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Uncovering Soviet Disasters

James Oberg

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Chapter 10: Dead Cosmonauts

Page 156-176

The family of Senior Lieutenant Bondarenko is to be provided with everything necessary, as befits the family of a cosmonaut. --Special Order, signed by Soviet Defense Minister R. D. Malinovskiy, April 16, 1961, classified Top Secret. NOTE: Prior to 1986 no Soviet book or magazine had ever mentioned the existence of a cosmonaut named Valentin Bondarenko.

In 1982, a year after the publication of my first book, Red Star in Orbit. I received a wonderful picture from a colleague [JEO: Arthur Clarke, in fact] who had just visited Moscow. The photo showed cosmonaut Aleksey Leonov, hero of the Soviet Union, holding a copy of my book-- and scowling.

Leonov was frowning at a picture of what I called the "Sochi Six," the Russian equivalent of our "original seven" Mercury astronauts. They were the top of the first class of twenty space pioneers, the best and the boldest of their nation, the ones destined to ride the first manned missions. The picture was taken at the Black Sea resort called Sochi in May 1961, a few weeks after Yuriy Gagarin's history-making flight. Just beneath [page 157] that picture in my book was a copy of the same photograph-- with the figure of one of the heroic six cosmonauts erased. One of the original top cosmonauts had been "unpersoned," and the two versions of the same 1961 photograph proved it.

Soviet space officials -- including Leonov -- had taken a great deal of trouble to cover up some episode in their space history involving the man whose face had been erased. Now Leonov had good reason to scowl. The deception was revealed, and a ghost had risen from the dead, from official Soviet oblivion.

For decades nobody outside the cosmonaut program knew about Grigoriy Nelyubov. He had been an egotistical young jet pilot. Despite such a character flaw, his academic and flying skills were so impressive that he had been the favorite candidate of several top officials for the honor and glory of humankind's first flight into space. Failing that, he was considered certain to receive one of the next spaceflight assignments following Yuriy Gagarin's pioneering mission in 1961.

But late that year Nelyubov and two other cosmonaut trainees were returning from a weekend pass when they got into some sort of altercation with an army patrol at a train station. Blows may have been exchanged when they were unable to bluff their way through a checkpoint for which they didn't have proper credentials. The three, who may also have been drunk, were subdued and placed under guard in the station duty officer's office.

It was quickly established that they were indeed cosmonauts, as they claimed, and the military security officials were willing to forget the whole thing. One officer, however, insisted that the cosmonauts apologize to the patrol members (suggesting that the cosmonauts had come out ahead in the brawl before being overwhelmed). Nelyubov's two colleagues readily agreed.

Nelyubov, however, refused to apologize. He was, after all, soon to become his nation's third or fourth

man in orbit, and he demanded respect and subservience from his captors.

Lacking this simple gesture of reconciliation, the duty officer filed his report. It quickly reached the cosmonaut corps commander, an old air force veteran named Nikolay Kamanin, who became incensed at his men's all-too-public irresponsibility. In response, Kamanin expelled the three from the cosmonaut corps. Their space careers were aborted; they went back to flying jets in Siberia. [Page 158]

The other cosmonauts were as aghast at the severity of the punishment as they were outraged at Nelyubov's conceited intransigence. He wouldn't be missed, but the other two men (second-string space trainees named Ivan Anikeyev and Valentin Filatyev) had been very popular. "They burned down in concert" was the Russian figure of speech for Nelyubov's taking his well-liked buddies down in flames with him.

Nelyubov was transferred to an interceptor squadron based near Vladivostok, where he bragged to everyone that he had once been a cosmonaut. He was embittered that few believed him. Then he watched his colleagues one by one go into orbit, to fame and glory: first, the rest of his equals among the Sochi

Six (Nikolayev, Popovich, Bykovsky in 1962 and 1963); next, some of the second team, whom he had already outranked (Komarov in 1964 and Leonov the following year); then, also in 1964, men he didn't even know (Feoktistov and Yegorov), who had not even been cosmonauts when he was expelled.

Sinking deeper into depression and alcoholism, he experienced "a crisis of soul," as a Russian journalist tactfully put it. In the predawn hours of February 18, 1966, while drunk, he stepped in front of a train near the Ippolitovka station, northwest of Vladivostok, and was killed. Whether it was intentional or accidental, nobody could tell.

None of this was known when I wrote *Red Star in Orbit* and published his photograph. For fifteen years, since I first saw his photo, I had sought this man's identity and his fate. The tragic story was finally revealed in April 1986 as a short part of a series of newspaper articles on the twenty-fifth anniversary of Yuriy Gagarin's flight into space.

That incredibly revealing series in *Izvestiya* was written by Russia's leading space journalist, Yaroslav Golovanov. He had probably researched it years before but had been unable to publish the truth until the policy of glasnost and relentless pressure from Western researchers (myself among them) had made the revelations possible.

