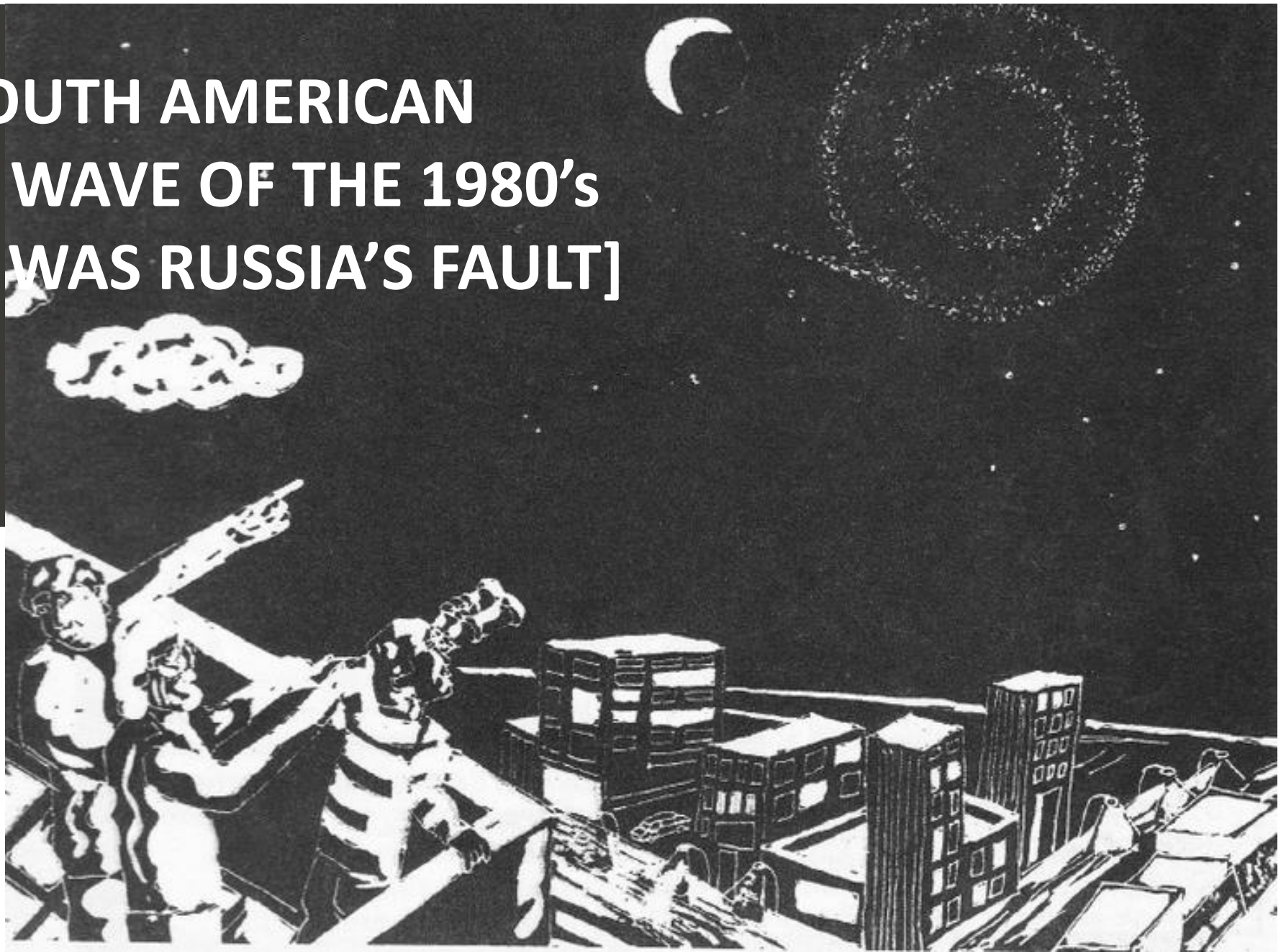


THE GREAT SOUTH AMERICAN “SKY CLOUD” WAVE OF THE 1980’s [AND WHY IT WAS RUSSIA’S FAULT]

James Oberg
Dec 31, 2016
FINAL DRAFT



<https://es.scribd.com/document/169772798/Ufopress-21-Jul-set-1984>

THIS IS NOT A STORY ABOUT SPACE ALIENS & UFOs

- It IS about **human** spacecraft and the globe-spanning paths they follow
- It IS about **human** witnesses to extraordinary spectacles in the sky
- It IS about **human** analysts and historians who seek to understand
- ...and mostly is about the astonishingly synergistic way in which these unrelated threads wove themselves together into a tapestry of mystery and anxiety, puzzlement and elucidation, elaborate mathematical manipulations and sudden epiphanies, to contribute to the HUMAN cultural enrichment as a consequence of the arrival of the Space Age.

Mystery of the Argentina 'cloud-UFOs'

- Beginning in the late 1970s, a very specific type of UFO report began occurring repeatedly from Chile, Argentina, and Uruguay.
- Between 1978 and 1986 several identical celestial spectacles were seen
- Always in post-sunset twilight, looked like a moon-sized hazy ball.
- They always appeared in the western sky and moved northwards
- It took several minutes to cross from horizon to horizon
- Each visit was seen over vast regions of these countries
- Many witnesses [including pilots] reported interactions with it, being chased, or having electronic gear malfunction,
-and at least once, having sex with one of the crew.
- Since 1984 the apparition has rarely recurred

Spoiler alert: What really was happening

- These sightings were caused by the activities of a specific class of Russian unmanned satellites headed for a very unusual orbit
- This is only one type of human rocket and space activity that has sparked unusual sky spectacles around the world since the birth of the Space Age
- Although widely reported as 'UFOs', the events are well understood by specialists and the explanations are accepted by serious 'ufologists'
- As a bonus for 'ufology', the events provide absolutely unique and invaluable serendipitous 'double-blind control experiments' to assess eyewitness reliability in other unrelated sightings
- They also underscore the profound and often surprising ways that human space activity has been influencing popular culture
- But mainly they are hugely satisfying and successful exercises in 'sleuthing space secrets' with analytical techniques widely applicable elsewhere

DEDICATION

These research results are dedicated to the legions of unsung and often anonymous worldwide chroniclers of 'UFO reports' and other anomalous observations which so often fall through the cracks of scientific attention. These people, numbering in the thousands, have labored tirelessly for decades to capture information they want not to be lost forever, in the hopes that someday it could be important in making sense of it. Without them, most of it WOULD have vanished from human consciousness. Perhaps the explanations offered here are not precisely in line with their own expectations, but they are sincerely offered in fulfilment of their higher hopes that someday somebody would take real lessons from their efforts, and in keeping faith with them, would show their labors were not in vain. Salute!

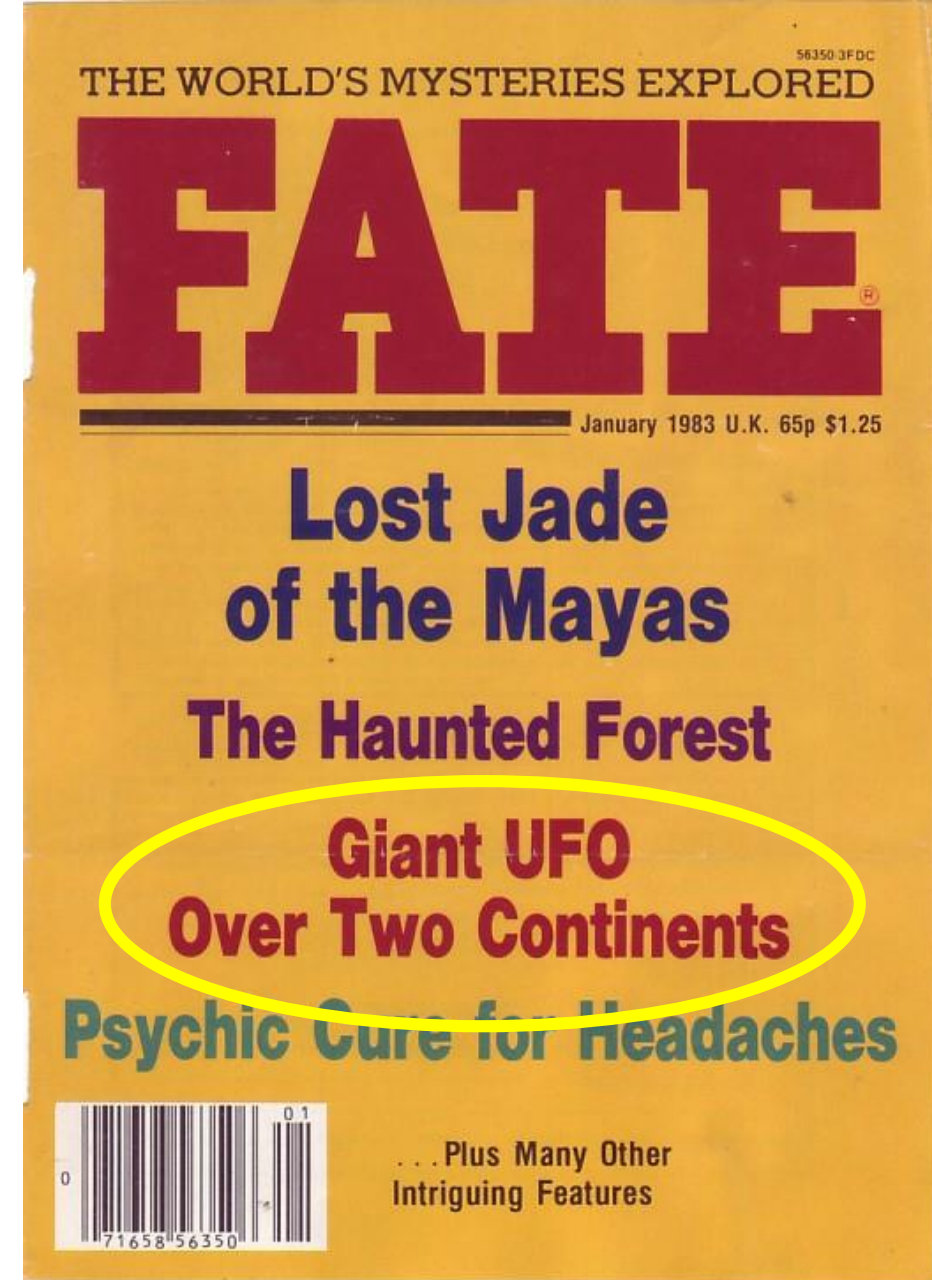
The 'Molniya clouds' – several distinct programs exploiting a peculiar type of earth orbit

- After launch from Russia, the spacecraft made half of orbit of Earth
- Near its southernmost point, the last stage fired to raise the opposite point [over the northern hemisphere] to a very high altitude
- From there it could act as a radio relay, or observation platform
- Two different payloads used this orbit – communications relay, and missile attack warning
- Project names were Molniya, Oko, Meridian, and a handful of others
- Launches into six operational orbital planes required flights scattered throughout the 24-hour day – but only those which by chance passed SA in post-sunset twilight created potential visibility from the ground

THE FOLLOWING LAUNCHINGS WILL BE DISCUSSED, BUT NOT IN CHRONOLOGICAL ORDER. INSTEAD, WE WILL RECAPITULATE THE JOURNEY OF DISCOVERY CASE BY CASE WHICH LED TO THE FINAL APPRECIATION OF WHAT THEY LOOKED LIKE TO GROUND WITNESSES.

- 1971 Dec 19 2250 Molniya-1-19 possibly first recorded sighting
- 1978 Mar 02 2207 Molniya-1-39 Brazil only
- 1978 Aug 22 2334 Molniya-1-42
- 1980 Feb 12 0056 Kosmos-1164 spectacular
- 1980 Jun 14 2055 Kosmos-1188 super-spectacular FOUNDATION EVENT
- 1981 Oct 31 2248 Kosmos-1317 spectacular
- 1982 Mar 24 0012 Molniya-3-18 Roncoroni
- 1982 May 28 2203 Molniya-1- 54 verification pending
- 1983 Aug 30 2249 Molniya-3-19 standard descriptions
- 1984 Mar 16 2330 Molniya-1-60 Roncoroni
- 1984 Jul 03 2131 Kosmos-1581 OKO standard descriptions
- 1996 Aug 14 22:21 Molniya-1-89 last confirmed sighting

Prosaic solution was first publicized in January 1983, while Argentine 'flap' was still going on



<http://www.astronautix.com/g/giantufoovetwocontinents.html>

MUFON UFO JOURNAL

NUMBER 204

APRIL 1985

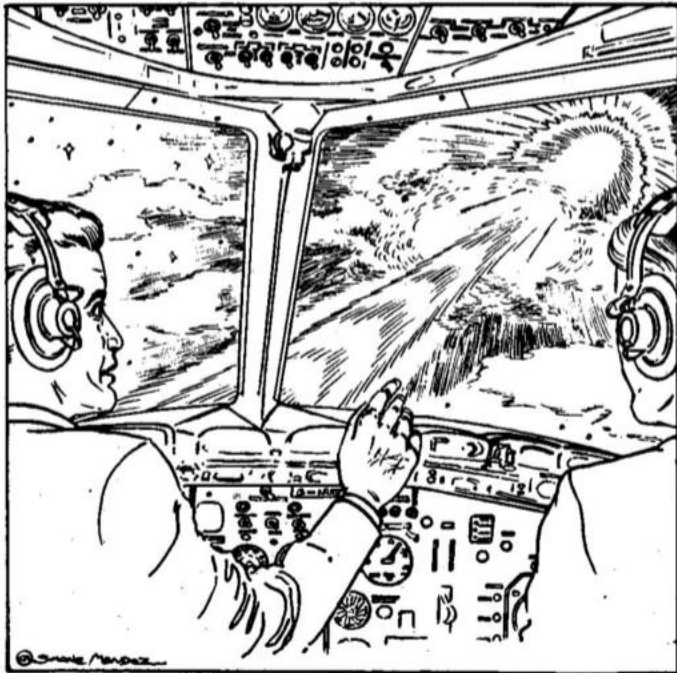
Founded 1967

OFFICIAL PUBLICATION OF



MUTUAL UFO NETWORK, INC.

\$1.50



INTERNATIONAL EDITION

Mutual UFO Network April 1984 issue

I catalog nine events of highly varying spectacularity
[before I found the earliest of them all]

https://issuu.com/disclosureproject/docs/mufon_ufo_journal_-_1985_4._april

1978	Aug	22	at	10pm	(Molniya 1-42)
1980	Feb	11	at	9pm	(Kosmos - 1164 MEW)
1980	Jun	14			(Kosmos - 1188 MEW)
1981	Oct	31			(Kosmos - 1317 MEW)
1982	Mar	23	at	10pm	(Molniya 3-18)
1982	May	28	at	8pm	(Molniya 1-54)
1983	Aug	30	at	9pm	(Molniya 3-21)
1984	Mar	16	at	10pm	(Molniya 1-60)
1984	Jul	03	at	8pm	(Kosmos - 1581 MEW)

MEW stands for 'Missile
Early Warning' satellite

Soviet Satellite Launch Dates

Argentina and neighboring South American countries continue to suffer "UFO panics" set off by the overflights of Soviet rockets. Some of the most spectacular and widely witnessed UFO apparitions in South America have been caused by entirely prosaic (if genuinely extraterrestrial!) space flight events. The flying saucer fantasy would seem to be what the newspapers (and most of the public) seem most interested in, so recent attempts to communicate the true causes of such sightings have not met with much success.

The latest such events occurred on the evening of March 16 and July 3 of 1984. Press reports spoke of "plativilo (flying saucer)" visitations over a dozen provinces of Argentina, as well as areas in Chile, Uruguay, Paraguay, and southern Brazil. But the UFOs were actually as tenuous as a cloud of gas in outer space - which is exactly what they were.

SOVIET SATELLITES

Many Soviet satellites launched from the Plesetsk space center (north of Moscow) are often bound for a special elongated 12-hour orbit with its high point over the northern hemisphere. To get there, the vehicles must first go into a low parking orbit and then, an hour after launching, they fire a fourth stage rocket to push the payload onto its final orbit. Because of geographic factors, these rocket firings take place over the southeastern Pacific Ocean, just off the coast of southern Chile, as the satellite is orbiting in a northeastwards direction. After the firing, the rocket expels excess fuel which briefly creates a gas cloud several tens of kilometers across. Such orbits range from 600 to 40,000 kilometers in altitude, and have inclinations to the equator of about 63 degrees. Two main types of satellites use such orbits: "Molniya" communications satellites (most of

which are launched from Plesetsk, with a few launched from Tyuratam in Central Asia), and "Missile Early Warning (MEW)" payloads which are labeled as part of the catch-all "Kosmos" satellite program. There are nine active MEW-Kosmos satellites orbiting one after the other in a formation called a "constellation"; Molniya satellites are arranged in two constellations, designated "Molniya-1" (eight payloads) and "Molniya-3" (four payloads).

AVERAGE LAUNCH

On the average, such launchings take place about once a month, to replace on-station satellites which break down or exhaust their maneuvering fuel supplies. The shots occur randomly throughout the 24-hour day. If the overflight happens to take place soon after sunset in southern South America, the orbiting gas cloud (and space vehicle, plus booster, plus fragments of protective covers) is lit by the recently set sun while the sky is dark for observers on the ground.

The resulting apparition, a cloud-like circular mass with a darker center, is several times the size of the moon, flying about 20 degrees above the western horizon; it crosses the sky in only a few minutes. Sometimes small pinpoints of light accompany the cloud; occasionally, the actual rocket firing will be visible as a yellow "V" pointed northwards.

1978	Aug	22	at	10pm
1980	Feb	11	at	9pm
1980	Jun	14		
1981	Oct	31		
1982	Mar	23	at	10pm
1982	May	28	at	8pm
1983	Aug	30	at	9pm
1984	Mar	16	at	10pm
1984	Jul	03	at	8pm

Soviet Satellite Launch Dates

TWILIGHT ZONE

Of the more than 150 such launchings since 1970, about a dozen fit into this "twilight zone" of visibility in the early evening (there is no corresponding morning visibility because the cloud is so far down in the western sky). In the past six years alone, there have been nine launchings which happen to fall into this category, and every one of them set off spectacular "UFO encounters" (See table.)

All kinds of traditional UFO perceptions were sparked by these apparitions. Eyewitnesses described bizarre motion (including turns, stops and starts, chases, rising from the sea, "nearly landing", rapid recession), electromagnetic effects (radar blips, television and other electrical appliance failures), psychological effects (drowsiness, fear, "time lapses", telepathic messages); there was even at least one Close Encounter of the Third Kind, when a witness claimed an alien creature from the UFO (actually, Kosmos-1317) visited him and talked with him.

There was one difference from more "traditional" UFOs: the plethora of photographs by independent witnesses. Many of the apparitions were extensively photographed from points hundreds of miles apart, providing indisputable evidence that

(continued next page)

(Molniya 1-42)
(Kosmos - 1164 MEW)
(Kosmos - 1188 MEW)
(Kosmos - 1317 MEW)
(Molniya 3-18)
(Molniya 1-54)
(Molniya 3-21)
(Molniya 1-60)
(Kosmos - 1581 MEW)

SOUTH AMERICAN "UFORIA"

by James Oberg

MUFON UFO Journal

"UFORIA", Continued

"something" was up in the sky. Such high-quality, multi-witness photographic evidence is notably absent from "real" UFO encounters.

PSEUDO-UFOS

The connection between such pseudo-UFOS and Russian space shots was discovered and documented by myself, as part of the investigation of the spectacular June 14, 1980, apparition. That case had been written up as a genuine UFO in a late 1980 issue of *The International UFO Reporter*, published by Dr. J. Allen Hynek's Center for UFO Studies in Evanston, Illinois (which has yet to publish the solution). The conclusions of my own research were written up for an article in *FATE* magazine, which subsequently formed a chapter in my book on space age folklore, *The Great Galactic Ghoul and Other Space Legends*, scheduled for publication this year.

Several South American ufologists cooperated on the research and did

extensive work to uncover many of the cases. They include Dr. Wily Smith of CUFOS, Antonio Huneeus, and Alejandro Chionetti. Their research is continuing and new insights can be expected. They have eagerly accepted the actual cause of the cases and are enthusiastically seeking additional eyewitness reports.

In the future, more such pseudo-UFOS can be expected to be seen on a regular basis. Obtaining tracking data which is needed to determine the exact launch time of such vehicles is difficult. As a rule of thumb, however, whenever such cloud-like UFOs are reported moving south to north in the western sky of Chile and Argentina soon after sunset, and TASS news agency in Moscow later announces the launch of a satellite with the tell-tale orbital parameters, it will be entirely reasonable to associate the two events and, as a first approximation, consider the case "solved".

PERIPHERAL DETAILS

Yet what about the testimony of

strange motion, radio interference, and so forth, which cannot be explained by a sunlit fuel cloud? Dr. Donald Menzel, a leading astronomer and UFO skeptic of the 1950s, had a recipe for processing such "data": "Throw it in the wastebasket," he snorted. That may be too harsh, since the South American experience has shown that UFO reports are indeed worth examining closely, precisely because they may not be caused by "true UFOs". But it is an accurate assessment of the reliability of such descriptions.

Indeed the very existence of such testimony, caused by a prosaic stimulus, is a powerful skeptical argument that the existence of similar testimony elsewhere does not prove the need for some sort of truly extraordinary stimulus - there need not be any "true UFOs" out there to cause all kinds of "UFO reports".

Meanwhile, for the South American public and its OVNImania, or "uforia", the topic is so popular and exciting that the truth may never catch up.

Ejemplo claro del primer grupo lo constituye el avistaje del 20 de junio de 1975 o las espectaculares observaciones del 24 de septiembre de 1966 y del 24 de junio de 1967 (3). Un perfecto ejemplo del segundo grupo de observaciones masivas es el avistaje del 22 de agosto de 1978 (4) o el verificado el 14 de junio de 1980.

La primer observación de éste tipo (al menos de las conocidas) se produjo en plena oleada OVNI de 1978, abarcando prácticamente un 70 por ciento del territorio argentino (Buenos Aires, Mendoza, San Juan, Neuquén, Río Negro, Córdoba, San Luis y La Pampa) y buena parte del territorio de Chile. Esa observación tuvo gran difusión en la prensa argentina a través de Clarín, ya que uno de los testigos fue precisamente el Sr. Ferreira, periodista de ese matutino, que incluso llegó a fotografiar el "OVNI" (9).

The Russian rocket solution acknowledged [full credit to me] and elaborated in South American UFO magazines, EG:

Ufopress 21 (Jul-set 1984)

**A PROPOSITO DE LOS
AVISTAJES MASIVOS**

**[AS TO THE MASS
SIGHTINGS]**

Guillermo Roncoroni

Posteriormente, en fechas más recientes, fenómenos semejantes a los del 22/8/78 y 14/6/80 se reiteraron aunque no tuvieron la trascendencia de los anteriores. Nos referimos concretamente a los avistajes del 11 de febrero de 1980, 31 de octubre de 1981, 23 de marzo de 1982, 30 de agosto de 1983 y 16 de marzo de 1984.

19 dec 1971	satélite Molniya 1-19
22 ago 1978	satélite Molniya 1-42
11 feb 1980	satélite Kosmos 1164
14 jun 1980	satélite Kosmos 1186
31 oct 1981	satélite Kosmos 1317
23 mar 1982	satélite Molniya 3-18
30 ago 1983	satélite Molniya 3-19
16 mar 1984	satélite Molniya 1-60

The first observation of this type occurred in the UFO wave of 1978, comprising almost 70% of the territory of Argentina [Buenos Aires, Mendoza, San Juan, Neuquen, Rio Negro, Córdoba, San Luis and La Pampa], and much of the territory of Chile. This observation had great distribution in Argentina through Clarion Press, since one of the witnesses was actually Mr. Ferreira, a journalist of that morning newspaper, that even came out with a photograph the UFO.

