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 WHAT'S UP/DOWN AT PLESETSK? Since late February, all Soviet space shots have come out of Tyuratam. This cause, now more than six weeks, is unprecedented in the history of Plesetsk. What's happening (or not) there?

FOBOS: Great drawings of 1988 spacecraft and instrumentation in the 86Apr issue of "Soviet Life".

MIR frequencies: Non-subscriber Oslander from Bonn asks about any other frequencies monitored from Mir, besides 143.625 MHz. Both voice and EKG TM have been heard on that frequency in New Jersey. Voice has also been heard recently on the 121.75 Soyuz channel.

ORBITS: As of Apr06 Mir was 19.06 minutes ahead of Salyut-7, which was catching up at 1.91 minutes per day. This put catch-up date at Apr16.

Mir: rev 699 Apr05/0244.62 @342.10W per rev, 91.426m, west shift=23.245 per 31-rev, +2d, -45.78m, ECL=+0.61W

Salyut:22823 Apr05/0305.39 @347.20W per rev, 91.301m, west shift=23.214 per 31-rev, +2d, -49.67m, ECL=-0.35W

MORE ORBITS: As of Apr11, MIR was 7.2 minutes ahead, with closing rate of 2.66 minutes per day. Catchup to occur about Apr13/1700UT.

Mir: rev 792 Apr11/0028.95 @344.32W
 Salyut:22916 Apr11/0036.15 @ 346.08
 GREAT CONJUNCTION COMES, GOES. On Apr13 the Mir and Salyut passed within a few kilometers, and nothing happened. So we wait.

KOSMOS-1737 mystery? For awhile it looked as though K-1737 might have been wierd enough to be a candidate for the first SL-16 orbital launching. Launched at Mar25/1923UT, it had unusual initial orbit of 73deg, 230-442 km. The payload raised its orbit over next few days. NORAD said the booster had an initial orbit of 77.3deg, circular at 430 km, and yet it decayed in three days! And what a plane change! Well, NORAD was confused, it turns out. The booster orbit really had been 73.3deg, 77-430 km. The payload's radar cross section (RCS) is just a bit bigger than the EORSAT K-1735, so it's not some giant new booster after all. Its actual identity remains to be established but SL-16 it's probably not.

MIR PHOTOGRAPHS. Some nice new photographs of the MIR mockup in ZG have been released. One was in Izvestiya and showed the nose quite close

up; another was carried by AP last weekend (notes NickJ) and showed a partial glimpse of a large module linked to the aft end of the MIR! Does anyone have a better version of this view?

MIR press conference April 7. Journalists asked if Salyut could dock to MIR, were told by officials the docking ports are incompatible. Would a crew be sent to the Salyut? "We're working on it", said Ryumin. Could cosmonauts move between the stations in their Soyuz? "We're working on it" he said again.

~~KALININ versus KALININGRAD. The confusion continues about where the Soviet Mission Control Center is located. It's northwest of Moscow in a town called "Kalinin" on all maps, but journalists continue to refer to it as "Kaliningrad", which maps say is the new Soviet name for Konigsberg in occupied East Prussia. Kalinin is a major space industrial city and is also the hub communications center for the Soviet military.~~

1985-53a/b/c silence. No news at all on any official Soviet account of the unannounced/unregistered June21 orbital launching which left three small pieces of debris in orbit. Why is everyone else so apparently willing to let this anomaly slip away from our attention?

EIGHT ORIGINAL COSMONAUTS NAMED: An article in the April 2, 1986 issue of Izvestiya gave the full names of the eight drop-outs of the 1960 cosmonaut class. They were:

Ivan Nikolayevich Anikeyev
 Valentin Vasilyevich Bondarenko
 Valentin Stepanovich Varlamov
 Dmitriy Alekseyevich Zaikin
 Anatoliy Yakovlevich Kartashov
 Grigoriy Grigoryevich Nelyubov
 Mars Zakirovich Rafikov
 Valentin Ignatyevich Filatyev

The man erased from the 6-man Sochi portrait in "Red Star" was Nelyubov. His name and Anikeyev's were given in Riabchikov's 1971 book. The 16-man Sochi picture found by Rex Hall in that Khrunov book is reprinted, and five of the men are there. Bondarenko was not (he was dead); Kartashov was not (Shonin "always thought of him with sadness" -- why?); Varlamov was not (he's the one Shonin called the "most promising", who injured his back diving the previous summer). Komarov is also not in the picture.