The candor of 1986 contrasted sharply with the misrepresentations in interviews a decade earlier, when cosmonauts had rebuffed Western inquiries into the fates of the missing spacemen. Cosmonaut Aleksey Leonov (later to come face to face with the Sochi Six forgeries in my book) had earlier been shown

the picture of the "missing cosmonaut" (Nelyubov, it turned [page 158] out) by a Dutch journalist and had given a phony explanation: "In 1962 or 1963--I don't remember exactly--during a [run] in the centrifuge he developed excessive spasm of the stomach. He then disappeared from our ranks." As for my pictures of

the young blond pilot who turned out to be Ivan Anikeyev, Nelyubov's partner in disgrace, Leonov had given this description of his fate: "He was removed from the team because of his general physical condition. That was, I think, in 1963." It is virtually impossible to believe that Leonov had so completely forgotten the scandalous expulsion of the arrogant Nelyubov and innocent Anikeyev; rather, he made up an innocuous cover story with the expectation that the facts would never come out to embarrass him.

The Russians had always presented their march to space as a smooth road to glory, the outgrowth of sound planning and monolithic support. The Soviets' traditional practice of boasting, covering up, lying, and retouching aspects of their own history made most Western observers doubt this rosy image. Contradictory information came out in bits and pieces, sometimes suggesting a picture worse than it was. Golovanov's articles in 1986, five years after my *Red Star in Orbit* came out, were the first tentative attempt to set part of the record of the past straight. And there was such a lot to set straight by then.

Even before the first announced Soviet spaceman blasted off in 1961, rumors reached the West about the existence of secret graves of anonymous dead cosmonauts, killed on unannounced missions. Moscow vigorously denied them all, to no effect. Lists of dozens of dead cosmonauts circulated in the Western press for many years. The Soviets denounced the originators of such material as "enemies."

Then, in 1986, Golovanov revealed in *Investiya* that indeed there had been a cosmonaut fatality back then after all, and it had been kept secret. His article even included the dead cosmonaut's name, Valentin Bondarenko, and the date of his death, March 23, 1961.

"Valentin was the youngest of the first batch of cosmonauts (he was 24 years old)," Golovanov wrote. A small, grainy formal portrait accompanied the article. It showed a very young man attempting to look stern and important. The photograph had been taken only a few days before his death. [Page 160]

Bondarenko had been undergoing routine training in a pressure chamber, which was part of a ten-day isolation exercise. At the very end of the exercise he made a trivial but fatal mistake. "After medical tests," explained Golovanov's article, "Bondarenko removed the sensors attached to him, cleaned the spots where they had been attached with cotton wool soaked in alcohol, and without looking threw away the cotton wool-- which landed on the ring of an electric hot plate. In the oxygen-charged atmosphere the flames immediately filled the small space of the chamber.

Under such a condition of high oxygen concentration, normally nonflammable substances can burn vigorously. The cosmonaut's training suit caught fire. Unaccustomed to the vigor of high-oxygen fires, Bondarenko would only have spread the flames further by attempting to smother them.

When the doctor on duty noticed the conflagration through a porthole, he rushed to the hatch, which he could not open because the internal pressure kept it sealed. Releasing the pressure through bleed valves took at least several minutes. And for all that time Bondarenko was engulfed in flames.

"When Valentin was dragged out of the pressure chamber," continued Golovanov's account, "he was still conscious and kept repeating, 'It was my fault, no one else is to blame....' " He died eight hours later from the shock of the burns.

He was buried in Kharkov, in the Ukraine, where he had grown up and where his parents still lived. He left a young widow, Anya, and a five-year-old son, Aleksandr ("Sasha"). Anya remained at the cosmonaut center in an undisclosed job. When he grew up, young Aleksandr became an air force officer.

Golovanov's candid story, in which he disclosed Bondarenko's death, may have astonished his countrymen, and it briefly made headlines in the Western press; but it was hardly news to informed "space sleuths" in the West. They had been hot on the trail of exactly this incident, and Soviet news censors knew it. The cause and effect of Western digging into a Soviet catastrophe, followed by Soviet large-scale (but still not full-scale) release of an "official account," are quite clear-cut. The broad outlines of the "Bondarenko tragedy" had already slipped past the Soviet cover-up.

In 1982 a recently emigrated Russian Jew named S. Tiktin discussed Soviet space secrets in a Russian-language monthly [page 161] magazine published by anti-Soviet emigres in West Germany. He mentioned in passing a relevant incident. "Soon after the flight of Gagarin [in 1961] the rumor spread about the loss of cosmonaut Boyko (or Boychenko) from a fire in a pressure chamber," he wrote.

In 1984 St. Martin's Press published a book, entitled "Russian Doctor", by the Russian emigre surgeon Dr. Vladimir Golyakhovsky. He described the death of a cosmonaut trainee in a pressure chamber fire. Half an entire chapter was devoted to the incident -- and with authority -- since, incredibly, Golyakhovsky (a specialized surgeon-traumatologist) had apparently been the emergency room doctor at the prestigious Botkin Hospital when the dying cosmonaut was brought in.

