

UFOs & OUTER SPACE MYSTERIES

a sympathetic skeptic's report

BY

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**Donning
Norfolk/Va. Beach**

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CHAPTER NINE

The "Jellyfish UFO" Dilemma

A uniquely valuable "control run" UFO encounter occurred over northwestern Russia before dawn on September 20, 1977. Residents of the city of Petrozavodsk were terrified to observe a giant glowing "jellyfish UFO" hovering over them; subsequent accounts chronicled physical, psychological, and electromagnetic effects, as well as radar confirmation. The strange light was also seen in the skies over Leningrad and Helsinki.

This frightening apparition was, in fact, the launching of the Kosmos-955 spy satellite from the secret Soviet "Northern Cosmodrome" near Plesetsk. The base, which began operation in 1966 and now accounts for more than half of the world's satellite launchings, has never been officially acknowledged by Moscow; it only came to the attention of the public at all through the keen observations and computations of Geoffrey Perry's "Kettering Group" of schoolboy space observers in England.

The identification of the "jellyfish UFO" (as it came to be called in the Western press) with Kosmos-955's booster contrails took only a few hours, and was subsequently publicized widely. However, these published reports were evidently not circulated inside the USSR, where the encounter had excited tremendous popular interest. Through the embellishments of Soviet amateur UFO buffs, the "jellyfish UFO" story quietly germinated and then burst forth renewed in the spring of 1978 in the *National Enquirer*. By the following year, it was firmly enshrined in the

popular UFO pantheon. (Despite its rejection by responsible UFO proponents.)

For the Soviet government, meanwhile, the case has become an acute embarrassment. However hostile the official propaganda apparatus may be to UFOs, an authentic explanation of the "Petrozavodsk phenomenon" (as it was neutrally known in official Soviet circles) was unthinkable, since the Plesetsk rocket center was a military secret. Consequently, it became necessary for Soviet scientists (who are probably well aware of the activities of the Northern Cosmodrome) to issue a series of lame "explanations" that have been quite ineffective. This current impasse seems inescapable as the popularity of this UFO story continues to spread inside and outside Russia; it could well be the most electrifying UFO story ever whispered about inside the USSR.

The earliest published account of the Petrozavodsk phenomenon was written by local Tass correspondent Nikolay Milov: "On September 20 at about 0400 a huge star suddenly flared up in the dark sky, impulsively sending shafts of light to the earth," wrote the correspondent in a story headlined "Unusual Natural Phenomenon Observed in Karelia." Milov continued: "This star moved slowly towards Petrozavodsk and, spreading out over it in the form of a jellyfish, hung there, showering the city with a multitude of very fine rays which created an image of pouring rain. After some time the luminescent rays ceased. The jellyfish turned into a bright semicircle and resumed its movement in the direction of Lake Onega. . . . A semicircular pool of bright light, red in the middle and white at the sides, then formed in this shroud. This phenomenon lasted ten to twelve minutes."

When this report reached Moscow two days later (by mail?), the Tass international wire editor evidently did not associate it with anything in his thick book of "don't tells"—so the story went out that afternoon over both domestic and foreign news lines. Western correspondents quickly dubbed it a UFO and it was reported as such in a United Press International story from Moscow (in which reports from Helsinki were also quoted describing a light seen in the sky for four minutes over the Finnish capital).

My own involvement with the case began on September 23, 1977, when the story was carried in American newspapers under such headlines as "UFO Sighted Over Northwest Russia: Similar Object Observed in Finland." But based on my personal observations of nighttime rocket shots and on my familiarity



The city of Petrozavodsk was terrified by a pre-dawn "UFO Attack" in 1977 which has become the most sensational UFO story to ever come out of Russia. Photograph courtesy of Novosti; taken by V. Syomin

with Soviet space flight operations, I immediately suspected a Plesetsk launching. A quick telephone call to the satellite tracking information center at NASA's Goddard Space Flight Center (just outside of Washington, D.C.) confirmed that a satellite had been lofted into a particularly high orbit from Plesetsk on the morning of September 20th; computations based on detailed tracking data supplied to NASA by the North American Air Defense Command showed that the launch had been at approximately 3:58 a.m. local time.

Such predawn high angle launchings are in fact quite infrequent of Plesetsk. Searching over thirteen years of records, I found listing for only three earlier cases: Kosmos-184 on October 24, 1967; Meteor-2 on October 6, 1969; and Meteor-9 on July 16, 1971. The second of these cases was written up by observers in Finland, who told the British Interplanetary Society that "there rose a small bright object from the east. It slowly arched upward, culminated in the northeast at a height of about twenty-five degrees and started descending. . . . The object drew three misty arcs of light on the sky. The brightest of these was right behind it and the two others on both sides. The object was brighter than the narrow crescent Moon, and cast faint shadows on the ground. In three minutes there was a phenomenon like a gas cloud; the object was shrouded by some obscuring matter, and was seen through it

much dimmed....According to Finnish newspapers, the phenomenon was observed from many places all over the country, and at least from two aircraft....The phenomenon stayed over the horizon of my observing position for at least four minutes."

Such launchings from Plesetsk are usually not seen from northwest Russia because of pervasive pre-dawn cloud cover. But one witness to the "jellyfish UFO" made a valuable observation when he testified that "the weather was highly unusual—crisp and clear."

