Cosmonauts Who Weren't There James Oberg
June 24 2012 [illustrations added]

In the years between the end of the Apollo program (1975) and the first orbital flights of the space shuttle (1981), when I was on the Mission Control Center team in Houston preparing for the first launch of 'Columbia', one of my additional duties was to provide background briefings for new personnel there. I found that one particular set of "space history" slides made one audience especially nervous. It wasn't what the slides showed, but rather, what they did NOT show.

The pictures were of groups of Russian cosmonauts, smiling confidently for the cameras. But what made the audience laugh -- at first -- was that subsequent versions of the very same group photographs had gaps. Faces clearly seen in the first versions had vanished to the retoucher's airbrush.

My most nervous audience was the new 'space shuttle astronaut selection', 35 men and women chosen in 1978 to supplement the two dozen Apollo veterans and as-yet unflown rookies from that era. They were sobered to realize the apparent implication of the forged Russian cosmonaut photographs -- if a space trainee screwed up, he (or she) could just disappear.

Now, I'm not making this up. To prevent that from ever happening to themselves, they all vowed not to screw up. As an added defense to photo erasure, they joked, in any group photo sessions they would entwine their arms very tightly with each other.

And it really was funny, after all. Here were clumsy Soviet propagandists obviously trying to conceal the existence of several individuals who had been members of their first cosmonaut teams. But since both versions of the same photographs -- 'before' and 'after' (and sometimes SEVERAL different 'after' versions) --were published in different books, the glaring frauds were all too easy to detect. All they had succeeded in doing was to raise the level of interest in just who it was they wanted the world never to learn about, and why.

THE SEARCH BEGINS

With the launching of Yuri Gagarin on April 12, 1961, and the subsequent flights of Titov, Nikolayev, Popovich, and other space pilots, it became clear that there was a cadre of Soviet cosmonaut trainees, the equivalent of NASA's "Mercury Seven" astronauts. Members were never named in advance, and even the size of the group was a mystery. With nothing to go on, observers were left to offer idle speculations, rumors, and bad guesses based on the names of test pilots and space equipment testers who were occasionally named in Moscow newspapers.

Even the external configuration of Gagarin's Vostok spacecraft and its booster rocket remained shrouded in secrecy until the fifth anniversary of that flight. Further images of the hardware, and of cosmonaut training, were released for the Soviet celebrations in 1967 for the fiftieth anniversary of the Bolshevik coup that created the USSR. Some unknown faces were noticed in the training films but little more could be gleaned from them until the tenth anniversary rolled around.

What was hidden from the world, in those years, was the existence -- and fate -- of other would-be cosmonauts, men with top secret names such as Bondarenko, Nelyubov, and Anikeyev. But as the proverb goes, honesty is the best policy because in the long run nobody has a good enough memory to be a successful liar -- and we were to learn that this earthly rule applied to outer space as well.

In 1971, a remarkable candid and unprecedented well illustrated book appeared, written by Yevgeniy Riabchikov, a prominent Russian journalist. Called 'Russians in Space', an English edition was published by Doubleday in NYC. It contained the clearest photographs of Gagarin and his teammates in training that I had ever seen.

The following year, while I was on the faculty of the Department of Defense Computer Institute [DODCI] in Washington, DC, in my spare time I searched Soviet movies, books and magazines for photographs of cosmonauts. I had access to the periodicals files of the Library of Congress and to film vaults of several national news archives, including Bara Studios, which had 16-mm copies of several hours of Soviet space propaganda newsreels. As a result, I assembled a growing collection of faces of apparent cosmonaut-trainees who had not yet flown.

In 1973 I published these images in 'Spaceflight', the monthly magazine of the British Interplanetary Society in London, with provisional designations "X-1", "X-2", and so forth. The process was laborious and the payoff, identifiable photographs of cosmonauts who had yet to fly, was of interest only to specialists and spaceflight nuts such as myself. By then, we had received indications that twenty men had been in the first group, but as of 1969 only twelve of that group [plus members of later groups] had flown into space. So who of the unflown men might be next?

The answer came like the proverbial bolt from the blue, and it was "NONE OF THEM". This dramatic moment, the most exciting event so far in the years-long investigation, came in November, 1973, and I remember it vividly.