As Golyakhovsky remembered it, a severely burned man identified only as "Sergeyev, a 24-year-old Air Force Lieutenant," was brought in by stretcher. "I couldn't help shuddering," Golyakhovsky recalled. "The whole of him was burnt. The body was totally denuded of skin, the head of hair; there were no eyes in the face. ... It was a total burn of the severest degree. But the patient was alive...."

Golyakhovsky saw the man's mouth moving and bent down to listen. "Too much pain -- do something, please -- to kill the pain" were the tortured words he could make out.

"Sergeyev" was scorched everywhere but the soles of his feet, where his flight boots had offered some protection from the flames. With great difficulty the doctors inserted intravenous lines into his feet (they couldn't find blood vessels anywhere else) and administered painkillers and medication. "Unfortunately, Sergeyev was doomed," Golyakhovsky remembered realizing immediately. "And yet, all of us were eager to do something, anything, to alleviate his terrible suffering." The man lingered for sixteen hours before dying.

Afterward Golyakhovsky reported talking with a small young officer who had waited by the phone in the lobby while the burned man lay dying. The doctor requested and received an account of the original accident. Details included "an altitude chamber... heavily laden with oxygen" and "a small electric stove [with] ... a rag burst[ing] into flame." Golyakhovsky was also told that it had taken half an hour to get the pressure chamber open, with "Sergeyev" on fire until the flames consumed almost all the oxygen inside the room.

Sometime later Golyakhovsky saw a photograph of this [Page 162] deathwatch officer in the newspapers. He had been Yuriy Gagarin, who became the first man in space.

Despite minor distortions, the Tiktin and Golyakhovsky material turned out to provide fundamental, direct, and invaluable leads into a major catastrophe in the early Russian space program. It was left to the Soviets only to fill in the details about the real death of Valentin Bondarenko, and they did in April 1986.

Golovanov's article also provided some new confirmation of many other things we knew or suspected. It had already been known that of the twenty men chosen for space training in March 1960, a prime group of six finalists had later been selected for the first mission, But Golovanov filled in unknown details. One of the original six, a man named Anatoliy Kartashov, had already been grounded after experiencing skin bleeding during a centrifuge run. A second "sixer," Valentin Varlamov, was dropped after injuring his neck in a stupid diving mishap (he died several years later of an unrelated medical problem). Their replacements became some of the first men in space; a quarter century later even Golovanov's glasnost still couldn't publish their photographs.

Another of the twenty cosmonaut trainees (the one named Mars Rafikov) had left later for personal reasons (because he was the only non-Slavic cosmonaut ever selected, his motivation is subject to speculation). The last casualty, Dmitriy Zaikin, was grounded in 1968 for medical reasons (ulcers) after serving on a backup crew.

None of these details had been known at the time, in the early 1960s. Instead, in the absence of Soviet candor, Western observers filled in their ignorance with guesses and rumors, mostly wrong and almost always far worse than the truth.

My own first major Soviet space history research project was undertaken in 1972 and 1973, and it dealt specifically with the dead cosmonaut stories. What they lacked in quality they made up in quantity, and the sheer volume of the legends stampeded many specialists into concluding that at least perhaps a few of them were authentic.

By 1973 I had compiled an imposing list of rumors about missing cosmonauts:

Cosmonaut Ledovsky was killed in 1957 on a suborbital space hop from the Kapustin Yar rocket base on the Volga River. [Page 163]

Cosmonaut Shiborin died the following year the same way.

Cosmonaut Mitkov lost his life on a third attempt in 1959.

An unnamed cosmonaut was trapped in space in May 1960, when his orbiting space capsule headed in the wrong direction.

In late September 1960, while Khrushchev pounded his shoe at the United Nations, another cosmonaut (sometimes identified as Pyotr Dolgov) was killed when his rocket blew up on the launchpad.

On February 4, 1961, a mystery Soviet satellite was heard to be transmitting heartbeats, which soon stopped (some reports even described it as a two-man capsule, and several "missing cosmonauts" were listed as Belokonev, Kachur, and Grachev).

Early in April 1961 Russian pilot Vladimir Ilyushin circled the earth three times but was badly injured on his return.

In mid-May 1961 weak calls for help were picked up in Europe, evidently from an orbiting spacecraft with two cosmonauts aboard.

On October 14, 1961, a multiman Soviet spacecraft was knocked off course by a solar flare and vanished into deep space .

Radio trackers in Italy detected a fatal space mission in November 1962, and some believe that a cosmonaut named Belokonev died at that time.

An attempt to launch a second woman into space ended tragically on November 19, 1963.

One or more cosmonauts were killed during an unsuccessful space mission in April 1964, according to radio intercepts by Italian shortwave listeners.

Following the Apollo 1 fire in 1967 which killed three American astronauts, U.S. intelligence sources reportedly described five fatal Soviet spaceflights and six fatal ground accidents .

What is an observer to conclude from this barrage of stories! "Where's there's smoke, there's fire" is a trite proverb, but all the same, the consensus seemed to be that not all the stories could be spurious; some, perhaps two or three, must have been based on actual events.