This and similar reports prompted Dr. Charles Sheldon, the U.S. Library of Congress expert on the USSR space program, to write in *Soviet Space Exploration* (1975) that "when weather conditions are just right, an occasional Plesetsk launch has been visible from Sweden and Finland, when the still firing rocket rises above the horizon." And that's what happened in this case. Another official Moscow news bulletin released routinely the day before news of the UFO came out, gave these dry facts:

Launching of Kosmos-955—An artificial earth satellite, Kosmos-955, was launched September 20, 1977 from the Soviet Union. The satellite is carrying scientific apparatus for the continuation of space exploration. The satellite was launched into orbit with the parameters: initial period of revolution—97.5 minutes; apogee.—664 kilometers; perigee—631 kilometers; orbit inclination—81.2 degrees. The satellite's onboard apparatus is functioning normally.

But Western space observers have long since learned to penetrate through the web of deception and misinformation which Moscow weaves around its space effort. They were able to determine that Kosmos-955 was NOT launched from Russia's public space center, the Baikonur Cosmodrome (called Tyuratam by the West), but was launched from Plesetsk. Furthermore, the satellite was not a 'scientific' payload participating in 'space exploration.' Moscow was lying: the satellite was a space spy, designed to eavesdrop on Western microwave communications and radar signatures.

Within a few days (September 27th), a UFO research group in the U.S. issued a press release identifying the "jellyfish UFO" event with the Kosmos-955 launch. Investigators at the Center for UFO Studies in Evanston, Ill., had formed similar suspicions about the nature of the "UFO" and were happy to receive confirmation from my own calculations; on September 30th, a United Press International story from Chicago reported the essence of this explanation and attributed it to me, "a researcher for the UFO center." The center's own publication, *The*



Artwork from inside Russia shows the UFO and its tentacles above the constellation Orion. Courtesy of Coleman Von Keviczky

International UFO Reporter, published the results in its October 1977 issue; other more widely circulated magazines did likewise.

Despite the fact that the story rapidly dropped out of the international UFO literature almost as soon as it had sprung up, it was receiving a far different reception inside Russia. There, ardent UFO amateurs began collecting eyewitness accounts and secondhand and thirdhand stories of what had really happened that morning in Petrozavodsk. When two American newsmen traveling in Moscow called on a few of their contacts in the Russian UFO movement the following March, they were presented with an incredible story of what came to be headlined as "The First UFO to Inflict Damage on a City."

As described by William Dick and Henry Gris in the *National Enquirer* (April 18, 1978), the UFO's rays had drilled holes in paving stones and through windows—and all of this evidence had been collected by the KGB, so there weren't any samples to actually see. A group of longshoremen thought it was an American nuclear attack and screamed: "This is the end!" A doctor reported that his ambulance went out of control when the UFO appeared. The air reportedly smelled of ozone.

All of Russia's leading "UFO experts" endorsed the UFO nature of the encounter, according to Dick and Gris. Aleksandr Kazantsev, famous for his "ancient astronaut" evidence, announced that "As far as I am concerned it was a spaceship from outer space, carrying out reconnaissance." Vladimir Azhazha, who was recently quoted widely as claiming that Apollo 11 was shadowed by UFOs on the moon, asserted: "In my opinion what was seen over Petrozavodsk was either a UFO, a carrier of high intelligence, with crew and passengers, or it was a field of energy created by such a UFO." Aleksey Zolotov, champion of the theory of extraterrestrial origin of the 1908 Tunguska blast, told Dick and Gris: "In my opinion, the object was a typical flying saucer. The available reports left no doubt whatsoever in mind, clearly indicating the UFO nature of the event. I, myself, know it was a UFO." Lastly, Felix Zigel, astronomy lecturer and dean of Russian UFOlogists, also agreed that the object was a "true UFO." "Without a doubt," he told the *National Enquirer*, "It had all the features."

The official Soviet reaction to this groundswell of popular interest (bordering on hysteria at times) was to trot out a series of scientists to assure the public that all was well. Vladimir Krat, director of the Pulkovo Observatory, had told reporters on September 23rd that "at present it is still difficult to explain its origin with complete certainty," but by October 12th he was

telling the world that "the phenomenon was probably a rocket stage burning up. The visibility depends on the materials of the sputnik. Sputniks can explode on reentry sometimes and the products of the explosion can remain in the air for a long time."

When it became clear that this was not convincing anyone, a new explanation was cranked out. In mid-August, 1978, an "M. Dmitriyev, Doctor of Chemical Sciences," published a report in *Aviation and Cosmonautics* monthly to the effect that the cloud was a "chemoluminescence zone" enhanced by nitrous oxide pollution from the factories in Petrozavodsk.