DEAD COSMONAUT-TRAINEE CONFIRMED!
 As part of the Vostok 25th anniver-

sary hype, Izvestiya carried new disclosures about "dead cosmonaut trainees". APR03 issue had article which described Bondarenko, at 24 the youngest in the group, who died March23, 1961, in a pressure chamber fire fed by high oxygen pressure. In many particulars this confirms the story told by emigre doctor Vladimir Golyakhovskiy in his book "Russian Doctor", although he gave the time as October 1960 and the name as "Sergeyev". I discussed this report and a supportive account from "Possev" (about a cosmonaut "Boychenko") in two March1984 issues of cosmogram. Maybe Izvestiya got copies and got scared! Bondarenko was a Ukrainian from Kharkov and was buried there. A formal portrait of Bondarenko was provided with the article, it's hard to say what he really looked like. Last year I showed my missing cosmonauts photographs to Dr. Oleg Gazenko when he visited Houston: he promised to send me their names (he never did) and he looked me in the eye and said none of them (any of the drop-outs) had died. Shonin's book, too, had explicitly said that only one of the first twenty had died on Earth (Belayev).

Valentin Bondarenko (1936-1961):



Editorial comment: this is another example of where the Soviets have learned the hard way about space-flight dangers and rather than share their lessons have kept quiet (or even have lied about the experiences, such as Leonov's EVA problems) and later the USA paid again in blood and treasure for the same lesson. Whether the Apollo-1 astronauts Grissom, White, and Chaffee might be alive today if NASA had possessed details of a Russian death in a high-pressure oxygen chamber fire is speculative. But it is worth considering when one

adds up the cost of Soviet secrecy and propaganda.

GOLOVANOV IS A LIAR & THIEF. The author of the series in Izvestiya spent most of the Apr3 issue's article denouncing Western stories of "secret dead cosmonauts". He denounced me by name for promulgating such nonsense. Me? I've been a leading debunker of such tales for more than a decade. Then the author has the chutzpa to steal almost all the material in his article from my report in "Space World" in 1975Jan issue ("Phantoms of Space"). I counted more than a hundred facts in the Golovanov article and they all came from my article. So he steals my words and then uses them to refute the opposite of my true position on the issue! Well, it is a great honor to be slandered in Izvestiya, and I suppose it just deserves a good laugh. Still, he then discloses the Bondarenko death, lists American training deaths, and then implies there were no other Soviet training deaths. I'll return to this topic in the near future.

"MILITARY" SALYUTs: Pravda (Mar23 p.3) has article about Chelomey ("Moguchiye plechi 'Protonov'", "Mighty Shoulders of 'Protons'") with nice photo of Ch and Keldysh. It mentions that in 1959 Ch was made "General Constructor" in charge of Proton development, including payloads. Among them, "Salyut-2, -3, and -5 were born in the construction bureau directed by V. N. Chelomey." This was the FIRST EXPLICIT Soviet account I had seen which disclosed any difference between 2/3/5 and 1/4/6/7. But I then went to KOS Encyc to read about Ch and found (p.438) great entry "...Under direction of Ch were developed booster and satellite 'Proton', satellite 'Polyot', Kosmos-1267 etc., and orbital stations Salyut-3, -5." So! Not only did Ch do the "military" Salyuts, he also did the add-on modules to the civilian Salyuts! This is yet another indicator to me that the add-on modules of today are direct modifications of the Salyut-2/3/5 vehicle. [Other evidence: radio frequencies alike; general configuration descriptions; return capsule; occasional reference to an "inertial control sphere"; flight schedules, where modules began flying after milSalyuts stopped]. Does that mean that once they become operational we will see the missing cadre of Salyut-2/3/5 cosmonauts (Sarafanov, Zudov,

Rozhdestvenskiy, Glazkov) fly again?
KOSMONAVTIKA encyclopedia: Some random notes on this major Soviet reference book: not a lot of propaganda at all, especially in discussion of OTRAB (p.285), accused as a front for neo-Nazi nuke missiles by Moscow in mid-1970s, now here an honest account of their goals and technology. I do note that they list "Military Satellite" as a FOREIGN term, the hypocrites! But actually the propaganda is strikingly absent. So much of the impressive tables consists of useless "filler" data such as orbital elements of geosync and Salyut-related missions. Also all that color and B&W printing wasted on badges, stamps, pins and plaques. Note that the 'Proton' pix (XLI-2-2) has a convenient smoke cloud hiding the strapons completely! And the article on 'Plesetsk' is a one-paragraph summary of the mid-1984 article in Pravda; nothing further anywhere in the book. Some errors: wrong bio data for Schweickart, and wrong pronunciations (cyrillic transliterations) for Eisele and Swigert. Plate III figure 9 misidentified Kovalyonok as "Romanenko". Plate XLIII caption is erroneous, figures 3&4 are swapped. Of interest: admission that Zond 4-9 were launched on Protons, that Kosberg built the Proton second and third stages, the list of cameras used in space (p.161), the table of Soyuz flights under Kosmos label (p.373) that includes neither Kosmos-670 nor any of the Soyuz-T Kosmos tests. It is explicitly admitted (p.342) that Soyuz-10 had failure of docking gear which frustrated planned transfer into Salyut-1; however, Kosmos-557 is still a "non-Salyut" and no details are given of the mystery "return module" on mil Salyuts and add-on modules.