But my 1972 study was entirely negative. After considering their sources and their details in the hindsight of subsequent space activities. I concluded that all such stories dealing with alleged flight fatalities were baseless.

Simultaneously, however, I uncovered persuasive evidence [Page 164] that a large number of early cosmonaut trainees had in fact vished. One could only speculate on the circumstances under which these men left the cosmonaut program, and it was probably a good guess (to be confirmed more than a dozen years later) that some of them were indeed dead. But unlike the 1960s contemporary myths of dead cosmonauts, these men had just not died on space missions.

This new evidence was primarily pictorial in nature. In 1972 and 1973 I had reviewed frame by frame a number of early 1960s Soviet newsreel releases on the cosmonaut program and found at least half a dozen unidentified faces among the obvious trainees. It was unlikely these men were still around, waiting their turns, since the last man from that original class had flown in space in 1969. Some of these faces also appeared in group photographs newly released in 1971 and 1972 in honor of the tenth anniversary of Gagarin's flight (for example, the original of the Sochi Six photograph was in a book by a Russian space journalist, released by a New York publisher).

In 1973 I was astonished to discover different versions of some of these group photographs. Certain faces were air-brushed out of photographs in books published inside the USSR although these "nonpersons" still remained in the same pictures used in Soviet books published for non-Soviet readers.

The most notorious photo-doctored set was the one showing the so-called Sochi Six, including the doomed Grigoriy Nelyubov second from left in the back row. This pair of photos was what Leonov was to scowl at in Red Star in Orbit. And several years later British researcher Rex Hall found two different versions of yet another group picture from that same day; that shot had included all sixteen active cosmonauts in one version, but only eleven in the other. Nelyubov was one of the deleted ones, along with his partners in eviction, Ivan Anikeyev and Valentin Filatyev, plus two other future failed cosmonauts, Mars Rafikov and Dmitriy Zaikin, and a parachute instructor named Nikitin, who later was killed on a jump. The original picture ("Sochi-sixteen"), which Hall found in an obscure Soviet space book, was later used to illustrate Golovanov's Izvestiya article, with the inaccurate boast "Published for the first time."

These "missing cosmonaut" faces were originally unidentified, so for convenient reference I labeled them with the code names X1, X2, up to X9. Photographs of many of these men [page 165] had been published with my articles as early as 1973. The one figure I had designated X2 appeared to be special. He was the one erased from the Sochi Six group photograph. In photos and in text he was apparently closely associated with Gagarin's flight. At the same time, however, occasional veiled references to "Grigoriy" in historical accounts and memoirs suggested he was not a very nice person. He turned out, of course, to be Nelyubov.

In 1986, when Bondarenko's photograph appeared in Izvestiya, I went back and checked my X series photographs of the unaccounted-for early cosmonaut trainees. One of them, whom I had labeled "X7," almost certainly was the doomed pilot Bondarenko.

In apparent response to the widespread Western publication of the "before" and "after" cosmonaut photographs in the mid-1970s, the Soviets subsequently grudgingly produced an "explanation" for these "extra" cosmonaut names and faces. A 1977 book of Georgiy Shonin, a pioneer cosmonaut, first disclosed the existence of eight "dropouts" in the first cosmonaut class. It revealed the first names only

of the eight dropouts from the 1960 class (nine years later Golovanov released their last names as well). Shonin's book (and several other later books by cosmonauts) gave sketchy accounts of their departures from the cosmonaut programs, which purportedly involved medical, academic, and disciplinary problems, clearly indicating that all eight had left the program alive. Shonin even provided a two-page character sketch of the "young Valentin" (Bondarenko, we later learned) without any hint of tragedy. These partial explanations and attempted deceptions were clearly in response to continuing Western press interest in the mystery of missing~Soviet spacemen.

By the time I wrote *Red Star in Orbit* in 1980, the completeness of the Shonin story was under strong suspicion. I was skeptical that all eight were still alive or that we would ever know their true fates. On the first point, I was right; on the second, I turned out to be wrong, and happy about it.

Meanwhile, Soviet press officials, obviously responding to the side-by-side publication of the Sochi Six before and after forgeries in my books and articles, initiated artwork to repair what I had mockingly criticized as the clumsiness of the original forgery. In the original retouched version (published in Moscow [page 166] in 1972), the missing cosmonaut had been removed and a shadowy, crude background painted in his place. In the two new versions of the photograph (published in 1982), inconsistent backgrounds were added. In one, a careful graphic artist had filled in the gap with a reconstruction of a missing staircase (visible in other photographs made at that same session but blocked by the missing man's body); in the other, a less conscientious but more creative artist had conjured up an intricate rosebush to fill in the space of the missing man! Placed side by side, the two new Sochi Six forgeries looked even more ridiculous than the original forgery.

