



IN THIS ISSUE - In case the hammer and sickle gives the impression we relocated to Moscow, the answer is nyet. This issue of 'Orbiter' is another 20 pages and a majority of the material presented in it is contributed to "Soviet Ufology", hence the hammer and sickle. Judging from the correspondence coming out of the Soviet Union there appears to be a concerted effort, on part of Soviet Ufologists, to share and compile data with researchers in this part of the hemisphere. As you will note after reading the articles the US and the USSR, by comparison, have strong similarities in dealing with this phenomenon. In fact, even CE-3 encounters were reported as far back as the early 1970s and early 1980s. Which tells us that the rash of reports from the Soviet press, back in October 1989, was actually nothing new, just a bit of glasnost!



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- Page #5 - It Came From The USSR - reproduction of Air and Space article/March 1990.
- Page #6 - Paranormal Phenomena: Facts and Fiction authored by by: Yu. Platov, B. Feshin, & S. Chernous - source Science in the USSR, 1989, No. 5.
- Page #10 - Fireball Reports, source SEAN Bulletin, v. 14, no.9 v. 14, no. 7, v. 14, no. 10.
- Page #12 - Time To Study The Facts - reproduction of Sputnik article; Oct. 1989, by: Mark Milchiker.
- Page #14 - Information from Darush Bagheri, Director of Possible Relation Review, UFO research in Iran. This letter to 'Orbiter' is printed "as is", the printed english is quite clear and the article details the overall view of UFO phenomena in Iran.
- Page #18 - UFOCAT Post-Mortem, A Critique, by:Dr. Willy Smith.
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Communiques and Bits n' Pieces

Conferences

The fourth European Rencontres de Lyon UFO congress is scheduled and will, once again, be held in the city of Lyon - France on Saturday 28th, Sunday 29th, and Monday 30th April 1990. The Congress, which hosted over the past few years researchers from over ten countries (including USA and Canada), is open (prior to full subscription) to anyone wishing to debate seriously about unidentified aerial phenomena. The congress vocation is to be a crossroad between ufologists, media, the public, and scientists. In the ufological field, the proceedings have published contributions from Willy Smith, Budd Hopkins, Antonio Huneeus, Pierre Lagrange, Paolo Toselli, Francois Bourbeau, Jean Sider, Claude Mauge', etc... Scientific or technological contributions have been submitted by Dominique Deyers (radar operator), Patrick Chassagneux (meteorologist), Jean-Bruno Renard (sociologist), Jean-Claude Ribes (astronomer - observatory director), etc... If you wish to attend the 1990 session, please contact as soon as possible AESV; P.O. Box #324 - 13611 Aix Cedex 1 - France.

The 1990 Ozark UFO Conference is still in it's planning stages. This event anticipates 10-12 speakers and so far those who have expressed an interest in being a part of the program include Timothy Good (author of Above Top Secret and editor of The UFO Yearbook 1990), Norman Oliver, Ed Walters (Mr. Ed of Gulf Breeze, Florida), Linda Howe & Dr. John Altshuler (an update on cattle mutilations) and Gene M. Philips (founder of the Ancient Astronaut Society) The site of the conference will be at the Inn of the Ozarks. One hundred rooms have been set aside for the conference, with special rates of \$36.00 for single occupancy and \$40.00 for double occupancy. Rooms can be reserved at any time by writing to the Inn (P.O. Box #431, Eureka Springs, AR. 72632) or by calling (501) 253-9768. The registration fee is \$35.00. Payments for conference registration should be made payable to Ozark UFO Conference Fund and may be mailed to : Route #1, Box #220, Plumerville, AR. 72127. The conference will begin at 1:00 PM on Friday, April 6th, and will conclude at noon on Sunday, April 8th.

The Central NJ & PA. UFO Study Group along with the UFO Book Club organized by Mr. Pat J. Marcattilio will present "The First Great UFO/ ET/ Humanoids/ Visistors/ Alien & Abduction Congress!" The congress will be held at the Holiday Inn on RT. #206 at Exit #7 off the NJ Turnpike in Bordertown NJ on March 31 - April 1st, 1990. Confirmed speakers are: Charles Hickson (abductee), Leo Sprinkle Ph.D.(Top authority on abduction and contact), Alice Haggerty (9 abduction experiences), Antonio Huneeus (presenting Humanoids & UFO Occupants), James Harder Ph.D. (Top authority on UFO abduction), Marianne Shenefield (Abducted at ages 11 and at 31), Budd Hopkins (author - Missing Time and Intruders), Pat Marcattilio (UFO, ET, Humanoids, and abduction researcher), Zecharia Sitchen (author - 12th Planet, The Stairway to Heaven, The Wars of Gods and Men, The Lost Realms, A Key to the UFO Enigma), Jim Moseley (author - Jim Moseley's Book of Saucer News and The Wright Fiels Story also Saucer News & Saucer Smear), Ellen Crystal (author - The Silent Invasion, photographer of UFOs), Peter Robbins (UFO Researcher of Bentwaters NATO Air Force Base, England, UFO and occupant case), Andrija Puharich M.D. (Physician, Parapsychologist, psychic trainer, Author - Beyond telepathy & Uri, with Talking with Space Beings. Registration fee is \$100.00 until Feb. 15, thereafter \$120.00. Make checks or money order payable to Pat J. Marcattilio - UFO/ET Congress; mail to: Pat J. Marcattilio 138 Redfern St. Trenton, New Jersey 08610. Phone: (609) 888-1358 between 11 AM to 2 PM. If space allows attendance will be permitted at \$60 per day at the door.

From The Letter Box

Regarding Chris Rutkowski's article, 'Luminous Phenomena and Earthquakes' in the Nov/Dec 1989 issue of Orbiter, Dr. Willy Smith writes, "Chris indicates that 5% of reported cases cannot be explained, but I must disagree with this. After several studies that I made in UNICAT, I strongly believe that only 1-2% of any unscreened list of cases remain unexplained, and moreover, can't be explained. In particular, we made an in-depth study of the cases reported by Allan Hendry, obtaining similar results.

As for UFOCAT, it was a wasted effort, which I am afraid is now being repeated by the MUFON people headed by Dan Wright. We probably have the best UFOCAT printout in existence, inherited from Dr. Hynek, and sometimes I have yielded to my curiosity to see if I could find additional sources for little known cases, only to be sorry. Good cases and what we call 'non-cases' are equally treated, making a joke of any serious attempt to use the information for statistical studies. If Persinger's source was UFOCAT, there is no question in my mind that whatever conclusions he reached have no foundation". (Ed. comment - See Dr. Smith's UFOCAT Post-Mortem & UNICAT Spinoff in this issue.)

More Gulf Breeze Fallout

The list is getting longer. We hear from Bill Pitts who has joined the ranks of ex-MUFON State & Section Directors. The Director of "The New Project Bluebook", has this to say, "The reason I resigned from MUFON is because of Walt's (MUFON's) very positive reaction to, and the promotion of, the alleged Gulf Breeze incident. This is an out-right hoax, and was brought to Walt's attention, and which he has 'neatly' ignored. He has received a vested interest, financially, in this case, and has offered only cursory information in the 'MUFON Journal' which would tend to explain away the matters - and which would place him, and his enthusiasm (misplaced) in a bad light. Walt Andrus, Bruce Maccabee, and others, were, in effect, paid off. This has no place in an honest evaluation.

There is more, but the above will suffice at this time. Walt is endeavoring to build membership forsaking honesty. Ed Walters/Hansen, (among other alias's) is a convicted felon, and is not the citizen Walt has been promoting."

(Ed. Comment - Bill Pitts had spent three days in Gulf Breeze and visited with Mayor Gray, the Chief of Police, and representatives of the various government agencies - Air and Naval Bases, etc. This editor is planning to reprint The New Blue Book - Gulf Breeze report in the next issue of Orbiter. Stay tuned!))

Attention Abductees!!

Radio broadcaster Paul Harvey (voice of America) carried a strange announcement, on his January 24th program on both his 9 AM and 12 PM segments. In effect, the announcement was regarding people who believe they will be carried off in a UFO. It so happens that a Florida businessman is selling "UFO abduction insurance policies" at \$9.95 a policy. Ironically, Paul Harvey announced that, "so far over a thousand policies have been sold!" (Ed. comment - "signs of the times")

Hungarian UFO Report

The #67, Jan/Feb 1990 Issue of Science Frontiers published a UFO report that somehow snuck into the Baltimore Sun---a newspaper normally very conservative about such things. The report reads - "Meteorologist and military pilots in the western Hungarian town of Papa reported seeing four large, and bright orange unidentified flying objects after midnight on November 25. Government meteorologist Gyula Bazso said the objects were spherical and 50-100 yards wide. He said one flew at the speed of 2,626 miles per hour. Bazso contacted authorities at the local military airbase who sent up an experienced pilot to investigate. He located the four objects at a height of around four miles. All the UFOs were said to have disappeared suddenly after 2 AM." (Baltimore Sun, December 3, 1989.)

A Bit of Critique On Lazar

Recently there has been many speculative stories originating, again, from the Lear camp. Robert Lazar, an associate of John Lear, has come forward with so-called information of joint alien/US government hi-tech projects in the Groom Lake, Nevada area. Lazar was a guest on KLAS, in Las Vegas, which aired a UFO special (10 Nov. 89) and was covered by ParaNet. ParaNet has provided a transcript of the interview and problems immediately have surfaced. Consider these contradictions from the interview:

Roger(interviewer): You said the one you looked at, the Sport Model (saucer), was from Reticulum, right?

Lazar: That's what I read.

(Comment: He also said the Sport model was identical to the Meier UFO. But if they come from Reticulum, which is Betty Hill's aliens, how are they identical to Meier's Pleiadians. (Ed. Comment - Lazar appears to have not fully researched his history lessons!)

Further on into the interview he states, ..."the crafts have hyper-light capabilities--beyond the speed of light". (Comment: In another statement Lazar said nothing can go faster than light). Thanks B.G.!