Subsequently, on more recent dates, phenomena similar to those of 22/8/78 & 14/6/80 are repeated although not with the transcendence of the previous ones.

footnotes

- 3) *Véase la obra de Antonio Ribera, PLATILLOS VOLANTES EN HISPANOAMERICA Y ESPAÑA, Editorial Pomaire, 1969, Barcelona, España, donde el autor hace un detallado análisis de las mencionadas observaciones llegando, incluso, al trazado de una "ortotenia" que bordeaba el río Paraná, desde su desembocadura hasta la ciudad de Asunción del Paraguay.*
- 4) *Roncoroni, Guillermo; APUNTES SOBRE LA OLEADA DE 1978, en Cosmovisión, nro. 3, abril de 1979.*
- 6) *Demattci, Omar; OTRO AVISTAJE MASIVO: EL CASO 20 DE JUNIO DE 1975, en Cuarta Dimensión, nro. 78, septiembre de 1980 (también en INFORESpace nro.59, marzo de 1982). El autor realiza un análisis de los testimonios recogidos en función del referido incidente y llega a la conclusión que él mismo respondió al desplazamiento de un OVNI, ignorando los estudios que al respecto han determinado sin lugar a dudas que se trató de un meteorito. En la nota se reproducen, incluso, dos de las diapositivas de Ringuelet como "prueba" de la autenticidad del "OVNI".*
- 7) *Cuarta Dimensión, nro. 83, enero de 1981.*
- 8) *A los pocos días de la observación de febrero de 1984, fueron hallados en una estancia de la provincia de Buenos Aires restos pertenecientes a un satélite soviético. Por las características del avistaje (trayectoria, forma, luminosidad, etc.) inferimos que los restos recuperados fueron precisamente la causa del avistaje en su ingreso a nuestra atmósfera. Véanse las ediciones de los diarios Crónica y Clarín de la segunda quincena de febrero.*
- 9) *Véase Clarín del 23 y 24 de agosto de 1980 para un relato pormenorizado del incidente del 22 de agosto de ese mismo año.*
- 10) *Véase en Cuarta Dimensión, nro. 77, agosto de 1978, la nota referida al avistaje del 20 de junio de ese mismo año y en especial la particular "hipótesis" explicativa elaborada por la Lic. Bettina Allen.*

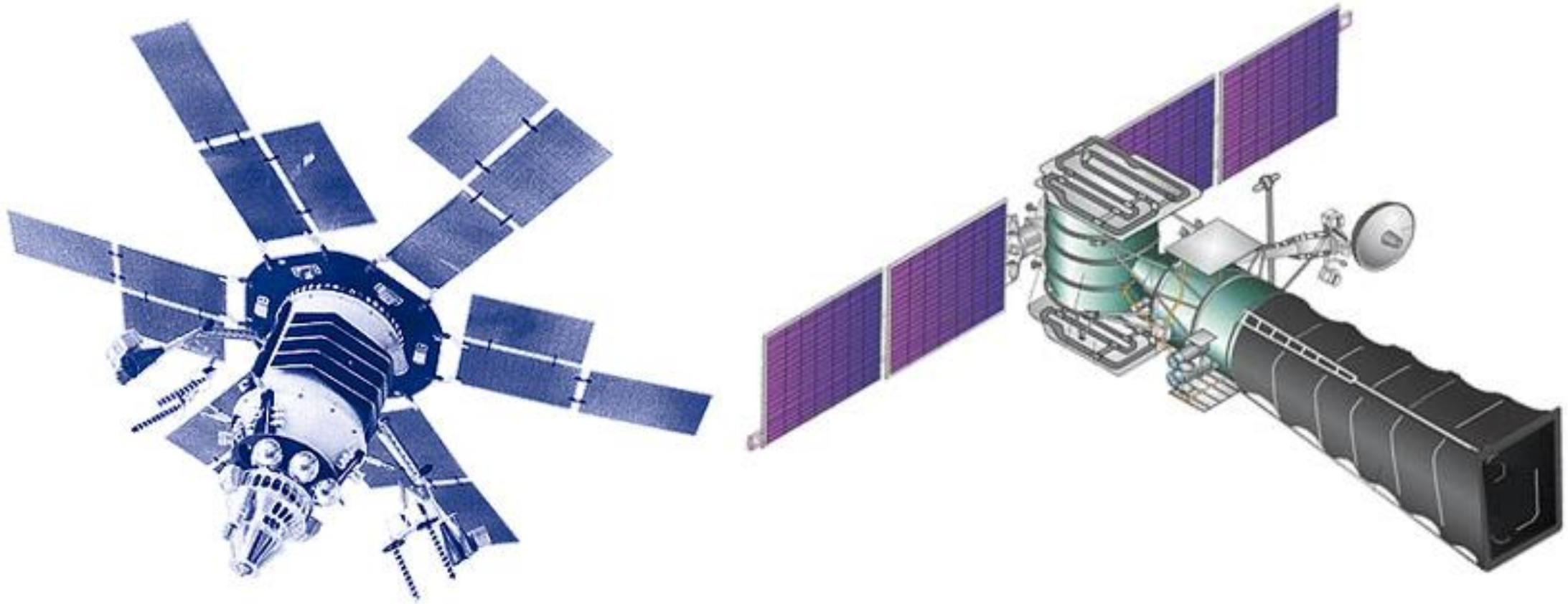
Willy Smith's list of candidate 'Molniya clouds'

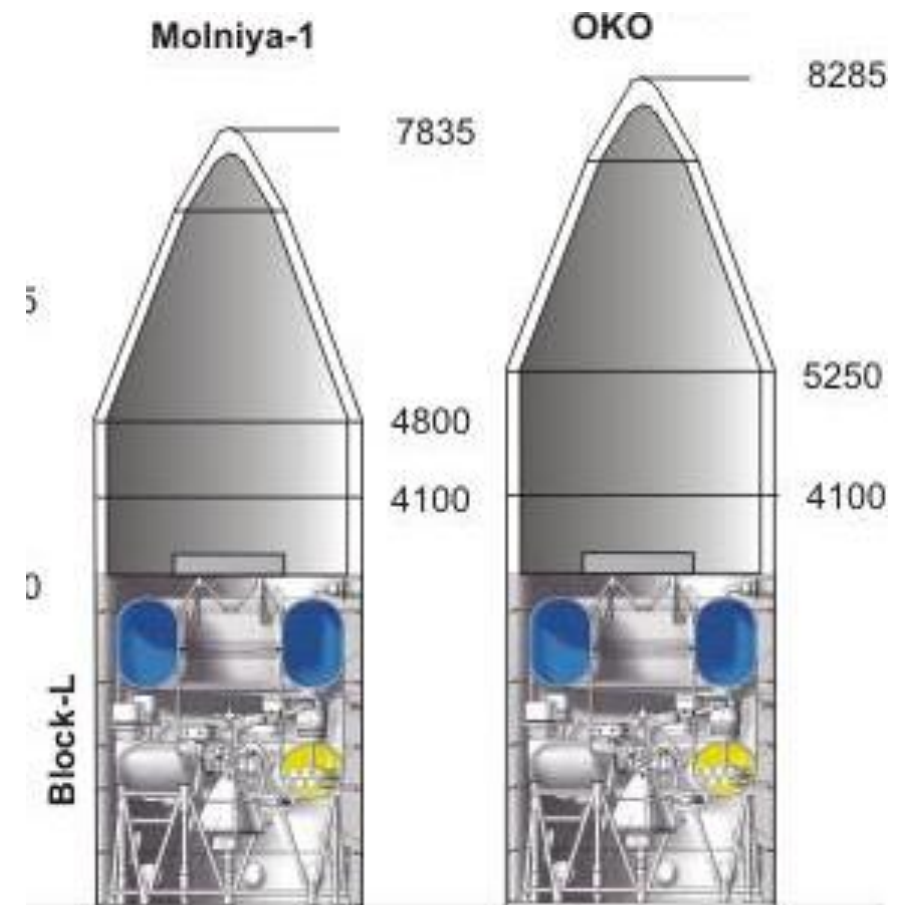
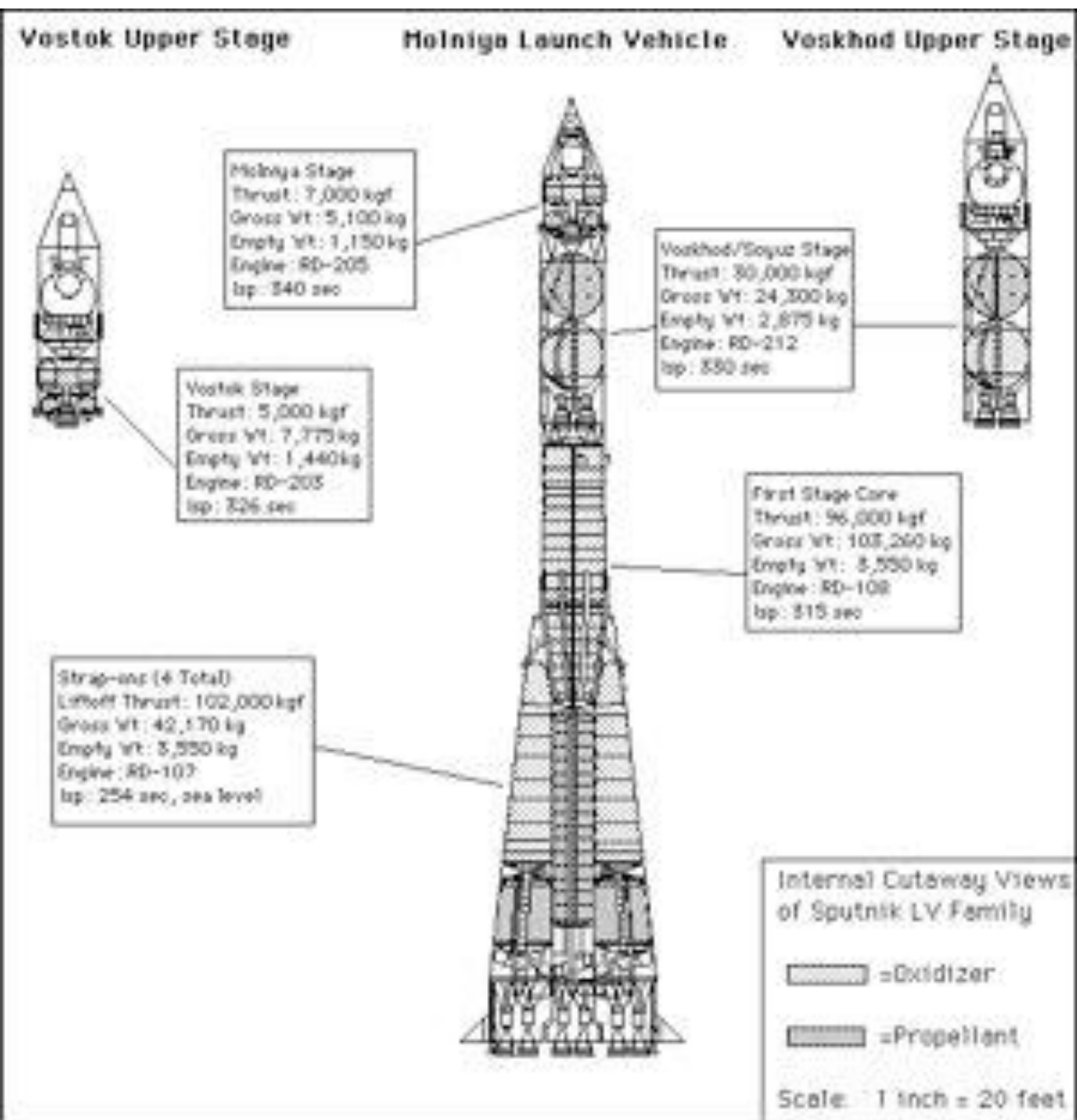
711219	21	Wide geographical area	RA	NL	++	Numerous (Roncoroni; J.Oberg)	329	MOLNIYA 1-19 satellite
741205	0	8 provinces, Argentina	RA	NL	++	Angel A. Diaz (private comm.)	454	MU: possible meteor shower
750675	N	Central Argentina	RA	NL	++	G. Roncoroni paper, July 1984	326	meteor
780822	22	Wide geographical area	RA	NL	++	Numerous (Roncoroni; J. Oberg)	330	MOLNIYA 1-42 satellite
781221	N	Central to NE Argentina	RA	NL	++	G. Roncoroni paper, July 1984	327	meteor shower
800211		Wide geographical area	RA	NL	++	Numerous (Roncoroni; J.Oberg)	331	KOSMOS 1164 satellite
800614	19	Wide geographical area	RA	NL	++	Numerous (Roncoroni; J. Oberg)	332	KOSMOS 1188 satellite
811031	21	Wide geographical area	RA	NL	++	Numerous (Roncoroni; J.Oberg)	333	KOSMOS 1317 satellite
820323	22	Wide geographical area	RA	NL	++	Numerous (Roncoroni; J.Oberg)	334	MOLNIYA 3-18 satellite
830207		B.A. to E.Rios, Argentina	RA	NL	++	G. Roncoroni paper, July 1984	328	satellite reentry debris
830830	21	Wide geographical area	RA	NL	++	Numerous (Roncoroni; J. Oberg)	335	MOLNIYA 3-21 satellite
840204	2	3 provinces, Argentina	RA	NL	++	Angel A. Diaz (private comm.)	455	check for soviet satellite
840316	22	Wide geographical area	RA	NL	++	Numerous (Roncoroni; J. Oberg)	336	MOLNIYA 1-60 satellite
840703	19	Wide geographical area	RA	NL	++	Numerous (J. Oberg)	337	KOSMOS 1581 satellite

I SUGGEST ADOPTION OF SMITH'S DATE CODE AS THE IDENTIFIER OF EACH EVENT, WITH 'M' FOR 'MOLNIYA'. THIS LIST INCLUDES 'M711219', 'M780822', 'M800211', 'M800614', 'M811031', and so forth....

Courtesy Willy Smith, 1985 correspondence [snail mail!!]

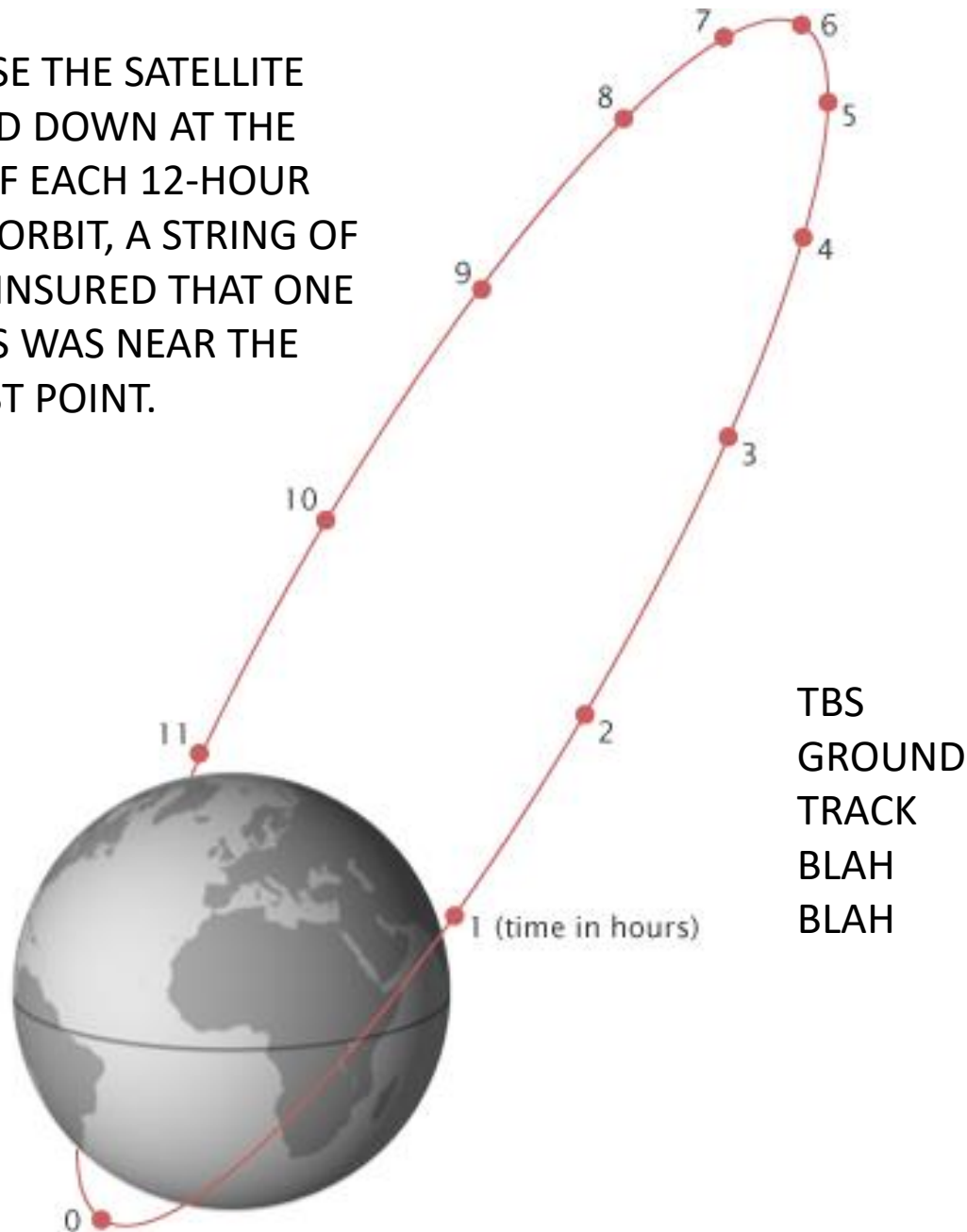
SO WHAT WERE THESE 'MOLNIYA' SATELLITES?





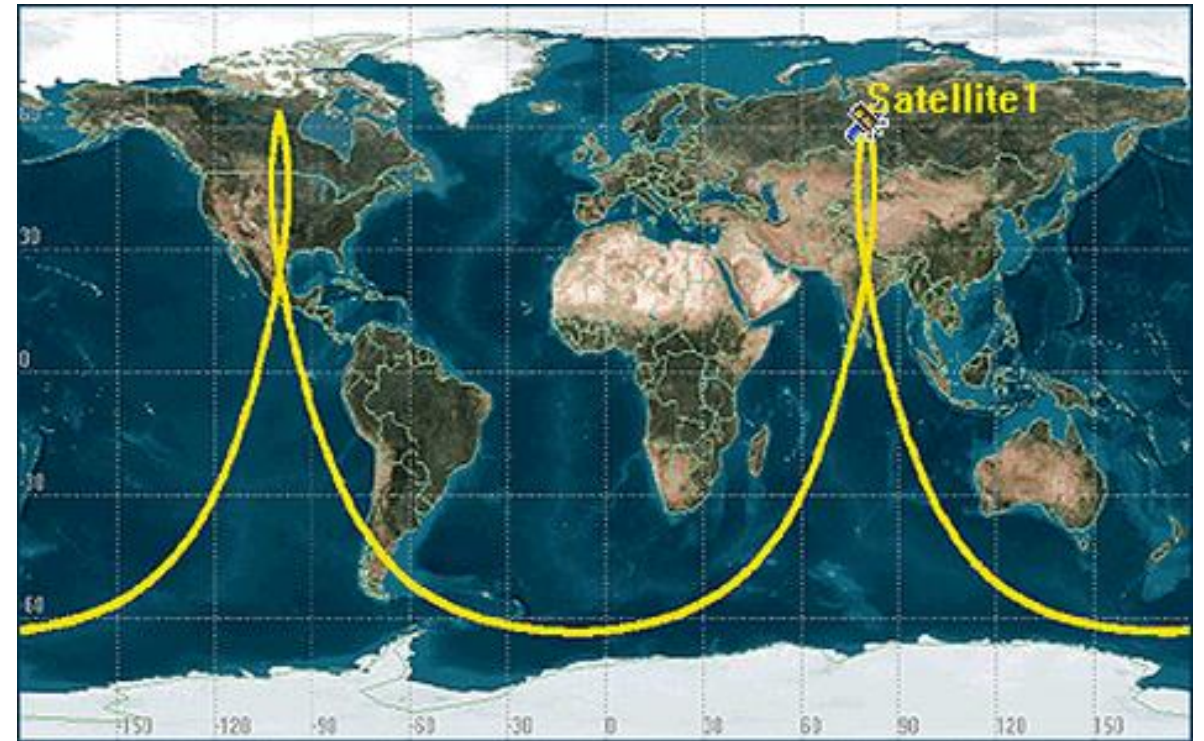
<http://www.friends-partners.org/partners/mwade/graphics/q/qmolorbt.jpg>

BECAUSE THE SATELLITE SLOWED DOWN AT THE PEAK OF EACH 12-HOUR EARTH ORBIT, A STRING OF THREE INSURED THAT ONE ALWAYS WAS NEAR THE HIGHEST POINT.



“Molniya Orbit”

Very specialized orbit with long ‘dwell time’ over far northern regions of the world, especially Russia, which first used it. **ATTAINING THIS ORBIT FROM RUSSIAN LAUNCH SITES WAS A COMPLICATED PROCESS WITH UNEXPECTED CONSEQUENCES**

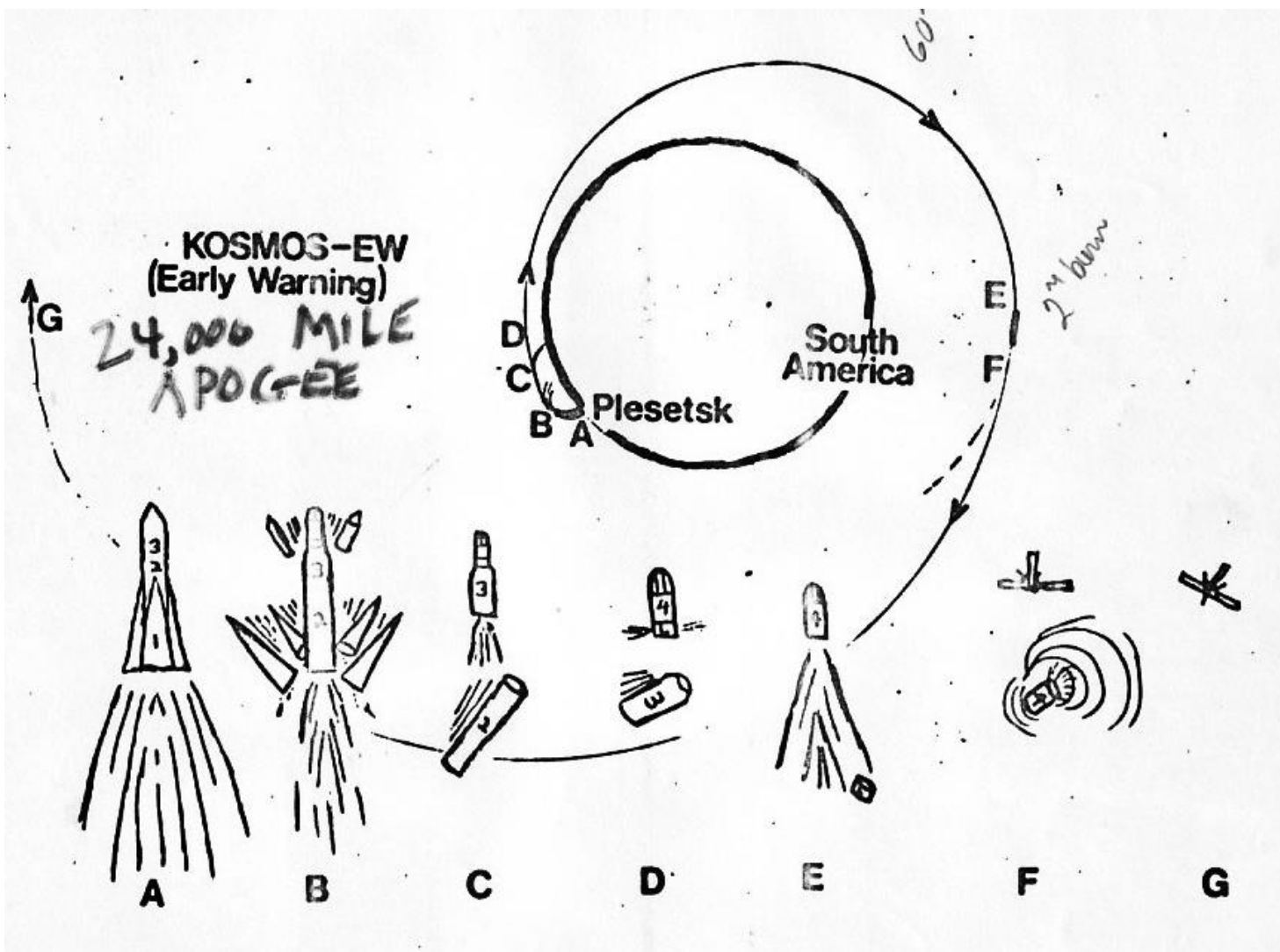


https://en.wikipedia.org/wiki/Molniya_orbit

<http://spaceflight101.com/spacecraft/meridian-satellite-overview/>

Ascent profile

- discuss



Fourth stage separation and ignition

SURPLUS PROPELLANT IS USUALLY
EXPELLED AS SOON AS POSSIBLE
AFTER COMPLETION OF LAST ORBIT
INSERTION BURN TO FORESTALL LATER
EXPLOSIONS CREATING SHRAPNEL
CLOUDS IN THE PAYLOAD'S ORBIT



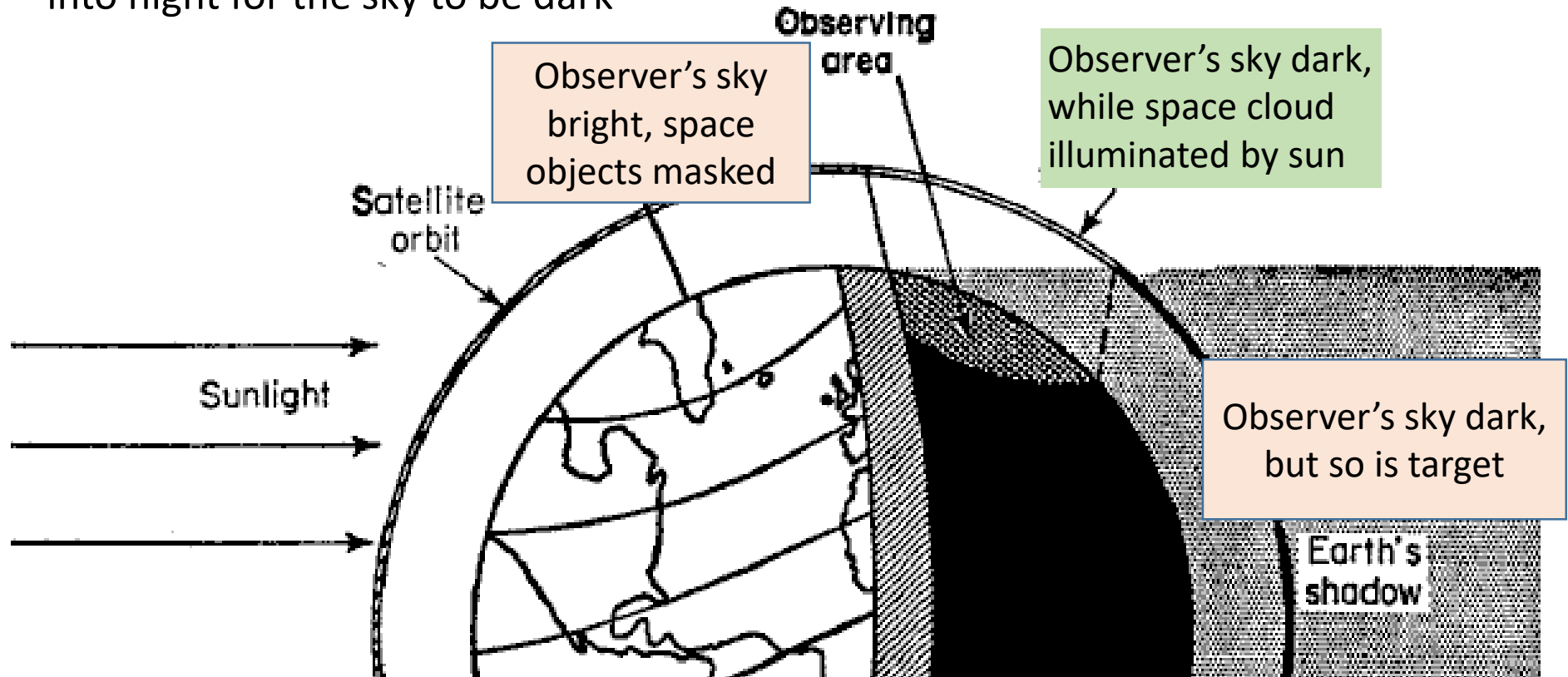
What do we know NOW [that we didn't know THEN]
about what fuel dump clouds at twilight LOOK like?