While lecturing to a computer management class at the navy base in Norfolk, Virginia, I visited the home of a colleague, C. P. Vick. He proudly showed off some new acquisitions in his library of Soviet space program books, and I browsed through the photo sections looking for new 'unflowns'.

In the middle of a new book, 'Shagi V Kosmos' ["Steps into Space"}, I stopped, puzzled. A group photograph of cosmonauts, taken just after Gagarin's mission in 1961, looked 'wrong'. I recognized it as the same scene that had been shown in Riabchikov's book from two years earlier. The same scene... but not quite.

Vick also had that 1971 book, and he quickly pulled it from his bookshelf. Within seconds, we'd found the image, and laid the two books side by side. We whooped with startled glee.



"Russians in Space", New York, in English, Riabchikov, 1970 "Steps into Space", Moscow, 1972, in Russian

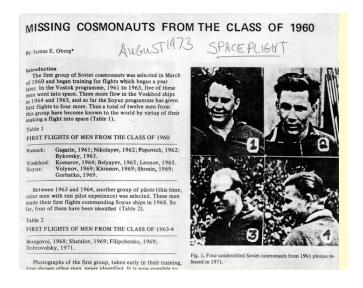






[above] The two Moscow books which contained starkly-different versions of a cosmonaut group portrait, detected in 1973 and setting off a decades-long search for the victim, and the victimizer.

[below] Initial publication of the Riabchikov photograph in the West, prior to the discovery of X-2's deletion form the version published in the second Soviet-approved domestic-audience book.



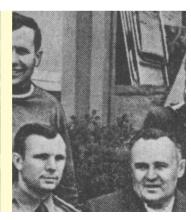




[above] Hi-quality versions of the 'before' and 'after' views of X-2's presence and absence. [below] Subsequently, THREE different 'after' versions were published in Moscow.







X-2 VANISHES

No doubt about it – a man had been removed. The figure in the back row had been replaced by some photo retoucher's guess as to what would have been seen behind him. He had been designated 'X-2' in my original roster of 'unflown cosmonauts', and probably now he never WOULD be flown.

The man had clearly been a close associate of Yuri Gagarin, first man in orbit in 1961. In images I had already collected, 'X-2' sat next to Gagarin when the official review board selected him for the flight, and 'X-2' rode in the bus to the launch pad with him. In grainy 16-mm newsreels, 'X-2' attended the same training sessions as Gagarin and his colleagues who made later orbital flights. He was obviously a future cosmonaut.

But 'X-2' never made his own space mission -- and in official photographs printed later, his very presence had become a blank space on the page. In a terminology invented for earlier Soviet photo forgeries, he was an "un-person". He had been 'liquidated' – maybe even evaporated. The X-cosmonaut had become an ex-cosmonaut.

Ultimately, of course, the blatant coverup campaign backfired. That is fortunate for true history, because side-by-side publication of the before-after views in Western space magazines in the 1970's made the clumsy fraud the laughingstock of space experts outside the Soviet Union. And

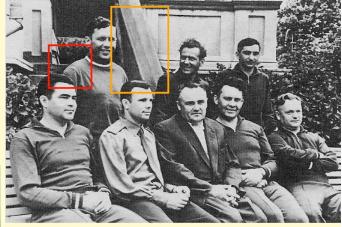
the sound of that laughter was clearly evident inside the USSR, too, as a series of official 'space history' books delicately danced around the question of 'unknown cosmonauts'.

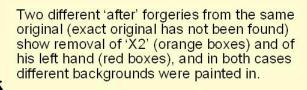
The Soviets subsequently grudgingly produced an "explanation" for these "extra" cosmonaut names and faces. A 1977 book by Georgiy Shonin, a pioneer cosmonaut, first disclosed the existence of eight "dropouts" in the first cosmonaut class. It revealed the first names only of the eight dropouts from the 1960 class – Ivan, Dmitriy, Grigoriy, Anatoliy, 'Mars', and three Valentins. 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" (the horribly doomed Bondarenko, we later learned) without any hint of tragedy.

In another official non-response, cosmonaut Aleksey Leonov was later shown the picture of the "missing cosmonaut" (Nelyubov, it turned 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. Such had been his orders.

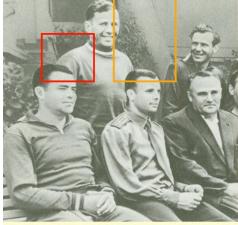


"Not-exactly" original, but similar scene from a slightly more-oblique viewpoint...