MJ-12 Update

CAUS researcher Robert Todd, who has been a staunch critic of the now infamous MJ-12 documents, appears to have found another smoking gun. Todd has turned up further physical evidence that, very well, could implicate William L.(Bill) Moore as the forger of the alleged Eisenhower briefing paper and the Truman-Forrestal memo. What Todd found incriminating is the fact that the type style Moore uses for his return address stamp is identical to the type style used for the classification markings ("TOP SECRET/MAJIC") and ("EYES ONLY") that appear on the Eisenhower briefing document.

Furthermore, the classification markings that appear on the Eisenhower briefing paper also appear to have been applied using a rubber stamp assembled from a kit employing movable, reusable type, such as what Moore uses for his return address stamp. Todd's full report, detailing his findings, will be printed in the upcoming JUST CAUSE. Stay tuned for this one.

To Catch A Flying Star

A new book is being offered at a discounted price of \$9.95 (list price is \$15.00). To Catch A Flying Star, A Scientific Theory of UFOs, is authored by John Ackerman, an aerospace physicist, and is based on numerous reported sightings of UFOs. This book reasons that UFOs are alien spacecraft, but this is not the primary thrust. It then proceeds to construct a theory of how they fly, using the scientific method. It provides the means of its own verification, by suggesting specific observations, both at short and long ranges. Order from UNIVELT, inc. Publishers P.O. Box #28130, San Diego, CA. 92128.

Radio & T.V. Log

Jan. 2 - Ch. #7 (CBS) 4:30 PM, Hard Copy carried part 2 of their UFO segment.

Jan. 24 - Ch. #4 (NBC) 8:00 PM, Unsolved Mysteries aired a segment on the 'Roswell Incident'.

Jan. 24 - WBZ Radio, 9:00 AM & 12:00 PM, Paul Harvey (Voice of America) announced 'Alien Abduction Insurance'.(see also p. #2 'Attention Abductees' in Communiques and Bits n' Pieces)

Jan. 31 - Ch. #4 (NBC) 8:00 PM, Unsolved Mysteries featured the mystery 'Crop Circles'.

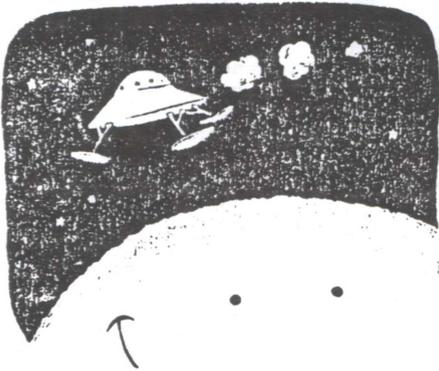
Feb. 6 - Ch. #25 (Fox) 7:00 PM, Current Affair featured a chronicle of 1989 Ufology.

It Came From the U.S.S.R.

Possibly you've forgotten the fine points of the UFO incident that rocked the Soviet city of Voronezh last fall, so to review: On October 9 the Soviet news agency Tass reported that an unspecified number of tall human-like creatures with "very small heads," accompanied by a midget robot, landed a "banana shaped object" in the city and terrorized local youths. This close encounter at the provincial city 300 miles southeast of Moscow allegedly began at 6:30 p.m. on September 27, when the teens, who were playing soccer in a park, saw a "pink shining in the sky." As reported by a *Washington Post* foreign correspondent, the alleged craft landed and two creatures emerged—one an "alien . . . about three meters high, [who] had three eyes [and] was clad in silvery overalls and 'boots' the color of bronze." The alien wagged a two-foot-long space gun at a boy and took him for a brief ride. Genrikh Silanov, head of the Voronezh Geophysical Laboratory, added that scientists found rocks at the site that were composed of a substance not found on this planet.

The Voronezh hysteria set off a flurry of even dumber Soviet UFO reports as news organs there, kicking up their *glasnost* heels, tried to outdo one another. The best appeared in the October 12 *Komsomolskaya Pravda*, which published excerpts from what it said was a meeting between a Soviet journalist and aliens. "Can you take me to your planet?" one Pavel Mukhortov asked the beings, who glowed in the dark and stood "six to 13 feet" tall.

TONY AUTH (2)



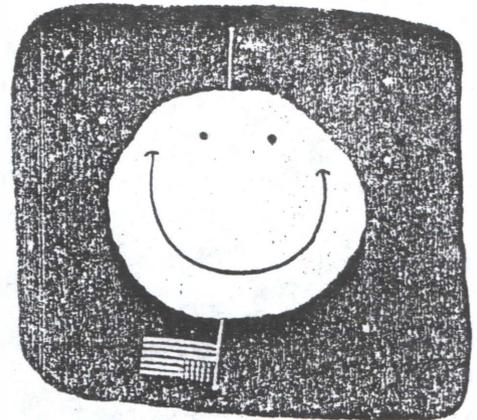
"There would be no return for you and it would be dangerous for us," came the reply. "You might bring thought bacteria."

The Voronezh story fizzled when it emerged that only the teens, not the "many witnesses" mentioned in some reports, had seen the anomalies. As for the mystery rocks, they turned out to be hematite, one of the most common sources of iron ore.

Over here, however, the story got long, gleeful play. "The Soviet press did not take off on this as much as our own media did," notes prominent UFO skeptic Paul Kurtz, chairman of the Committee for the Scientific Investigation of Claims of the Paranormal. One of the reasons given for our media's field day was that Tass, a famously boring wire service, had never before given serious attention to UFOlogy. But as the *New York Times* pointed out, last summer Tass wrote of a UFO that sprayed a Soviet hillside with "mysterious, tiny golden hairs." And in January 1985 Tass circulated a report about a "sharp-nosed wingless 'cloud-aircraft'" encountered by Aeroflot flight 8352.

No, I suspect our Voronezh media overkill is more likely a sign of our national appreciation of emerging Soviet mushmindedness. If this is the case, reporters here should have plenty to write about in the years ahead. Sure, the Soviets have a long way to go in closing the credulity gap on a nation that has thought-infected the world with Bigfoot, L. Ron Hubbard, and *Communion* author Whitley Strieber, but there is every reason to believe that the Soviets will become highly competitive players in a very short time.

U.S. officials closed the book on UFO studies in 1969 when the Air Force's Project Blue Book ended. But in the U.S.S.R. the government appears to be opening the book ever wider. This should have fascinating results, such as the unique groups that will arise from the coupling of Soviet fringe thinking and Soviet bureaucracy. Two examples give us an idea of what to expect. In the 1987 book *Above Top Secret*, a UFO treatise that blends documentation with breathless speculation about CIA conspiracies to hide the UFO



truth from the public, author Timothy Good mentions the 1978 formation of a UFO research group under the direction of Vladimir Azhazha, a UFOlogist frequently quoted during the Voronezh episode. "The group was . . . under the auspices of the A.S. Popov Scientific and Technical Society for Radio, Electronics and Communications," Good writes, and hats off if he got all this right, "and called itself BPVTS, short for *Blizhniy Poisk Vnezemnykh Tsvivilizatsiy s Pomoshch'yu Sredstva Radioelektronika* (Search for Extraterrestrial Civilizations in the Neighbourhood of Earth by Means of Radio-electronics)."

The hot group in the '80s, Good writes, is the modestly titled Commission for the Investigation of Anomalous Atmospheric Phenomena, founded in 1984. The salient point is that the Soviet government is encouraging citizens' interest. Some UFO students think this will cause quite a stir in a populace that possesses what Kurtz calls "atrophied critical faculties." Adds NASA engineer and UFO skeptic James Oberg, "The Soviet public's current interest in flying saucers is in many ways the *fault* of the government." Oberg argues that many famed Soviet sightings—among them the 1980 report of a reddish crescent-shaped UFO—result from twilight launches of spy satellites and other military payloads. "Rather than explain the launches," he says, "the government simply let the rumors circulate and in some cases even encouraged the spread of rumors . . . With that sort of fertilizer on the mind . . . it's no wonder the Soviets go absolutely berserk when a UFO story occurs."

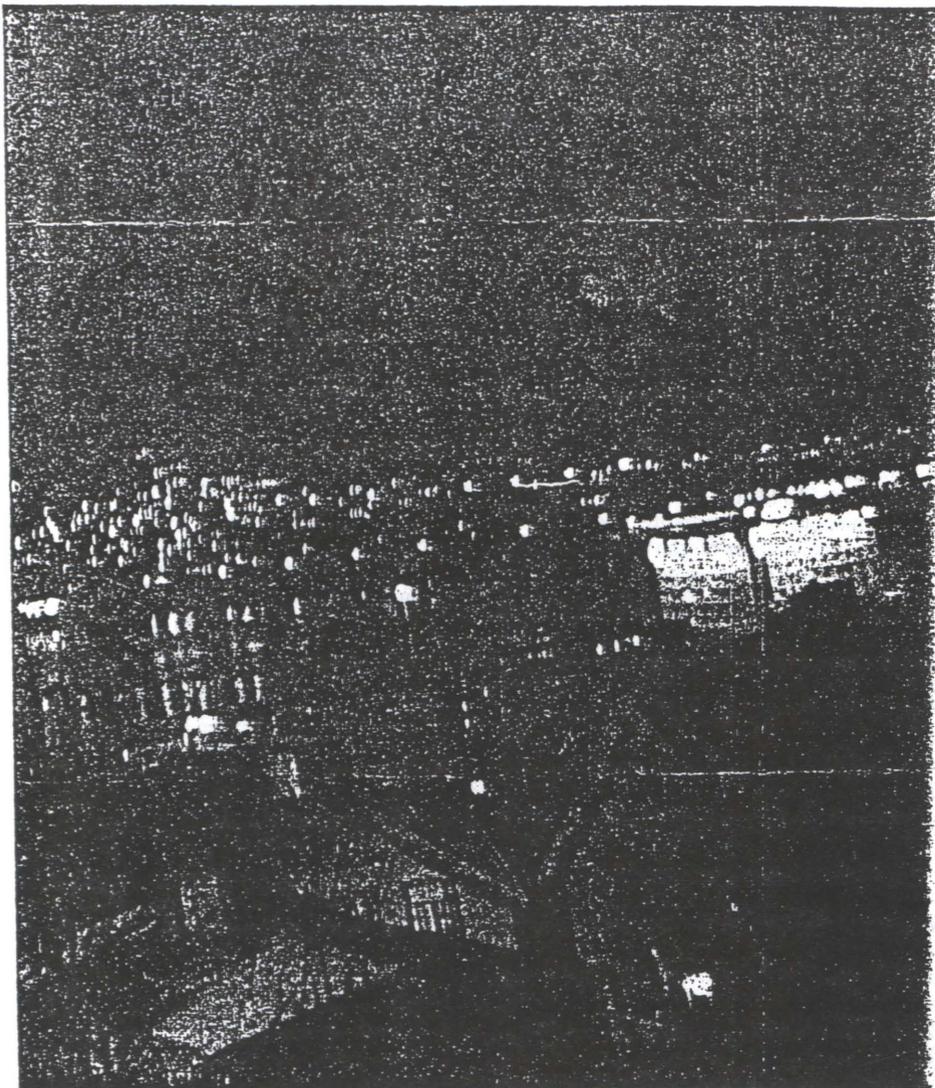
Irresponsible, I know, but I'm still annoyed at them for sending us Yakov Smirnoff. So here's hoping Soviet thought bacteria have a long and manure-fed growth spurt.