Fuel particles can expand in a spherical cloud and be lit by the sun
Even when regions of Earth's surface far below are in full darkness

twilight visibility – a special circumstance

As with observing artificial satellites, the cloud must be high enough to be sunlit while the observer is far enough into night for the sky to be dark



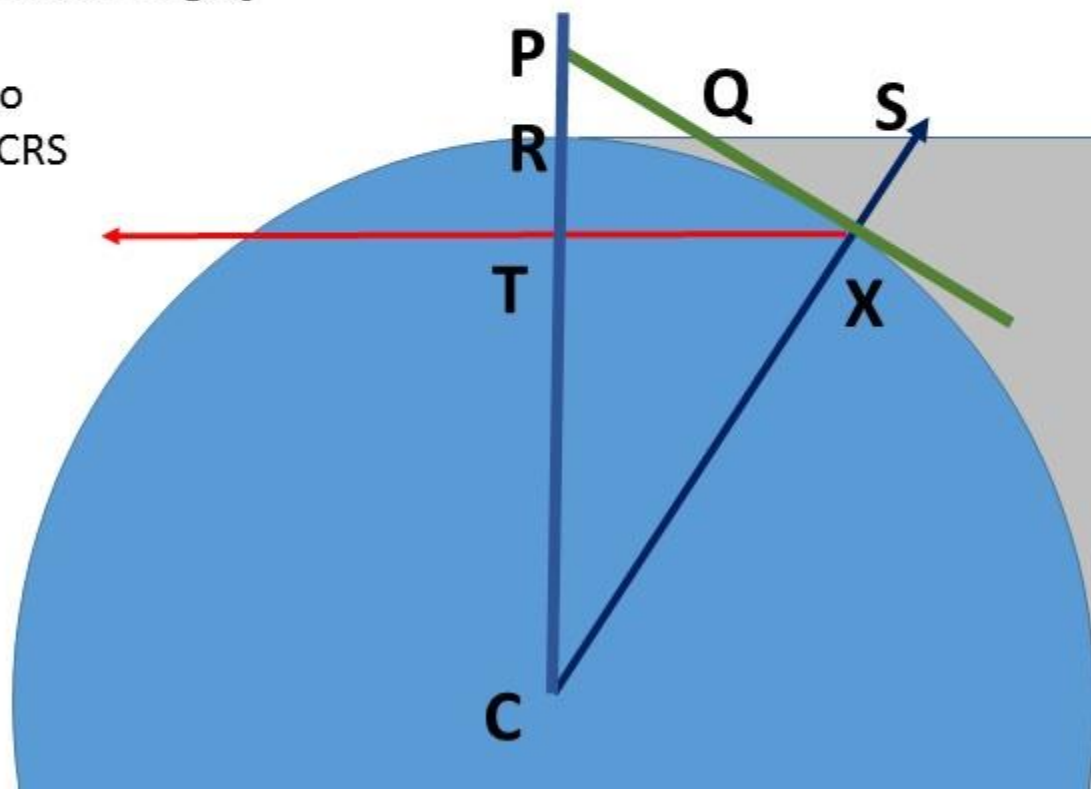
As clouds 'float' in space orbits, when passing in view of any point on Earth's night side, how can one calculate if they will still be lit up by sunlight?

Problem: Solve for XS.
Given $CR = CX = \text{earth radius}$
and $\angle PXT = \theta$ [sun depression angle]

Notice similar triangles, so
and $\angle PXT = \angle PXC = \angle CRS$

Taking triangle CRS,
 $\cos \angle RCS = CR / CS$
Hence
 $CS = CR / \cos \theta$
So $XS =$
Radius $\times (1/\cos \theta - 1)$

Radius = 6371 km



TYPICAL 'SHADOW HEIGHT'

5.0°	15 km
10.0°	79 km
15.0°	195 km
20.0°	367 km
25.0°	603 km
30.0°	913 km
35.0°	1314 km
40.0°	1827 km

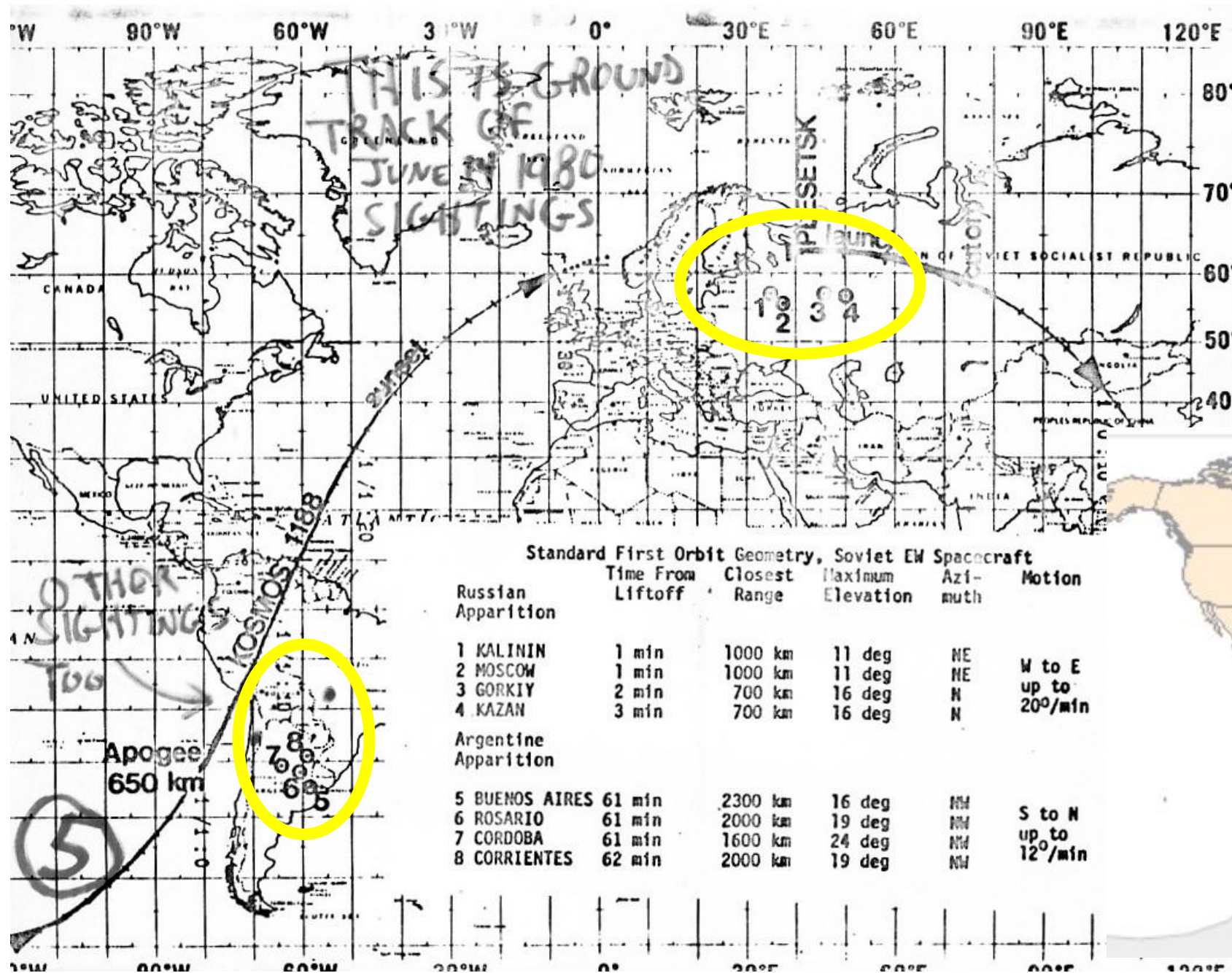
ATMOSPHERIC REFRACTION
AND SUN'S ANGULAR SIZE
WILL CREATE SOME SPILLOVER
SPREAD OF SUNLIGHT, LOWERING
THE ILLUMINATED ZONE SOMEWHAT
[APPROXIMATELY ONE DEGREE].

Analysis of the sun's elevation and azimuth at the mouth of the Molniya slot at 80W, 32 S [65 min after launch]

Rocket alt was 650 to 800 km, so it is illuminated with elevation $> -25^\circ$

1971 Dec 19	2250	Molniya-1-19	+05 at 245
1978 Mar 02	2207	Molniya-1-39	+08 at 267
1978 Aug 22	2334	Molniya-1-42	-10 at 277
1980 Feb 12	0056	Kosmos-1164	-21 at 237
1980 Jun 14	2055	Kosmos-1186	13 at 309
1981 Oct 31	2248	Kosmos-1317	-2 at 251
1982 Mar 24	0012	Molniya-3-18	-24 at 255
1982 May 28	2203	Molniya-1- 54	+02 at 297
1983 Aug 30	2249	Molniya-3-19	+01 at 281
1984 Mar 16	2330	Molniya-1-60	-13 at 260
1984 Jul 3	2131	Kosmos-1581	+08 at 304
1996 Aug 14	22:21	Molniya-1-89	+04 at 290

“NN AT MM”
means sun's
elevation at
sub-satellite
point is NN°
and azimuth
is MM°



JUNE 14, 1980 EVENT

ORIGINAL MAP [1982]

OF BOTH THE LAUNCH

VIEWING & POST BURN

FUEL DUMP VIEWING

★ = OBSERVING AREA

FREAK COINCIDENCE
OF SEASON WITH
TIME OF DAY MADE
BOTH LAUNCH AND
FINAL BURN OCCUR
NEAR TWILIGHT

LAUNCH FROM
PLESETSK
COMODROME

Sun

No Sunsets

"THE MOLNIYA SLOT"
[TRANSFER PATH TO
12-HOUR ORBIT]

Burn # 1

$\Delta V_x = 8056.4 \text{fps}$
 $\Delta V_y = .0 \text{fps}$
 $\Delta V_z = .0 \text{fps}$
TIG=-000:17:38

IGNITE
FOURTH
STAGE

Pos

Lat= 28.75°S
Lon= 137.59°E
Alt= 249.2nm
Orb # 0
Hq= 251.1nm
H= 246.6nm
Hp= 242.6nm

"MOLNIYA SLOT"

Kosmos-1164 launched
at 00:56 UT Feb 12, 1980

Upwards of two hundred
payloads have been
boosted along this same
trajectory over the past
fifty years, but only under
narrow solar illumination
conditions will their post-
burn fuel purge cloud be
visible from the ground

Source: Daniel Adamo, Independent Astrodynamics Consultant

Calculating the track of the 'Molniya Slot'

Daniel Adamo, NASA Mission Control, Independent Astrodynamics Consultant

<http://www.spaceenterpriseinstitute.org/leadership/daniel-r-adamo/>

I started with the Cosmos 1164 case because Space-Track.org only has the following lone TLE for it. That's probably a worst case among these reconstructions.

```
1 11700U 80013 A 80042.57616330 .00000177 +00000-0 +99999-4 0 9990  
2 11700 062.8180 104.2910 7478928 280.4200 010.4817 01.95420372000008
```

The TLE epoch is at the latest ascending node prior to the 1980 April 12 @ 00:52:37 UT launch time you supplied for a post-stage-4 burn (what I'll call HA-1 in our correspondence) state coasted backward in time. I coasted this TLE forward nearly one orbit to the first perigee following launch at 1980 April 12 @ 01:44:37.59 UT, where I modeled HA-1 as a 2.456 km/s prograde impulse.

This Δv renders the pre-HA-1 orbit nearly circular (465x449 km). I've attached a ground track of this reconstruction in which launch is defined to occur on Orbit #0 (consistent with the TLE) and the MET window displays UT in DOY/HH:MM:SS format. Looks like the ground track overflies Космодром Плесецк with reasonable precision.



MacSPOC v2.9 @ Cosmos1164atLaunch.cp Orbit 0 at Launch UT

Orbit 0 Acquisition for Site RosAr Rosario, Argentina

GREENWICH jTrue nm Slant jSUN ELEV AT jSolar

MEAN TIME Azi j Elev Range S/C Site Elon

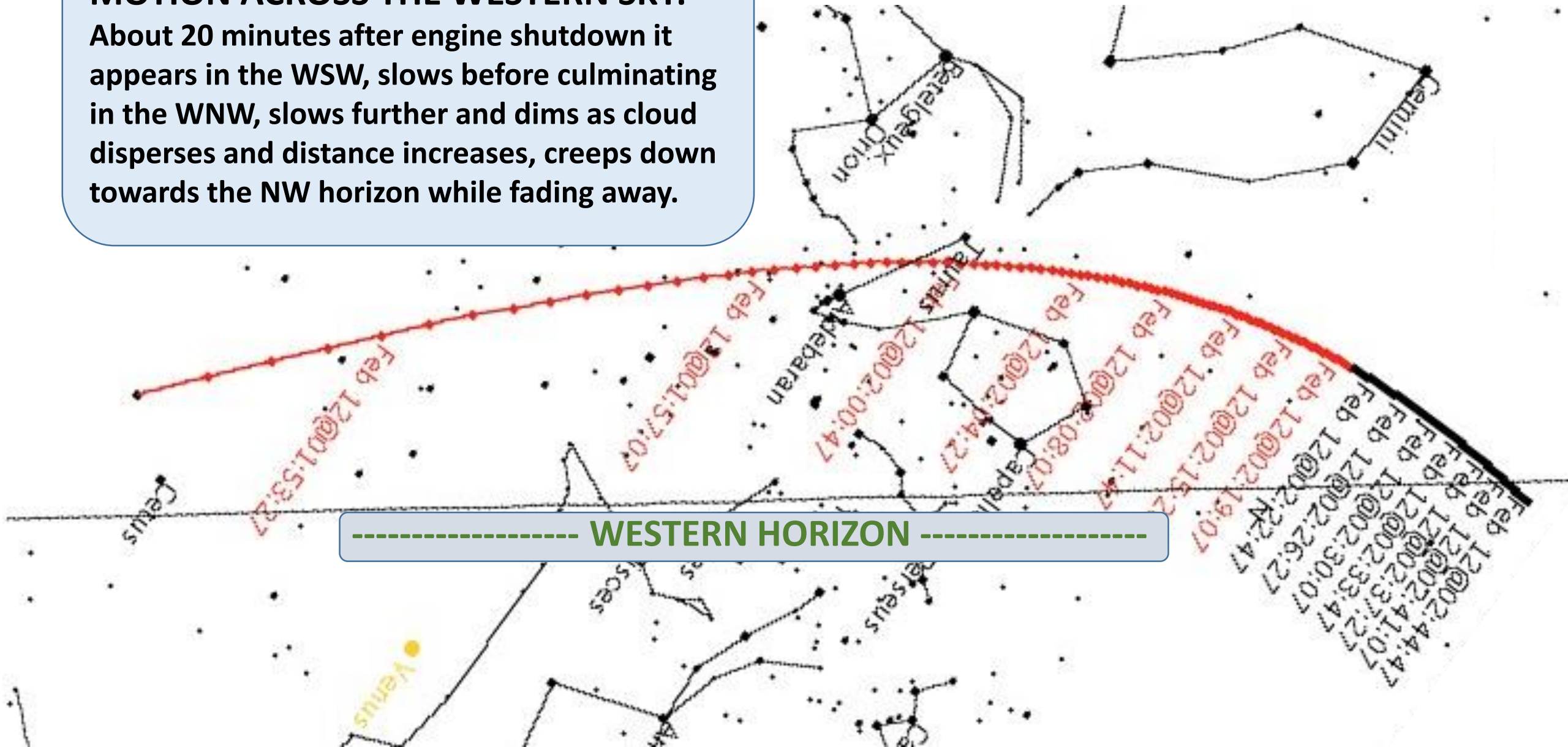
Feb12 01:50:00	234.6	-2.7	1920.4	24.7	-31.5	30.9	
Feb12 01:51:00	240.8	2.5	1751.5	22.5	-31.7	38.3	
Feb12 01:52:00	248.4	8.1	1618.6	20.5	-31.8	47.0	
Feb12 01:53:00	257.3	14.0	1529.7	18.7	-32.0	57.0	
Feb12 01:54:00	267.5	19.5	1491.3	17.1	-32.1	67.6	L+ 58 closest
Feb12 01:55:00	278.6	24.2	1505.2	15.6	-32.2	78.3	
Feb12 01:56:00	289.8	27.4	1568.3	14.2	-32.4	88.3	
Feb12 01:57:00	300.3	29.2	1673.0	13.0	-32.5	97.1	
Feb12 01:58:00	309.6	29.9	1810.4	11.8	-32.7	104.5	L+62 highest
Feb12 01:59:00	317.4	29.7	1971.9	10.7	-32.8	110.7	
Feb12 02:00:00	324.0	29.0	2150.6	9.7	-32.9	115.8	
Feb12 02:01:00	329.3	28.1	2341.3	8.8	-33.1	119.9	
Feb12 02:02:00	333.8	27.0	2539.9	8.0	-33.2	123.3	
Feb12 02:03:00	337.4	25.8	2743.7	7.2	-33.3	126.1	
Feb12 02:04:00	340.5	24.7	2950.6	6.5	-33.5	128.4	
Feb12 02:05:00	343.1	23.5	3159.2	5.9	-33.6	130.2	
Feb12 02:06:00	345.3	22.4	3368.4	5.3	-33.7	131.8	
Feb12 02:07:00	347.2	21.4	3577.3	4.8	-33.9	133.1	
Feb12 02:08:00	348.9	20.4	3785.6	4.3	-34.0	134.2	L+72 2X dist
Feb12 02:09:00	350.3	19.4	3992.6	3.9	-34.1	135.2	
Feb12 02:10:00	351.6	18.5	4198.1	3.5	-34.3	135.9	
Feb12 02:11:00	352.7	17.6	4401.9	3.2	-34.4	136.6	
Feb12 02:12:00	353.7	16.8	4603.9	3.0	-34.5	137.1	
Feb12 02:13:00	354.6	16.0	4803.9	2.7	-34.7	137.6	
Feb12 02:14:00	355.4	15.2	5001.7	2.6	-34.8	137.9	
Feb12 02:15:00	356.2	14.5	5197.5	2.4	-34.9	138.2	
Feb12 02:16:00	356.9	13.8	5391.1	2.3	-35.0	138.5	
Feb12 02:17:00	357.5	13.1	5582.6	2.3	-35.2	138.7	
Feb12 02:18:00	358.0	12.5	5771.9	2.3	-35.3	138.8	
Feb12 02:19:00	358.5	11.9	5959.1	2.3	-35.4	138.9	

**Kosmos-1164 was launched
at 00:56 UT on Feb 12, 1980**



MOTION ACROSS THE WESTERN SKY:

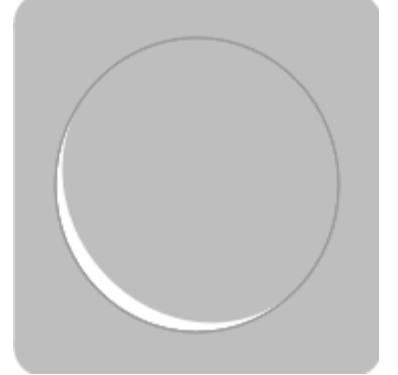
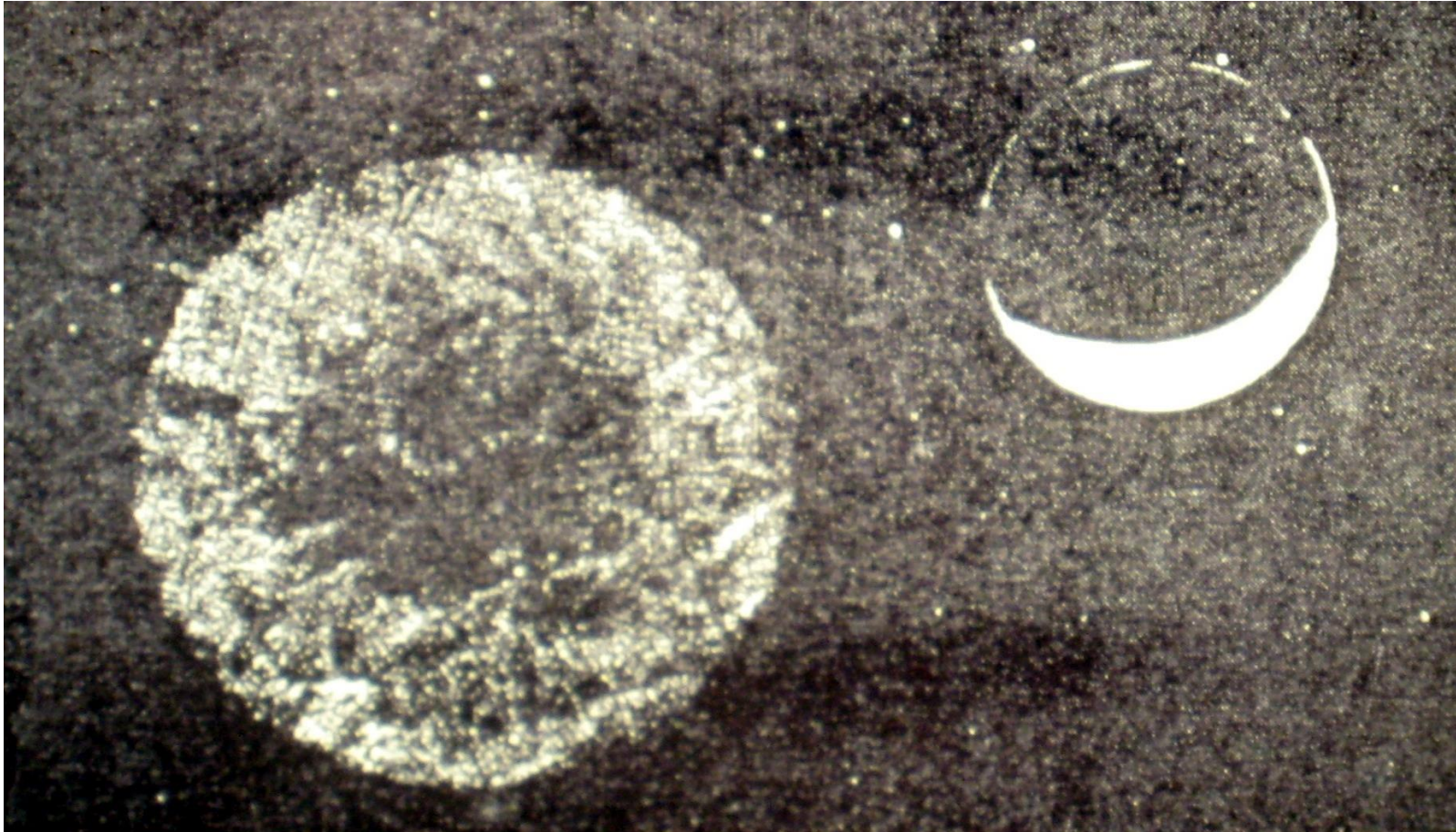
About 20 minutes after engine shutdown it appears in the WSW, slows before culminating in the WNW, slows further and dims as cloud disperses and distance increases, creeps down towards the NW horizon while fading away.