For years I had been one of the lone voices in the West denouncing most of the lost cosmonaut stories as fiction. Imagine my astonishment in April 1986 when one of Golovanov's *Izvestiya* articles (the one entitled "Slander") accused a certain "Dzheymz Oberg of Khyuston" of being a leading instigator of the "secret dead cosmonaut" rumors! Supposedly I was the one who had originated the malicious slanders about the deaths of pseudocosmonauts Dolgov, Grachev, Zavadovsky, and Ledovsky. "I have never heard these names before," Golovanov dramatically asserted after allegedly trying to understand the source of "my" rumors. "Then I suddenly remembered: What am I racking my brains for, the whole thing is simply a fabrication!"

An official English-language "synopsis" of the Golovanov series, released by Moscow's *Novosti* news agency, went even further. "James Oberg maintained that four Soviet cosmonauts perished in space between 1957 and 1961. He gave their names as Dolgov, Grachev, Zavadovsky and Ledovsky," the agency alleged. "We should ask James Oberg of Houston to clarify who Grachev, Zavadovsky, and Ledovsky are, because he was the one who came up with those names." But I hadn't. Other writers had originated the names, and I had debunked them.

Golovanov also explained who they were only a few weeks later, in May 1986, in another of his articles in *Izvestiya*: In 1959 they had been testers of high-altitude aviation crew equipment who had been interviewed in Moscow papers and subsequently misidentified as "cosmonauts" by Western journalists.

In one of his April 1986 articles Golovanov scolded all those he accused of slandering the Soviet space program: "Fie, [page 167] gentlemen. Shame on you!" I didn't feel particularly ashamed. He was the one who was misrepresenting my conclusions while plagiarizing my published research. When I learned that the newspaper was going to publish the series of articles in booklet form, I fired off a barrage of letters complaining of the errors and requesting corrections.

Golovanov's answer came not by return mail (I never got an apology or an explanation [JEO: but in the early 1990s we met cordially several times and worked on some joint research]) but, in typical Soviet fashion, in a revision of history. The booklet was in due course published, and it purported to be based on the original newspaper articles -- but it wasn't entirely. The section on my work was completely rewritten in full accord with my complaints; now I was a good guy, denouncing the "dead cosmonaut" rumors while (in Golovanov's own words) "preserving [my] reputation as a solid and objective journalist."

That's about as close to an apology as I ever expect to get, and I accepted it with the grace and humor Golovanov intended. He had made a clever pun on my name -- preserving. In Russian is *oberegaya* -- and had gone out of his way to set the record straight (I now presume the original newspaper attack was based on a bad translation of my articles, not an *ad hominem* smear).

A disturbing aspect about the Soviets' reaction to revelations of their secrets was the insistence that any Western attempt to explore these secret mishaps had to have been inspired by malice, not by an understandable interest in the truth. Even during the period of glasnost the ancient and strident Russian paranoia toward foreign curiosity about their failures is very evident.

An ironic example of this attitude is provided by the story of Dennis Ogden, a British correspondent in Moscow in 1961. Just before Gagarin's flight, Ogden came up with the story that a pilot named Vladimir Ilyushin had been launched into space a week before Gagarin but had returned badly injured and had been hidden away. Golovanov wrote in *Izvestiya*: "I initially felt a certain irony and disgust [about the Ilyushin story]. This is a well thought out anti-Soviet propaganda campaign, whose authors have been striving for many years now to dupe millions of people and belittle our country's [page 168] scientific and technical achievements.... It is quite natural and only to be expected that our enemies should desire to undermine the significance of [Gagarin's flight], to find some flaws in it, and to compromise it in some way.... Reports of this kind were designed for utterly ignorant and obtuse readers. I repeat: this is a campaign."

With Gagarin accorded near sainthood in the Soviet Union, the invocation of his name and the portrayal of Golovanov's targets as enemies of Gagarin were likely to be extremely effective in arousing hatred among his readers against his targets.

The ironic aspect of Golovanov's railing against "enemies" and using the Ilyushin story as a soapbox was that the story didn't originate with the USSR's enemies at all. It came from its friends. The author was Dennis Ogden, Moscow correspondent of the *Daily World*, the official British Communist party newspaper.

Ogden was in Moscow in 1961 and may have gotten a highly garbled version of Bondarenko's death, which, as we now know, really did occur twenty days before Gagarin's flight. Or he could have combined the fact that the pilot Ilyushin lived in his building and had suffered injuries (in an auto accident, it turns out) with the rumors about cosmonauts' injuries circulating around Moscow at the time. He played a good hunch that turned out to be wrong--but not out of malice for the workers' paradise, which, in fact, he adored.

Meanwhile, new reports about additional dead cosmonauts, still secret, keep coming in. Golovanov's 1986 article essentially denied there were any others after Bondarenko, but that is hardly credible. After all, it had been chief cosmonaut Vladimir Shatalov, on a visit to Houston for Apollo-Soyuz mission planning in 1973, who told his American counterparts that "six or eight" trainees had died (so many that he, as head of training, could not remember the exact number!) [JEO: later Shatalov and Stafford insisted that referred to the total number of all cosmonaut fatalities]. One of the women members of the 1973 Soviet delegation to NASA told her American contacts that she was the widow of cosmonaut trainee Anatoliy Tokov, a former test pilot, who died in 1967 while in training for a spaceflight. [JEO: This has never checked out and I no longer believe it]

In the mid-1960s there were credible reports of one parachute jump fatality and at least one automobile accident fatality [page 169] (the same source fairly accurately claimed that several trainees had been expelled for participating in a drunken party -- probably a reference to the Nelyubov scandal). So there apparently are many more names and many more young men whose sacrifices have not earned their memories the honor they deserve.