—Alex Heard

Paranormal Phenomena:

Facts and Fiction

Phenomena:



As one examines eyewitness reports of what are generally called paranormal phenomena, one comes to the conclusion that the most numerous, and also most interesting sightings are related to rocket launchings of various kinds.

Rocket launchings, always full of drama and suspense, are a thrilling sight indeed. But all sorts of dramatic visual effects at lift-off and the initial ascent through lower atmosphere are of a relatively local nature and are usually far less dramatic than the phenomena generated by a rocket or missile flying at high altitudes. To try and understand the mechanisms of these effects, one has to have at least some superficial knowledge of how rocket engines operate.

To begin with, they can be roughly divided into several categories on the basis, for example, of their energy source: pneumatic, chemical, electrical and nuclear. Or we can classify them by the state of aggregation of the rocket fuel, or carrier mass, to use the technical expression. This can be gas, liquid or solid fuel, with the latter two types of fuel predominating in space research. Rocket

engines using them can be made much more powerful than any other.

Rocket engines can be of different sizes and power beginning with tiny thrusters several centimeters long, used for maneuvering spacecraft, whose power is measured in fractions of a newton and ending up with the mighty boosters of heavy-lift rockets which are several meters long and which have a thrust measured in mega-newtons.

At the initial stage of lift-off, there can be incomplete burning of fuel and the exhaust jet may carry relatively large fuel particles microns or fractions of a micron in size. Nongaseous products also escape into atmosphere at separation of stages of a rocket launcher when engines are cut off and the remaining fuel is jettisoned from the tanks.

Solid propellant rocket engines offer a number of advantages over liquid-propellant ones, on the one hand, but have certain disadvantages on the other. The former include high dependability and relative simplicity making them the best choice for military applications, space rescue systems and SRBs (solid rocket boosters) of carrier rockets. The disadvantages include lower specific impulse and complicated controls.

Since complete and sustained combustion in solid-propellant rocket engines can only be attained at sufficiently high pressures (of tens of

UFO enthusiasts who see traces of aliens under every tree must pardon us for this joke. What you see on the picture is a reflection of light upon the camera lens, not an alien landing.

Photo by S. CHERNOUS

atmospheres), to switch off the engine this pressure has to be reduced. This is usually done by venting the rocket with the help of explosive valves. When this is done combustion products escape through these vents in different directions, producing an exhaust jetstream of complex configuration.

Specific (per second) propellant consumption varies within a wide range depending on the type of the carrier and altitude. The booster of the Soviet *Soyuz* spacecraft, for example, consumes from 300 kg/sec (second stage) to some 100 kg/sec (third stage).

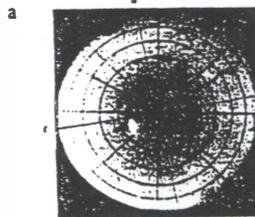
Having said all that, let us consider some of the optical effects generated by rocket launchings.

When observed at a relatively close range (tens of kilometers) the picture of a lift-off simply cannot be mistaken for anything else.

In twilight the rays of the setting sun can be reflected by the last stages of carrier rockets and other space objects, and the larger is the reflecting object the brighter is the glitter. At times space stations look much brighter than Venus of Jupiter. When an observed spacecraft rotates in orbit, the brightness of its image "blinks". At other times it may even appear that a spacecraft yaws from side to side. And there is nothing puzzling about all this for an experienced observer.

What deserves special mention, is the flame, or blast, produced by a rocket engine.

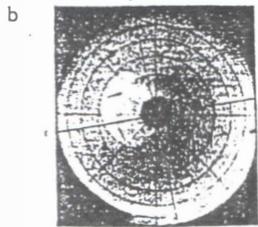
These pictures were taken at one-minute intervals by panoramic cameras tracking the flight path of the rocket launching *ESV Cosmos 955*. Photograph (a) shows a cone-shaped trail, and photograph (b) a pattern following the second stage separation.



It is a jet of combustion products (rocket gas) escaping from the jet nozzle at a velocity of 2.4 km/sec at a temperature of over 3000 degrees. This jet flame intensely emits radiation within a wide band, including the visible range. Because of a rapid cooling of rocket gas, the part of the jet flame with the strongest emission is not too large.

The luminosity of this source can be assessed if we assume that the inner region of the jet flame, and the jet nozzle, radiate as a black body having a certain temperature. Its effective surface may vary from several to tens of square meters. In the visible band the luminosity of such a source can be as high as 10^6 watts, the luminous flux from it — $6 \cdot 10^6$ lumens, its surface luminosity is $6 \cdot 10^3$ stilbs (this approaches the brightness of an acetylene burner, for example). From a distance of 10 kilometers a jet flame produces illuminance of up to one lux, which is several times greater than the light from a full moon.

At night and in the dusk this powerful bright light is visible from a distance of up



to several hundred kilometers. With a typical length of the jet flame of some 50 meters, its angular dimension at a distance of 200 kilometers will be close to one minute of the arc, that is the flame will look like "a bright star with a tail".

The aforesaid values may differ by several times from the real ones, and in citing them we merely attempted to draw a general picture of the situation.

And there is yet another and large category of optical phenomena associated with rocket launchings. These phenomena surpass all other in diversity and intensity. They are caused by the scattering of sunlight at dusk by the gas-and-dust cloud from rocket exhaust. There are no direct natural analogues to such optical effects because they usually occur at altitudes where no natural aerosols are present.

At lower altitudes, where air density is still high, the expanding cloud of exhaust rocket gas encounters dynamic resistance and the gas-and-dust trail from a rocket engine has relatively small size. But at greater altitudes, where gas friction is negligible, this cloud

can assume fantastic shape: as it spreads to tens and even hundreds of kilometers.

Its glow can be far brighter than all other effects. This mainly depends on the mass of the scattered matter and particle size. When it is less than the wavelength of incident light, the scattered light intensity is proportional to the square of the particles volume. Therefore the brightest part of the gas-and-dust trail are those with greater quantities of larger particles. These are the areas where rocket engine were switched on and shut down. Thus the intensity of sunlight, scattered on 50 kilograms of rocket exhaust containing particles of 0.1 micrometers would amount to about $3 \cdot 10^{-6}$ of the intensity of incident light. The illuminance of a gas-and-dust cloud lit by the sun can be several times greater than that from a full moon over a distance of 300 kilometers in any direction.

The shape of the gas-and-dust cloud depends to a large extent, if not in full, on the rocket velocity, velocity of the jet exhaust, the number and arrangement of the nozzles and vents in combustion chambers. And the cloud can assume most fantastic shapes. Say, when a rocket is spin-stabilized, there would be spiral-shaped exhaust trail when the engine is cut off. In other cases the cloud could be of a round shape or of more complex "regular" geometry.

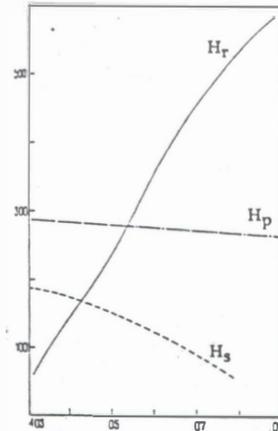
It goes without saying that

the flight trajectory the situation continued to change (see the figure). At approximately 04.05 hours the rocket, powered by its second-stage engine, emerged from the Earth shadow and its gas-and-dust trail was illuminated by sunlight. A projection of the launch trajectory upon a plane of observation from Petrozavodsk and the succession of events in the Petrozavodsk phenomenon reconstructed from eyewitness accounts all lead to one and the same clear conclusion: the particular combination of interrelated data rules out, or to be more cautious, makes highly improbable mere coincidence. A similar comparative analysis conducted on the basis of sighting reports from other places in the same region also clearly points to a connection between the *ESV Cosmos 955* launching and the observed phenomenon.

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The Petrozavodsk phenomenon was caused by the launch of *ESV Cosmos 955*. The chart illustrates how the situation developed with changing altitude of the carrier rocket and the height of the Earth's shadow along the flight path.

H_r — altitude of the carrier rocket;



H_s — height of the Earth's shadow at launch site;
 H_p — height of the Earth's shadow in Petrozavodsk area.

Plotted on the horizontal axis is time (hours and minutes), and along the vertical axis — distance (kilometers).

the still dark sky, emitting bright bursts of light. The "star" was slowly approaching Petrozavodsk and then sprawled over the city, like a "jelly-fish" pouring upon the city a maze of fine beams of light, which looked like pouring rain.

After some time the rays disappeared. The "jelly-fish" assumed the shape of a bright semicircle and started moving in the direction of Lake Onega... According to eyewitnesses, the phenomenon continued for 10-12 minutes."

All sorts of explanations were suggested following this sighting, from chemoluminescence generated by "an escape of stratospheric ozone into upper troposphere to "a gas discharge of a peculiar shape". It was also rumored that not one, but a cluster of more than 30 objects were sighted (the number probably accorded with the number of received reports), which amounted to a sinister UFO invasion. The suggested hypotheses were largely based on the parameters of the phenomenon as reported by the eyewitnesses, while totally ignoring the probability of individual error.