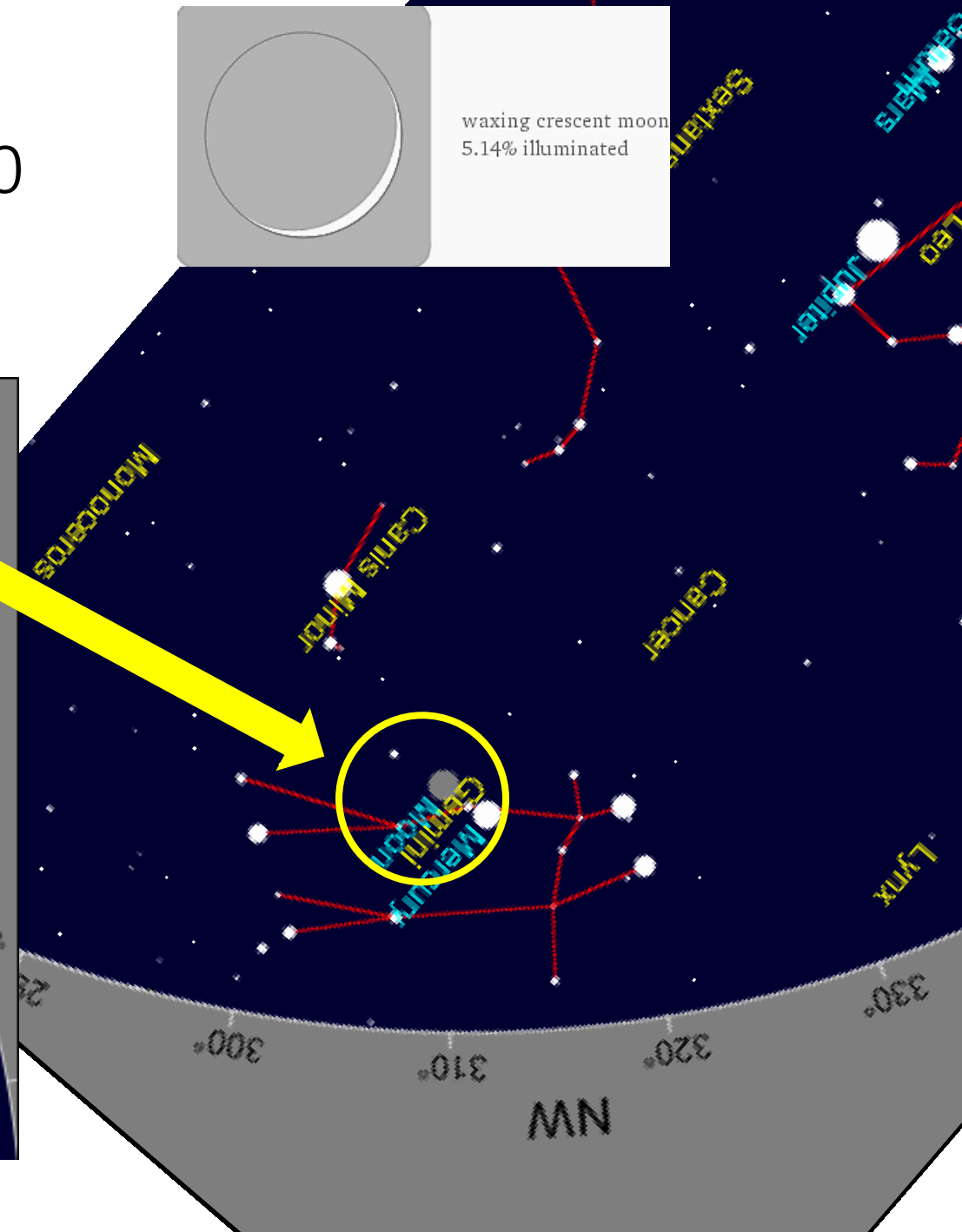
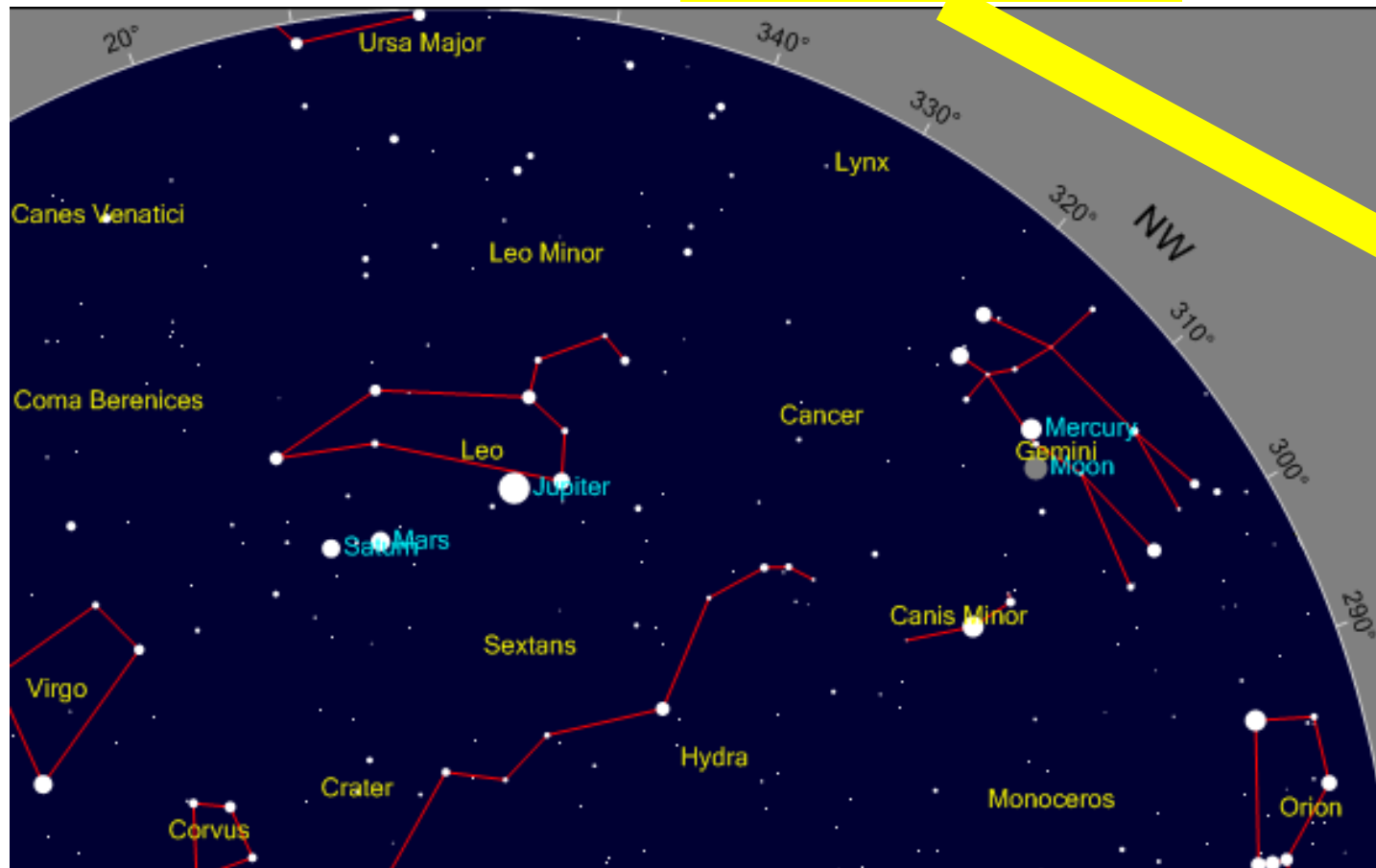
WHAT DID IT LOOK LIKE FROM THE GROUND?

- Witnesses are caught by surprise
- They have never in their lives seen anything like it
- In the 1980s, no pocket cams or cell phones,.....
- But some cameras....
-and helpful artists to capture visual impressions
- Evolution and life experience have focused visual interpretation for survival enhancement where fast reaction may be needed
- Interpreting partial cues relies on rapid conceptualizing what familiar images the cues most look like part of
- Estimating size and distance becomes random guessing

June 14, 1980 -- An unusually spectacular event
is reported from the southern horn of South
America, and soon enters world folklore as
THE NIGHT OF THE TWO MOONS



NW sky at Rosario 32°57'S 60°40'W
about 7 pm [22:00 UT] June 14, 1980
moon is 2 days old, 5% illuminated
moon position: **az 302°, el 010°**



OVNI

objeto volador
no identificado



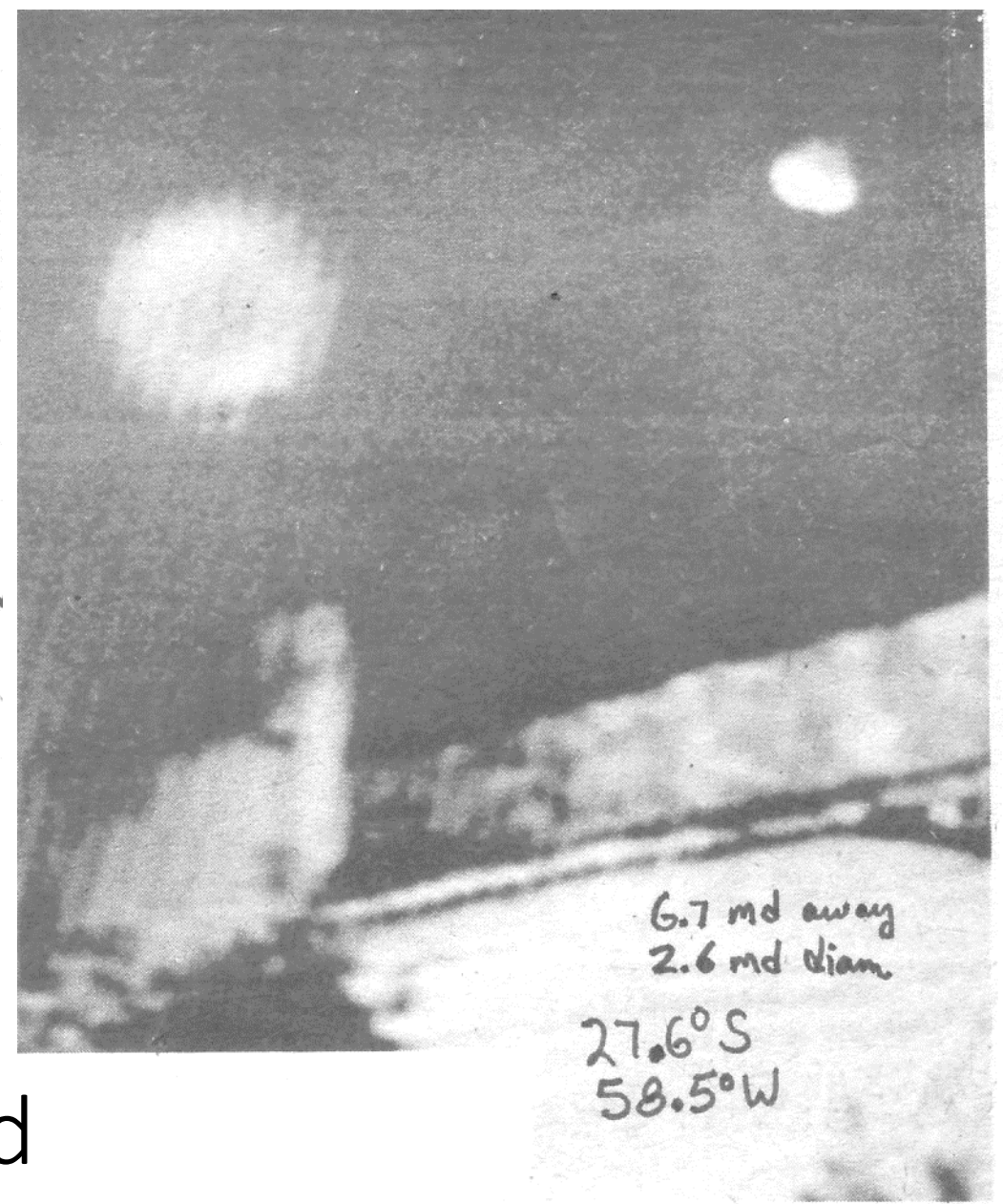
“La noche de las dos lunas” = “Night of two moons”



<http://factorblog.com/2010/06/13/la-noche-de-las-dos-lunas-30-anos-despues/>



The mysterious UFO appears as a round, luminous cloud to the left of the moon, as it hovers above a park in Rosario, Argentina.



Four hundred miles away in Corrientes, this photo was taken at the same time.

Weekly grocery store tabloid
"Star" on August 19, 1980,



MOON IN VIEW
PROVIDES CRUCIAL
INFORMATION ON
DIRECTION AND
ELEVATION
OF OBJECT

Fotografía obtenida por Norberto Castro del fenómeno del 14 de junio de 1980, en la localidad de Concordia, pcia. de Entre Ríos. Se trata de la séptima fotografía de la secuencia.

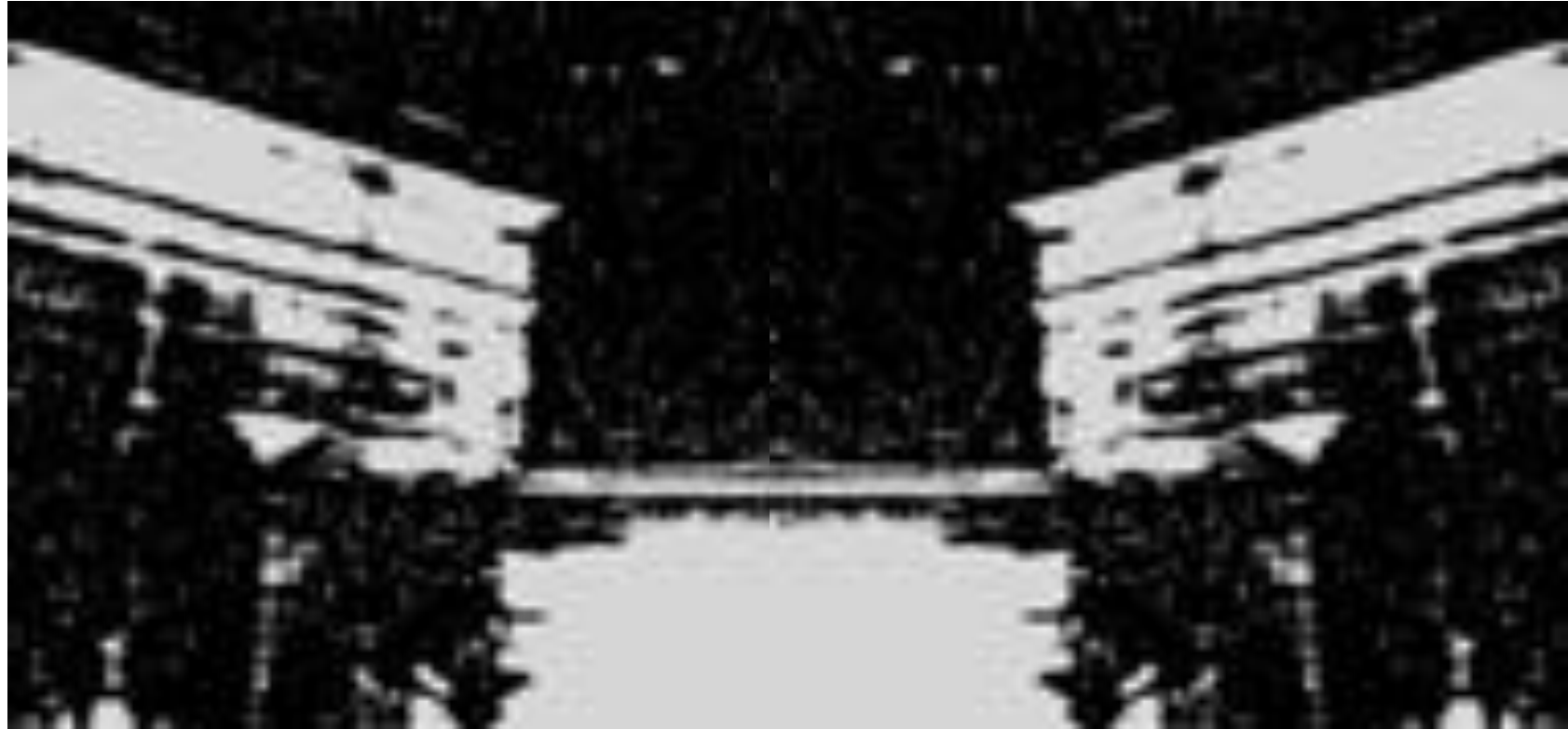
Photography obtained by Norberto Castro of the phenomenon of the 14th of June of 1980, in the town of Concordia, province Entre Ríos. It's the seventh photograph of the sequence.



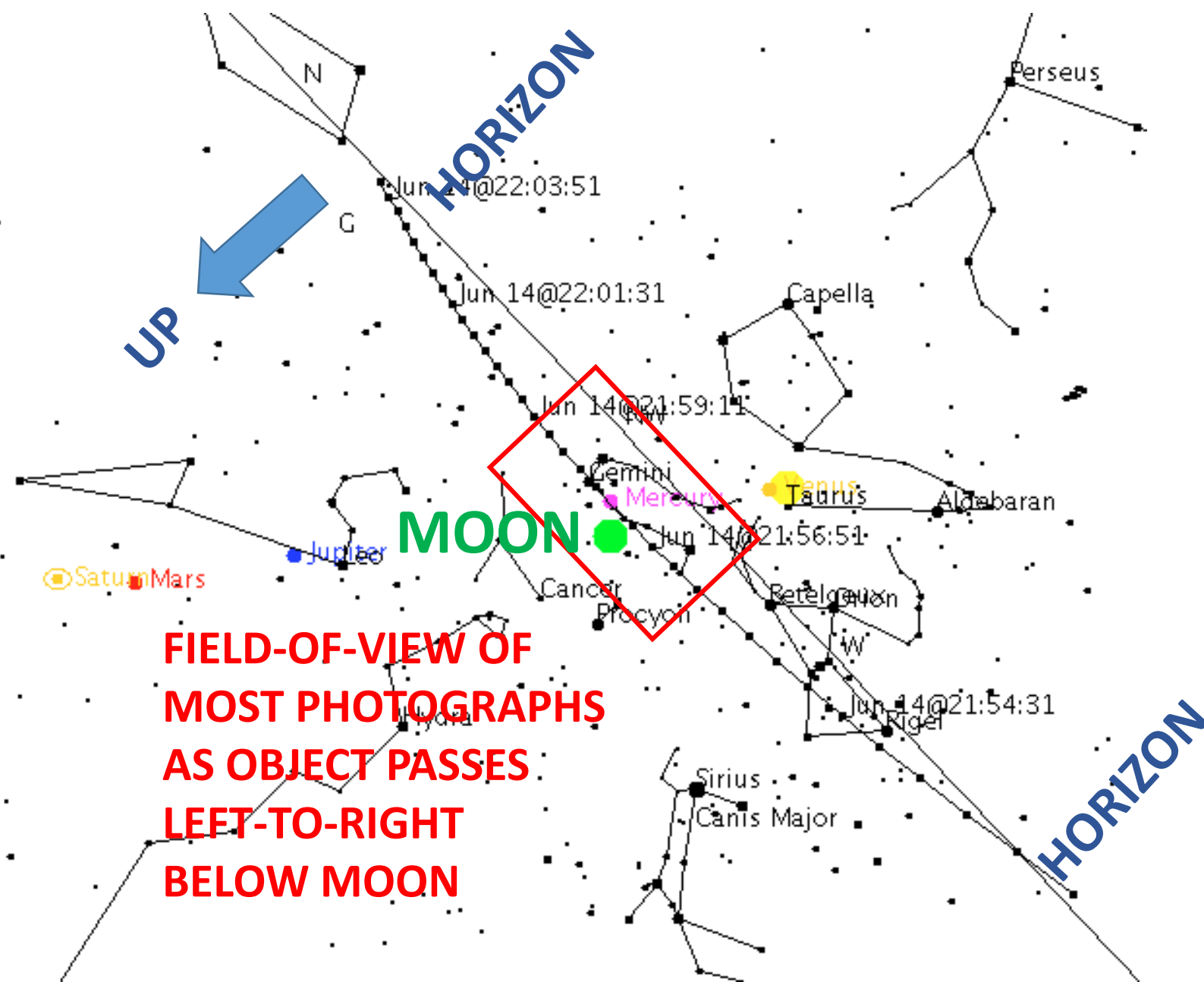
221 4 A75A

300

Two of those images look like made from same location
[underscores problem of multiple reuse of images]



[LEFT] ONE IMAGE, AND [RIGHT] OTHER IMAGE AND ITS MIRROR IMAGE
[innocent explanation is two people in same town square market]



JUNE 14, 1980 KOSMOS TRACK ACROSS WESTERN SKY BELOW MOON

Note how object rises and moves at high rate but slows down as it drops in the NW sky, due to increasing range. The cloud would also be rapidly dissipating as it departed, possibly fading away completely.

Profile of the 'Molniya Slot' [time, altitude, speed] plus range and viewing angle from Rosario, Argentina

[NOTE: Google-Earth confirms western horizon is unobstructed]

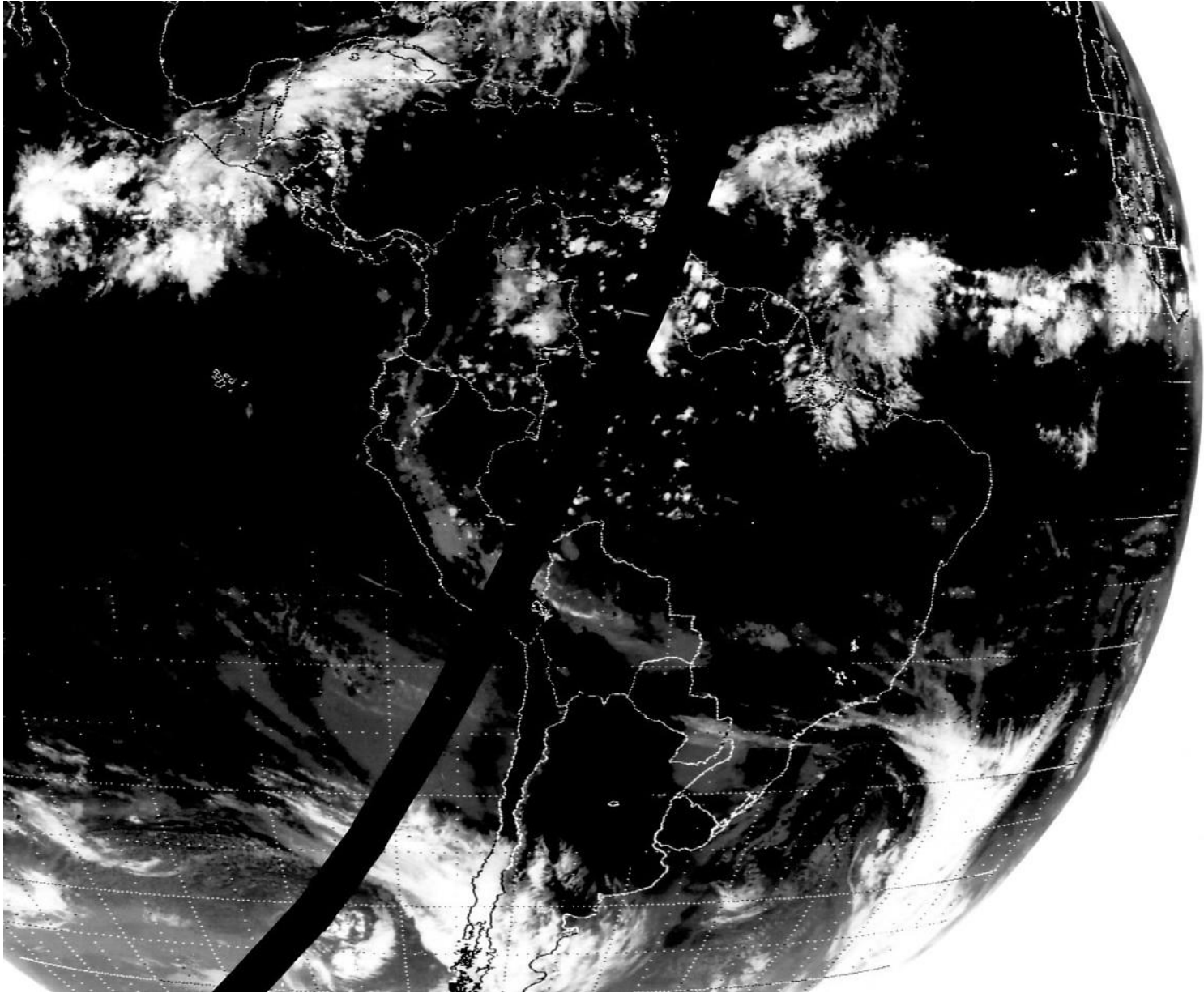
MacSPOC v2.9 @ Cosmos1188atLaunch.cp Orbit 0 at Launch UT
Orbit 0 Acquisition for Site RosAr Rosario, Argentina

MISSION	True		km Slant	SUN ELEV AT	Solar	km Geod	km/s Intl	
ELAPSED TIME	Azi	Elev	Range	S/C	Site	Alt	Speed	
000/01:00:26	242.7	-1.6	3064.7	31.5	-10.2	48.9	0646.4	9.935
000/01:02:26	258.6	3.2	2553.0	31.9	-10.6	35.1	0623.3	9.952
000/01:04:26	285.4	7.9	2290.2	33.1	-11.0	19.6	0686.6	9.900
000/01:06:26	312.6	8.7	2546.7	35.4	-11.4	29.8	0833.1	9.782
000/01:08:26	331.7	6.4	3183.4	38.3	-11.8	45.1	1055.2	9.610
000/01:10:26	343.5	3.4	4002.4	41.3	-12.2	55.4	1345.2	9.399
000/01:12:26	351.0	.5	4892.2	44.2	-12.6	62.1	1690.5	9.160
000/01:14:26	356.1	-2.1	5801.8	46.9	-13.0	66.8	2080.9	8.908

SOURCE – DAN ADAMO

June 14, 1980
7 PM local time
GMT - 3 hrs





June 14, 1980
cloud cover

OBSERVACIÓN DE UN RARO FENÓMENO AÉREO SOBRE LA CIUDAD DE CORRIENTES EN JUNIO DE 1980

OBSERVATION OF A RARE AERIAL PHENOMENON OVER THE CITY OF CORRIENTOS IN JUNE 1980

"Imagen captada por nuestro cronista gráfico del fenómeno crepuscular, observado ayer cerca de las 19, desplazarse sobre Noroeste de nuestra ciudad." [El Litoral, 1980: 1].

Image captured by our graphic chronicler of the twilight phenomenon, observed yesterday about 19:00, moving approximately northwest of our city.