Cropped to here for display (full group was included)



[above] Discovery of a SECOND before-after pair removing the SAME cosmonaut-candidate.

WHAT WAS HAPPENING

With forty years hindsight, the 'big picture' has emerged. Here's what we now know:

- 1. To a degree unprecedented in any other space program, but fully in keeping with Soviet practice in imagery of all other subjects (particularly politically sensitive subjects) the USSR practiced deceptive photographic retouching of space program imagery in the early years of the 'Space Age'.
- 2. To a similarly unprecedented degree, Western publication and criticism of such forgeries forced official responses, some of them constructive, to the benefit of accurate public knowledge of events. But only Soviet collapse brought real disclosure a consummation we never really expected in the frustrating years when we wondered what had happened to all the erased men.
- 3. To the satisfaction of history, it was the Russians themselves courageous journalists, crusading amateurs, and debt-repaying purged officials who ultimately provided the full, true history of these events, as it always should have been. But a handful of Western enthusiasts began the process, originally focused attention on the issue, and were the first to collect interviews and documentation.

As befits any field of historical study, analysis defined a sequence of discrete phases of this process.

Phase 1: 1957-1971 – Limited imagery of space activities, images often mislabeled, leading to widespread and often exaggerated Western skepticism of claims.

Phase 2: 1950's and 1960's – Common presentation in Soviet press of Western space-related illustrations retouched to allege or imply Soviet origin; misidentified Soviet hardware common.

Phase 3: 1971-1975 – Significant production and publication of retouched imagery, mainly of cosmonauts but also of hardware and history. There was wide Western speculation about the different reasons for different types of forgeries. Some reflected general propaganda themes, or internal Kremlin power politics. Many forgeries were purely aesthetic, to unclutter or 'prettify' scenes. But MANY clearly continued to be motivated by historical deception for political propaganda purposes.

Phase 4: 1976-1986 – Under pressure of Western attention (and mockery), half-hearted and half-baked (and occasionally half-true) responses appeared in the Soviet media and in official interviews. Official lying still dominates.

Phase 5: 1982-1985 – "False dawn" and retrenchment. Following Brezhnev's death, marked relaxation of press restrictions on discussions of spaceflight problems, by courageous journalists such as Yaroslav Golovanov. With accession of Chernenko, all such publications ceased.

Phase 6: 1986-1991 – Period of 'glasnost' under Gorbachev, saw Soviet journalists publishing their own long-suppressed reports and photographs. "Erased cosmonauts' explicitly named in 'Izvestia'. It was the only way, officials realized, to defuse the mocking laughter and to counter the well-earned disbelief in Moscow's official statements about their space activities.

Phase 7: 1991 to present -- R, nearly-full access to records, memoirs, public disclosure, and non-restricted interviews. Recently, some retreat from this.

THE IDENTITY OF "X-2" REVEALED

It was in 1986, on the occasion of the 25th anniversary of Gagarin's flight, that we learned that the cosmonaut, 'X-2', really HAD screwed up royally. His name was Grigoriy Nelyubov -- in Russian, that actually means "unloved", and that sure was how he wound up. Officials feared that what he had done was so shameful that if the Russian public ever knew a cosmonaut had acted that way, the prestige of the successful heroes and the entire country would be tarnished.

Nelyubov's sin wasn't financial, sexual, or even particularly felonious. It came down to arrogance and selfishness -- or at least, an excessive level of those personality flaws. In Russian they called it 'gusarstvo', or 'hussar-hood', the arrogant aggressive attitude of the medieval 'hussar' cavalrymen.

One early version of the story went like this. While returning to the cosmonaut training center one night after a weekend in Moscow, Nelyubov and two other cosmonaut trainees were stopped by a security patrol. Their passes had expired, but Nelyubov tried to bluff his way through with the claim -- true, as it turned out -- that he and his friends were carousing cosmonauts. As such, Nelyubov insisted, they didn't have to submit to any patrol of peasant draftees.

Yet regulations were regulations, and the soldiers would not back down. Nelyubov then knocked one down and began pushing through the group towards the gate he needed to enter. The others grabbed at him, and a brief brawl ensued before the three cosmonauts were subdued.