A. Mezentsev of Petrozavodsk State University came to the following conclusion on the strength of calculations based on the sighting details: the phenomenon unfolded at a relatively short distance from the observers. But the only reliable piece of evidence was the altitude of the object over the ground

the glow of a gas-and-dust cloud also depends on other radiation mechanisms like luminescence and resonance scattering on certain components, but these are only contributing factors to the main effect. When a rocket passes through areas not illuminated by sunlight, the predominant glow mechanisms would be of a different kind.

Having said all that, we can address ourselves to the actual, and often quite sensational, sightings. Perhaps the better known of them all was the so-called Petrozavodsk phenomenon. A report appearing on September 23, 1977 in the Soviet government newspaper *Izvestia* said, "The residents of Petrozavodsk have witnessed an extraordinary natural phenomenon. On September 20 at about 4 o'clock in the morning, a huge bright "star" suddenly appeared on

In addition there are the data from instrumental observations which eliminate all doubts as to the physical nature of the aforesaid phenomenon. A chain of stations in the polar latitudes of the Northern and Southern hemispheres conduct instrument observations of aurora borealis at night time in accordance with a coordinated international program. The main instrument used for such observations is a mirror photo camera C-180 with a field of 180 degrees. It is used for automatic photographing of the sky in keeping with preset programs. At the time of the Petrozavodsk phenomenon panoramic pictures were taken in the area of Arkhangelsk and Murmansk.

Their analysis made it possible to trace the progress of the phenomenon from different spots, permitting to pinpoint it in space. The successive photographs indicate that it started with a luminous "dot" — the rocket engine jet flame. At 04.04 hours it was registered only by the camera near Arkhangelsk, since the glow area was at a relatively low altitude. At 04.05 hours the "cone-shaped" cloud was registered by the Kola station which had been registering nothing but northern lights. At 04.06 hours the cloud grew sharply and assumed the "jelly-fish" shape.

The initial stage of formation of an elongated glowing

and the distance from it, which were 6.5 and 10 kilometers respectively.

In October 1977, D. Oberg of NASA suggested that the Petrozavodsk phenomenon was linked with the launching of the *Cosmos 955* satellite. The final conclusion was based, besides eyewitness accounts, on the trajectory parameters of the satellite launcher and tracking data.

But what did actually take place and how things developed that night? *Cosmos 955* was launched from the Plesetsk launch site on September 20, 1977 at 04.01 hours Moscow Time in a near-northern direction (orbit inclination — 81.2 degrees). At 4 a.m. on September 20 the altitude of Earth's shadow at the launch site was some 200 kilometers, exceeding 400 kilometers over Petrozavodsk. In other words the launcher rocket did not pass through areas illuminated by sunlight right after the launch. But further along

area is in good agreement with the time when the carrier rocket emerged from the Earth shadow, and the development of the large-scale "jelly-fish" structure emitting rays of light — with the second stage separation. The separation took place at a great altitude with the rocket gas and jettisoned fuel spreading practically unobstructed and producing a huge cloud. Sunlight scattered on the cloud produced the visual effect sighted by eyewitnesses and registered by the photo cameras. The "jelly-fish" shape of the cloud emitting "rays", that is jets of gas and dust, was due to the second-stage engine being cut off and the third-stage engine taking over. It also depended on the angle of observation.

In similar illumination conditions optical phenomena were sighted following the launches of *Cosmos 1188* on June 14, 1980, *Meteor 2* on May 15, 1981, *Cosmos 1581* on July 3, 1984 and many others. An analysis of sighting reports indicates that most visual effects described as anomalous were of the same nature.

Now, let us consider a phenomenon which seems to have nothing in common with rocket launchings. It was described as an UFO landing over Serpukhov. Here is its brief description, "On August 20, 1977 several people (picking mushrooms) were walking along a forest path at about half past midnight seeking a good place for camping... Suddenly they heard come voices which abruptly went silent. Half an hour later the group finally made camp for the night. Then there appeared some 300 meters away from them, and approximately in the direction of the strange voices,

a brightly glowing object, like a light bulb standing upright. According to subsequent recollections, it was some 15 meters high and some 10 meters in diameter at the thickest part. But the "bulb" did not illuminate the ground around it. It was rising from the ground without the slightest sound, movement of air or smell. Then a bright greyish cloud appeared in the clear starlit sky and the "bulb" entered it, being seen as a bright star. Shortly after the "bulb" and the cloud faded away. In the morning the campers went to the lift-off spot where they saw a crater some 4 meters in diameter and flattened grass all around."

The spot was later repeatedly investigated by teams of amateurs who described it as a "place of contact of an UFO with the ground". It was a spot with increased activity some 4 meters in diameter (with four "petals" 30 to 40 centimeters long). Damage to vegetation included scorched roots of plants, as if produced by VHF radiation, reduced vital activity of the Protozoa, frequency deviations of a quartz generator from the mean values, and a deviation of 2-3 degrees of a directional antenna of a medium-wave radio. The observed psychophysical symptoms included a feeling of fatigue and depression in people and agitation in dogs, which started digging the ground in that spot...

The conclusion was that the group of campers passed that night by a grounded UFO. Aware of their approach, the crew went silent (the conversation stopping abruptly) and took off to evade discovery.

Now, let us begin from the beginning. As we all know, human sight can be relied on only at relatively short

distances, and one can judge the size of observed objects only by comparison. In this particular case it was practically impossible to draw comparisons of this kind because it was dark. All we can be sure of is the direction of the object and its angular dimensions. Eyewitness accounts say that the strange object was sighted in the northern direction and its angular dimensions were approximately 3 degrees.

Thus the objective information of the eyewitnesses boils down to the approximate direction of the sighting and its approximate time (20 to 30 minutes, give or take). There is also the angular size of the object (a 15-meter high object observed from a distance of some 300 meters corresponds to an angular dimension of about 3 degrees, which is nearly six diameters of a full moon). The sighting report also suggests that the object was seen from a considerable distance since it did not illuminate the ground around it, although it shone brightly, and that its flight was absolutely noiseless.

The obvious question to ask — is there any link between the phenomenon and the results of the subsequent investigations of "the active spot"? Assuming that the investigators did find the anomalies they reported, could there be some very natural explanation for them? The strange "spot" happens to be located at the edge of a farm field and, this being so,

could it be used for dumping fertilizer, for example?

And there is still the more fundamental question about the validity of the results of the investigation. Having nothing to say about the plant roots "scorched as if by VHF radiation", let us note that the frequency deviation of the quartz generator was within the limits of a measurement error.

The displacement of the directional diagram of the radio set was of the order of 2 to 3 degrees. Since the arms of its ferrite antenna are set at about 90 degrees, one wonders how it was possible to measure such small displacement using such a crude instrument which must have been simply carried into the "active zone" by hand.

And the most fragile piece of evidence was the agitated behavior of the dogs who "started digging" the earth.

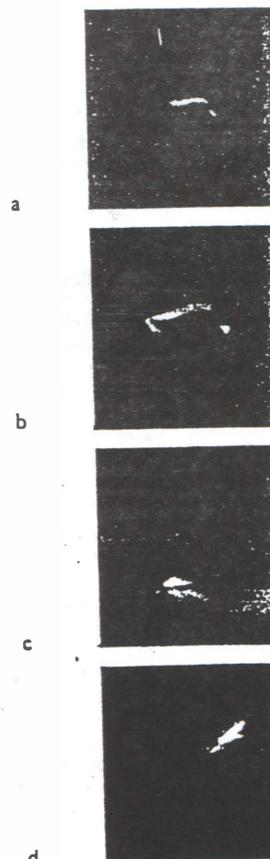
Later on another team of enthusiasts re-examined several "UFO landing sites", including the one near the village of Proletarsky. Skipping the details, let us concentrate on their findings. They reported significant changes of temperature in the environment, affecting the frequency of their generators. To rule out the temperature factor, the subsequent measurements were done using thermostated standard instruments. Their frequency remained constant with an accuracy of $2 \cdot 10^{-6}$ of the nominal, within or without "the active zone".

Thus, the "increased activity upon UFO landing sites" turned out to be sheer imagination.

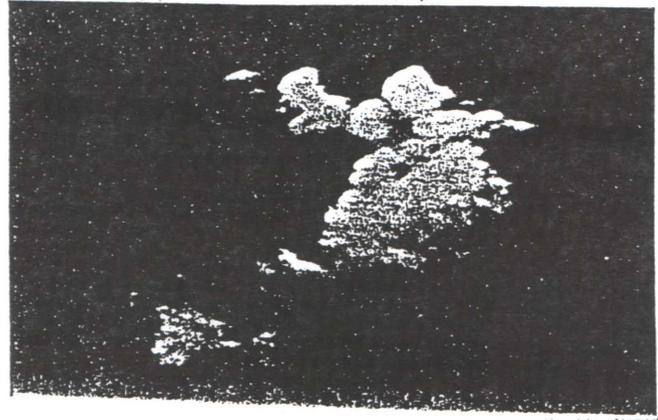
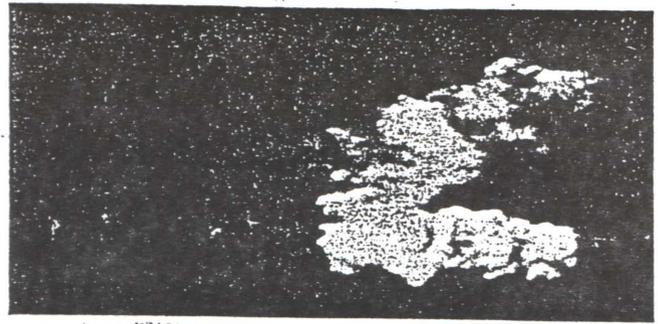
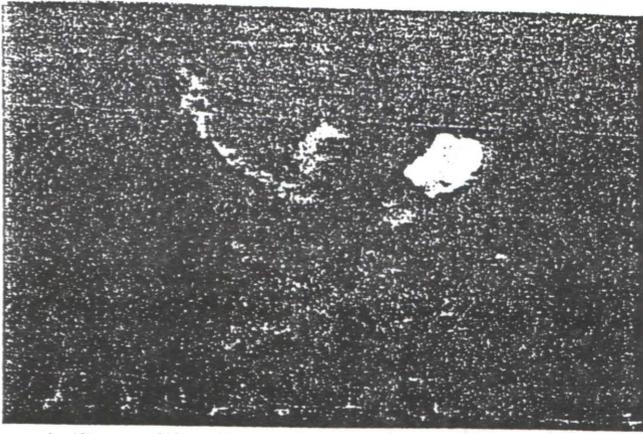
A number of indirect clues (the bulb-like shape of the UFO, which "transformed into a bright spot" in absolute silence etc.) lead one to assume that what was actually observed was not "a UFO landing", but a rocket launch. As was later confirmed, test launchings of rockets were conducted at that time. Obviously the time of the sighting and the reported direction of the sighting was the direction to the launch pad. All this gives plenty of food for thought.