<http://ovnisencorrientes.blogspot.com/2012/09/observacion-de-un-raro-fenomeno-aereo.html>



Blizzard of eyewitness accounts

- The following exhaustive catalog of reports may also seem exhausting BUT it's important to capture as wide an array of descriptions as possible because ANY editing or 'boiling down' can unconsciously reflect the biases of the writer
- V
- V
- V

Collection of June 14, 1980 reports

- 14 June 1980 17:40 - Punta Arenas, Chile - Lan Chile Boeing incident. UFO sighted at 50,000', incandescent yellow light on collision course, climbed abruptly, disappeared within seconds. It departed by rapidly flying straight up until lost to sight. One yellow ring was observed in-flight for a few minutes. No other planes in area at that time.
- 19:05 - Rio Tercero, Argentina - Luminous ring at high altitude. Moved south to north.
- 19:05 - Presidente Roque Saenz Pena, Argentina - Ditto
- 19:05 - Rio Cuarto, Argentina – Ditto
- 19:15 - Rio Plata River, Uruguay - Fishermen incident. White sphere with intense yellowish ray seen by fishermen over Rio Plata, illuminated area like daylight, headed to the west for mouth of Rio Parana.
- <http://thecid.com/ufo/uf16/uf9/169439.htm>

14 June 1980

- 18:50 - Rafaela, Argentina - Radio station chief saw flying objects cross sky that left trail of light in the sky. Many phone calls to station by other witnesses. Several rings were observed in clear weather by a male witness at an electric plant for a few minutes (Gerbaudoux, R).
- 19:00 - Buenos Aires - Nocturnal lights were reported in a city for eight minutes.
- 19:00 - Junin W20Km Hwy7, Argentina - A circular object approached a car with five people inside from behind, forcing the driver to pull over. The object was dark in the center with luminous white points around the rim. It descended by the highway with a vertical motion and hung about 1.5 meters above the ground. It left a trail of white smoke.
- Around 1900 - Ceres, Argentina - Many residents saw the passing of a luminous trail shining over the town. Explanation: Meteor.
- <http://thecid.com/ufo/uf16/uf9/169439.htm>

14 June 1980 -- reports from pilots

- 19:00 - Ezeiza, Jorge Newbery Apt, Argentina - ATCS incident. Pilots, crew, passengers of some planes forced to wait for take off while UFO flew toward runway, took course of planes about to land, nearly crashed into building, gained altitude. On Ezeiza radar. One ring, around 2500 feet away, was observed by several male witnesses at an airport for over four minutes (Centero, J).
- 19:00 - General San Martin Apt, Argentina - UFO landed on runway for 20 minutes, when plane started taxiing object took off and flew in the direction of the Moon. After plane took off a luminous beam followed same route as the plane. One luminous ring was observed by several female witnesses, typical age 20.
- 19:02 - Pajas Blancas Apt, Argentina - Luminous ring at high altitude. Incandescent cloud seen from airport tower and by plane on runway. No radar confirmation.
- 19:05 - Mar del Plata, Buenos Aires - Aerolineas Argentinas Lvjtcd incident. Three craft hovered in air over Mundial '78 Stadium. "Red, green and yellow lights could be seen increasing in speed and then disappearing."

14 June 1980

- Around 1900 - San Cristobal, Argentina - Railroad Workers incident. More than three objects were observed by several male witnesses on a railroad.
- 19:00 - Brazilian Border, Uruguay - UFO made parabolic flight change over border, headed toward central Uruguay. One white ball was observed.
- 19:00 - Parana, Argentina - Meteorological Office incident. Residents of this state capital saw a UFO fleet fly west to east under the Moon, between 1900-1910, for 6-10 minutes. Several rings were observed by several witnesses on a river.
- 19:05 - Rosario, Independencia Park, Argentina - Two reporters for the La Capital newspaper in Rosario said that a "fleet of flying saucers" was seen by several witnesses and themselves from Independencia Park. One was shaped like a "teething ring", the second was smaller and white in color, and the third object was like a dot with a halo around it.
- 19:02 - Villa Del Carmen, Uruguay - Very white luminous sphere, 80km to southwest of first report that evening in Uruguay.

14 June 1980 – MAJOR UFO FLAP IN RUSSIA

- My attention to this Argentina event was sparked by news reports the near-simultaneous occurrence of another 'cloud UFO' mass sighting ON THE OPPOSITE SIDE OF THE WORLD, around Moscow.
- Hypothesizing that the two events might share a common cause, I noted the path between them was consistent with a spacecraft having a specific orbital path.
- Just such a satellite had in fact been launched at the required time.
- I immediately began writing letters [pre-Internet days!!] to various observatories and astronomers who might have made observations.
- The answers I received quickly showed this was NOT an isolated event in South America
- But the coincidence of proper solar illumination in BOTH Russia AND Argentina WAS very rare, and as far as I can tell, never happened again.

Giant UFO Over Two Continents, by James Oberg

First published in *FATE* Magazine, January, 1983

- "So many cities in a five-country area--including Argentina, Uruguay, Brazil, Chile and Paraguay-- reported seeing the same type of 'UFO' , that the initial press treatment spoke of a 'fleet' of UFOs," Alan Hendry's report for CUFOs [Center for UFO Studies] noted. "In retrospect a single high-altitude phenomenon appears to be behind it all."
- Pilots and control tower personnel at Newbery Airport in Buenos Aires reported the object hovering within a kilometer of the airport. At Ezezia Airport controllers said they could see the UFO as a dot on their radarscope. In Cordoba the object appeared to take off from the airport runway and shoot up to 25,000 feet.
- A "circular flying mass" chased a family driving home from a visit to Cordoba. They pulled their car off the road and stopped. The UFO descended toward them "with vertical and circular movements leaving a bright trail of whitish smoke"-and then disappeared before their eyes.
- [more]

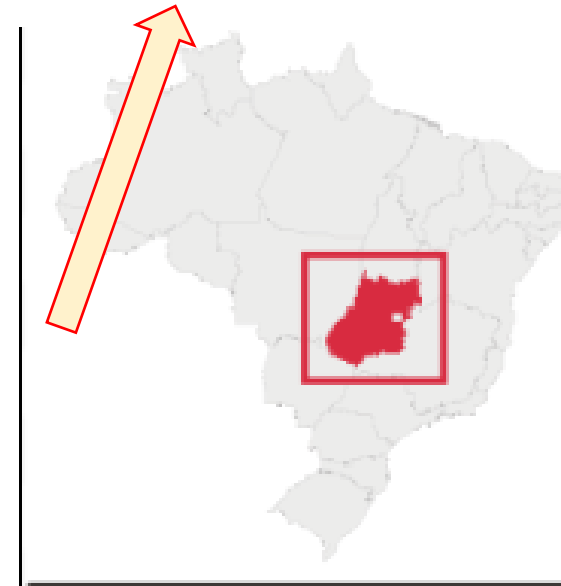
FATE Magazine, January, 1983 [continued]

- In Corrientes, newsman Omar Vallejos saw the UFO "hovering over the Prana River--and then, as if [it] had seen us, it started to move north and disappeared."
- Visual descriptions were mostly consistent. "It looked like a full moon but fainter," one pilot said, "and it was surrounded by a sort of halo."
- At Newbery Field an air traffic controller called it "a sort of sphere that was dim in the middle and brighter around the edges."
- Two photographs, published in the tabloid "Star" on August 19, 1980, show a tenuous "doughnut" cloud.
- Dr. Willy Smith, a CUFOS researcher specializing in South American reports, concluded that the UFO-cloud was at an altitude of "200 to 300 kilometers," with a speed of "one to two kilometers per second, and that is very reliable."
- http://www.debunker.com/texts/giant_ufo.html

Significant downtrack observation

- Four mathematics professors were camping near Aruana, on the banks of the Arquaia River, when they spotted the cloud.
- In contrast to the Argentine sightings, in which the object transited the sky in about ten minutes (the vehicle was still relatively low in its ascending ellipse), the Brazilians saw the cloud fade away in the north after almost half an hour of observation.
- Calculations show that the upper stage in its ascending, slowing orbit would indeed have stayed above the horizon for about that duration when viewed from this, the most northern ever of the reported witness locations.
- The Aruana report raises the question why no reports are on record for any Molniya slot launch from Peru or Ecuador?

**"THE MOLNIYA SLOT"
[TRANSFER PATH TO
12-HOUR ORBIT]**



"Luminous ring at high altitude, rose in the southwest, passed under the Moon, faded away in the northeast. One ring was observed by four male witnesses on a river for 30 minutes."

<http://thecid.com/ufo/uf16/uf9/169439.htm>

Stepping stone to a second case



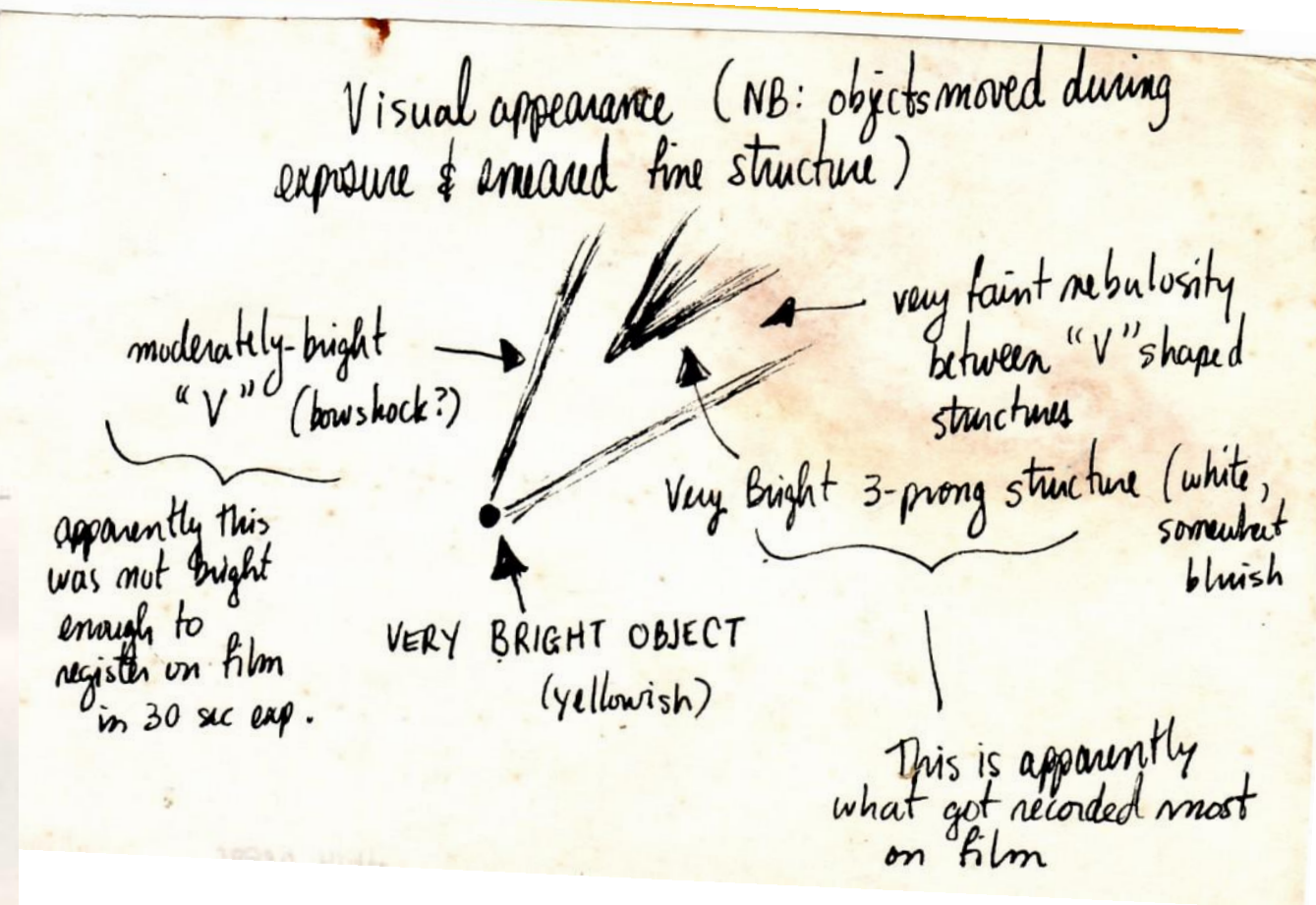
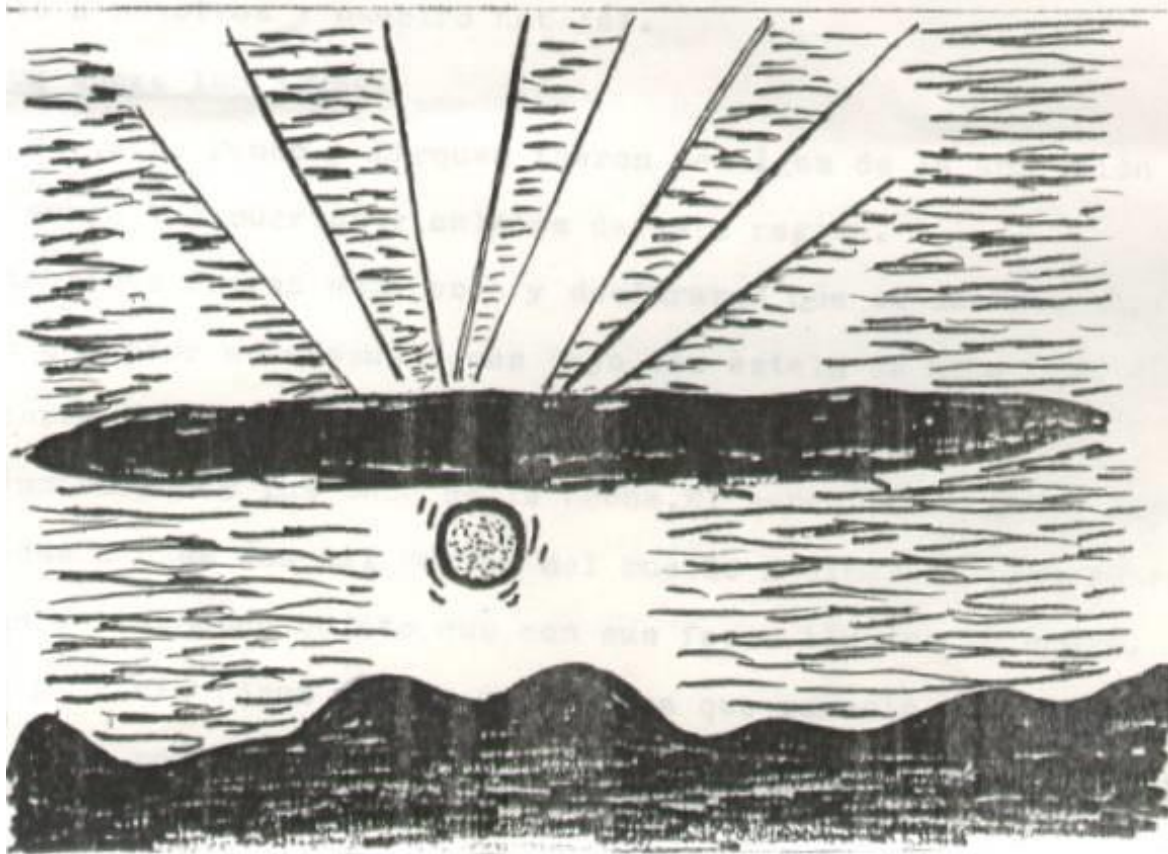
- Terry.Oswalt@erau.edu posmer@astronomy.ohio-state.edu
- http://www.debunker.com/texts/giant_ufo.html
- Dr. Patrick S. Osmer, director of the Inter-American Observatory at Cerro Tololo, Chile, had no data on the June 14 event but wrote, "We did have a prominent event seen from Tololo on February 12 at about 2:00 hours UT [Universal Time]. It was a luminous green cloud of appreciable angular extent that floated across the sky Such clouds are seen here from time to time."
- Astronomer Dr. Terry Oswalt (who had photographed the Cerro Tololo "green cloud" UFO sent me clippings of the local newspapers' reporting of the February, 11, 1980, sighting. There were the usual accounts of bright lights, shaped like the letter "A" or a star with rays coming out.
- Also notable was an account of a terrifying ride down a mountainside occasioned by a bus driver's fear that the flying saucer was chasing him.
- And a young woman named Ximena Sabay reported multiple persons witnessed television interference caused by the presence of the UFO.

Feb 11 UFO --Day & night all over the world



www.wolframalpha.com with the 'question' written as
"world map of the daytime/nighttime on feb 12, 1980, at 02:00 UTC"

1980 feb 11
witness drawings
[LEFT] unknown
[RT] Terry Oswalt



SEE OSWALT'S OBSERVATION NOTES, NEXT PAGE

Cerro Tololo, February 11, 1980

N
E
W

$\sim 20^\circ$

Motion

MIRA (δ)

CETUS

CETUS

Motion

NW Horizon

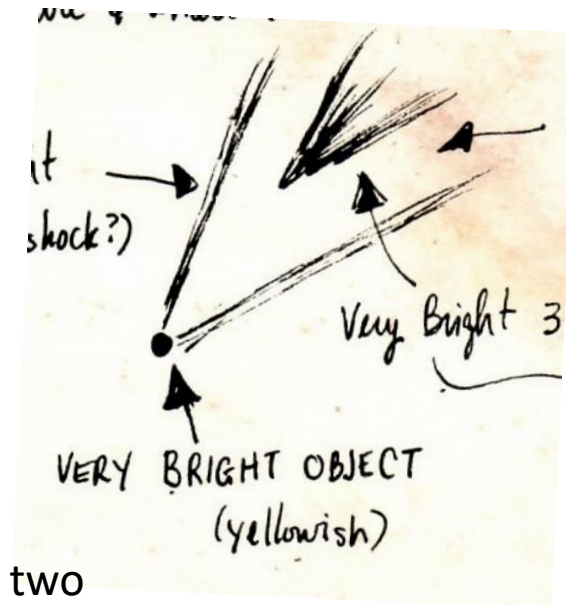
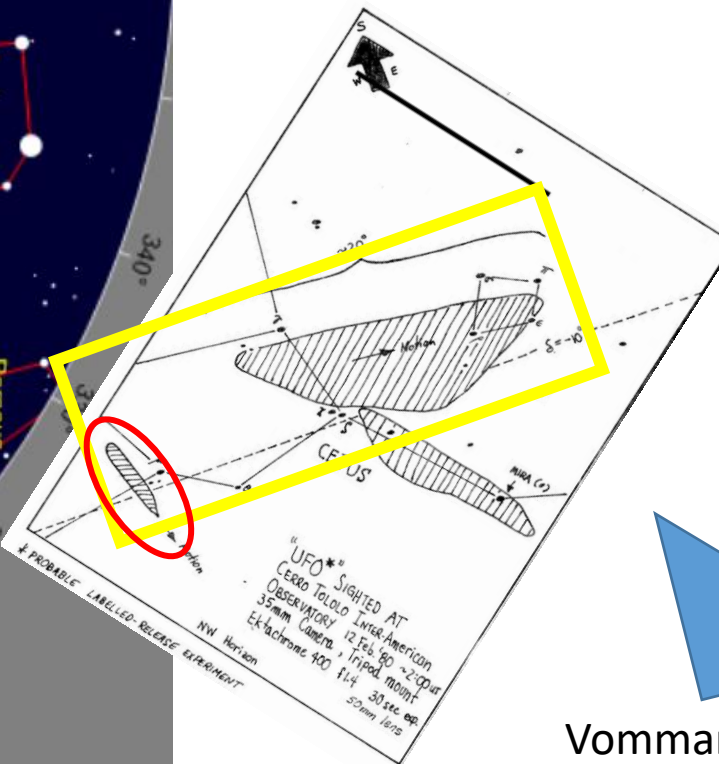
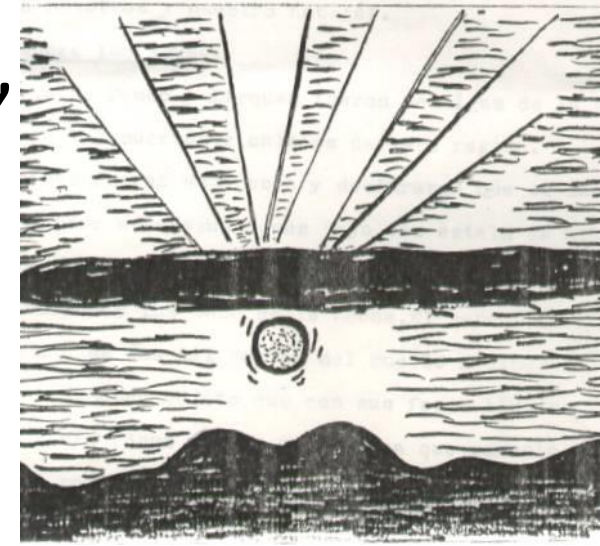
"UFO*" SIGHTED AT
CERRO TOLOLO INTER-AMERICAN
OBSERVATORY 12 Feb. '80 ~2:00pm
35mm Camera, Tripod mount
Ektachrome 400 f1.4 30 sec exp.
50mm lens



TERRY OSWALT: The sketch from my logbook was made from my perspective looking at the sky. This sketch was actually a near-tracing of the photograph; in that case, the camera was tilted on a tripod and so had a somewhat different orientation. I think they're consistent; but obviously the photo is more objective. However, in it much detail was lost because both the "V" and the bright point source (booster) were moving in different directions during the exposure. That's why the "V" is blurred and the point is trailed.

Aligning the 'V'

SEVERAL ACCOUNTS SEEM
TO SUGGEST APEX WAS
POINTED DOWNWARDS
[OR HORIZONTALLY AWAY?]



Vommaro: "having two
big "L" structures"

T. Oswalt

Notes from observing log

2-12-80 UT:

Chile, Roll #2 Ektachrome 400

Exposure # 2 f1.4 130 sec ^{start of exposure} $\approx 01:59$ UT. $\approx 10:59$ C.O.T.
(tripod mount)

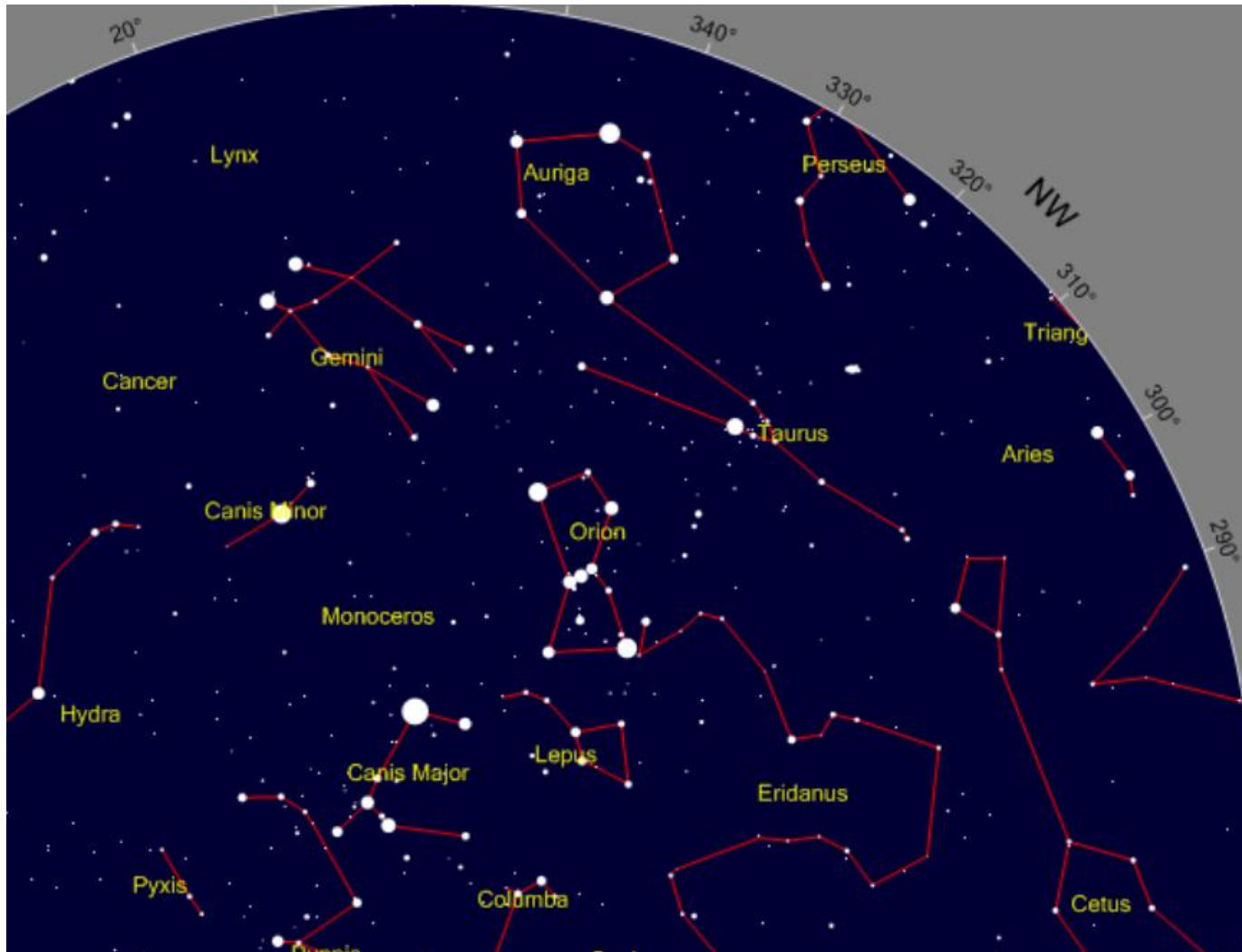
Unusual Jet / Rocket contrail !?