When author Michael Cassutt, researching a book on cosmonauts, submitted a Freedom of Information Act request, on "cosmonaut training fatalities between 1960 and 1975" to the CIA, he received a curiously suggestive reply. His request for release of such documents was denied, but to aid him in his expected appeal, the CIA told him the dates of nine documents which fitted the description in his request. There had been one report on April 6, 1965 (soon after the Voskhod 2 space walk), three at the time of the Soyuz 1 tragedy in April 1967 and two others later that same year, and three more in the 1973-1975 period (possibly dealing with revelations during Apollo-Soyuz meetings). The existence of such documents certainly suggests the additional existence of reports of training fatalities, but further speculation is useless until the full reports are declassified.

When Golovanov listed dead American astronauts, those killed in training, airplane crashes, and space-related accidents, he perhaps significantly left out one name. Astronaut Edward Givens had been killed in an off-duty auto accident in 1967, and Golovanov did not list him as a "dead astronaut." Perhaps he felt that car crashes don't count as "training accidents." That might be a subtle hint that he did know of

similar Soviet accidents and thus modified his standards so as not to have to include them on a list of "cosmonaut fatalities" if they were off duty when killed.

So the Soviets may have suffered several such off-duty cosmonaut fatalities but felt they didn't count. I have found more doctored pictures which show other faces retouched out and photographs of other faces not seen in any later official histories. Since these mysterious figures have been treated the same way as Nelyubov and Bondarenko, they may have shared similar tragic fates. The search goes on.

The Bondarenko tragedy in 1961 bears disturbing similarities to the catastrophe at Cape Kennedy in January 1967, when [Page 170] three Apollo astronauts also died in an oxygen-rich fire. Without knowledge of the Soviet disaster, NASA engineers grew careless in their own use of pure-oxygen atmospheres. On Apollo I (as in the Soviet cabin) there was material that turned out to be highly flammable under oxygen-rich conditions; on Apollo 1 (as in the Soviet cabin) there was no quick-release hatch; on Apollo I (as on the Soviet cabin), there was no effective fire-fighting equipment.

Could knowledge of the Bondarenko fire have prevented the Apollo) fire and saved the lives of Virgil ("Gus") Grissom, Edward White, and Roger Chaffee? The mere knowledge that a Soviet oxygen-rich fire had killed a cosmonaut might have been enough to forestall an American repetition of the disaster.

Khrushchev was Soviet premier at the time of the Bondarenko tragedy, and ten years later, during his enforced retirement, he remarked in his oral memoirs that in general such accident data should be shared. Discussing the Soyuz 11 tragedy, which had just occurred, he said: "I believe the cause of the accident should be announced for two reasons: first, so that people who still have no idea what happened may be consoled; second, so that scientists might be able to take the necessary precautions to prevent the same thing from ever happening again. On top of that, I believe the United States should be informed of what went wrong. After all, Americans, too, are engaged in the exploration of space."

Yet when he had the chance, in 1961, Khrushchev did nothing to carry through this policy. Perhaps he regretted it.

His successors, including Gorbachev, continued this policy of nondisclosure, to the detriment of all space travelers. When in 1965 a space-walking cosmonaut on Voskhod 2 nearly died as the result of his difficulties in holding on and moving around outside the spacecraft, the Soviets did not warn their American colleagues at all. Instead, in numerous public statements, they raved about how easy and effortless the whole activity had been (only after nearly a decade did the cosmonauts admit to Western journalists that they had faked their initial reports). Consequently NASA planners and astronauts underestimated the troubles they could face in similar activities, and in mid-1966 an American astronaut was nearly lost in space when he unexpectedly encountered the same difficulties. Even as late as [page 171] 1985, when cosmonaut Vasyutin faced a life-threatening infection in orbit, the Soviets refused to share the diagnosis of their problem with American space doctors. For the sake of the safety of future space farers, a bit more "cosmic glasnost" is required.

The Soviets, of course, have suffered their share of public space tragedies. The events were well known in generalities, but specific details were hard to come by.

In April 1967 cosmonaut Vladimir Komarov was killed when the parachute of his Soyuz 1 spacecraft failed during the return to Earth. Although the Soviet press deified Komarov's sacrifice, the full story behind the disaster was never reported. It involved intense Kremlin pressure for overambitious plans to reclaim the lost Soviet lead in the "space race."