There is no denying the fact that there are spots on the Earth with local physical anomalies, such as in conductivity, magnetic field, acidity, humidity etc. In fact, there can be a whole number of such spots, and people with increased sensitivity can obviously identify these anomalies and locate them from a distance. How they do it offers a fascinating area of research. But writing off such spots as "UFO landing sites" and ignoring objective verification is jumping at conclusions, to put it mildly.

Robert Cowen, Science Editor of the *Christian Science Monitor*, former President of the National Association of Science Writers, had this to say on this subject, "It is tempting to dismiss the charge made by UFO buffs that in-



Photographs captured stages in the gas-and-dust cloud formation produced by the carrier rocket of *ESV Molnya 1*. The first picture (a) was taken right after the rocket crossed the border of the Earth's shadow at an altitude of just over 100 km. The second (b) and third (c) photographs show the gas-and-dust cloud and the rocket flame. The fourth picture (d) shows traces of the cloud some 7 minutes into the mission.



Development of the gas-and-dust cloud formed by jettisoned fuel.

telligence agencies have secret files on UFOs that they are reluctant to release. Most such material, when it is made available, contains no revelations on alien invasions. But it undoubtedly does pay such agencies to sift through UFO reports for any light they can shed on Soviet space secrets. To the extent that this process involves classified techniques, intelligence agencies probably — and properly — are withholding UFO information. Finally, what about all those

scout ships, car crashes and disintegrator rays?"

To bear out this conclusion, one could mention an article that appeared in the Soviet newspaper *Trud* in January 1985. It described an UFO sighting from an airliner flying from Tbilisi to Tallinn via Rostov-on-Don. An analysis of the sighting data (considerably mangled by the newspaper) led to the conclusion that in this case too the observed effects were caused by the engine of a rocket

flying through an area illuminated by the Sun. It was also confirmed that test launches of military missiles were conducted at that particular time. All the aforementioned sightings were connected with rocket launches from Plesetsk. Under certain conditions similar effects accompany rocket launching from Baikonur, Kapustin Ya and other launch sites in this and other countries. Are they of interest to modern science? Obviously yes, but only to the extent to which they help us understand the structure of areas where they occur, the physical conditions in upper atmosphere and near-Earth space, and, last but not least help us assess the impact of human activities on the environment.

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FIREBALL REPORTS

Arizona, USA, 4 August,
0345 GMT (3 August, 2045 MST)
Observer: David Osgood
Location: Grand Canyon National
Park, above 116 Mile Rapids
(36.06⁰N, 112.45⁰W)
1st sighting: Azim. 10⁰, alt. 60⁰
Last sighting: Azim. 10⁰, alt. 60⁰
Duration: 3 seconds
Magnitude: As bright as the
full moon
Color: white
Trail: Long, green
Termination: Vanished above horizon

New Hampshire, USA, 6 August,
0300 GMT (5 August, 2300 EDT)
Observer: Susan Cockrell
Location: Hillsboro
(43.12⁰N, 71.90⁰W)
Path: E-W, parallel to the
horizon through Sagittarius
Duration: 1 Second
Magnitude: Brighter than the
full moon
Color: White
Trail: Sparks, smoke
Termination: Vanished above
the horizon

California, USA, 12 August,
0950 GMT (0230 PDT).
Observers: Peter and Edna Noland
Location: Millville Plains
(40.58⁰N, 122.1⁰W)
Path: S from beta Cassiopeia
to alpha Pegasus
Duration: 2 seconds
Magnitude: Brighter than the
full moon
Color: White with blue
Termination: Flared brightly,
vanished above the horizon;
crackling sound heard 1-2 seconds
after termination

Pennsylvania, USA, 22 Sept.
0208 GMT (21 Sept, 2208 EDT)
Observer: John Betz
Location: Lewisberry
(76.88⁰N, 40.15⁰W)
Path: Azim. 80⁰ from Cygnus
to Pegasus
Duration: 4 seconds
Magnitude: Much brighter than
the full moon
Color: Blue-Green
Trail: Luminous, gray, with
sparks and smoke; 2⁰ long;
Sounds: Barely audible hissing
during fireball
Termination: Flared brightly,
fragmented into 3-4 pieces;
vanished above horizon

Florida, USA, 6 August,
0230 GMT (5 August, 2230 EDT)
Observer: Rick Smith
Location: St. Cloud
(28.25⁰N, 81.27⁰W)
Path: In the W sky at alt.
20⁰, travelling at alt. 20⁰,
traveling NNW at shallow
upward angle, ending at
alt. 30⁰
Duration: 1 second
Magnitude: Brighter than
Venus
Color: Blue-white
Trail: 1-2⁰ long
Termination: Fragmented into
4-5 pieces and vanished above
horizon.

Massachusetts, USA, 6 August,
0300 GMT (5 August, 2300 EDT)
Observer: Bill Simons
Location: Easthampton
(42.27⁰N, 72.67⁰W)
Last sighting: Azim. 220⁰,
from 30⁰ E of Polaris at
alt. 20⁰
Duration: 1 second
Magnitude: Brighter than the
full moon
Color: Blue-white
Trail: Sparks
Termination: Flared brightly
and vanished above the
horizon

Massachusetts, USA, 29 Sept.
0925 GMT (0525 EDT).
Observer: Don Karsberg
Location: Leicester
Path: SE from R.A. 12^h00^m,
dec. +60⁰ across entire sky
Duration: 3 seconds
Magnitude: Brighter than the
full moon
Color: Bright orange changing
to light green
Termination: Disappeared
behind trees

England, 11 August, 2316 GMT
(12 August, 0016 local time).
Observer: Alastair McBeath
Location: Morpeth
(55.160⁰N, 1.697⁰W)
1st sighting: R.A. 35⁰,
dec. +82⁰
End sighting: R.A. 233⁰,
dec. +62⁰
Duration: 3-4 seconds
Magnitude: -8
Color: Blue
Trail: Lasted 22 seconds

(Fireball Reports Cont')

East Germany, 8 April, 2037 GMT (2237 local time).

Observers:	Dieter Ewald	Tino Maj
Location:	Melchow (52.779°N, 13.703°E)	Teupitz (52.59°N, 13.79°E)
1st sighting:	R.A. 170°, dec. +12°	R.A. 210°, dec. +65°
End sighting:	R.A. 170°, dec. -19°	R.A. 65°, dec. -17°
Duration:	3-4 seconds	3 seconds
Magnitude:	-8 to -10	-8
Color:	Bluish-white, red	Yellow, red
Sounds:	none	Whizzing with fireball
Termination:	---	Fragmented

Hungary, 6 August, 2003 GMT (2203 local time).

Observer: Gabor Glasz
 Location: Mogyorosbanya (47.73°N, 18.60°E)
 1st Sighting: R.A. 277°, dec. +11°
 End sighting: R.A. 254°, dec. +3°
 Duration: 5 seconds
 Magnitude: -8
 Color: Yellow, yellowish-white
 Termination: Fragmented

Austria, 8 September, (2035 GMT 2235 local time)

Observer: Wilfred Heise
 Location: Sierning (48.07°N, 14.30°E)
 1st sighting: R.A. 35°, dec. +82°
 End sighting: R.A. 233°, dec. +62°
 Duration: 3-4 seconds
 Magnitude: -8
 Color: Blue
 Trail: Lasted 22 seconds

E of Brazil, 26 May, 0648 GMT (0348 local time)

Observer: Crew of Swissair
 SR 144 (Geneva-Rio de Janeiro)
 Location: 12.25°S, 37.93°W,
 Alt. 10.6°km
 1st sighting: Azim. 270°, alt. 20°
 End sighting: Azim. 250°, alt. 15°
 Duration: 2 seconds
 Magnitude: Dazzling

Pacific Ocean, 20 June, 1125 GMT

Observer: F/O A.J. Scott;
 Quantas Flight QF 18
 (Los Angeles-Papeete)
 Location: 1.53°S, 140.48°W
 alt. 10.7°km
 1st sighting: Azim. 220°
 mag., alt. 30°
 End sighting: Azim. 190°
 mag., alt. 15°
 Duration: 4-5 seconds
 Magnitude: Dazzling
 Color: White
 Termination: Fragmented into many pieces

Czechoslovakia, 26 May, 2350 GMT

"A very fast-moving fireball of -12 maximum absolute magnitude was photographed by 5 Czech stations of the European network. The fireball travelled a 151-km luminous trajectory in 3.8 seconds and terminated its light at a height of 56 km. The following results are based on all available records and should be close to final values."