West / N.W. near where Venus set
Bright Object appeared to move away (from triangular
cloud-like "V") - V shaped cloud drifted
to NW, passed through Orion and lasted
about 5 minutes after initial sighting @ 1:59 UT.
Beginning of event not observed.

Dr. Terry Oswalt's
observing log [Feb 12,
1980] at Cerro Tololo
Observatory in Chile

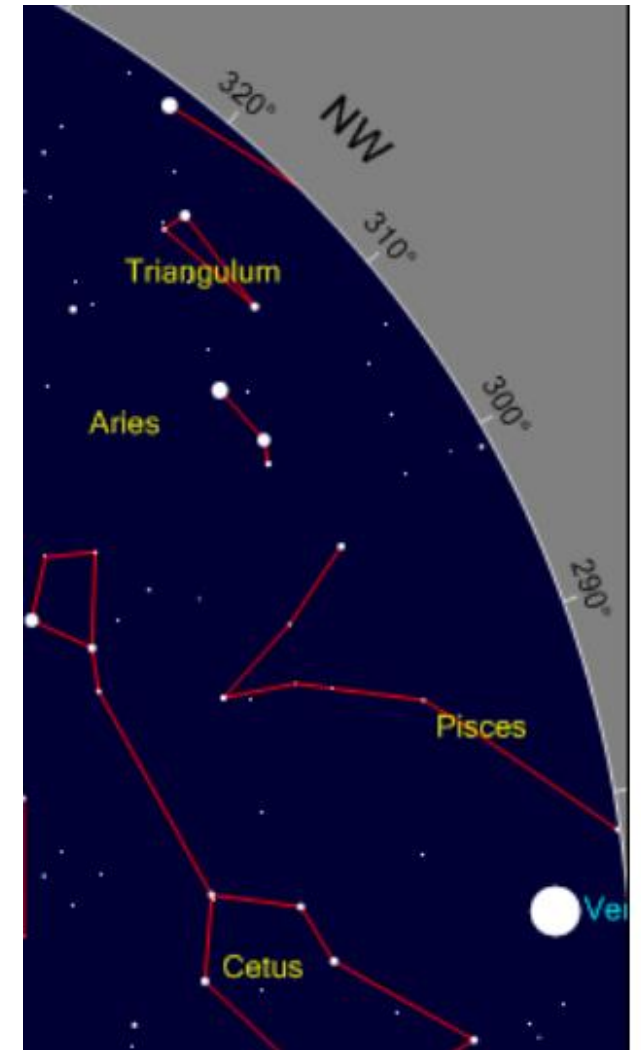


Western sky from Cerro Tololo

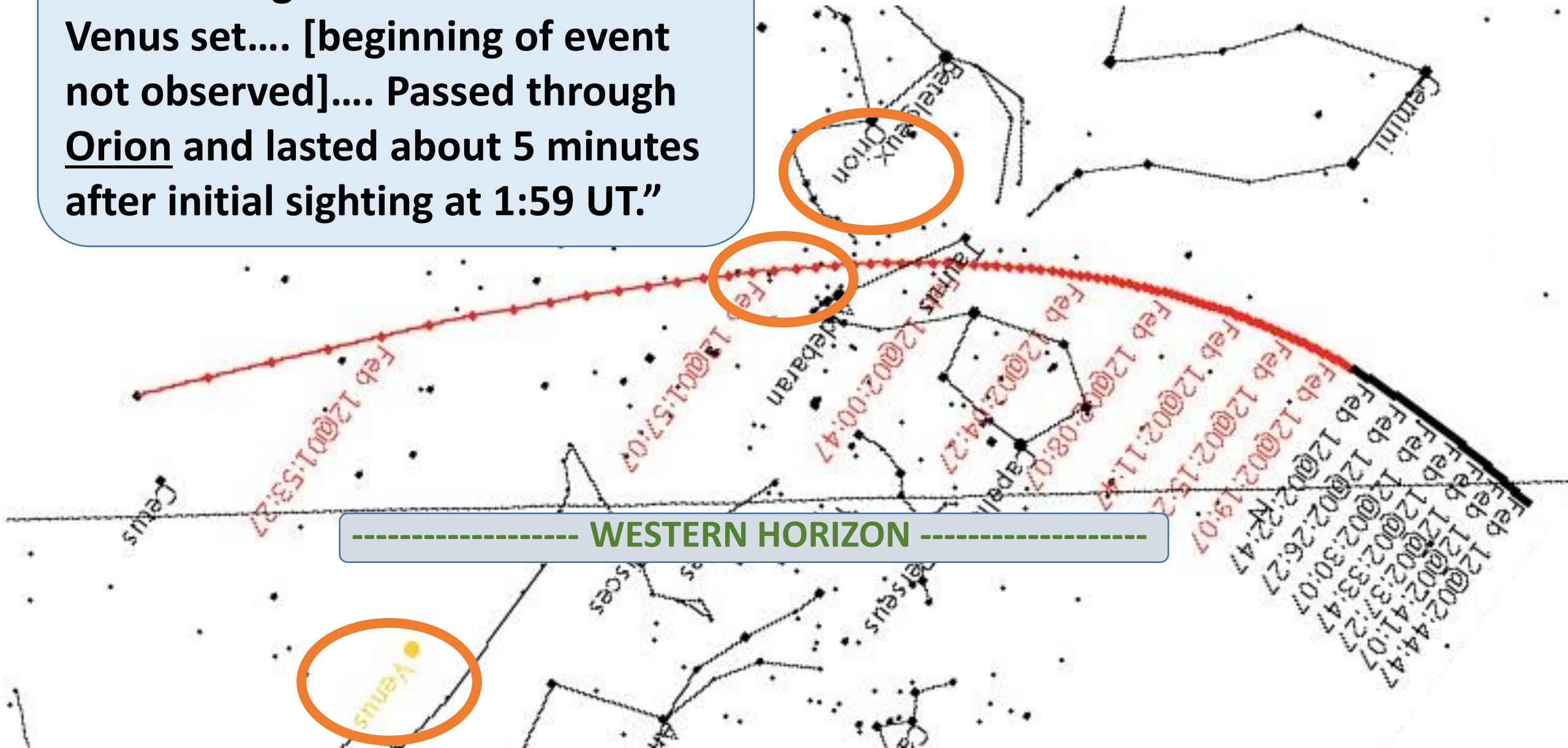


[LEFT] AT TIME
OF ACTUAL
SIGHTING

[RIGHT] ONE
HOUR EARLIER
WITH VENUS
ABOUT TO SET



Oswalt's log: "West.... Near where Venus set.... [beginning of event not observed].... Passed through Orion and lasted about 5 minutes after initial sighting at 1:59 UT."



February 12, 1980 eyewitnesses

- Astronomer Dr. Terry Oswalt (who had photographed the Cerro Tololo "green cloud" UFO and in 1983 was on the staff of Ohio State University) provided clippings of the local newspapers' reporting of the February 11, 1980, sighting.
- There were the usual accounts of bright lights, shaped like the letter "A" or a star with rays coming out; also notable was an account of a terrifying ride down a mountainside occasioned by a bus driver's fear that the flying saucer was chasing him.
- **Oswalt himself described the UFO from detailed entries in his journal. Although there was a large, dim cloud associated with the apparition, the brightest feature was not a cloud but a set of nested V-shaped structures which moved northward in the direction of the apex of the "V." At the apex of the outermost "V" was a bright yellowish object.**

Indications of what went WRONG on this launch?

- WIKIPEDIA: “The satellite was designed to identify missile launches using optical telescopes and infrared sensors, however due to a launch failure, it was never used for the purpose.... It re-entered the Earth's atmosphere on 12 February 1980, the same day it was launched.”
https://en.wikipedia.org/wiki/Kosmos_1164
- TRW Space Log message: “Note: strong suspicion that NORAD never found in high orbit listed. Misidentified part of another flight.” [p. 198, Space Log 1996 (volume 32), Tina Thompson, TRW Space & Electronics Group, Redondo Beach, CA]
- Information from astronomers at Cerro Tololo and others suggest a propulsive event did occur, and without it, satellite would not have been high enough to be observed over such a wide area.
- Intriguing puzzle remains to be resolved – witness reports may be key.

What do the other witness reports teach us?

- Knowing the actual physical/illumination situation with the actual stimuli of these specific eyewitness reports, a valuable double-blind calibration analysis has become available of the ranges of overinterpretation and misinterpretation to be expected in other similarly sudden startling once-in-a-lifetime apparitions.
- This can be illuminating and humbling, and cautionary for interpreting those.
- Many of these witness reports reflect the normal evolutionary goal [detect lethal threat or prey opportunity fast enough to be effective] and lifetime training [quickly use partial cues to reflexively call up similar past experiences or remembered descriptions by others] that represent the NORMAL and proper functioning of the visual recognition systems of each individual.
- These are NOT 'malfunctions' or indicators of inadequate intelligence or rationality or visual acuity They are desirable features of a survival-positive mind.
- However one could wish people would try harder to notice and report contextual details such as location, time, motion description, object visual size, and other data often critical to later reconstruction of possible prosaic explanations.

Why this paper's such exhaustive DETAIL?

- Chronicling available reports to such exhaustive depth makes easy reading much more difficult.
- Scanning or skipping over material is reasonable for many readers.
- This report attempts to be a compilation of all available material to allow a more interested reader to fully experience the breadth of reported observations and interpretations.
- **It has been my experience that any attempts at editing or condensing the body of eyewitness testimony can utilize judgments of relevance based on subconscious interpretations of the nature of the originating event.**
- This can omit non-fitting details crucial to analysis by later investigators.
- I have seen this on a number of cases I've studied over the years, where only follow-up delving into full accounts revealed the missing key clues.

11 February 1980 - <http://thecid.com/ufo/chrono/chrono/1980.htm>

- Chos-Malal, Argentina - A hovering object was observed. One triangle was observed for a few minutes. [-37.36, -70.28, just across border from Concepcion]
- 22:00 - Ingeniero Huergo, Argentina [-39.05, -67.23] - Mailman incident. Carlos Vommaro saw bright light 200m away, 30m up while driving home. Electromagnetic effects were noted. Witness reported that a period of time could not be accounted for. [DETAILED ACCOUNT TO BE PROVIDED]
- 22:45 - Tamberias, Argentina - A triangular object was observed. One blue triangle, the size of the moon, was observed by one male 57-year-old witness in a residential area (Pujado).
- 22:45 - Chamental, Argentina - Triangular object surrounded by light blue luminosity, with reddish hues, left behind a long smoke trail. A triangular object was observed. One blue triangle was observed by 200 witnesses. [-30.33, -66.32, NW of Cordoba]
- 22:45 - Chepes Hwy20, Argentina - Intense brightness ascended from salt works, big white light that gave off black smoke, shape of coffee machine, rose vertically, emitted cloud that hid it, shot in straight line horizontal to hills. A hovering object was observed. It departed by rapidly flying straight up until lost to sight. One white cylinder was observed on a highway. [-31.33, -66.62, west of Cordoba]

MORE

CONTINUED

- 23:00 - Santiago, Chile - Military and police saw immense ball of light (ball of light) project two beams of light into sky, down to ground. After 10 minutes, began to wobble, shot off at incredible speed. Ghost lights were observed. One ball was observed by military witnesses on the shore for ten minutes.
- 23:15 - Maipo Volcano, Mendoza Sw300Km, Argentina - White luminous circle of light descended vertically, illuminated all of southern slope of volcano, no sound. One white circular object was observed by five experienced male witnesses at a lake (Pierandrei). No sound was heard. [SE of Santiago, actually in Chile]
- 23:30 - Ahilenco, Argentina - Mayor incident. Saw an object shape of triangle high in sky over Andes mountains. Remained motionless three minutes, then triangle disappeared leaving lights visible. After more min, lights gyrate/blink out, see dark triangle. An object was observed and photographed. It moved with a falling-leaf motion. One blue triangle was observed by 32 witnesses, one of them an experienced observer, at a village for over three minutes (Martinez; Vega; De Cataneo). [-35.82, -59.81, SW of Buenos Aires]
- 22:50 [wrong date?] - Santiago, Maipu Commune, Chile - Immense luminous ball with two beams of luminous light, open in a 180 degree angle. Wobbled, shot away at incredible speed. One luminous ball, of huge size, was observed by several hundred witnesses in a city.

Select Triangular UFO Cases from NICAP

(Bob Pratt files) http://www.mufon.com/bob_pratt/index.html

<http://www.cohenufo.org/BPrattSelectTriCases.html>

- **February 11, 1980, 10 p.m. to midnight. Argentina and Chile. Hundreds of people in more than a dozen communities in an area of Chile and western Argentina 600 miles long and 300 miles wide reported seeing a large, usually triangular object. Many sightings occurred between 10:50 and 11:10 in areas far apart, which makes one wonder if this weren't a meteor or falling space debris. However, details of individual sightings with numerous witnesses indicate otherwise.**
- Examples: Shortly before 11 p.m., the mayor and 31 other people in Ahilenco, a small community in Neuquen Province 635 miles southwest of Buenos Aires, saw a brilliant object with a triangle of very strong light in the center. It was about 45 degrees high in the sky to the west over the Andes. The object remained motionless for three minutes, then the triangle disappeared, the lights began to gyrate, then went out and the object slowly disappeared toward the west.
- A mailman who lives two kilometers southeast of Cervantes said that at 10:55 p.m. he and four or five neighbors saw a large ball of light with a beam of light shining down. After three or four minutes it flew off at great speed to the north.

MUFON February 11, 1980 cases [continued]

- Between 10:45 and 11 p.m., numerous people in Chepes, Barrealito, Tamberies and Chamental in San Juan Province, 600 miles to the north-northwest, saw a large triangular object with a "blue luminosity with a reddish hue" moving at great speed.
- Around 11:30 p.m. near El Medano in Catamarca Province, Argentina (400 miles northwest of Santiago), a doctor, his wife and three children saw an enormous ball of intense orange light with three beams of light, one to the left, one to the right and one down to the ground. They saw five other people also watching it. After several minutes, it shot off across the horizon at great speed.
- At 11:45 p.m. in San Vicente in neighboring Santiago del Estero Province (about 100 miles northeast of El Medano), witnesses saw a triangular object that gave off intermittent green, red and yellow lights that shined down to the ground. It remained motionless for five minutes and then disappeared at great speed.
- Shortly before midnight, an unidentified object passed over the Pacific coast towns of Penco and Lirquen in Chile (just north of Concepcion and nearly 300 miles south of Santiago), and then landed in the waters of the bay. It floated for about ten minutes, shining searchlights that lit the whole bay, and then suddenly ascended and disappeared over the mountains to the east, leaving behind a trail of smoke that hung in the air for about two hours.

Highlight of the Feb 11, 1980 event – The remarkable tale of Carlos Vommaro

- outline

NICAP chronology version

- Feb. 11, 1980, 10:00 PM; Rio Negro province, Argentina
- Carlos Vommaro, age 22, was driving home from dinner at his girlfriend's house westbound on Route 22 between the towns of Ingeniero Huergo and Cervantes in Rio Negro province, Argentina when he noticed a strong glowing light over a field 200 meters away, on the left side of his truck and at about 30 meters altitude.
- He described the object as having two big "L" structures with a luminous rectangular form inside. The edges of the luminous "L's" seemed to be covered in a diffused vapor that seemed to reflect the light.
- Perplexed, Vommaro watched the object as it came parallel to him. Vommaro then decided to escape, speeding up to about 60 mph when suddenly everything around him became dark and he blacked out.
- When Vommaro woke up he found himself leaning over the steering wheel. The light was now on top of the vehicle, and suddenly from the area of the luminous rectangular area a beam of light shot out, which seemed to spread out in width the further away it got. The beam of light covered the vehicle, but not its interior; it seems to be stronger at the point of origin.
- [more]

NICAP [continued]

- Terrified, Vommaro jumped out of his vehicle, running for help but the road is completely deserted.
- A couple of minutes later he saw a car approaching from the direction of General Roca, and he frantically tried to flag down the car. The car slowed down briefly, but then sped away. Perhaps the approaching driver had seen the luminous object still hovering above the road.
- After coming to his senses Vommaro now realized he was outside of the town of Cervantes, located more than 15 km away from where he had been, and he has about an hour of missing time he can't account for.
- When he got home his dogs reacted strangely, did not seem to recognize him, and attempted to attack him. The next day he suffered from lack of appetite, weakness, lumbar back pain, and leg pain. There was also some damage to his car.
- *(Sources: Jane Thomas, UFO News clipping Service, May 1980, p. 14, citing Rio Negro, February 16, 1980; Philip J. Imbrogno, Contact of the 5th Kind, p. 20; Alejandro Chionetti, UFO Press, issue # 12, April 1983).*
- <http://www.nicap.org/waves/1980fullrep.htm>

Second account of Vommaro encounter

Alejandro Chionetti, UFO Press # 12, April 1983

- 22-year old Carlos Vommaro was returning from dinner at his girlfriend's house and was traveling west bound on Route 22 in his 73 Ford Falcon, as he drove by an irrigation system, common in this farming region, Vommaro noticed a strong glow on the left side of the truck over a field. As he drove on the glow seemed to get stronger, illuminating the surrounding area like daytime.
- Soon Vommaro noticed an object he described as shaped like an "L" separated by a luminous rectangular form resembling a bright TV screen, the object was now traveling over the road in the same direction that Vommaro was heading.
- The edge of the luminous "L" seemed to be covered in a diffused vapor that seemed to reflect the light, the diffused glow also surrounded the rectangular shaped screen. Vommaro estimated that the luminous "L" was about 2 meters in height and about 1.75m in width while the luminous rectangle was about 40-50 cm in diameter.
- Perplexed, Vommaro watched the object as it came paralleled to him about 200 meters away.
- <http://www.thinkaboutitdocs.com/1980-february-ufo-alien-sightings/>

[continued]

- Vommaro then decided to speed up to about 60mph when suddenly everything around him became dark and he apparently blacked out.
- When Vommaro woke up he found himself leaning against the steering wheel. The light was now on top of the vehicle, and suddenly from the area of the luminous rectangular TV screen a beam of light shot out, which seemed to spread out in width the further away it got from the screen. The beam of light covers the vehicle, but not its interior; it seems to be stronger at the point of origin.
- Terrified, Vommaro runs out of the car looking for help but the street is completely deserted. 3 minutes later he sees a car approaching from the direction of General Roca, frantically he signals for the car to stop. The car slows down briefly, but then speeds away again; apparently the driver had seen the hovering luminous object above the road.
- After coming to his senses Vommaro now realizes he is outside of the town of Cervantes, located more than 15km from his original position and encounter. He checks the car, which appears to be in good condition and drives to the nearby Cervantes police station.
- He looks back to see the strange luminous object still hovering above the road.
[snip]

First major public spectacle of this type....

- Publicized the concept
- D
- D
- D
- D

Satellite Kosmos-1164 took off from Plesetsk at 00:56 UT on February 12, 1980, heading east, and the Cerro Tololo green cloud and yellow star appeared at 2:00 UT (10:00 P.M. Chilean time);

[Perigee](#) / [Apogee](#)

212 kilometres (132 mi) / 578 kilometres (359 mi)

[Inclination](#) / [Period](#)

62.8 degrees / 92.45 minutes

https://en.wikipedia.org/wiki/Kosmos_1164

ANOTHER case -- October 31, 1981

- During my original research in late 1981, Willy Smith [1921 - 2006] had informed me that yet another "fuzzy halo" UFO had been seen and photographed on the evening of Saturday, October 31, 1981.
- According to the story (which was featured in two issues of the APRO Bulletin), the UFO was seen in three Argentine provinces and in Arica, Chile, at 9:00 PM.
- At the Felix Aguilar Observatory an official said the UFO (with a "classic" shape of a "flying saucer") crossed the sky at a great rate of speed, left a luminous, sparkling wake and disappeared into the northeast. ...
- El Cajon Mountain, Chile - Mountain Climbers incident. Seven veteran mountain climbers camped for night saw bright light rose rapidly, leaving glow reflected off mountain. Changed to sphere, darkened hat shape in middle, then took on triangular shape, solid. No sound was heard. [Willy Smith: "Seven mountain climbers watched a UFO two or three miles away which "illuminated the entire area" and unnerved the witnesses as they were caught in its glow. "
- Richard Hall, The UFO Evidence vol. 2, p. 125

**Kosmos-1317 took off at 22:48 UT on October 31, 1981,
and was seen over Argentina shortly after 9:00 P.M. (midnight UT).**



PRESS REPORTS

By Joe and Doris Graziano

<http://thecid.com/ufo/chrono/chrono/1981htm> [also NICAP]

31 October 1981 After 2100 - Cordoba, Argentina - Austral Pilot incident. Bright, round huge object flew through sky, witnessed by pilots of two commercial flights when landing. One round object was observed by two experienced male witnesses (Pedro Heslop). Hall: "Both observed bright round object flying at about 180 meters altitude [Alberto Paracampo, Aerolineas Argentinas]."

ARGENTINA - October 31, 1981 - Cordoba - The pilots of two commercial flights, Pedro Heslop of Austral Airlines flight 408, and Alberto Paracampo on Aerolineas Argentinas flight 510, both said they saw a "bright, round, huge object in the middle of which there was another, smaller bright object" flying through the sky around 9:15 p.m. Heslop said he saw the object as he was just about to come in for a landing and Paracampo's report agreed with that of his colleague. The object was at an approximate altitude of 180 meters but could not be seen from the ground because of prevailing weather conditions.

Heslop's FIRST in-flight UFO sighting?

- 14.10.1968 **ARGENTINIEN / FLIEGENDE UNTERTASSEN** **Blut gezapft**
- Ein rot, grün und weiß strahlendes Ufo begleitete angeblich den Piloten Pedro Heslop, 33 (17 Jahre Flugerfahrung), als er eine vollbesetzte DC-6 der "Austral"-Gesellschaft auf dem Flug 834 von Buenos Aires nach Mar del Plata steuerte. Zwei Piloten der staatlichen "Aerolineas Argentinas" behaupteten, sie hätten am klaren Himmel Patagoniens "eine gigantische bläulich-weiße Scheibe" gesehen.
- A red, green, and white glowing UFO allegedly accompanied the pilot Pedro Heslop, 33 (17 years flying experience), as he piloted a DC-6 "Austral"-company flight 834 from Buenos Aires to Mar del Plata. Two pilots of the State "Aerolineas Argentinas" claimed that they had seen a huge bluish white disk "in the clear Patagonian sky".
- <http://www.spiegel.de/spiegel/print/d-45950027.html>
- **JO: The two reports are on different flight numbers and different destinations, so maybe they are two different events – or just a badly-garbled echo of the 1968 event retreaded for the 1981 flap.**

1968 report of pilot Pedro Heslop seeing a UFO

ARGENTINIEN

FLIEGENDE UNTERTASSEN

Blut gezapft

Drei kosmische Zwerge entstieg einem eiförmigen Raumschiff. Sie schritten auf zwei Angestellte des Kasinos von Mendoza in Argentinien zu, deren Auto aus unerklärlichen Gründen stehengeblieben war. Die Insassen fühlten sich gelähmt.

Die Himmlischen — knapp 1,40 Meter groß, mit übergroßen, kahlen Köpfen — zapften den beiden Kasino-Menschen aus Daumen und Zeigefinger einige Tropfen Blut ab. Dann ent-schwebten sie.

Eine Blutprobe verordnete dann auch die Polizei von Mendoza den beiden Kasino-Angestellten, als sie von ihrem Erlebnis berichteten: Sie waren nüchtern.

Seit fast fünf Monaten suchen Wesen aus fernen Welten Argentinien heim. Fliegende Untertassen, bislang

Straße bei Mexico City — noch immer im Wagen sitzend — wiedererwacht sei.

Manche argentinischen Zeitungen sahen die Hand des US-Geheimdienstes CIA im Spiel, doch andere hielten die wunderliche Entführung für das Werk außerirdischer Besucher.

Fast täglich meldeten seither die Zeitungen neuen Himmelsspuk. Hunderte von Argentinern — darunter ein Astronomie-Professor, ein Ex-Gouverneur, Ärzte, Ingenieure und Lehrer — erspähten fliegende Untertassen über ihrem etwa 4000 Kilometer langgestreckten Land.

Argentiniens Fliegern erschienen die schwebenden Schimären besonders gern. Selbst der — vor kurzem abgesetzte — Chef der argentinischen Luftwaffe, Brigade-General Teodoro Alvarez, glaubt an Ufos — „sonst wäre ich kein Flieger“.

Ein rot, grün und weiß strahlendes Ufo begleitete angeblich den Piloten Pedro Heslop, 33 (17 Jahre Flugerfahrung), als er eine vollbesetzte DC-6 der „Austral“-Gesellschaft auf dem Flug 834 von Buenos Aires nach Mar del Plata steuerte. Zwei Piloten der staat-

reszierenden Kombinationen entstieg dem gleißend-heiß und vielfarbig strahlenden Phantom — so behauptete die Spuk-Patrouille später.

Der Korporal gab den fremden Wesen den Befehl, sich zu ergeben, dann gab er Feuer. Die Gäste aus dem Kosmos ignorierten beides und entflogen mit ihrem Raumschiff.

Die Ufos seien „eine durchaus wahrnehmbare Realität“, zu diesem Schluß kamen die Teilnehmer einer „Konferenz zum Studium der Ufos“ in der medizinischen Fakultät der Universität Buenos Aires. Keine Antwort allerdings fanden sie auf die Frage, warum gerade Argentinien in dieser Saison bevorzugtes Reiseziel der Außerirdischen ist.