In what I have dubbed the "swampsky gas" gambit (named in honor of the Air Force explanation for some 1966 Michigan UFOs), Dmitriyev presented his explanation (this, excerpted from a Library of Congress translation and summary):

The phenomenon was due to the formation of an airglow zone in the atmosphere, a so-called ChL (chemiluminescence) zone. A rather detailed definition of chemiluminescent zones is given. The article discusses any possible effects of ChL zones on the mind of pilots and on the functioning of onboard control systems and instruments. After all observation data from Petrozavodsk were processed, it was determined that the intensity of the flare's optical radiation in the ChL zone reached 15 cal/cm²/min; the concentration of chemiluminescent matter was 50 mg/m³ for ozone and 25 mg/m³ for nitrogen oxide. Pollution contributes greatly to the intensity of such flares. Hence, any danger of ChL zones for the operation of aircraft depends on the concentration and size. Chemiluminescent emission per se is harmless, in both the optical and infrared ranges. However, the ChL zones may act as sources of radioemission which affects the functioning of electronic devices, especially causing disturbances in radar equipment operation. Further, all chemiluminescent matters are toxic if present in high concentrations; they may penetrate an aircraft cabin and adversely affect the crew. Color is a good indicator of the ChL zone toxicity: dark or light-blue indicates the prevalence of ozone and oxygen atoms; these are more toxic than nitrogen oxide or dioxide, colored red or orange. Even a low-intensity ChL zone may have a narcotic effect on the crew, as demonstrated by the crews of six U.S. "Avengers" on a bright sunny day over the Atlantic Ocean (Bermuda Triangle). Often when an aircraft enters the ChL zone, a sharp irritating smell is recorded inside the cabin. At a very high concentration of energy in the ChL zone, the zone

not only gleams but is capable of producing explosions similar to ball lightning. The size of the explosive zone is relatively small, some 1-1.5 meters, but such a zone should nevertheless be avoided by aircraft or rockets, i.e., pilots should be guided by visual and radar observations and try to bypass them. The crew should always be "mentally" aware of the existence of such zones; they should understand the possible changes in the color of skies, the appearance of an intense gleam, and the unusual sharp smell. They should also double their attention, since the ChL zone not only affects the mind, but also the functioning of electronic and radar equipment.

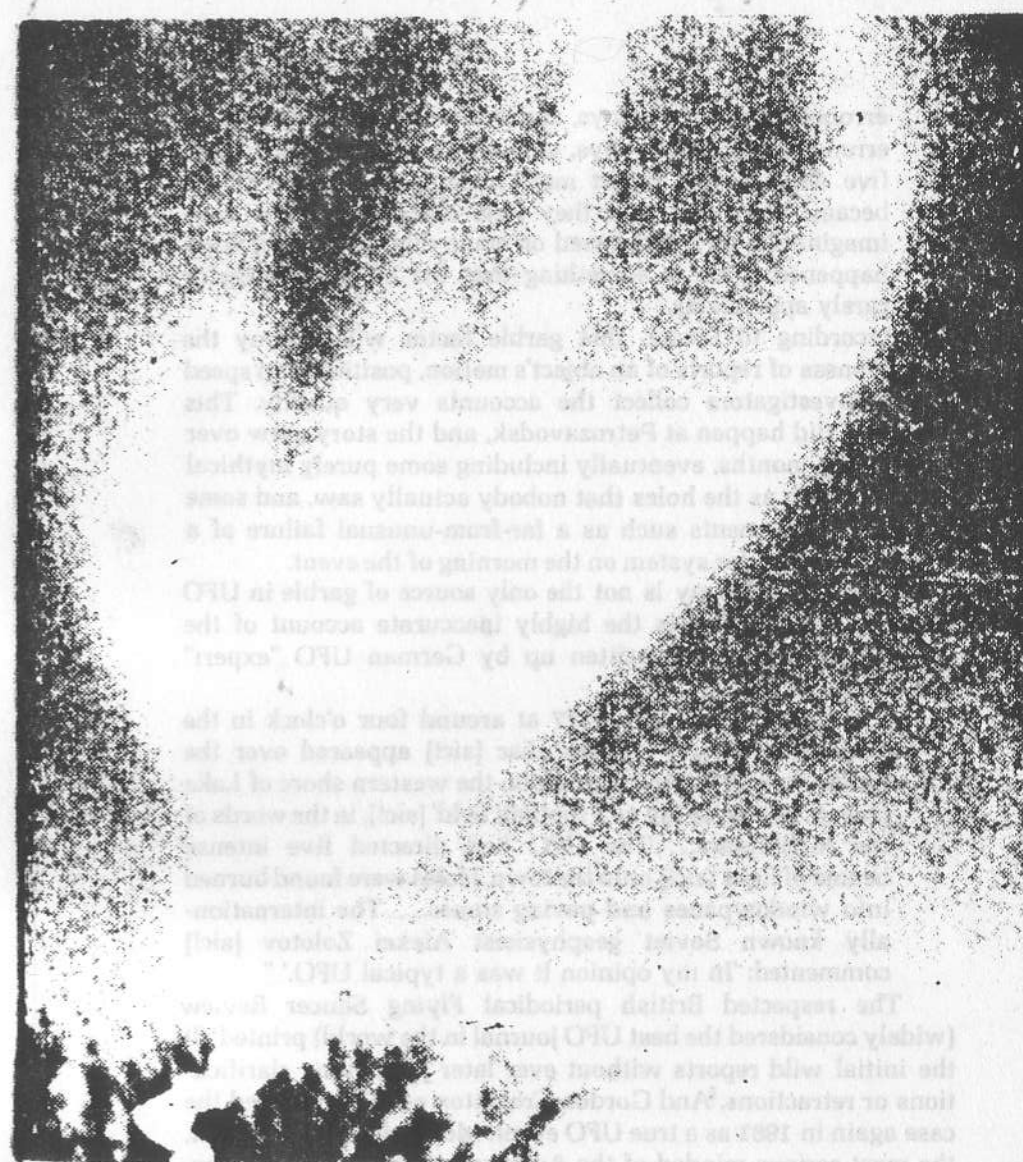
Perhaps Dmitreyev himself had strayed too close to such a zone. His mental gymnastics and scientific razzle-dazzle are enough to numb the mind of any reader, and perhaps that was his real purpose!

