material on the mineralogical composition of the moon must be significantly extended in the future. Alongside the mentioned important problems concerning the moon's origin and evolution, study of the mineralogical composition of its surface strata will provide the key for understanding an entire series of other, still-disputed questions. For example, such information would shed light on the nature of the erosion of lunar soil.

Is the lunar mass increasing or decreasing because of micrometeorite bombardment? Analysis of television panoramas transmitted by Luna 9 led Soviet scientists to a conclusion of negative balance of the lunar surface masses. Micrometeorites cut into the moon at speeds of dozens of kilometers per second. The speed of the particles dislodged by them often exceeds the second escape velocity for the moon which constitutes only 2.4 kilometers per second. They are leaving it forever. The total mass of the flying particles is more than the mass of the falling micrometeorites and, as Soviet geochemist K.P. Florenskiy proved, the moon surface undergoes continuous renewal.

✓ EXISTENCE OF FLYING SAUCERS DISCLAIMED

Moscow TASS International Service in English 0539 GMT 29 Feb 68 L

[Text] Moscow--Nobody has any truly new facts proving the existence of "flying saucers," says PRAVDA. Neither astronomers and explorers of the earth's atmosphere nor the Soviet antiaircraft defense men ever seen them. "All objects flying over our country are identified either by scientists or by the people who stand guard over our country's security. Had some 'unidentified flying objects' really existed, scientists would have been the first to receive necessary information about them and would have started studying their nature," says the article signed by chairman of the Astronomical Council of the Soviet Academy of Sciences Evald Mustel, President of the All-Union Astronomical-Geodetic Society Dmitriy Martynov, and Secretary of the Soviet Physicists National Committee Vladimir Leshkovtsev.

In connection with the appearance of reports in the Soviet press concerning "unidentified flying objects," the question of propagandizing "flying saucers" was discussed at the Soviet Academy of Sciences. A report was made by Academician Lev Artsimovich. Scientists pointed out that this propaganda has a anti-scientific sensational character and that these "surmises have no scientific basis whatsoever, the objects observed are of a well-known nature."

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III. 25 Oct 73

U S S R N A T I O N A L A F F A I R S

SCIENTIFIC AFFAIRS

SOVIET SCIENTISTS PUZZLE OVER NEW SIGNALS FROM SPACE

Moscow Domestic Service in Russian 0700 GMT 24 Oct 73 L

[Text] Soviet scientists have intercepted previously unrecorded radio signals from outer space. They were first recorded by the Gorskiy Observatory and then by scientists in other cities of the country. The signals come to earth as pulses at definite time intervals. They last several minutes and are repeated several times a day. The search for radio signals from outer space has been carried out since 1970 under the leadership of Troitskiy, well-known astrophysicist and corresponding member of the USSR Academy of Sciences. The celestial hemisphere is monitored on wavelengths in the centimeter and decimeter range. In order to isolate cosmic signals from assorted local interference, the monitoring is done simultaneously at four points a great distance from each other.

Aside from its purely theoretical value, this work also has an applied nature. The study of cosmic radio signals makes it possible to study the conditions of diffusion of radio waves in the ionosphere and magnetosphere. This, in turn, facilitates a study of the formation and movement of storm centers over the planet. In addition, this research promotes the development of radio communications, location, and navigation means.

In the opinion of the experts, the observation of radio noises from the universe in the centimeter and decimeter wavebands may offer a new way of studying the association between sun and earth and global geophysical phenomena. It also offers a means of searching for astro-engineering activity [space vehicular activity by possible extra-terrestrial civilizations] in space. At the moment, over 30 Soviet scientists are engaged in the study of radio signals from outer space. The observation of the mentioned pulses mentioned make it possible to say that this work is of all-round interest.

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III. 25 Oct 73 U S S R N A T I O N A L A F F A I R S

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AGRICULTURAL AFFAIRS

GRAIN, LEGUMES THRESHED ON 116 MILLION HECTARES

Moscow TASS in English 2226 GMT 24 Oct 73 L

[Text] Moscow October 24 TASS--The harvesting of cereals is nearing completion in the USSR. Grain and legumes have been mowed and threshed on an area of over 116 million hectares, the Central Statistical Board of the USSR announced today. A good harvest was grown in the USSR this year and despite capricious weather conditions the peasants have taken it in time and without loss.

CSA Report

Moscow Domestic Service in Russian 1900 GMT 24 Oct 73 L

[Text] More and more regions in the country report on the completion of the sowing of crops. The USSR Central Statistical Administration stated today that kolkhozes and sovkhoses have practically fulfilled the plan for the sowing of winter crops. At the start of this week they had sown an area of over 34 million hectares in the RSFSR, the Ukraine, Belorussia, Kazakhstan, and the Baltic republics. In the south of the country sowing is still in progress. Plowing of winter fallow has been completed on 80 percent of the total planned area. This work has been undertaken by dozens of farms in Central Asia and Azerbaydzhan. The harvesting of rice is proceeding faster than last year and it remains to be harvested on an area of 34,000 hectares in Uzbekistan, the Volga region and the Transcaucasus. On 18 million hectares corn has been harvested, which is 99 percent of the total area under seed. In the south of the country [figure indistinct] of the total area sown remains to be cleared and 300,000 hectares of sugar beets remain to be cleared on kolkhozes and sovkhoses. In the Ukraine the sugar beet

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