Einer aber wußte es: Fernando Sesma, Präsident einer „Gesellschaft der Freunde der Weltraum-Besucher“ in Madrid. Vor vier Jahren schon hatte er in seinem Buch „Die Extraterrestri-schen sprechen zu uns“ für 1968 die Invasion der Kosmos-Touristen in Argentinien vorausgesagt. Bis 1970 wollen sie, prophezeit Sesma, von Feuerland aus den Globus erobern.

Pedro Heslop's 1981 sighting [Kosmos-1317] endorsed in "Weinstein List" and Leslie Kean book

- **Unidentified Aerial Phenomena - Eighty Years of Pilot Sightings**
- http://www.narcap.org/fil/narcap_revised_tr-4.pdf
- Weinstein: "These cases are special for several reasons. Training and experience make pilots and crews much more reliable witnesses than others. They are used to unusual meteorological phenomena. ...Military pilots are trained to estimate distances, shapes and speed of flying machines."
- Page 51, he describes 1981 event as "a bright round object flying at about 180 meters altitude". Actual altitude was above 400,000 meters.
- Both Weinstein and Kean describe the list as meeting a standard defined earlier by NASA scientist Richard Haines: it is supposed to contain ONLY reports where "the appearance and/or flight dynamics ... do not suggest **a logical, conventional flying object and which remains unidentified after close scrutiny of all available evidence by persons who are technically capable of making both a full technical identification as well as a common-sense identification**, if one is possible."
- Kean is enormously impressed by pilot sightings, which she describes as "a unique window into the unknown." She writes that pilots "represent the world's most experienced and best-trained observers of everything that flies... these unique circumstances potentially transform any jet aircraft into a specialized flying laboratory for the study of rare anomalous phenomena."

Three spectacular cases in less than two years

- February 11, 1980
- June 14, 1980
- October 31, 1981

Why the sudden onset of cases?

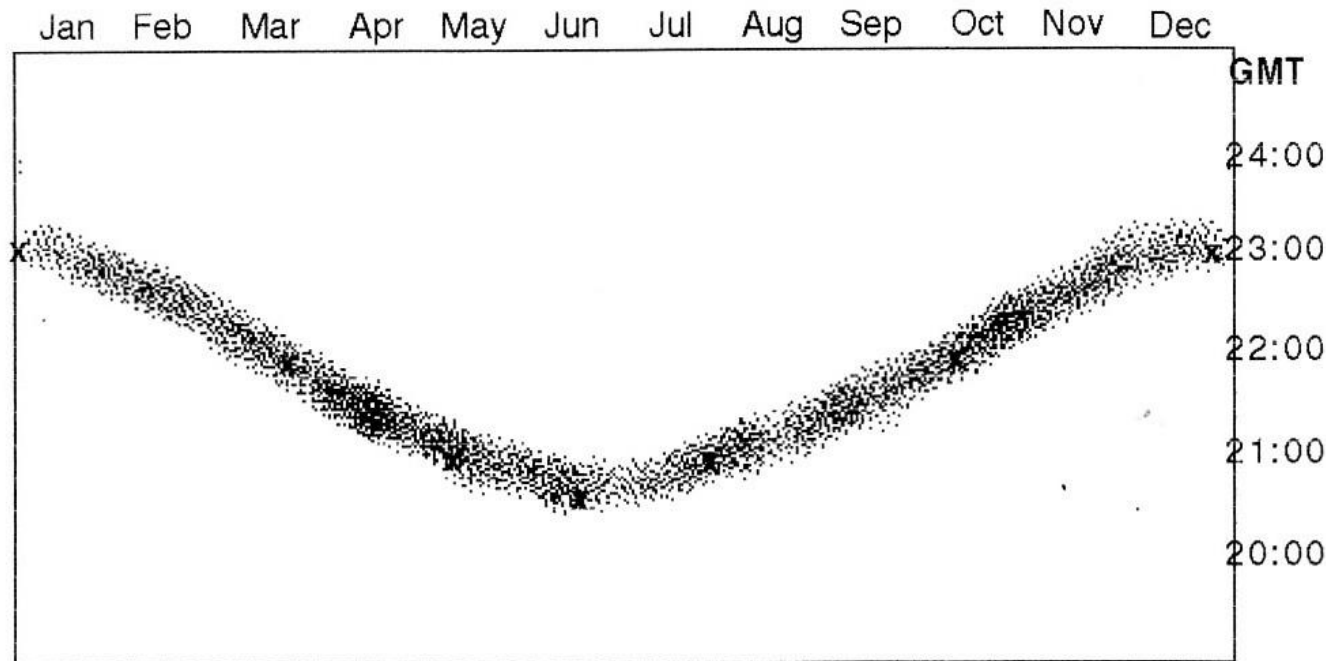
- These examples of a pattern seemed to have sprung up from nowhere. But there was a good reason for it.
- Writing in early 1982, Soviet space operations expert Nicholas L. Johnson pointed out, "During the past two years, the Soviet early warning satellite network has undergone a dynamic transformation from a fledgling, experimental program to a nearly complete, operational constellation (orbital networks). Although the program was begun in 1972, not until late 1980 were there ever more than three satellites operational at the same time."
- Launch figures tell the same tale: there were six EW launches in 1981 and six others in 1980; before that, there had been only two each in 1979, 1978 and 1977....

Generalizing a no-longer-unique miracle

- Struck by the similarities of these newly-discovered apparitions to the one described in the June 14 case, I again checked space-vehicle launch records.
- I was amazed to find that all three cases correlated with satellite launchings in the Kosmos program -- particularly with the relatively infrequent subclass consisting of "Early Warning" (EW) vehicles.
- Each South American sighting followed by little more than one hour the blast-off of an EW satellite from Plesetsk. It could not have been coincidental.
- Kosmos-1164 took off at 00:56 UT on February 12, 1980, and the Cerro Tololo green cloud and yellow star appeared at 2:00 UT (10:00 P.M. Chilean time); Kosmos-1188 took off at 20:55 UT on June 14, 1980, and was seen over South America shortly after 3:00 P.M. Argentine time (22:00 UT); and Kosmos-1317 took off at 22:48 UT on October 31, 1981, and was seen over Argentina shortly after 9:00 P.M. (midnight UT).

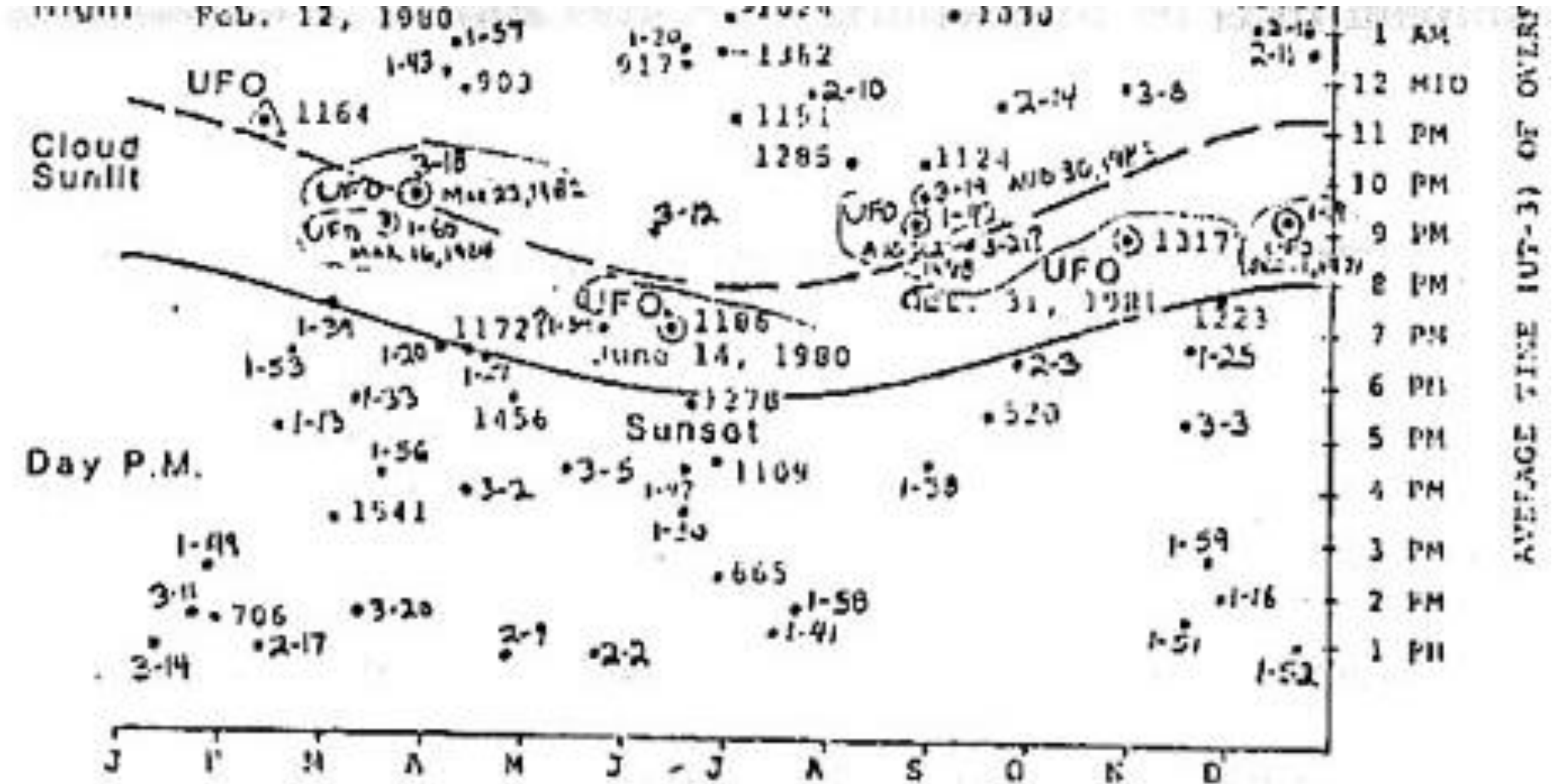
But why then, ONLY three?

- If SOME Molniya-orbit launches made spectacular sky shows, then why not the two dozen others that had already been launched since 1964? Why weren't THEY seen?
- As a lifelong amateur skywatcher looking at satellites dusk and dawn [I saw Sputnik-2 soon after my 13th birthday], the obvious visibility determining factor would be illumination.
- If the observer's sky had to be dark but the spacecraft and cloud had to be in sunlight while passing off the coast of Chile, there was a relatively narrow daily band for viewing opportunities, earlier in winter, later in the evening in summer, with this shape:



All the launches in the band were seen, and none of the others

All the launches in the band were seen, and none of the others

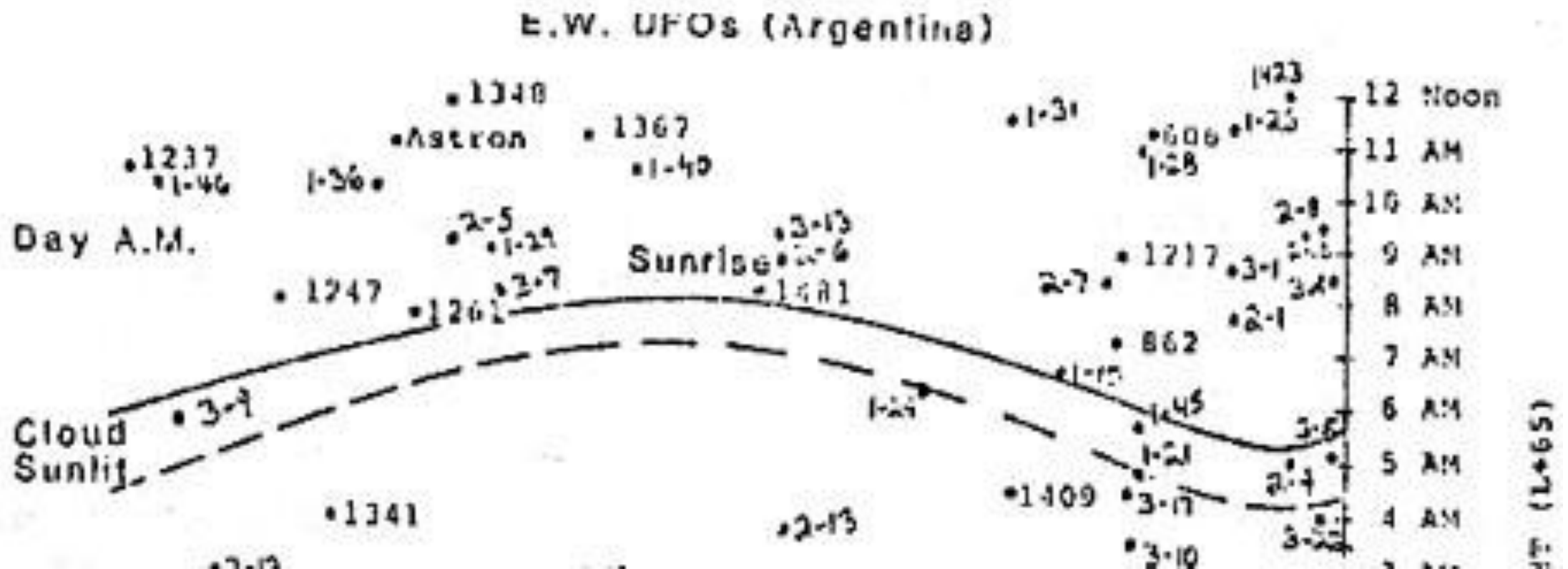


Why no symmetric pre-dawn visibility?

VISUALIZATION OF THE SUNLIGHT ILLUMINATION NEEDED FOR DAWN OPPORTUNITIES REVEALED WHY THERE COULD BE NO REPORTS

THERE WAS NO INTERVAL WHEN A SATELLITE FAR TO THE WEST [OFF CHILE] WAS SUNLIT WHILE THE SUN HADN'T YET RISEN IN THE EAST

BY THE TIME SUNRISE OCCURRED THE REGION ABOVE THE 'MOLNIYA SLOT", THE SKIES OF THE COUNTRIES EAST OF THERE WERE ALREADY BRIGHT



Additional evening launches DID satisfy lighting

- Some sparked reports
- MORE RESEARCH INTO RECORDS IS NEEDED
- Others did not, perhaps due to weather
- Analytical work with www.heavens-above.com sky charting allows measurement of sun elevation angle where the satellites entered the standard 'Molniya Slot' following third stage burn. Knowing their altitude, it was straightforward to compute sunlight illumination for any elevation angle greater than minus 25 degrees.
- This agrees exquisitely with actual observation history

May 28, 1982

1982-050 1982 May 28 2202:59

1982-050A Molniya-1

Exception that proves the rule.

Willy Smith found NO reports

WAS illuminated [+02 at 297]

Possibly clouded out?

| Friday, May 28, 1982:



August 30, 1983

- Molniya 3-21 1983-090 1983 Aug 30 2249:00
- **CLARIN [Buenos Aires], September 1, 1983 [no mention of time of event, azimuth to object or direction of motion, just witness impressions] :**
- “Hundreds of persons in various districts of Neuquán and Río Negro, on the last day of March saw an enigmatic spectacle: the passage of an unidentified flying object. The strange ship seemed to 'show off' for fifteen minutes. Everyone described it as 'a tire of bright edges and a central dark concavity '. It moved rather slowly, but before losing sight, it emitted polychrome rays and left a trail in the sky.
- 17-year-old Cristina Osterrith: “I’ve never seen a similar spectacle. It was surely flying at high altitude. But it glided majestically. It left a trail like sparkles....”
- Witness: “We thought it was Venus, although its size exceeded it. It soon irradiated a powerful light and disappeared....”
- Paso Tromán, at the Chilean border: “It looked huge, like a medallion with bright edges.””

TESTIMONIOS DE MILITARES

Avistan un OVNI en Neu

Centenares de personas, en Neuquén y Río Negro, observaron el martes último un enigmático espectáculo: el paso de un objeto volador no identificado. La extraña nave pareció "exhibirse" durante quince minutos. Todos la describen como "un neumático de bordes brillantes". Se desplazaba con cierta lentitud, pero antes de perderse de vista, emitió rayos policromos y dejó una estela en el cielo. Fue avistada en distintas bases militares.

JUNIN DE LOS ANDES (C). — Centenares de personas, en distintas localidades neuquinas, contemplaron durante la noche del pasado martes y por espacio de quince minutos, las evoluciones de un extraño objeto volador, que parecía "un gigantesco neumático, con brillantes bordes y una concavidad central oscura".

Según testimonios obtenidos en Junín de los Andes

Y ESTUDIANTES

Avistan un OVNI en Neu

mento, cuando el objeto se pudo apreciar nítidamente. No abro juicio sobre su índole". 3) El cabo **José Lelva**, del grupo de Artillería de Montaña 6 explicó: "Me encontraba de servicio, juntamente con el sargento primero **Hugo Angellini**. Salíamos del comedor de tropa y, ya en el patio de armas, lo divisamos. Alertamos al sargento primero **Patiño** y a un grupo de oficiales. De ningún modo se trataba de un avión". 4) Otros testimonios con descripciones similares estuvieron a cargo de un grupo de alumnos del colegio primario N° 7 "Thomas Falkner". Se trata de los niños **Héctor Villanueva**, **Mario Rodríguez**, **Horacio Chávez**, **Carlos Andrade**, **María del Carmen Cofre**, **Fablana González**, **María Elena Matus**, **Elisa Díez Moreno**, **Mabel Olave** y otros; 5) La señorita **Mirta Encina de Mora**, empleada de ENTel., dijo: "Yo estaba en mi casa, en el barrio Primeros Pobladores. Era un OVNI, no existe otra explicación".

♦ En Aluminé

Según testimonios obtenidos en **Junín de los Andes**, **Alicura**, **Piedra del Aguila**, **La Rinconada**, **Aluminé** y otras comarcas andinas— así como el personal de la **Fuerza Aérea** de **aeropuerto de Chapelcú** y de la **guarnición militar local**, **asentamiento del Regimiento de Infantería de Montaña 26** y el **Grupo de Artillería de Montaña 6**— el misterioso navegador se desplazaba sin prisa con rumbo noroeste, en la misma dirección del viento y, antes de perderse de vista, emitió iridiscencias multicolores.

Hubo testigos que tuvieron tiempo para comunicarse telefónicamente con amigos y conocidos, para que observaran el fenómeno y un soldado, que es fotógrafo profesional, pudo hacer cómodamente diversas tomas con su cámara.

El jefe del aeropuerto de Chapelcú, señor **Soto**, confió que personal de guardia en la torre de control había seguido atentamente la trayectoria del supuesto **avión volador no identificado** (OVNI). El cabo primer **Néstor Meneses** y el suboficial auxiliar **Emilio Sánchez**, que en esos momentos conversaban con un empleado con un empleado del Banco Provincia de Neuquén, de apellido **Stol**, relataron que, después de estudiar las características del objeto, asentaron en las planillas de formación técnica de la Fuerza Aérea la insólita "noticia".

Este corresponsal obtuvo versiones absolutamente coincidentes a través de una rápida encuesta: 1) El vecino **Rubén Mercoveski**, sorprendido por la fantástica aparición mientras conducía su automóvil sobre la ruta complementaria "D" desde San Martín de los Andes hacia esta ciudad: "Detuve el coche y salté a la ruta, para observar la "cosa". Pronto, se me unieron algunos turistas— una señora exclamó: "Jamás lo hubiese creído. Los OVNI existen". 2) El jefe de la sección Gendarmería de **Junín de los Andes**, **Hugo Enríquez**, refirió: "Me encontraba con otras personas a unos cien metros del destaca-

♦ En Aluminé

Después de sortear algunos escollos en la ruta hacia **Aluminé**, a 120 kilómetros de **Junín de los Andes**, fue posible corroborar todas las versiones anteriores. El agente **Alberto Labicurá**, de la comisaría aluminense, contó: "Anoche (por el martes) llegó el guardafauna **Dino Bellido**. Estaba muy agitado y nos avisó que, con otros vecinos, estaban observando en el cielo un raro objeto. Salimos y, con el oficial **Castillo** y el sargento **Contreras**, verificamos que el objeto tenía una forma de plato hondo". Por su parte, el empleado del Automóvil Club Argentino, señor **Daniel Tello**, de 31 años, nos aseguró: "Venía de la zona de las montañas, en absoluto silencio". El relato fue confirmado por un antiguo vecino, **Antonio Vega**: "Venía manejando desde Neuquén. Me acompañaban mi esposa **Marta Rosa Allosa** y nuestro hijo **Oscar Marcelo**. Exactamente en la Bajada de Bahué y calculo que eran las diez menos cinco, lo vimos. Tardó diez minutos en desaparecer.

También aludió a un "plato volador" la joven **Cristina Osterrith**, de 17 años. "Jamás vi un espectáculo semejante. Seguramente volaba a gran altura. Pero se deslizaba majestuosamente. Dejó una estela como un chisporroteo".

♦ También en Río Negro

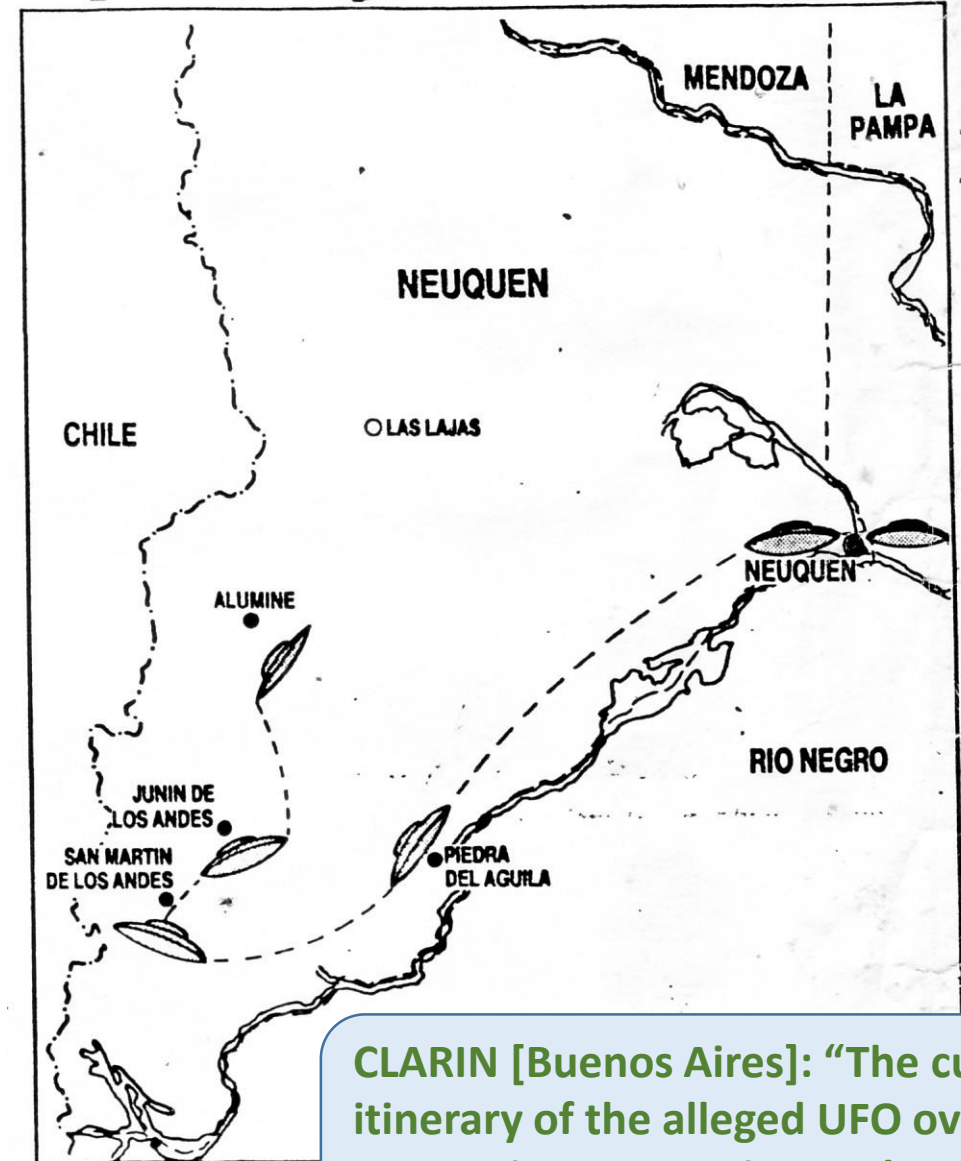
NEUQUEN (De nuestra agencia). — Pobladores del Alto Valle de Río Negro, además de muchos viajeros que en la noche del martes recorrían la Ruta Nacional 237, fueron asombrados espectadores de la misteriosa nave sobre sus cabezas. "Después de algunas evoluciones, el "objeto" pareció seguir el curso del río Limay. Creímos que era el planeta Venus, aunque por su tamaño lo superaba. De pronto irradió una potente luz y se perdió".

Una comunicación de **Paso Tromen**, en el límite con Chile, confirmó los relatos anteriores. "Sí. **Pasó sobre nosotros. Parecía enorme, como una moneda de cantos brillantes**", aseguraron.

WHERE THE ACTION WAS

DAYLIGHT TERMINATOR

MOLNIYA FLIGHT PATH



El curioso itinerario del presunto
cordilleranas. El testimonio de
parece irrefutable.

CLARIN [Buenos Aires]: "The curious itinerary of the alleged UFO over the mountain range regions . The testimony of many witnesses seems irrefutable."