	Beginning	Maximum Light	Terminal
Velocity (km/s)	40.23	39.10	16.
Height (km)	102.24	66.5	55.75
Latitude	49.3246°N	50.103°N	50.3461°N
Longitude	13.3655°E	12.478°E	12.193°E
Absolute Magnitude	-3.3	-12.3	-3.3
Photomet. mass (kg)	15.	7	none
Z R	71.43°	-	72.66°

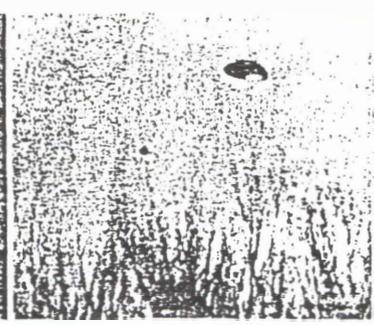
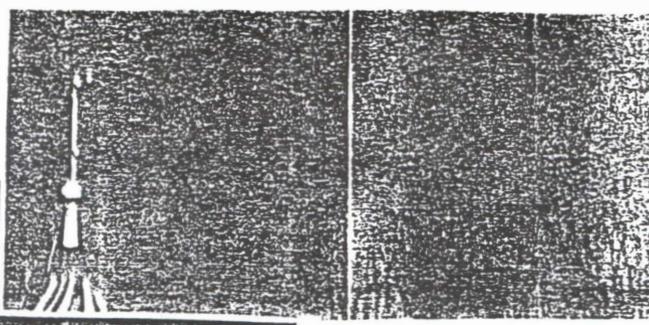
Japan, 7 May, 1159 GMT (2059 Japan Standard Time)

Observers: Capt. T. Stauffer, F/O S.T. Turner, F/E K. Tobler;
 Swissair SR 163 (Tokyo-Los Angeles)
 Location: 36.36 N, 141.91°E, alt. 10.6 km
 1st sighting: Azim. 55°, alt. 20°
 End sighting: Azim. 355°, alt. 0°
 Duration: 5 seconds
 Magnitude: Between full moon and Venus
 Color: Silver-white, orange sparks
 Trail: Long afterglow

This picture was taken by Mikhail Mozhin on July 31, 1982, when he observed the flight of six ALOs over St Basil's Cathedral on Red Square in Moscow. The two photos on the right were taken by Doctor Karagezdy on July 27, 1977, in Azerbaijan, the Caucasus.



People whose judgement may be relied upon have collected many facts pointing to the existence of certain forces and certain intelligent beings interfering in human life.
Konstantin Tsiolkovsky



TIME TO STUDY THE FACTS

by Mark MILCHNER, a biophysicist
Photos from the author's archives

The above epigraph, which belongs to an outstanding scientist of our time and the founder of world cosmonautics, clearly shows what he thought of the fairly mysterious and debatable problem of the possible contact between earthly, human civilization and intelligent beings from extra-terrestrial worlds.

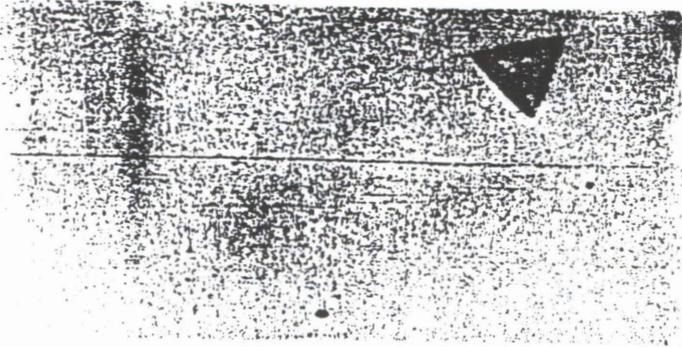
Indeed, have non-earthmen ever visited our planet? Are contacts with them maintained today? Are such contacts possible in the future? These questions still many people, especially enthusiasts researching the problem. I will try to answer these questions and outline the appropriate little-known views of Tsiolkovsky. This great schoolteacher of Kaluga not only foresaw mankind's egress into outer space, but also, long before the commencement of the Space Age

and the huge growth of interest in "visitors", declared that extra-terrestrial civilizations could exist and make contact with mankind.

Unfortunately, there is no telling what facts collected by "people whose judgement may be relied upon" Tsiolkovsky had in mind. The scientist did not specify them. But the phrase itself is highly significant, suggesting that appropriate facts existed even in his days, that people collected and tried to analyse them over half a century ago! And what is the situation now?

It is known that twenty years ago groups of researchers all over the world collected about two hundred thousand stories about flying saucers, tales of other unorthodox phenomena, and of contacts between humans and extra-terrestrial beings, referred to as hominoids. If all these were falsifications or hallucinations, it would suggest that the world is full of lunatics, wouldn't it? Shouldn't these stories be carefully studied?

Here is what Tsiolkovsky wrote in 1928 in his work *The Will of the Universe. Unknown Intelligent Forces*:
"A mass of inexplicable phenomena have been recorded in history and literature. The majority of them can un-



This photo was taken by cameraman Siegfurd Dugins on August 4, 1968, in Riga. He claimed he saw 12 small objects flying from and to a larger object.

doubtedly be classed with hallucinations and other delusions, but does this apply to all such phenomena? Now that the possibility of interplanetary travel has been proved, man should show greater consideration for such 'incomprehensible' phenomena. I believe that some such phenomena are not illusions, but real proof of the presence of unknown intelligent forces in outer space."

Tsiolkovsky categorized as such phenomena. In particular, irrefragable of a geometric figure and a man which he had observed in the sky in the spring of 1886 and the word "ChAU" which he had seen spelled in Russian letters on the horizon during the sunset on May 31, 1928. Thus, Tsiolkovsky observed what is known as anomalous phenomena himself.

It all shows that obscure phenomena do exist. Moreover, researchers have found evidence of possible contacts between humans and extra-terrestrials in the distant past. I will make bold to say that in our days, too, thousands of people have seen objects which I call ALO (astra-levitating objects, or objects flying from the stars in the sky).

The eyewitness accounts of such phenomena are fairly numerous, and

well-documented.

A group of enthusiasts in the West has even set up an international organization for coordinating the study of UFOs — ICUFON (Intercontinental UFO Galactic Space-craft Research and Analytic Network).

For instance, one of the most recent eyewitness accounts came from Mozambique. On February 11, 1988, thousands of people in the city of Beira witnessed an ALO flight.

The object appeared in the sky at approximately three o'clock in the afternoon local time, hanging over the city. Workers at the local meteorological station said that the object, which looked like a parachute and had two powerful sources of light aboard, remained at a height of about three kilometres and could be very well observed through field-glasses. It continuously revolved around its axis. From a short distance the object was observed by the pilots of a passenger plane of the Mozambique LAM Air Company, which, having taken off from the city airport, was then gaining altitude. Only three hours later did this gleaming object fly away

southwards. Incidentally, this unorthodox phenomenon was also watched by APN's and *Izvestia's* own correspondents in Mozambique (see *Izvestia*, February 18, 1988).

How can we, scientists, classify the multitude of similar facts? They are either well-presented falsifications or true stories. Everyone is free to interpret them as he wishes.

Of course, it would be simple to laugh off all these stories. But I am not an advocate of such an approach.

It is known that during the first meeting between Mikhail Gorbachev and Ronald Reagan in Geneva, the US President said that if the Earth was threatened by an extra-terrestrial invasion, the United States and the Soviet Union should pool their efforts to rebuff any attack. Was this just a casually dropped idea, a hyperbole geared to emphasize the importance of this meeting of the top leaders of our two countries? However, it is quite possible that President Reagan was not joking at all, that he had serious reasons for making such a statement.

Possibly, efforts to decipher the ALO structure and manufacturing technology are being made in the United States, and Americans are working seriously on the problem of contact with messengers of extra-terrestrial civilizations. Back in 1981 Dr. Colman S. von Kevitzky, Director of above-mentioned ICUFON, a member of the American Institute of Aeronautics and Astronautics (Aerospace), and a former military man, sent to President Reagan two packages of materials containing proofs of the military activity of UFO's ("flying saucers"), demanding that the government prevent a fatal war between the United States and galactic forces. This brings to mind H.G. Wells' *The War of the Worlds*, doesn't it? Von Kevitzky received a reply from the Assistant to the President for National Security Af-

airs in the US National Security Council, Major-General Robert L. Schweitzer, saying that the President was fully aware of the threat so competently outlined in Kevitzky's document. Soon afterwards, General Schweitzer was dismissed — in the opinion of US researchers, under an all too clearly fabricated excuse. It seems as if the real reason for his dismissal was Schweitzer's indirect admission of the development of problems connected with contacts with UFOs in the United States. That cost him his position.

The most curious fact, however, was that long before this happened the *National Enquirer* Magazine published extracts from statements of official representatives of the US State Department about a possible threat posed by extra-terrestrial visitors.

In view of the hushing up of this problem, Dr. von Kevitzky made public all information about UFO activity he had in a Memorandum intended for the government and peoples of all countries. A press release which was then circulated warned that the pursuit of UFOs by earthly military forces could provoke a global Pearl Harbor. The Memorandum said that instead of the insane slipdown, with all its nuclear arsenals and secret military missions, towards a war in space, man should realize that he was not an isolated entity living on a planet isolated in the Universe.

Another press release, issued by the ICUFON jointly with the Planetary Professional Citizens Committee in 1982, said that the time had come to lift the iron curtain of the secrecy surrounding the global UFO problem. All available documents regarding UFOs should be granted to interested individuals and institutions.

So that is where the wind blows from. And, as I see it, it was no fortuity that the US President should suddenly have raised the question of visitors from out-

er space. This subject was too serious for high-level jokes.

I am profoundly convinced of the objectivity and authenticity of much ALO data, having done fifteen years' research myself jointly with specialists in various fields. Our research has a public service basis. We have collected a vast body of information on the sites of presumptive ALO Landings — eyewitness accounts, photographs, and the data of various physico-chemical analyses. At the places of putative ALO landings and contacts of earthmen with non-earthmen aided by biological detection and ranging frames measurements were taken of the residual fields induced by the extra-terrestrial visitors on the ground and in the atmosphere. It was established that these fields survived for seven to nine years.

Furthermore, we closely questioned those who claimed that they had been in contact with non-earthmen. The questioning was done under hypnosis (hypnotesting), the conversations being tape-recorded. To our way of thinking, such a method made it possible to establish the authenticity of the contactor's story, to reconstruct forgotten facts, and to specify details. Of the twelve contactors, four were interrogated using this method.