Years later Victor Yevsikov, a Russian engineer who had helped develop the Soyuz heat shield, emigrated to America. Once here, he wrote a memoir of that period. He recalled: "Some launches were made almost exclusively for propaganda purposes. An example, timed to celebrate international solidarity, was the ill-fated flight of Vladimir Komarov in Soyuz 1. ... The management of the Design Bureau knew that the vehicle had not been completely debugged; more time was needed to make it operational. But the Communist Party ordered the launch despite the fact that four preliminary launches had revealed faults in the coordination, thermal control, and parachute systems. ... None of the tests were successful. During the first test flight the heat shield burned during descent. This was due to a defect in the stopper in the frontal shield, where the module had been mounted on the lathe for machining. The module was thoroughly damaged. The three other failures had different causes. Malfunctions in those test flights

were due to a breakdown in the temperature control system, malfunctioning of the automatic controls of the attitude control jets, and burning of the parachute shroud lines [by the pyrotechnic ejection system]. In those cases, the head shield served well.

Understandably these failures were never disclosed to the Soviet public. Neither was the Kremlin responsibility for the decision to launch Komarov's doomed mission prematurely. "It was rumored that Vasily Mishin, the deputy chief designer [page 172] who headed the enterprise after Korolev's death in 1966, had objected to the launch," Yevsikov wrote, referring to the politics-inspired decision. "The flight had taken place despite Mishin's refusal to sign the flight endorsement papers for the Soyuz re-entry vehicle, which he had considered unready." It was a lesson in political pressure that NASA might have profited by as it prepared to launch Challenger on January 28, 1986.

Komarov's death has attracted its share of rumors, and the most gruesome is that his death screams were recorded by American monitoring stations. According to this account, he knew while still in orbit that he was doomed and took part in a series of tear-jerking conversations with his wife, with Premier Aleksey Kosygin, and with his associates in the space program. As he began his death dive back to Earth, he reported rising temperatures, then began screaming.

It is difficult to reconcile these accounts with what is reliably known about the Soyuz 1 space disaster. According to Yevsikov, major problems struck the spaceship almost immediately; at one point, an angry Komarov raged, "Devil-machine, nothing I lay my hands on works!" While he did have trouble orienting

his craft for reentry, he eventually succeeded. And his descent crossed far northwestern regions of Soviet territory not normally covered by American space-tracking facilities likely to overhear him. A fouled parachute, which was the official Soviet explanation, would probably not have been noticeable to the

pilot; alternately, disintegrating on reentry would have occurred during the normal "blackout" period when all radio communications are normally cut off. The "death screams" rumor just doesn't seem credible. Yet in April 1987, with glasnost in full swing, the anniversary-crazy Soviets ignored the twentieth anniversary of Komarov's death. Full official candor about the Soyuz 1 tragedy remains out of reach.

In March 1968 Yuriy Gagarin's death shocked the Soviet Union and the world. He had been on a routine jet training flight, with Vladimir Seryogin, his flight instructor. But the official Soviet news media never explained the crash, and dozens of private theories sprang up to account for it. In some, Gagarin was drunk, or hot-rodding, or actually attempting to shoot a moose from the opened cockpit. In others, the Kremlin

had done away with him to avoid embarrassment over his [page 173] womanizing or because he was a "Khrushchev creature." Officially Gagarin has become a "patron saint of space travel"; the details of his death appeared irrelevant to official histories. Only in early 1987 were the accident investigation files opened to Soviet journalists; while debunking rumors about drunkenness, the records were not kind to Gagarin's sainthood when the published reports attributed the crash to "pilot error."

In January 1970 cosmonaut Pavel Belyayev became the first spaceman to die of natural causes. He had reportedly been the lead pilot for a Soviet manned moon shot that was eventually canceled. The official cause of death was peritonitis following surgery for a bleeding ulcer. No explanation was ever offered

for how such a simple operation could have gone so wrong for such a hero.

On June 30, 1971, the three cosmonauts of the Soyuz 1 crew perished on return to Earth. The USSR was plunged into national mourning, and eventually the fact of their deaths was turned to proof of the leading role of the Soviet Union on the space frontier (only stay-at-homes avoid the risk of dying). During the Apollo-Soyuz project Soviet engineers told their American colleagues about the air leak which caused three

deaths, but such basic factual information has never been published in the Soviet media. It is enough for Soviet citizens to know they died gloriously. It is not necessary that ordinary Russians know how they died or to understand why General Nikolay Kamanin, the head of the Soviet cosmonaut program (who had fired Nelyubov a decade earlier), was himself summarily sacked soon after the tragedy.

On April 5, 1975, two cosmonauts were dumped onto the Altai Mountains in the world's first manned space launch abort. Pilot Vasily Lazarev and flight engineer Oleg Makarov survived a harrowing 20 G descent and then a bouncing ride down a mountainside before their spacecraft came to a safe stop. They came as close to dying as anyone can and later talk about it. Privately Soviet engineers told American colleagues that explosive separation bolts between the second and third stages had been miswired. For many years the Soviet public was left in the dark about these details.

All these events were known to the Soviet public and to the world, at least in broad outline. My own book *Red Star in Orbit* addressed these disasters, and others, in great detail. By [page 174] coincidence or not, within a short time, a remarkable new series of Soviet newspaper articles began appearing, filling out details of events I had described.