It didn't take long for the lieutenant in charge of the patrol to telephone the cosmonaut center and verify the identity of their three captives. That was all it took to guaranty they would be released. Nelyubov was almost home free -- and the Universe awaited him. Spaceships needed flying, and flying needed spacemen, and he was ready.

The patrol's commander made one reasonable request. Some of the kids had been roughed up pretty badly in the brawl. He asked Nelyubov and the two others -- Valentin Filatyev and Ivan Anikeyev -- to sign some autographs and to apologize to the soldiers who, after all, had only been doing their duties. Nelyubov's two companions readily agreed -- but Nelyubov, possibly vindicated in his mind by the phone call ordering his release, haughtily refused. He knew the officer had to let him go anyway.

What he didn't know was that the officer also had to file a report of the incident -- although he could have, had he wished, forgotten the whole thing and put nothing down on paper. But in light of Nelyubov's uncompromising attitude, the officer decided to file the required full description of the incident.

When a copy of the report reached the director of the cosmonaut training program -- a stern old 'Hero of the Soviet Union' who took very seriously their importance as role models for young Russians -- his actions were predictable. Nelyubov was canned -- and in a twist that fanned resentment towards him among the other cosmonauts, his two companions in the brawl also were expelled from the cosmonaut program. "They burned down together", a cosmonaut recalled years later, reviving the bitterness his former colleagues still harbored for Nelyubov's misjudgment.

Later versions, based on more direct witnesses, differed in details but contained the same essential features. Ace Soviet-era space historian Yaroslav Golovanov, whose best works

couldn't be published until the mid-1980s 'thaw' that preceded the USSR's total collapse, described the drinking bout as having occurred in a bar at the train station for Chkalov Air Force Base, about four kilometers from the cosmonaut village. He reported no fisticuffs, but Nelyubov's refusal to apologize for the incident remained the proximate cause of higher ups learning of it, and dismissing all three men.

By the time his story came out, in the late 1980's, Nelyubov had been dead for two decades. Transferred to a jet squadron near Vladivostok, he sank into depression and alcoholism when his appeals for reinstatement were finally rejected, and he stepped in front of a train. More of that, shortly.

THE SOCHI RESORT CONNECTION

A particularly curious feature of the retouched cosmonaut photographs of this era was that most of them originated from images taken in a single photo session in May 1961, at a resort in Sochi on the Black Sea. Following Gagarin's triumphal flight, the entire cosmonaut group was sent off for a well-deserved vacation. While there, a series of sittings were conducted for a large number – about a dozen, probably, judging from the different viewing angles – Soviet photographers, both journalists and official historians.



Группа руководителей и космонавтов на отдыхе. Сочи, май-июнь 1961 г. РГАНТД. 1-5834.

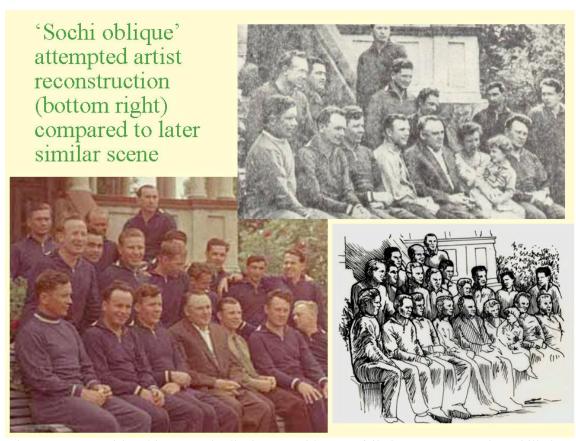
[above] In the final years of the USSR, long-suppressed photographs from the May 1961 Sochi group-shoot began to emerge. They showed many more never-flown cosmonaut-candidates.

The order of the sequential views is unknown, but one can speculate that the first shots involved ALL the cosmonauts present, with some training officials and a few family members – and with Sergey Korolev, head of the space program. Then there were shots of Korolev and the six cosmonauts assigned to Vostok mission training. Lastly were scenes of Korolev and Gagarin alone, with and without Gagarin's full uniform.

Numerous retouched Korolev-Gagarin images were later released, mostly altered to remove background details. No 'historical revisionism' or other fraud was evident.

The first-discovered Nelyubov erasure was from the 'Sochi-6' image, and three distinct versions [different fill-in backgrounds for the missing body]. There is also a second pair of before/after views, from an oblique instead of direct-on angle, with two different background fill-ins. And another independent deletion was found where a parachute instructor named Nikitin, who later was killed in a jump, was erased, while all the cosmonauts [including X2/Nelyubov] were left in.