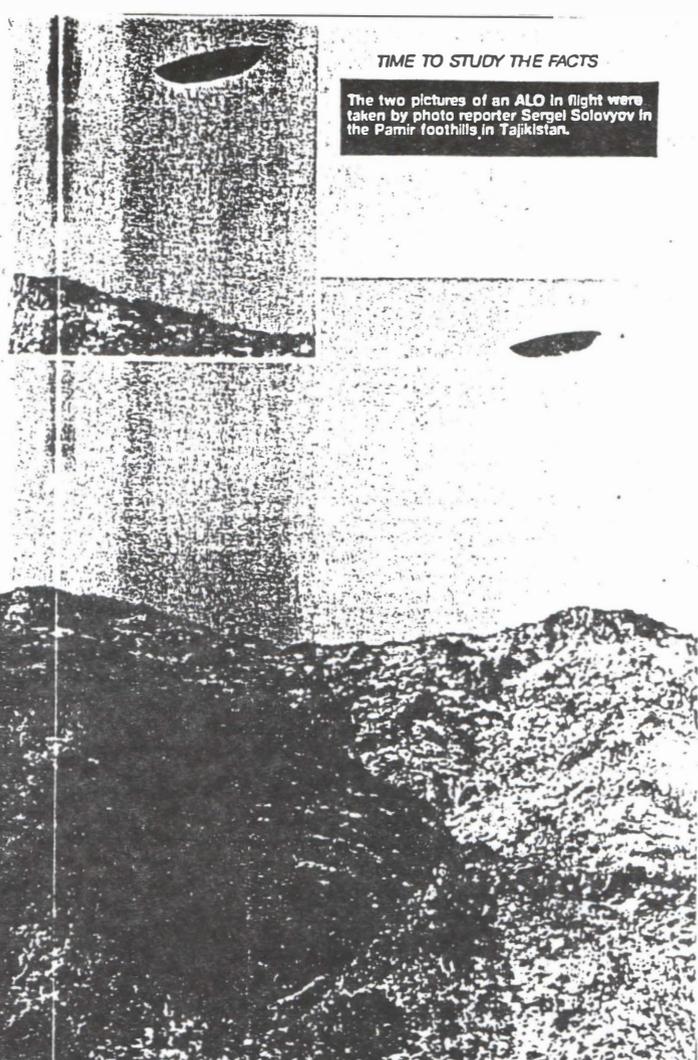
The most incredible case of contact was an encounter by driver V.P.B. with extra-terrestrials near the village of Polushino in the Mozhaisk District of the Moscow Region. The meeting, it was claimed, took place on July 28, 1980. The visitors studied the contactor using a ring-shaped cap placed on his head and connected by cables to a panel. Then they talked with him. Finally, they told the man that he would forget about their encounter. And indeed he only recalled it following a period of great stress. A detailed study of a map depicted by the contactor which he had

seen over the panel aboard the extra-terrestrial vehicle and which had consisted of nine stars that had formed a hoof-shaped figure led us to draw the conclusion that this particular ALO had arrived from the southern constellation of Vela (Sails).

I realize that any sober-minded reader might be persuaded that all these stories are a mere send-up. Another surprise is the abundance of proofs of encounters with ALOs and ALOnauts. Such a profusion of facts has a double explanation: either the earthmen are susceptible to collective psychosis or extra-terrestrial civilizations really are studying our planet. There are no other possibilities.

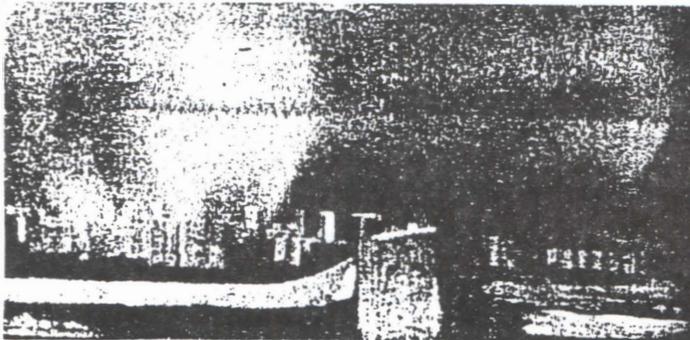
Why not assume that at least some of the "flying saucers" have indeed been vehicles of extra-terrestrial civilizations? After all, many serious scientists have no doubt that such civilizations exist.

Now let us return to the views of our great dreamer, whose works are still only poorly known. In many of his writings Tsiolkovsky tries to convince his readers that life does exist on other planets, that outer space is populated by highly intelligent social beings and predominantly highly developed civilizations. In his *Scientific Ethics* he wrote: "Since life has appeared on Earth, why shouldn't it have appeared on billions of other planets having the same conditions as our own? The presence of life in the Universe is an incontestable fact. To assume that, apart from man, the Universe is unpopulated and lifeless because we cannot see its life is a gross delusion." According to Tsiolkovsky, when civilization spreads from one area of outer space to another, it "creates a wide variety of breeds of perfect beings — capable of living in different atmospheres, at different gravity, on different planets, in a vacuum or



TIME TO STUDY THE FACTS

The two pictures of an ALO in flight were taken by photo reporter Sergel Solovoyov in the Pamir foothills in Tajikistan.



in rarefied gas, living on food and without food — exclusively on sunrays, beings which resist heat, beings which resist cold, and beings which resist abrupt and considerable temperature fluctuations".

But a question arises, why have representatives of extra-terrestrial civilizations to this day failed to present themselves to mankind with full visual clarity? As if anticipating this question, in 1933 Tsiolkovsky wrote on a letter from student A.Yudin of Tomsk: "Attempts of higher beings to help us are possible, because they continue to be made to this day. We, people, do not try to convince animals of the irrationality of their life. The distance between us and perfect beings is hardly any less."

But if we concede that people may encounter probes and ALOnauts, we should think about making psychological preparations for such contacts. The importance of such psychological readiness goes far beyond the confines of cosmonautics proper. Man must form a clear idea of what he wants of the possible contacts with extra-terrestrial civilizations. Perhaps in view of such contacts he should at least cease to silence the problem and talk about it openly?

It is clear that the problem of search-

Cameraman Dmitri Kamensky saw and took picture of what he believed was an ALO hovering above Moscow on January 24, 1987.

ing for contacts with extra-terrestrial civilizations must pass from the field of purely academic speculations to the field of scientific research and practical actions not limited to radioastronomy. It appears that searching for and studying the emergence of ALOs and the presumptive "contact" with representatives of other worlds should change from a semi-legal gratuitous occupation into work of serious research teams, which, most importantly, would strive not to disprove eyewitness accounts, but to search for proofs of such contacts. Methodologically, such an approach would be more fruitful. The only way to solve this problem is by using integral methods and by drawing on the achievements of various branches of science — natural, engineering, and social. This requires laboratories fitted with special equipment for searching for, confirming, and meticulously analysing "contacts". This should be done if only to make the problem cease to be an object of speculation, science fiction, send-ups, and mystification, so that science could, with full confidence, declare its findings on the subject.

TIME TO STUDY THE FACTS

Incidentally, it should be recalled that Tsiolkovsky was against any limitation of the sphere of scientific research. Speaking with his friend Alexander Chizhevsky, one of the founders of cosmobiology, he made indignant remarks about people who regarded as scientific only what they already "hold in their hands", excluding obscure phenomena from the sphere of science:

"Man is yet to study the entire Universe, a place which abounds in unknown and simply obscure phenomena. And yet he is already putting up fences between the possible and the impossible! Study this, but don't dare touch that!"

What an apt and absolutely correct summing up of the question! The entire history of the formation of many scientific disciplines, including cosmonautics, shows that unorthodox ideas were first denied acceptance. Research connected with the quest for ALOs is presently at an embryonic stage. In fact, it is being rejected as absurd because it "contradicts science".

And how good it would be if the scientific search for extra-terrestrial civilizations were always keynoted by the words of another pioneer of Soviet cosmonautics, Friedrich Tsander:

"Who, fixing his gaze on the sky clear autumn night, at the sight of stars glimmering in it, has not thought that distant planets are perhaps inhabited by intelligent beings like ourselves but are culturally thousands of years ahead of us? Innumerable cultural values could be delivered to the Earth and multiply the treasury of science if man could transport himself there. What negligible expenditures this great scheme would require compared to what man squanders!"



UFO Research
DARUSH BAGHERI Director

بررسی ارتباط ممکن

POSSIBLE RELATION REVIEW

U.F.O Research in Iran

by: Darush Bagheri

18 Sept. 1976

27th SHAHRIVAR 1355 11.PM

TEHRAN_

Some of citizen contacted Tehran Mehrabad Airport tower control & informing them about unidentified bright object about SIED KHANDAN & SHARIEATI STREET. Tower Control after contacting a fighter plane F.4 which was patrolling in Tehran Sky, made sure that unidentified object is in the air so ordered the fighter plane pilot to follow him.

Report came about said that the unidentified object changing its position Rapidly with high speed & changing colour with changing in shape & profile.

At 1 am the unidentified object had gone to south of Tehran.

At 2.30 -400 Am had landed in Tehran southern desert (Shahr ray) Fighter pilot reported that the cunner system of air craft was not working & some disterbanse have been seen in the system-this was the first & only report which compelet & supported Report in year 1355 - 1976 from seeing U.F.O in Iran.

Before & after above date lots of reports from seeing UFO & the people approach toward UFO have been came about.

At Esfand 1356 Feb.1977 another UFO which has gone from south to north of Tehran, been detected by commercial pilot of airplane Tehran -Shiraz Route.

in 24th Tir 1357 15 Jun. 1978 the same Reported to N.I.R.T.V & Mehrabad airport Tehran tower control & again another unidentified object been seen in Tehran Sky with changing in colour to Pink, Blue , Yellow , Red,



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POSSIBLE RELATION REVIEW

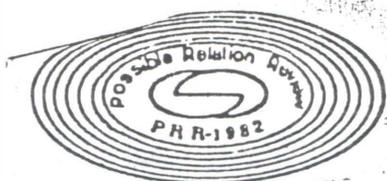
White & Moving from one spot to another spot.

Another Report in Kihan newspaper at 26th Ordibehesht 1365, 16 May 1986 ,
Saying about U.F.O at 10 Pm. Thursday the 25 of Ordibehesht 1365 , 15 May
1986 , an Bright object been seen above western north Mountains of Tehran
and I was witness to this occurrence.