Evidently hoping to gain in quantity what was lacking in quality, Soviet press officials issued yet another "explanation" in January, 1979, when Dr. V. V. Migulin, recently tagged as the Academy of Science's UFO contact man, attributed the phenomenon to "physical changes in the upper atmosphere," probably geomagnetic in origin. Writing in *La Recherche* (Paris, July-August 1979), Migulin further explained how a shower of solar electrons had been channeled into the upper atmosphere at this particular point by a magnetic storm.

Migulin, in a private communication to me, ruled out the satellite launching explanation because the object had been seen over a wide area and over a period of four hours. Gris had also made a similar objection during telephone conversations; the reports that he had received indicated that the object had circled Petrozavodsk and had visited other cities at significantly different times.

Such discrepancies cannot shake the ironclad identification of the original phenomenon with the rocket launching, since the times and the details of the best descriptions tally too exactly with the launching for coincidence. The embellishments of these reports, however, can be useful in understanding and gauging the reliability of similar reports of other UFO encounters for which the original stimulus is not initially known. This experience confirms the astute observations of astronomer Frank Drake, whose paper "On the Abilities and Limitations of Witnesses" appeared in *UFOs-Scientific Debate* (1972). Wrote Drake:

A witness's memory of such exotic events... fades very quickly. After one day, about half of the reports are clearly



Dusk Launch of Soyuz-13 (1973) showed "tentacles" which still converged because of low altitude. Courtesy of the Author's collection

erroneous; after two days, about three-quarters are clearly erroneous; after four days, only ten percent are good; after five days, people report more imagination than truth. It became clear that later they were reconstructing in their imagination an event based on some dim memory of what happened. This is something that the UFO investigator rarely appreciates.

According to Drake, this garble factor will destroy the effectiveness of reports of an object's motion, position, and speed unless investigators collect the accounts very quickly. This evidently did happen at Petrozavodsk, and the story grew over the passing months, eventually including some purely mythical elements such as the holes that nobody actually saw, and some coincidental elements such as a far-from-unusual failure of a municipal computer system on the morning of the event.

Witness testimony is not the only source of garble in UFO stories; the following is the highly inaccurate account of the Petrozavodsk UFO as written up by German UFO "expert" Johannes von Buttjar:

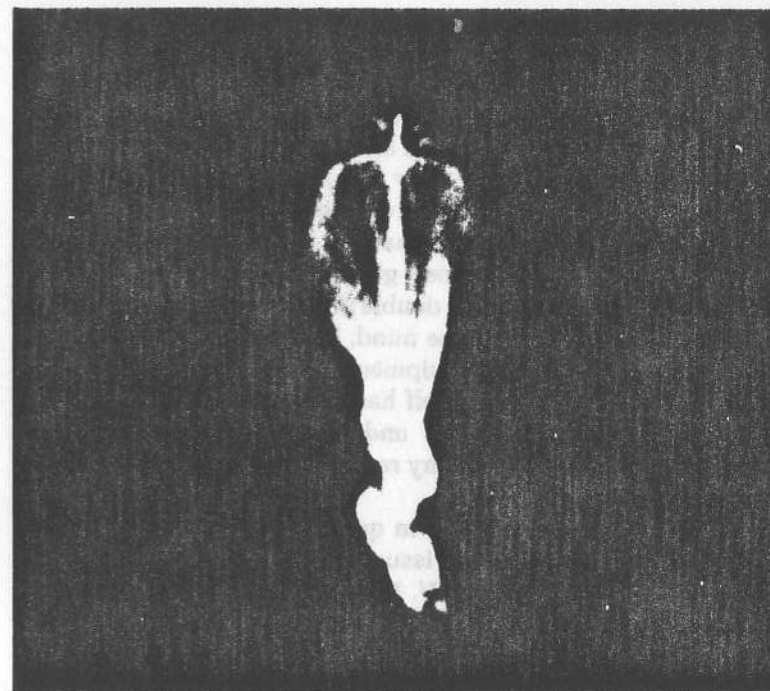
On 20 September 1977 at around four o'clock in the afternoon [sic!], a gigantic disc [sic!] appeared over the Soviet town of Petrozavodsk on the western shore of Lake Onega. It was 'as big as a football field' [sic!], in the words of the inhabitants....The UFO had directed five intense beams of light [sic!] onto the town. Holes were found burned into windowpanes and paving stones....The internationally known Soviet geophysicist Alexei Zolotov [sic!] commented: 'In my opinion it was a typical UFO.'

The respected British periodical *Flying Saucer Review* (widely considered the best UFO journal in the world) printed all the initial wild reports without ever later publishing clarifications or retractions. And Gordon Creighton of FSR endorsed the case again in 1981 as a true UFO event. Meanwhile, *UFO Report*, the most serious-minded of the American pulp UFO magazines, told its readers that the damage to the city was caused by the explosion of the space rocket.

Other crackpot groups have adopted the "Jellyfish UFO" as their own. In Canada, a group called the "Planetary Association for Clean Energy" (devoted to a mystic vision of the magic of Nikola Tesla) denounced the *National Enquirer* UFO story as "a story concocted by high level Soviet intelligence sources."