Lastly, in discussing the cosmonauts, mostly fluff about which cities they are honorary citizens of, but some mention of when some left the cosmonaut cadre (i.e., flight status??). I found:

Artyukhin, out in 1974.

Beregovoy, out in 1969.

Dyomin, out in 1978.

Zholobov, out in 1981.

Gorbatko, out in 1978 (but last flew in 1980!). So wrong...

Klimuk out in 1978!?

Lazarev still in (?)!

Nikolayev out in 1968 (but last flew in 1970)?! So wrong...

Popovich out in 1969 (but last flew in 1974)?! So wrong...

Sevastyanov still in (we hear he is not).

TitovG out in 1970.

Filipchenko out in 1979.

Khrunov out in 1980 (had been backup to Cuban mission that year).

Shatalov out in 1971.

Shonin out in 1976.

Still active oldies: Leonov, Volynov.

Note some Salyut facts and figures. Salyut 4 to 7 had three solar panels with total area of 70 square meters (Salyut-1 had 4 panels totaling 28 m²; Mir has two panels with area of 76 square meters, which raises question of why visiting US delegation last November saw two cosmonauts in Starry Town water tank practicing adding supplemental sections to a Salyut-class vehicle's solar panel -- their view and photographs did not allow determination if vehicle in the water was a Salyut or a Mir). Salyut-1-5 pressurized volume 82.5 cubic meters, free volume 47 cubic meters. Lock diameters are 0.8 meter. Attitude control errors can be from 0.5 to 2.0 degrees. Salyut-6,7 orbit adjust engines thrust 3000 newtons each, 32 attitude engines with thrust 140 newtons.

NASA has just released a book, "Lunar Bases and Space Activities of the 21st Century", W.W. Mendell, editor, published by Lunar & Planetary Institute, Houston, TX 77058. I have a paper in it, "Soviet Lunar Exploration: Past and Future", with a long table of Soviet lunar probes including new data on undisclosed launch failures. Special thanks to NJohnson, CPVick, PClark, CPeebles, and DWood. I have a limited number of reprints; drop me a SASE (\$0.39 in US) for a copy.

SOVFOTO archives in NYC reveal treasures to researcher Mike Cassutt, including Soyuz-6/7/8 file with drawings of two docked Soyuz vehicles (confirmation of such docking plans, which failed?), photograph of Savitskaya with her hitherto anonymous husband, and him named (to be disclosed in Cassutt's book -- he found this gem, he gets to publish it! But he also said to share it: V. S. Khatkovskiy, an 'engineer-designer' at the Ilyushin Design Bureau, TASS fotokhronika photo no. X-154923 July 1984), photo of Leonov/Kubasov and Lazarev/Makarov doing obligatory pre-launch visit to Lenin's study (Cas-

sutt concludes they were prime and backup Salyut-557 crews in May 1973, and I concur), some others. Moral of story: keep digging in even the most mundane locations: there are still pearls to be found by we few who can recognize their significance.

ADMITTED FAILURES: A curious item from a Dec20 Moscow TV report by S. Slipchenko, about the return to Moscow of the Soyuz T-14 cosmonauts. "In the past there have been no easy space flights, and in the past nine of the later flights have repeated earlier ones, either in their research program or in the tasks posed and solved...." But WHICH NINE?

GAMMA-1 launch delayed. Flight International Nov09 says launch of French-Soviet gamma ray observatory, already delayed from 1984, has been further delayed to 1987 by a series of technical problems.

SOVIETS DENY LAUNCH FAILURES: Titov in A&K 1985Sep wrote: "In the USA began a feverish race for leadership. From October 1957 to September 1959 (when the first Soviet apparatus