In about 3000 meter from my house in Shahr Ziba. a large bright object had
appeared about 10 minute & with loosen in its brightness disappeared &
after some minutes it appeared 20° west north, bright , enormous & changing
in colour from Red, Yellow , Red & White with movement , after 15 minute
it disappeared & may this disappearance was due to war situation between
Iran & Iraq which the airforce thought this is an enemy plane so adered
to fire the object. Before Islamic Revolution U.F.O Phanaminoun has been
in newspaper & news agencis but it was not a comen matter of Research &
investigation of media & toward this subject a program in T.V called
Danesh under directory of MR. Mirfaghraii , in this program two commercial
pilot were invited & they had talked about this phanaminoun & they stated
that this is afact & continued.

Also in Djavanan Magezine a series of documentry report & stories about
U.F.O & it has to said that most of those report were the translation of
reports in foriegn newspapers & magezine & most of them were with out
fact & were imegenary storey & were out of truth.

In those years it was not any committe or organization that use this
phenominoun as a new technology & application & sometimes due to costumery
& hostile the people thought about the U.F.O subject As a international
Jock which came out of European Eurdite mind.



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POSSIBLE RELATION REVIEW

After Islamic Revelation this subject been forgotten & it was not been mentioned in newspapers or news agencies. and Iranian Government in TV on Monday 14th of AZAR 1367 , 5 Dec. 1988 at 9.45 pm from channel 1 stated that any Research about this subject is wasting time & this is not a true story. Danesh group from channel 1 of Iranian TV. which have prepared this program, the matter of U.F.O & any research about this subject is propaganda from super power & Iraj Malek Pour Dr. called this phenomenon is related to USA & USSR, and it is matter of interest that MR MIRFAGHARI was produce & introducer of this program who is the same person that before revolution was so researching and inphusiastic about subject and he was the only person that represent the NASA Memorium to the two commercial pilot & today he is refusing this matter why he do that.

The fact is what the Iranian thing of UFO is in question which is related to the social & educational status & thinking system. Iranian are people which have religion effect & specially after the Islamic Revolution this effect have been quite large & complicated.

Due to the point that Iranian government toward his idea & desired will emphasis the religious and vertise & prepaganda & the reason why the Iranian people towards UFO & its function, have no emphasis is not too difficult, and having no close relation with information also is another reason that this matter is unknown.

In any way the matter of fact is UFO is an educational & technical phenomenon & it is no belong to the special people or group , consequently you are agree that me & my fellow staff have so much problem for research.



UFO Research

DARUSH BAGHERI Director

بررسی ارتباط ممکن

POSSIBLE RELATION REVIEW

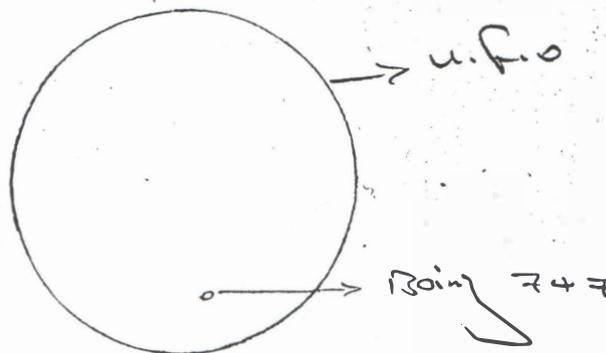
and describing this matter.

It may come a day that this people can believe my by seeing the UFO on their roof & gone far from the hostile mind & be armed to the mind which I call if bravoryot accept ances of Actuality.



The Arrangement of some UFO which was Reported by pilots & has been in Kihan Newspaper.

The picture of UFO which is in comparison with the Boing 474 which was Reported by Pilots.



UFOCAT POST-MORTEM
A Critique

As stated on the first page of it's CODE BOOK (Ref.1), the name UFOCAT refers to a "computerized catalog of UFO reports and related information". The basic unit of UFOCAT is called an "entry" and is contained in a record of 256 hexadecimal characters of which only about 200 are available for raw data.

From the user viewpoint, this means that the information for each entry can be printed on one single line of computer output, but also implies that practically each character of that line is coded, requiring the use of a rather complicated code book, from hereon referred to as CB.

"... each entry reflects the input of one witness about ONE event as reported via ONE source.... a given entry should accurately reflect the data as given by it's own source, even when those data are known to be accurate."

This, in a nutshell, describes the exact nature of UFOCAT and epitomizes the basic design flaw which precludes it's use as a practical and sound tool for ufology: it is not a data base of UFO cases, but a mere catalog of sources of events that may or may not be reasonable genuine cases!

Although the CB promises "to flag data suspected of inaccuracy," nothing much was done in practice, which is easy to understand: the coders pored over as many sources as they could find without any attempt at critical evaluation, the emphasis being place on numbers rather than on quality or scientific value.

This potpourri, of original sources and the lack of discernment in selecting the entries have already been pointed out by Hendry (Ref.2, p.244) and I totally subscribe to his criticisms. Among other things, Hendry indicates that telling considerations, such as terrain, weather, shapes, motions, witness data, credibility, and many others are in the immense majority of the cases not coded at all, as I have been able to verify personally. Most damaging for any possible statistical use of UFOCAT is that the organizers decided to include in to the Air Force's Project Blue Book cases, which amount to 22% of the entries in UFOCAT. But the Blue Book files are 95% IFOs: So much for the value of UFOCAT as a source of genuine UFO cases!

On the positive side, Hendry thought at the time that one redeeming feature of UFOCAT could be it's use as a bibliography of raw UFO reports (Ref.2, p.247). This, however, has turned out to be only wishful thinking, as the references for each entry are, like most everything else in UFOCAT, coded -- and poorly coded at that!--and no complete list of sources seems to exist. I have the last version of the CB, and it has proven totally insufficient for locating original sources.

Spotty encoding, inappropriate source references and multiple entries for a single case do not tell the whole story. There are built-in features of UFOCAT that make it completely impractical, as for instance, the need to interpret the printouts character-by-character. Indeed, I am sure that the creators didn't realize that for the average researcher this effectively eliminated any possible use of the information --good or bad--but figured out that once the data was coded and entered, it would always be possible (for them) to write a suitable program to extract whatever information was desired. And those are the key words: "to write a program," which requires the availability of a mainframe computer and a programmer to produce the required software. All of these things take time, money, and know-how, and the reality of UFOCAT was that not even Dr. Hynek could gain access to it. Needless to say, this was one of the factors that heavily influenced our decision (Dr. Hynek's and mine) to start the UNICAT Project

based on a completely different philosophy. In short, UFOCAT was not state of the art, and a fresh approach was mandatory.

But there is still more, much more, that becomes painfully evident when attempting to extract information from a UFOCAT printout.

As was already stated, UFOCAT is a listing of sources of UFO reports, NOT a catalog of UFO cases. Even for a single case, one is unable to get much useful information. Let's take as an example a very well known incident: the abduction of the Brazilian Antonio Villas Boas. UFOCAT lists 22 entries around the correct date (which is 571016) and many others on dates which are either incomplete (like the year only) or erroneous. Concentrating on those 22 entries, only a few have the correct date and time, and the name of the witness and the place are expressed in various forms. But some basic pieces of information cannot be obtained: duration of the incident ranges from 30 minutes to 4 hours, with nothing to indicate that a little more than 4 hours is the correct value. Worse still, the UFO type, which is really a strangeness index according to the definitions discussed elsewhere, ranges from 5 to 9, but omits 8, which corresponds to abductions!

Yet, UFOCAT has been used by some, not surprisingly mostly it's creators, to obtain statistical conclusions (Ref. 3 and 4).

To gain some insight into how this work was done, I have reviewed some of the papers published in the literature. In Dr. Saunders study of the distribution of UFO events among the days of the week (Ref.3), he admits that multiple entries could cause a bias, but indicates that this is obviated "by instructing the computer to tally a maximum of one event per political unit per date." The political unit in the Villas Boas case is Brazil, which means that this particular incident was considered at least three times (the dates of Oct. 14, 15, and 16) and perhaps many more, as the case appears under numerous other dates, probably with reference to night lights observed by the witness on previous days. Without further ado, one can safely conclude that the resulting statistics are very shaky, to say the least. This, in fact, is verified by the discrepancy between Saunder's results and the "simple-minded assumption" (sic) that all seven days of the week are alike. And why not? It seems a reasonable assumption, either if the UFO phenomena is a natural occurrence, in which case it's distribution should be uniform throughout the week, or if it is a phenomena controlled by an intelligence, which surely could not be expected to regulate it's operations by our calendar.

Dr. Willy Smith
UNICAT Project
February, 1987

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- (1) Saunders, David R.; THE UFOCAT CODE BOOK, CUFOS, 1978.
- (2) Hendry, Allan; THE UFO HANDBOOK, Doubleday, 1979.
- (3) Saunders, David R.; UFO ACTIVITY IN RELATION TO TIME-OF-THE-WEEK, in FSR Vol. 17, #1 Jan/Feb. 1971, p.10.
- (4) Merritt, Fred; UFOCAT AND A FRIEND WITH TWO NEW IDEAS 1980 MUFON Proceedings, p.31.

** UFO TRIVIA **

Q: The Italian Air Force suggested that the 1973 Turin radar/visual sighting was?

A: Ball lightning

UNICAT SPINOFF

RE: UFO Cases in Hendry's Handbook

In his book THE UFO HANDBOOK (Doubleday/Dolphin, 1979), Allan Hendry analyses a total of 1307 raw cases, distributed as follows (p.22):

IFOs.....	1158
UFOs.....	113
Exceptions...	36

The exceptions are cases having problems with the data, namely those incidents designated as "non-cases" in the UNICAT nomenclature.

Thus, according with the numbers above, an arbitrary sample of incidents contains:

113/1307 = 8.64 % UFOs.

This number has been quoted unchallenged in the literature. However, it does not represent the real situation. When, in 1987, Allan Hendry finally released to us the detailed list of his UFO cases, further analysis demonstrated that if the more stringent conditions required by the UNICAT Project for accepting a case as a UFO were used, only 20 of the 113 cases listed by Hendry would qualify.

Under those conditions, then, we have:

20/1307 = 1.53 %

a much smaller percentage of UFOs in the sample.

We prefer this number as it agrees well with analysis performed on other samples of raw data, for which we have found that the number of good cases is of the order of 1 to 2%.

UNICAT Project
March 1989