The purpose, according to group spokesman Hugh F. Cochrane, was:

...covering up a dangerous blunder caused by experi-



Another view of "tentacles" associated with Semyorka booster launches. Courtesy of the Author's collection

ments being conducted by their own intercontinental ballistic missile defense command. Based on this new evidence it now appears that the 'UFO attack' was in reality a malfunction of a high energy beam weapon which almost brought disaster to the Russian city....Their high energy beam encountered particle obstructions in the atmosphere. These send the beam on a wild excursion. Thus, the brilliant glow in the sky was not a galactic vehicle, but a glowing plasmic shell. And the 'ray beams' were laser-like splatters of the beam deflected downward where the energy was absorbed, boring holes in glass windows and paving blocks.

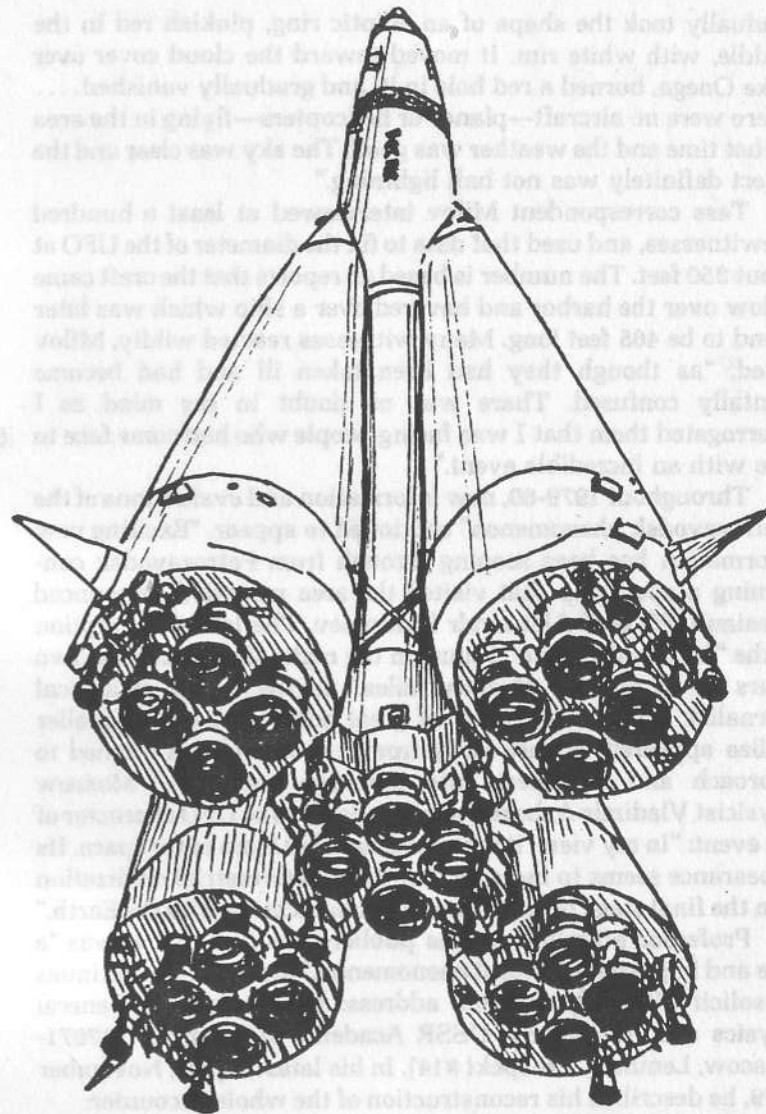
An added dimension to the "Jellyfish UFO" can be afforded by more eyewitness accounts recently received from Finland and Estonia. The following material has been especially translated for this report and has never before appeared in English. Together with Russian reports of physical damage in Petrozavodsk, these accounts transform the "Jellyfish UFO" into a classic "Radar-Visual" and "Close Encounter of the Second kind."

The Finnish newspaper "Kansan Uutiset" reported the day

after the sighting that "Those who were up early indeed rubbed their eyes when a fast moving bright phenomenon of light flew past the capital, Helsinki, at 3:06 AM (4:06 AM Moscow time), and continued its voyage toward the north." Dr. Matti Kivinen of the Nurmijaren Geophysical Observatory suggested it was a re-entering spacecraft. The "Kansan Uutiset" article subsequently was mentioned in the Moscow newspaper *Trud*, which told Russian readers that the object had been visible in Helsinki for four minutes and that Helsinki airport radar had tracked the object moving toward the east.

Sightings of the UFO were also reported from Estonia, at Poltsama, Turi, Luva, Ihamarusta, Taikse, and Kanep. Rays of light pointing to the Earth were seen. Elmar Jorgen, living in Poltsama (forty miles north of Dorpat-Tartu), saw the object at 4:08 AM. According to him, it was a source of light about the size of a human head, sending off rays of light. It flew very slowly about twenty degrees above the horizon, from southwest to north. The source of light was inside a fog, and on the top of the object dark stripes could be seen. Dairymaid Linda Hermann, fifty-seven, from Luva in the Polva district twenty miles south of Dorpat, saw an extremely bright "star" a few minutes after 4:00 AM. It rose slowly higher, and then sent out a ray of light. Hermann reported that the single ray disappeared as the object reached an elevation of twenty to twenty-five degrees, after which six rays of light and a corolla-like circle formed. The UFO moved to the north at a high rate of speed, sending off two more rays of light upwards as it illuminated the sky with a circulating dim rainbow above the rays. The UFO was in sight for about five minutes.