The first article was published in *Krasnaya Zvezda* on January 29, 1983. An editorial preface informed readers that this was to be the first in a series to appear under the rubric "Orbits of Courage." The theme was to be the "difficult roads of space," and it would be handled by the unprecedented disclosure of many new details of Soviet space emergencies. There were just four installments over a three-month period; but it triggered similar articles in other newspapers in a chain reaction that went on for almost a year. All the articles were extraordinarily candid. The facts filled out were these:

In the first article cosmonaut Vasily Lazarev recounted the events of his aborted space shot on April 5, 1975, when his Soyuz 18-1 booster malfunctioned and his capsule bounced down a Siberian mountainside near the Chinese border [JEO: Only in 1996 did the Russians admit the crash landing had been inside Mongolia, on the other side of the border]. There had never before been a detailed written description in the Soviet press.

In the second article flight director Viktor Blagov gave a detailed account of the suspenseful Soyuz 33 mission in the spring of 1979, when a two-man spaceship was nearly stranded in orbit. The spaceship's main engine exploded, and specialists feared that it had damaged the emergency engine as well. Russian cosmonaut Nikolay Rukavishnikov was the first nonpilot to command a Soviet space mission, and he had a poorly trained Bulgarian guest named Georgiy Ivanov along as a copilot, for diplomatic purposes. Ivanov's most valuable suggestion, as it turned out, was that they break out the cognac they were carrying as part of the cargo to the space station they now could never reach. "I had a very little," Rukavishnikov recalled, "and Georgiy had a good drink."

In the third installment, which appeared in two parts on successive days to mark Cosmonaut Day (April 12), three-time space veteran Vladimir Shatalov, chief of the cosmonauts, reflected on how training helps cosmonauts prepare for emergencies. He recounted the landing control problems on Voskhod 2 in 1965 and the emergency unexpected splashdown of the two-man Soyuz 23 on a salt lake in Central Asia in 1976. He

also disclosed the hitherto unknown fact that he himself had been waiting inside Soyuz 4 in 1969 when the launch was [page 175] scrubbed and rescheduled. This happens fairly often in the American program, and the Soviet press always makes fun of such delays; but it never had admitted to having had any experience like it until this article.

The fourth installment was by cosmonaut Vladimir Titov, who described in detail the failure of his Soyuz T-8 to dock with the Salyut 7 space station. He and two crewmates had been launched only a few days after the publication of the preceding article. Upon their return a flood of letters from readers suggested that the cosmonauts be invited to tell their whole story in the same forum, and they subsequently did. The spaceship's radar boom had jammed, and without it they could not measure their position and speed relative to their target. "What we encountered in the actual flight was nothing like any of the unplanned situations known to us," Titov admitted in the article. An alternate procedure was developed overnight ("Now

we were moving onto a completely untraveled path," Titov recalled thinking), but when tried, it did not work. "Velocity still seems quite high," the cosmonaut thought. "This is dangerous. Perhaps we will collide. I burn the engine to take the vehicle downwards. We are flying past the station. And so we failed to dock." Titov summarized in the uncharacteristically forthright report: "This experience in orbit was a difficult one." His account was published less than four months after his actual mission, with no prompting from the West. The Soviet space candor was at its apex.

Early in 1984 a lengthy article in *Literaturnaya Gazeta* provided even more graphic details of the emergency nighttime splashdown of two cosmonauts eight years earlier. During their hours on the icy lake the men were in grave danger of suffocation, drowning, or freezing, as extremely difficult weather conditions kept rescue helicopters from reaching them. All this drama and courage were barely hinted at back in 1976, when the splashdown had actually occurred.

[JEO: Several dramatic space events never got mentioned in this period -- the most dangerous being the Soyuz-5 landing in 1969 when the service module failed to detach from the command module, which then entered front forward and began burning up. Only at the last possible moment did the modules separate and the heat shield turn into the 10,000 degree heat pulse]

The candor exemplified by the "Orbits of Courage" series abruptly ceased when Yuri Andropov died. This may or may not have been a coincidence. Under the brief rule of Konstantin Chernenko, there

were no articles of this type. Dramatic failures occurred from 1983 to 1985, but the Soviets blandly reported that all was going well. The 1986 Izvestiya series by Golovanov, published under Gorbachev, rates as high as [Page 176] "Orbits of Courage" in candor, though like its predecessor, most of its significant revelations were prompted by earlier fragmentary disclosures in the West.

Paradoxically the hero-worshipping Soviets denied at least one genuine space age hero -- Valentin Bondarenko -- his proper tribute and recognition because of their irrational, insistent secrecy. His tragic death in 1961 in the line of duty was not revealed for a quarter of a century. In the meantime, the Apollo 15 astronauts had left a plaque on the moon in 1971 in honor of fallen space heroes, both American and Russian. Bondarenko's name is not on it, and it should have been. How many other names should also have been there remains to be determined.

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