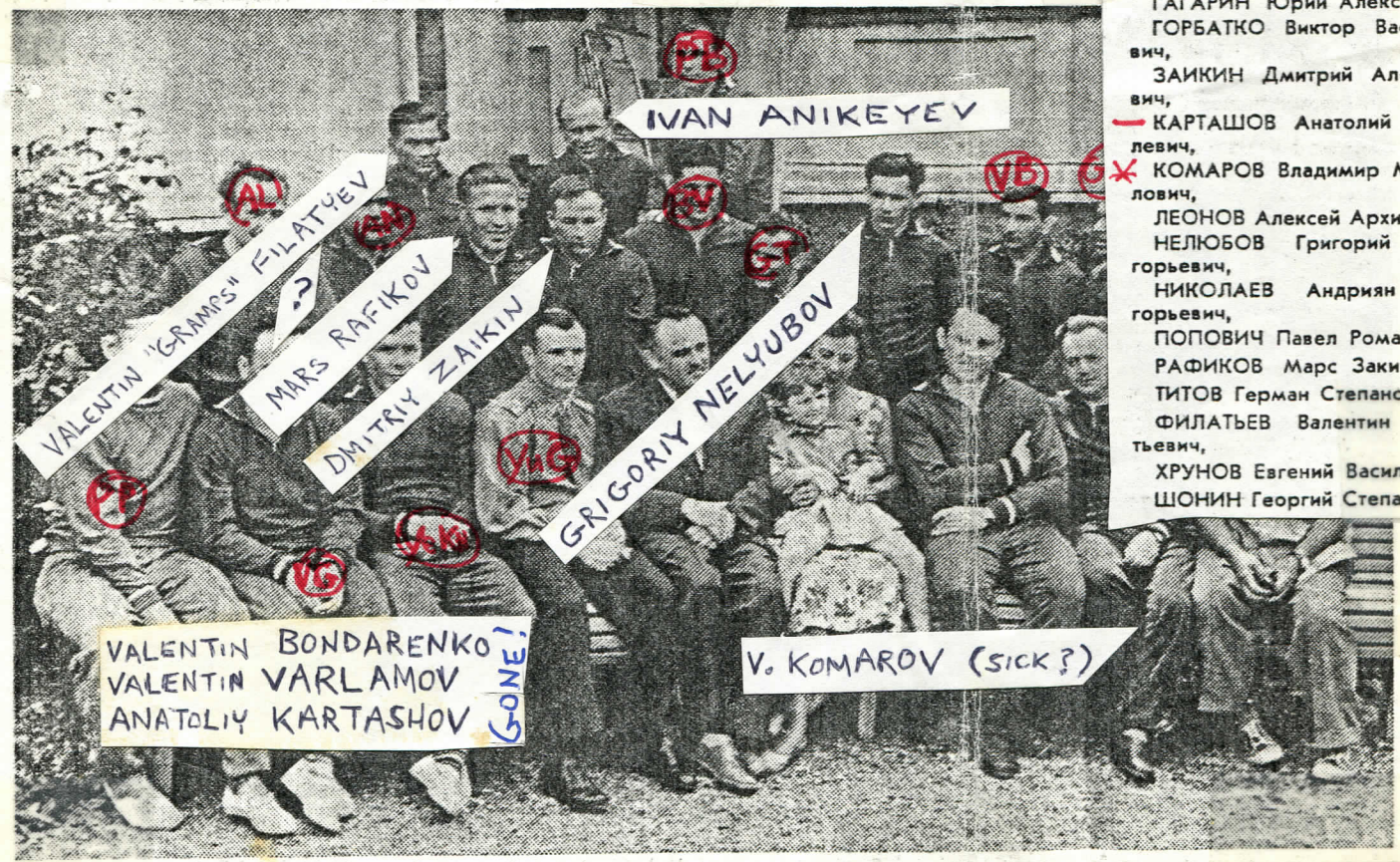
landed on the Moon), 35 space launchings were undertaken in the world. Nineteen of them ended in failure and all nineteen were American. Soviet launchings were five of the 35, and all were successful." Titov is a goddam liar (surprised?), since we have long known of many Soviet launch failures in that period, and declassified documents (thanks, Curtis Peebles!) show there was a Sputnik-3a failure in February 1958, three Luna launch failures later in 1958, and another Luna failure in mid-1959. In 1960, later, followed two Vostok launch failures, another Luna or two, and three Mars failures. Such blatant Soviet lies are usually reserved for subjects of particular sensitivity. See Spaceflight, 1986Mar, p. 138.

Happy Space Sleuthing!!

Jim O

*****JEO

- АНИКЕЕВ Иван Николаевич,
- БЕЛЯЕВ Павел Иванович,
- ~~БОНДАРЕНКО~~ Валентин Васильевич,
- БЫКОВСКИЙ Валерий Федорович,
- ~~ВАРЛАМОВ~~ Валентин Степанович,
- ВОЛЫНОВ Борис Валентинович,
- ГАГАРИН Юрий Алексеевич,
- ГОРБАТКО Виктор Васильевич,
- ЗАЙКИН Дмитрий Алексеевич,
- ~~КАРТАШОВ~~ Анатолий Яковлевич,
- * КОМАРОВ Владимир Михайлович,
- ЛЕОНОВ Алексей Архипович,
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- ТИТОВ Герман Степанович,
- ФИЛАТЪЕВ Валентин Игнатьевич,
- ХРУНОВ Евгений Васильевич,
- ШОНИН Георгий Степанович.



VALENTIN BONDARENKO
VALENTIN VARLAMOV
ANATOLIY KARTASHOV *GONE!*

V. KOMAROV (sick?)