An intriguing account (published by M. Toivola, a local UFO expert, in the magazine *Ultra*) came from Turku, Finland, on the coast of the Baltic. Two men were on their way to a garbage dump outside of town at about 3:10 AM (4:10 AM Petrozavodsk time). They saw a strange light phenomenon which they estimated to be about a quarter of a mile away across a field, at the edge of some woods. The gaseous, incandescent rotating smoke ring seemed about thirty feet in diameter and was surrounded by a fog although the edges of the circle were distinct. As the UFO ascended it grew larger—until suddenly the fiery ring disappeared and the object changed into a uniform ball which seemed to approach the two frightened witnesses. They ran back to the car as the object rose higher in the sky, expanding and growing dimmer. As they drove off they saw the UFO behind them—almost a classic "car-chasing UFO."



Business End of Semyorka (ss-6, or "A-class") booster shows multiple engines and strap-on sections which result in startling "Jellyfish tentacles" appearance of contrails. Courtesy of the Library of Congress

Yuri Gromov, director of the meteorological observatory in the city, was on duty when the UFO appeared. He described the shafts-of-light phenomenon. Then: "Suddenly a smaller body detached itself and veered off. Meanwhile the main body

gradually took the shape of an elliptic ring, pinkish red in the middle, with white rim. It moved toward the cloud cover over Lake Onega, burned a red hole in it, and gradually vanished. . . . There were no aircraft—planes or helicopters—flying in the area at that time and the weather was good. The sky was clear and the object definitely was not ball lightning."

Tass correspondent Milov interviewed at least a hundred eyewitnesses, and used that data to fix the diameter of the UFO at about 350 feet. The number is based on reports that the craft came in low over the harbor and hovered over a ship which was later found to be 465 feet long. Many witnesses reacted wildly, Milov noted, "as though they had been taken ill and had become mentally confused. There was no doubt in my mind as I interrogated them that I was facing people who had come face to face with an incredible event."

Throughout 1979-80, new information and evaluations of the "Petrozavodsk phenomenon" continued to appear. "Exciting new information has been seeping through from Petrozavodsk concerning a spaceship that visited the area recently," announced Russian UFO buff Aleksandr Kazantsev. The latest description of the "Jellyfish" is that "it hung in the night sky for at least two hours at an altitude of sixty miles." In the words of a local journalist, "It was the center of great activity as much smaller bodies appeared to dart away from it, while others seemed to approach and disappear into immense portholes." Moscow physicist Vladimir Azhazha again endorsed the UFO character of the event: "In my view, it was a mother ship from outer space. Its appearance seems to indicate that an extraterrestrial civilization is in the final stage prior to direct communication with the Earth."

Professor Migulin remains publicly positive that it was "a rare and impressive natural phenomenon," although he continues to solicit UFO reports (his address: Department of General Physics and Astronomy, USSR Academy of Sciences, 117071-Moscow, Leninsky Prospekt #14). In his latest report, November 1979, he described his reconstruction of the whole encounter:

This rare and impressive natural phenomenon was observed over the entire north-western region of the Soviet Union at about 4:00 on September 20, 1977. The active process, on the whole, developed for about three hours. At the culminating moment a very bright glowing phenomenon with a reddish nucleus, a radiant or jet envelope and a subsequent prolonged and stable amorphous glow was observed in the Petrozavodsk area (Karelia). At the moment of the maximum development of the envelopes the nucleus

retained a fixed position for five to ten minutes. There are even reports about a bright ray which emanated for a short period from the center and about the division of the nucleus. Most observers agree that after the jet process came to an end the glowing nucleus began to move in approximately the opposite direction and hid itself in the clouds. This picture was observed in several populated centers and aroused great interest among the public. This has led to a number of hasty, amateur and superficial studies of the phenomenon, all of which are far from scientific. They have resulted in various hypotheses about the nature of the phenomenon. However, none of them in my opinion, correspond to the truth and range from a globe lightning, the fall or the launching of an artificial earth satellite and chemiluminescence to the visit of the persons from another planet to the Earth.

The official Soviet UFO-explainer confidently concluded:

The first serious studies have shown that the moment when the Petrozavodsk phenomenon was observed was quite unique from the point of view of solar activity and the condition of the atmosphere and the magnetosphere. At that moment, a noise storm and a flux of solar electrons simultaneously reached the Earth; the magnetosphere proved to be in a very excited state, and in the lower atmosphere over the north-west of the Soviet Union the front of a giant cyclone with small cyclones was passing by. Showers alternated with clear weather within half an hour. At an altitude of about 36,000 feet a powerful jet of an air flow moved at speeds of up to 300 miles per hour. In the north, intensive aurorae of rare types were observed and to the south thunderstorms occurred.

After cataloguing all these coincidences, Migulin declared that:

It would have been most surprising if on this night nothing had been observed over Karelia. . . . If, as a result of studies, we succeed in determining the physical factors which caused this phenomenon, then it will become possible to simulate this phenomenon and to investigate it experimentally, which would be a major step towards the understanding of the UFO problem. It can be stated in conclusion that the basic immediate task is to avoid sensationalism, to make a serious and careful analysis of the essence of the processes which cause the UFO phenomena. Statistical, theoretical and experimental

investigations and the participation of specialists in various branches of science in the solution of this problem will be of help.