March 16, 1984

1984-029 1984 Mar 16 2329:59 1984-Kosmos-1581 Oko

Confirmed by Willy Smith
and G. Rocoroni

Numerous eyewitness accounts, TBS
Wide area

am CST | Saturday, March 17, 1984:



July 3, 1984

- Seen in Paraguay and six provinces of Argentina
- Between 19:30 and 20:30 local time
- Satellite closest approach was at 19:36 local
- Round bright object bigger than the moon
- Coincided with an electrical blackout
- “On the night of July 3, 1984, an object was reported by several witnesses almost simultaneously in Oriente, Copetonas and Coronel Pringles: first as a cloud-shape that gave off bright flashes and subsequently as a sphere of light, finally with the unmistakable shape of a UFO.”
- <http://www.ufoinfo.com/news/argentinareflections.shtml>
- La Voz Del Pueblo [www.lavozdelpueblo.com.ar] DATE: 11.18.07

Habitantes de nueve provincias avistaron anoche un platívol

El inusual fenómeno se registró en el Chaco, Santiago del Estero, Salta, Jujuy, Tucumán, Catamarca, Neuquén, Río Negro y Chubut

En el término de una hora, centenares de habitantes de al menos nueve provincias argentinas avistaron anoche la evolución de un platívol y objeto volador no identificado.

rios minutos en zonas descampadas. Al cierre de esta edición se intentaba corroborar la versión de un vecino, que aseguró que mientras el platívol permanecía a la vista, su automóvil quedaba

en funciones en el aeropuerto local, que señaló que el mismo siguió en dirección a Tucumán.

En Catamarca

n cielo estrellado, un semejante sobrevoló ita de Catamarca donagente de policía Juanás Salas, que pudoarlo, señaló que se trale una circunferencia

San Salvador de Jujuy tuvo también similares características, siendo corroborado por el segundo jefe de la seccional quinta de la policía de la provincia, comisario Quintín Solaligue y el oficial de guardia de esa dependencia, Domingo Piñero.

En el sur

Media docena de localidades

□ TIEMPO Argentino

Jueves 5 de julio de 1984

Página 16

Noticias

Otros relatos sobre el paso del platívol

Lo vieron en tres ciudades más

Nuevos testimonios recogidos según dijeron, "tenía el tamaño



Centenares de habitantes de nueve provincias, en puntos como Charata, Chaco, y El Bolsón, avistaron anoche las evoluciones de un luminoso platívol. Las observaciones, registradas en éstas y en Santiago del Estero, Salta, Jujuy, Tucumán, Catamarca, Neuquén y Chubut, ocurrieron entre las 19.30 y las 20.30.

griso, las regiones en las que anoche se avistamiento del extraño platívol. En que habría cubierto en una presunta

UFOs sighted 'as big as the moon'

STAGGERING UFO sightings are being reported throughout South America.

In Paraguay, hundreds of people have seen a round, luminous object many have described as bigger than the moon.

And the same phenomena has also been spotted in six different provinces in neighboring Argentina.

Eyewitnesses in Asuncion, the capital of Paraguay, said that before the object disappeared over the horizon they saw it had a brilliant white surface and a black core.

Gustavo Martínez, of the Santaní National College, said the UFO's appearance coincided with an electricity blackout.

And Asuncion's international airport



July 3,
1984

Kosmos-
1581

Kosmos-1581

1984-071 1984 Jul 3 2130:42 1984-071A Kosmos-1581 Oke

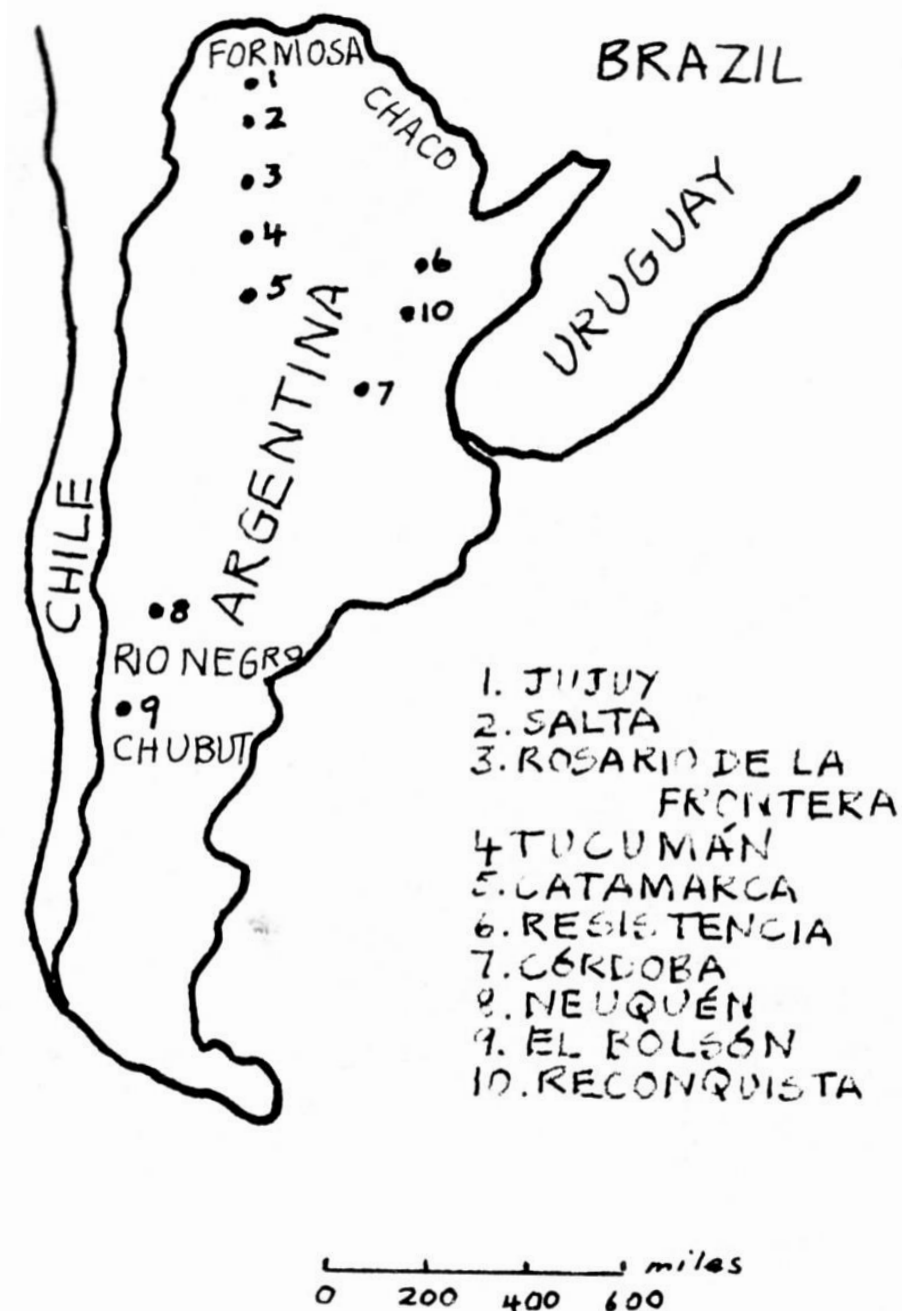


1984 Jul 3

• fsr



M840703



RESIDENTS OF NINE PROVINCES SAW FLYING SAUCERS LAST NIGHT

The unusual phenomenon was seen in Chaco, Santiago del Estero, Salta, Jujuy, Tucumán, Catamarca, Neuquén, Rio Negro and Chubut.

In the span of one hour, hundreds of residents from at least nine Argentine provinces saw a flying saucer last night.

The unusual phenomenon — it may possibly be the country's most extensive sighting — could be seen between 07.30 and 08.30 p.m. in cities and towns of the provinces of Chaco, Santiago del Estero, Salta, Jujuy, Tucumán, Catamarca, Neuquén, Rio Negro and Chubut, in areas separated by distances close to 2,000 km.

In Chaco

Reporters from Radio Mocovi in Charata, in the Western part of Chaco, recorded the testimony of several neighbors who sighted a bright object whose colors changed at times, and which flew for several minutes over unpopulated areas. At the closing of this edition attempts were being made to verify one neighbor's report that claimed that while the flying saucer was in sight his car remained completely motionless.

M840703

A similar object flew over the starry sky of the capital city of Catamarca, where police officer Juan Nicolás Salas who saw it, stated that it was a circle one meter in diameter, with a 20 centimeter interior orifice, of a greyish color.

The regional quarters of the National Meteorological Service informed that the phenomenon — which was seen by hundreds of persons — might have been caused by a cloud of crystallized sodium that slowly crossed the area impelled by the wind.

In the South

Half a dozen cities in the south-east of Rio Negro and Neuquén, as well as in the north-west of Chubut, saw the swift flight of a luminous object that circled over the cities.

At exactly 07.45 p.m. the director of LRA 57 Radio Nacional in El Bolsón, Leonardo Jalil Bayer, saw a saucer in the clear sky, that emitted whitish, orange and sometimes violet reflections and which flew over the large valley for 12 minutes.

M840703

OTHER REPORTS ABOUT THE FLYING SAUCER

It was seen in three more cities

New testimonies that were gathered yesterday, increased the number of provinces that saw a luminous and fast flying saucer last Tuesday night, from 9 to 12.

To the provinces of Chaco, Santiago del Estero, Salta, Jujuy, Catamarca, Tucumán, Neuquén, Chubut and Rio Negro listed in yesterday's edition of "*Tiempo*", Formosa, Santa Fe and Southern Buenos Aires were now added, while at the same time, new details came forth concerning the hundreds of sightings made.

In Bahía Blanca (Bs. Aires prov.), in the capital of Formosa province and in Rosario (S.Fe province), the object could be seen for several minutes. The witnesses agreed that it flew at great speed and altitude. In Bahía Blanca and the area in the Ingeniero White port, the residents — among which was football player Raúl Schmidt — saw the saucer between 08.00 and 08.30 p.m. on Tuesday. It showed a luminous sphere with outlines in the shape of a saucer, but which were not well defined.

Residents of several districts in the city of Formosa also saw the saucer which, according to them, "had the shape of a moon and travelled at high speed emitting multi-colored lights which were undescrivable".

This report was in agreement with that of the residents of Pirane, distant 115 km from Formosa, who were excited and surprised upon seeing the strange luminous object enveloped in an iridescent sphere.

Rosario

At approximately 09.30 p.m. on Tuesday, when most of the people had finished their normal work, a luminous object caught everybody's attention. But the local delegation of the National Meteorological Service defined it as an "igneous mass of gas" that crossed the sky towards the Paraná river.

Thousands of people saw a round and white object in the clear sky, similar to a full moon, surrounded by a nebulous ring that kept a fixed northern course.

A FLYING SAUCER FOLLOWED A TWIN-ENGINE PLANE

Contradictory versions

Resistencia — A Piper plane, en route from Córdoba to this city, was apparently troubled for 30 minutes by an object that the crew described as a flying saucer, which caused problems in the plane's instruments and a lot of concern among the crew, last Sunday night.

In spite of contradictory versions about the event, the crew of the Piper agreed that "the large flying object emitted different colors, from silver to orange, and also maneuvered at great speed".

The phenomenon, which happened at approximately 08.00 p.m., was also seen by commanders of the Austral (Flight 61 from Corrientes to Buenos Aires) and Aerolineas Argentinas (flight 760 from Buenos Aires to Resistencia) companies. Upon consulting one of them, Comm. Alberto Petigren of Aerolineas Argentinas, he said "it could have been a first magnitude star. When we were alerted about the object by a radio communication from the plane ahead of us (the Piper), we searched for it but only saw a light at a distance, that changed colors".

The Austral commander, whose last name is Paz, agreed with his colleague's statements and added that "I only contacted the control tower to inform them I was on the alert".

The Piper was piloted by Carlos Sorini and the crew and passengers were Carlos Galo, Eduardo López, Ricardo Novil, Raúl Boccis and Federico Hauptman, an officer from the Chaco Police Department.

When Sorini, a pilot with more than 6,300 hours of flight to his credit, was interviewed, he said that "the object started to follow us after we passed over the city of Reconquista".

He then referred to the variations in the plane's instruments during the 30 minutes they were followed. "As an example — said Sorini — our compass oscillated between 0.5 and 270 degrees". The Piper, a plane for executives, was flying at an altitude of 5,700 meters and carried five passengers.

With regard to the crew, Sorini said "they were really excited, even felt a little fear, but after a few minutes they calmed down".

OUT OF SEQUENCE

March 2, 1978 – earliest to have happened, last to be recognized and recorded

- Widely seen in Pelotas, Brazil – southernmost province in that country
- “a gray-colored ball with luminosity around the periphery.”
- West of there, sky was still pretty bright, possibly masking view from Argentina and Chile [Willy Smith found NO Argentine reports]
- MORE RESEARCH NEEDED TO OBTAIN ADDITIONAL REPORTS
- ASSOCIATION WITH MOLNIYA CLOUD SUGGESTIVE BUT TENUOUS
- Distinguished by one particular witness's tale extracted by a UFO researcher who dabble
- <http://ufologie.patrickgross.org/ce3/1978-03-02-brazil-fragatapelotas.htm> d in hypnosis

It all started on 02 March 1978, at 8:00 pm, when a power outage darkened all of Pelotas. A gray object was sighted by many of the 300,000 inhabitants of the town. Jose Inacio, who was in the company of Izenozia da Silva and Orlando Costa Silva, took the path to his father's house, in Fragata. When he arrived near the entrance door, he found a UFO hovering right in front of him. The boy saw the object releasing a beam of bluish light and began to get confused, in his mind he saw scenes of family life and of violence. At this time, he completely lost his senses, Inacio only woke up one hour later in a field one kilometer away from the home of his father. Dizzy, he heard only a phrase that was repeated several times: "the task is accomplished." To convince himself that he wasn't dreaming, he pinched on various parts of his body.

March 2, 1978 –
Molniya cloud
sparks alien
sex fantasy?

Tudo começou em 02 de março de 1978, às 20h00, quando um corte de energia escureceu toda a cidade de Pelotas. Um objeto de cor cinza foi avistado por muitos dos 300 mil habitantes do

município. José Inácio, que se encontrava em companhia de Izenózia da Silva e Orlando Costa Silva, tomou o caminho da casa de seu pai, no bairro Fragata. Quando chegou perto da porta de entrada, encontrou um UFO pairando bem à sua frente. O rapaz viu o objeto liberar um feixe de luz azulada e começou a ficar confuso, vendo passar em sua mente cenas da vida familiar e de violência. Nesse momento, perdeu completamente os sentidos. Inácio só foi acordar uma hora mais tarde, num capinzal a um quilômetro de distância da casa de seu pai. Meio tonto, ouviu apenas uma frase, que foi repetida várias vezes: “A tarefa está cumprida”. Para se convencer de que não estava sonhando, beliscou-se em diversas partes do corpo.

Jose Inacio Alvaro's home experienced a power outage on the night of March 2, 1978. While the lights were off, Alvaro witnessed a passing UFO. The UFO returned, picking Alvaro up. He recalled having sex with one of the naked aliens, which he said had better breasts than any woman on Earth.
<http://www.lolwot.com/10-people-claiming-to-have-had-sex-with-aliens/3/>

- On March 3, 1978, in the small hours of the morning, eighteen-year-old Jose Inacio Alvaro, studying to be an electrician at a vo-tech in the Brazilian town of Pelotas, noticed a strange glow pouring in through one of the windows of his house. Alvaro, who had been up at that late hour studying, felt an unusual torpor seize him at the very moment that a thin blue beam appeared out of the light. The next thing he remembered was waking up on the street at a considerable distance from his home. Casting a frightened look at his wristwatch, Jose Inacio realized the time was now four o'clock in the morning: he had no recollection of what events had transpired in the intervening two hours.
- There were witnesses to Jose Inacio's return from his odyssey. One resident of Pelotas claimed having seen the student lying on the street at that time of the morning; upon approaching to offer assistance, the good samaritan alleged that Jose Inacio stood up like an automaton and began to walk away from the scene. Other local residents claimed to have witnessed the passing of a disk-shaped flying object in the air above Pelotas that caused disruptions to the power grid as it passed over.
- <http://inexplicata.blogspot.com/2007/11/in-wake-of-avb-more-sex-and-saucers.html#head>.



IMAGINATIVE RECONSTRUCTION OF IMAGINATIVE FANTASY?



Crédito: Philipe Kling David



<https://www.ufo.com.br/artigos/sequestro-de-um-estudante-gaucha>

OMNI version

- August 1987, OMNI magazine "Space Sex Dream Solved" Jim describes a report from March 2-3, 1978, from 18-year-old Brazilian Jose Inacio Alvaro, who witnessed a ball-shaped UFO crossing the sky and later responded to telepathic messages to meet a female alien in a field for interplanetary intercourse. Hypnotic regression by UFO investigators confirmed the story. Jim suggests the UFO was a sunlit fuel dump from the booster rocket carrying the Molniya 1-39 into space, which was passing in sight of Brazil at that time.
- Stepping outside to investigate, he was amazed to see a giant UFO....
- The moving object....resembled a gray-colored ball with luminosity around the periphery.
- "It was huge and bright like the sun, I couldn't focus my eyes."
- <http://www.jamesoberg.com/omni-aug1987-1978-brazil-ufo-sex-solved.PDF>

The culprit?

Molniya 1-39 8 pm, March 2, 1978 [GMT – 3 hr]

Pelotas, Brazil

Sunset 7:02

Sun azimuth/elevation 253 deg / -13 deg

1978 Mar 2 2207 1978-024A

Appears to have been too soon after sunset for
skies to be dark enough in Argentina



PELOTAS WESTERN HORIZON UNOBSTRUCTED

**THIS IS AN ISSUE BECAUSE THE
ELEVATION ANGLE OF A MOLNIYA
CLOUD WOULD BE BELOW 8 DEG
[FIST WIDTH AT FULL ARM LENGTH]
REQUIRING CLEAR VIEW TO WEST**



NOT GOOD FIT WITH SOME WITNESS REPORTS

Between approximately 8.00 and 8.30 p.m. on March 2, a lady teacher named Izenozia Silva da Silva, residing at Rua Santos Dumont 35, suburb of Simões Lopes, Pelotas, stepped out from the front door of her house to investigate an electricity failure, and saw in the sky a strange circular object with an "ashen-grey" sort of light. It was travelling slowly through the southern sky at about 30 degrees above the horizon. She was amazed by the sight, and called to her neighbour, the young man Orlando Costa Silva, who was standing conversing with his friend José Inácio Álvaro.

One interesting feature of this sighting is that, although these three witnesses were close together, each perceived the UFO differently. Thus, the teacher saw "a dull ashen-coloured ball". Orlando too saw "a grey-coloured ball with luminosity around the periphery"; and José Inácio Álvaro said the centre of the object was "of the colour of the rising Sun", with "an ashen-coloured, smoky sort of cloud" around its periphery.

<http://www.ignaciodarnaude.com/ufologia/Real,Sex%20and%20UFOs%201978,Pelotas,Brazil,FSR1986V31N3.pdf>

Southern sky, elevation 30 deg

"dull, ashen-colored ball", "smoky sort of cloud"

"gray ball with luminosity around periphery"

[NEXT PAGE]

"flying slowly south to north"

elevation 30-40 degrees

diameter greater than full moon

round, dark nucleus, with halo

"intensely bright light"

in sky for eight minutes

slowly on a northerly course

thought it was the moon

light pulsing and moving

"Seemed to be enveloped in a sort of

accompanying gaseous substance"

"It was squirting light"

The Strange UFO Seen Over Pelotas

Between approximately 8.00 p.m. and 8.30 p.m. on the evening of March 2, 1978, hundreds of people observed the passage of a UFO across the sky over Pelotas. It was flying slowly from south to north and was observed at around 30 to 40 degrees above the horizon. It had a dark nucleus, its apparent diameter being greater than that of the Full Moon. In shape it was round and it seemed to be surrounded by a "halo" similar to a luminous cloud.

In some of the places near which the UFO passed the electricity failed; street lamps went out, and only came on again when the craft was already far away.

The *Diario Popular* newspaper of March 5, 1978 quotes the evidence given by two persons: José Antôcio Garcia, student in the Faculty of Physical Education, University of Pelotas, and his fiancée, Marta Regina. They were both standing at the entrance to her house when they observed, in the sky, an object emitting an intensely bright light. At the same moment there was an electrical black out in several of the streets around. The time was about 8.00 p.m. and the strange craft remained there flying around in the sky for approximately eight minutes. At first they both thought it was the Moon, but soon perceived that its light was pulsating, now brighter, now dimmer, and that it was moving. Moreover, it seemed to be enveloped in a sort of accompanying gaseous substance.

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UFO "Like a Vertical Tray"

On that same night, March 2, 1978, two highway patrolmen reported that they had seen a UFO. Both were on duty at the Posto da Balança beside the bridge linking Pelotas with Rio Grande over the São Gonçalo River. The UFO "seemed to have come up from some grassy marshland nearby". It was shaped "like a tray standing vertically" and was surrounded by a luminous "halo". It made no noise, and was travelling slowly through the sky on a northerly course.

UFO "Squirting Light"...

At dusk on March 2, 1978, a number of people who were in the vicinity of the firm of Kasper, in the suburb of Simões Lopes, saw a glowing light over the southern horizon — an "enormous glowing star of changing colours". According to the student Sílvio Morelli, it "was like one of those shining satellites that you see from time to time" — but with a difference — "it was squirting light!".

Possible first-ever observation

1971-115 1971 Dec 19 2250:12

<http://thecid.com/ufo/chrono/chrono/1971.htm>

- Numerous sightings at 10 pm local, in southern Brazil, no data on direction, shape..... No reports from Argentina [sky too bright?]

- Terminator at launch +65m

Willy Smith told me [1985] that there were wide-area sightings but I have not seen them for correlation with 'Molniya slot' characteristics



1982-1986 -- more wide area sightings

Willy Smith told me [Oct 31, 1985] that the first two dates/times correspond to wide-area UFO sightings documented by Argentine ufologist Guillermo Roncoroni. I am still seeking detailed accounts from witnesses.

- 1982-023 1982 Mar 24 0012:00 Molniya-3
- 1984-029 1984 Mar 16 2329:59 Kosmos-1581
- This next one was after Willy Smith's report and may be valid but reports are needed]:
- 1986-049 1986 Jun 19 2109:00 +11 at 307 1986-049A
-

The 'last hurrah' == August 14, 1996

- 1996-045 1996 Aug 14 2220:59 1996-045A 029A Molniya-1
- At 9 p.m. on August 14, 1996, nearly a hundred people in the northern border area of Argentina and Chile "observed a strange phenomenon" which was described as "a ring-shaped object crossing the sky from north to south."
- "The Harvard Observatory in Cambridge, Massachusetts, USA identified the UFO as exhaust from a rocket motor "burn." The spacecraft was a Molniya-IT satellite launched from the Plesetsk cosmodrome in Russia's Arctic region. The spacecraft was on a north to south polar orbit [JEO: sic!], ranging from 207 to 438 kilometers above the Earth. The satellite's Blok-ML booster stage fired at 9 p.m. over the Andes, a spokesman for the observatory said, and the angle of the sun made the exhaust plume visible to observers on the ground."
- http://www.ufoinfo.com/roundup/v01/rnd01_29.shtml
- UFOINFO garbled the explanation but reluctantly grudgingly accepted it.
- UFO websites reported this with general acceptance of the rocket explanation so there doesn't seem to be widespread chronicling of interesting witness reports

The 'Molniya Clouds' fade away.....

- In the twenty years since the last publicized sighting of a twilight 'Molniya Cloud' [August 14, 1996], only three more launches have fit the illumination conditions of the phenomenon, the last in 2002.
- None seem to have generated 'OVNI reports', perhaps due to overcast, to familiarity, or to boredom.
- The overall launch rate had already begun dropping in the early 1990s with the collapse of the USSR.
- Later, newer spacecraft in different orbits began replacing the need for multiple orbital planes of 12-hour orbiters.
- Longer on-orbit lifetime also required fewer launches.
- The party's over.

Any indications of recent observations???

- Here are the three known 'Molniya Slot' launches that COULD have produced wide-area sightings. Seeking such reports is an exercise I leave to the reader.

-

- | | | | |
|------------|---------------------|------------|-------------|
| • 1997-054 | 1997 Sep 24 2130:59 | +20 at 283 | Molniya-1T |
| • 1998-054 | 1998 Sep 28 2341:27 | -06 at 263 | Molniya-1T |
| • 2002-017 | 2002 Apr 1 2206:45 | +12 at 284 | Kosmos-2388 |

Several events from the Molniya clouds still accepted
[eg, Weinstein [NARCAP] list]

- June 1980
- between Punto Arenas and Santiago
- LAN Boeing pilot
- near collision with a UFO
- Source L197

OPEN QUESTIONS AND FUTURE INVESTIGATIONS

- Additional eyewitness descriptions of all these events are still valuable – as long as they are reported fully without editing to conform to explanation
- Followup interviews can pinpoint process of memory evolution
- Global regions below other standard ‘second burn’ ascent profiles to high orbits might also be searched for potential witness reports of similar apparitions, using the constraints of sunlight and dark sky applied here
- Such spectacular events may also have been observed by weather satellites, and by astronauts and cosmonauts in orbit, and records should be checked

SUMMARY and CONCLUSIONS

- Over a relatively short span of years, almost a dozen Soviet satellite launchings created nearly-identical spectacular apparitions in the western twilight over Argentina and neighboring countries
- Due to changes in the USSR and the Russian space program such launchings have become much more rare – but might recur
- Careful assessment of eyewitness descriptions can provide clues about timing and dynamic shape of the fuel dump cloud
- Testimony has also pinpointed a known anomalous launch attempt [Feb 1980] with an unusual signature of optical characteristics that need study
- Calibration of witness reports [especially including many pilot reports] with the actual stimulus event is a sobering reminder of the variations and limits of human testimony of sudden once-in-lifetime unprecedented perceptions
- Stark reminder of how spaceflight can look unexpectedly weird, anywhere