Migulin's need for experimental repetitions of the "Petrozavodsk UFO," and the desires of Moscow UFO buffs for more flying saucer evidence, might well be satisfied by an article in the March 1979 issue of *Tahdet Ja Avaruus* (Finnish for "space and astronomy"). Two charts and several photographs were included in an article about Plesetsk rocket launchings observed from Finland. Although few were as spectacular as the September 20, 1977 event (which was on the list), they all represented a phenomenon with which Finnish astronomers had grown quite familiar (my thanks to the source of this material, a leading Finnish astronomer who did not wish his name publicly attached to the subject of UFOs).

The lists included "Meteor" weather satellites, "Molniya" communications satellites, several "Kosmos" spy satellites, plus many rocket launchings which were never acknowledged in Moscow. This list has an average of two entries per year although some years had more (such as 1977, with five, including the Petrozavodsk "Jellyfish"), so more than just the high-altitude launches I referred to earlier were actually visible. So the Finns have already conducted Professor Migulin's "UFO experiments," and since they are not bound by the security gags which compel Migulin to try to distract public attention from the *real* cause of the Petrozavodsk UFO, they have published the results—except that nobody outside of Finland, least of all the UFO enthusiasts in Moscow has noticed!

It is ironic that one feature of super-secret Plesetsk has been trumpeted by Moscow. True, no mention had ever been made of the missile center. All Soviet space launchings, according to the official falsehoods, come from the Baikonur Cosmodrome (even that name is a falsehood—the site is hundreds of miles from Baikonur, much nearer to the small town of Tyuratam) or occasionally from a small site near the Volga River called Kapustin Yar.

But Moscow will not let America forget about this scenario from true history of Plesetsk:

Under the command of Lieutenant John Baker, the two platoons of Company K, 339th infantry regiment, crossed the small river upstream of their goal under cover of winter darkness. The enemy was caught by surprise at dawn, and the American assault carried the town. But hostile artillery on hills above the road leading southwest blocked the advance of the American



Actual photograph of the contrails of Kosmos-955, viewed from Finland. Courtesy of Jukka Mikkola.

soldiers towards their goal, a rail center forty miles away that was the main staging point for enemy action on this front.

The Americans dug in. Eventually, under pounding from the entrenched artillery on the slopes above the small abandoned village, the two platoons withdrew back across the river.

What Moscow does not forget or forgive is that this scene did not take place in France or in Italy or in Haiti or on Guadalcanal or in Korea: it took place in north Russia.

The year was 1919. The river was the Emta, and the small town was called Kodish. The enemy was the Red Army of Russia. The railhead objective, which the Americans and their unreliable "White Russian" allies were never to reach, was called PLESETSK.

For almost half a century, the town of Plesetsk continued to slumber in the obscurity it well deserved—and which Moscow news censors now try frantically to perpetuate. But nine years after the first Sputnik was launched from Baikonur, Plesetsk became the scene for new artillery fire in the Soviet-American conflict. The thunder of mighty rockets was heard. Satellites climbed into space from newly constructed launch pads.

Although Western intelligence agencies obviously knew a great deal about Plesetsk as a space base, they could not reveal their information to the public. The revelation of the existence of a new Russian space base came instead from an English school master and his adolescent radio amateurs.

Under the direction of Geoffrey Perry, a science teacher at the Kettering Grammar School in northeastern Britain, students had set up a space listening post as a class project. By using surplus military and amateur radio equipment, this small dedicated group was able to eavesdrop on the space telemetry signals broadcast by Soviet satellites. Knowing the duration, strength, and type of the signals, the students were able to plot the paths of the satellites and make good guesses about their purposes.

Early in 1966, Moscow announced the launching of another satellite in its "Kosmos" program. This was number one hundred and twelve in the series which began in 1962, and which by 1981 would reach serial number thirteen hundred.

The students suddenly realized that there was something odd about the schedule of this particular Kosmos payload, when they inspected their tapes and maps. When they traced its orbital path back to its first revolution around the earth, the "ground track" (of the sub-satellite point) carried it far to the west of either Baikonur, Tyuratam, or the Volga River site. This new satellite

must have come from a point in northwestern Russia, but beyond drawing a line across the region, the schoolboys could not be more specific.

The Russians, of course, gave no indication that anything was unusual about the satellite. Today, while Plesetsk is the world's busiest space launch center, Moscow has still not even hinted at its existence.

Later in 1966, meanwhile, the Kettering schoolboys noticed new launchings from the mystery site, but on slightly different azimuths. This meant that the line of the original orbital revolution would intersect the lines plotted earlier. The lines were charted, and "X marked the spot:" the small town of PLESETSK.

Many kinds of satellites are launched from Plesetsk, more than one every week, week after week, year after year. But most go up in the daytime (photo spy satellites can't see in the dark), and the local inhabitants are accustomed to the noise and fire in the sky: no TASS reporter is going to make a sloppy mistake in this neck of the woods! Only rarely is a shot made at night into a high "lofted" trajectory—and when that happens, too many people see it. "Jellyfish UFO" sightings have occurred again in northwest Russia, on June 14, 1980 (Kosmos-1188) and May 16, 1981 (Meteor 2-7).

Some Plesetsk satellites are weather satellites, and others are communications satellites. Targets for satellite "hunter-killer" test are launched from here. Navigation satellites and other military support payloads also put into orbit from Plesetsk. Radar and microwave eavesdropping satellites are also seen (that was the mission of Cosmos-955).

But the most common is the "photo spy satellite," of which thirty to forty are shot into space every year. This is what happens on such a mission.

The twelve thousand pound satellites are constructed in three modules. The middle spherical module weighs about three tons, and used to be the 'command module' for cosmonauts. Behind it is a roughly tapered cylindrical "service module" which houses the satellite's retro-rocket and batteries. In front of the sphere is a disc-shaped 'hitch-hiker' satellite which can be an auxiliary payload such as a scientific probe or an additional maneuvering engine.

At blastoff, the giant booster rocket generates more than a million pounds of thrust from its five units of engines, each unit contained four main thrust chambers and a series of smaller control engines. After several minutes of flight, the four auxiliary rocket units exhaust their fuel and fall free while the center

sustainer stage continues. It runs out of fuel on the edge of space, and an upper stage fires for several minutes to place the payload into a low orbit of the earth, between one hundred and two hundred miles high.

For up to thirteen days, this satellite circles the earth every eighty-nine minutes. Ground commands from a 'Mission Control Center' somewhere in Russia program the satellite's cameras to point and photograph specific locations on the ground. It could be an American air field, a British naval base, the Israeli border, a Chinese missile test range, a Japanese industrial area, or the Alaska pipeline. Frame by frame, the satellite collects its spy data.

Nobody really knows just HOW good the photos are, but experts speculate. Reportedly, American spy cameras in space can detect human figures on the ground. Aircraft tail numbers are, just possibly, readable. Russian cameras are not as good, nor is their film, but they can certainly keep track of deployment of ships, planes, and probably army divisions. They can certainly monitor activity and construction at supply and manufacturing facilities.

After two weeks, the satellite lines up backwards to its direction of motion and fires its rocket for the last time. Plummeting towards the atmosphere, the spherical section detaches and turns its heat shield forward, while the other modules are torn apart during the fiery re-entry.

The three-ton sphere falls through the air, releasing a series of larger and larger parachutes, and finally drifts to the ground in Soviet Central Asia, near the town of Karaganda. Helicopter crews rush up to the capsule, extract the precious film (each mission costs several tens of millions of dollars), and send it to a top secret photo-interpretation center for processing.

This basic spacecraft, which is manufactured at a secret location, has been used in over five hundred space missions over the past twenty years, a third from Tyuratam and two-thirds from Plesetsk. A few of the early shots carried cosmonauts, and were publicized under the Vostok and Voskhod programs. But the later shots were concealed under the label of the "peaceful, scientific, space exploratory" program called "Kosmos." A space secrecy curtain has been draped over this program for many years. Recently, a new-model space spy satellite based on the unmanned Soyuz vehicle has been introduced. It can spend up to six weeks in space, so fewer launches are going to be needed.

The notoriety of the Petrozavodsk UFO has attracted many tourists to the town, according to local newsmen. The Russian

UFO buffs arrive hoping to witness one of the many alleged "returns" of the alien jellyfish—but if they mount expeditions with cameras and other scientific gear, they must all return empty handed, since no new data has been reported about the local sensation.

Private travel to Petrozavodsk is yet another reason why Soviet officials seem to be every more nervous about their out-of-control UFO story. It seems that Petrozavodsk is a major staging area for the anti-Soviet "underground railway" which smuggles political refugees out of the country via the poorly guarded frontier with northern Finland. The latest resistance figure to take that route was Lithuanian dissident Vladas Sakalys, a thirty-eight-year-old optician from Vilnius who had spent fifteen years in Soviet labor camps for 'nationalist' sentiments. Again threatened with arrest in the spring of 1980, he took a train to Leningrad, then to Petrozavodsk and thence to the small town of Idel, where he walked and swam his way to safety in Sweden (if captured in Finland, the Finnish authorities would have turned him back over to the Soviet border guards.) Sakalys quite properly made no mention of the local help he must have received along this escape route—but his exploit and others like it are only one more headache for Soviet state security organs who must monitor the innocence of the many "UFO buffs" travelling to Petrozavodsk...to insure that they don't keep travelling!

Here is a UFO case witnessed by hundreds, if not thousands of people, who have been recounting and retelling their stories for more than three years without outside interference. Here is a UFO case for which we can be quite certain of the actual stimulus. So, if UFOlogists wish to tackle this opportunity, here is a chance to calibrate eyewitness testimony against a known baseline, in order to estimate how reliable similar testimony might be in other cases for which the original stimulus remains obscure. The situation as it stands now looks pretty hopeless, in that an honest appraisal of the eyewitness accounts as now being documented would probably be totally insufficient to reconstruct the actual original stimulus.

The moral, then, is that many of the "classic" UFOs that remain unexplained could well be based on prosaic stimuli for which the eyewitness perceptions (and embellishments) have become too garbled for an accurate reconstruction. The fact that they are unexplained proves nothing about the UFOs, but further underlines the problem of proving that "no earthly explanation" will serve for some UFO cases. So far that has yet to be proved.