The full-team photographs took years longer to come out, since there were so many unflown men. The last to leave the cosmonaut corps before flying was in 1969, for medical reasons. But even in this scene, one super-deletion forgery was found in which FIVE men – all unflown cosmonauts – were carefully erased from among the crowd of ultimately flown cosmonauts.



[above] Greatest airbrushing-casualty list image, with FIVE failed cosmonauts and one killed instructor all removed. Artwork by American illustrator attempts to depict pre-deletions view. Gagarin & Korolev switched seats and the woman and girl left the scene [not airbrushed out].

OTHER COSMONAUT ERASURES

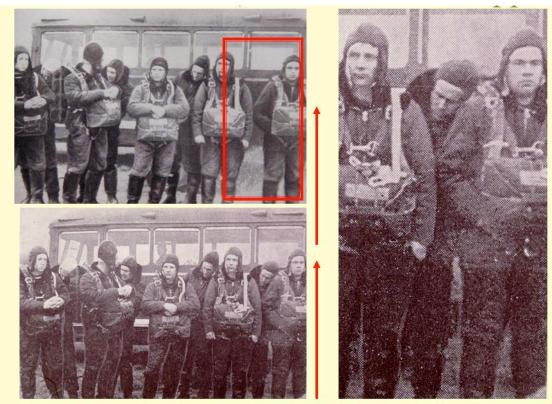
Two other scenes gave rise to additional cosmonaut erasures. Both dated to the first year of training, 1960-1961.

I call the first scene the "parachute bus", and it involves a dozen cosmonaut candidates, including Gagarin, preparing for a parachute jump, lined up in front of a bus. The famous close-up of Gagarin in a flight hat is from this setting – I'm sure every trainee there had similar singleton portraits taken. But the group shot was the one that involved a forgery.

In the forged version, there is something wrong with the pairing of trainees, as half of them stand in line while an equal number check their parachutes. For example, Gagarin stands in front while Volynov bends over his parachute, from behind. Popovich is to the right of Gagarin, and Nikolayev is to HIS right.

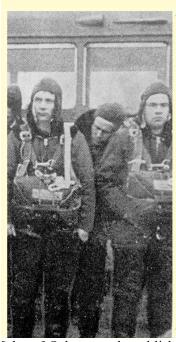
But Popovich has NOBODY checking his parachute, and the space between him and Nikolayev has been clumsily filled in with brush strokes. And Nikolayev's parachute checker is unknown since the photograph is CROPPED right down past his left ear – concealing even the existence of a checker.

Years later I found a version of the shot that DID include Popovich's parachute checker, but his face was turned downwards and I could not recognize him. Later, a Russian journalist identified that man as Anikeyev – one of the two drinking buddies of Nelyubov who had been expelled, at no fault of his own.



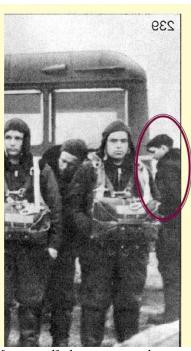
Should be one more figure here, by the 'buddy system'

[above] Late-1960 parachute training image lost TWO men – one airbrushed, one cropped.



Previous right edge of group shot, that was cropped to take out Bykovsky who was not 'in position' for official business?

Golovanov (1994) identifies Anikeyev as the man airbrushed out of the originally released version of this training scene. Identity of man behind Nikolayev could not at first be found out but there are many reasons and candidates for erasure.



[above] Subsequently published historical photograph [reversed] shows cropped man was Bykovskiy [flew Vostok-5 in 1963], probably gone merely for esthetic reasons.

As for Nikolayev's parachute checker, it took yet another discovery – this time, printed in reverse but clearly the same shot – to identify him and the reason for his being cropped out. It was recognizably Bykovskiy, an honorably flown cosmonaut – no shameful secret there. But he wasn't actually checking the parachute, he had stepped away and turned towards the bus tire.

His posture upper body is suggestive of the reason he had to be removed. With his head bent low, his shoulders hunched forward and arms extended downwards, he looks like nothing so much as a man urinating on the ground. Whether or not that really had been his business that took him out of line, even looking like it was enough to force his deletion.

The second multi-deletion scene is on the bus to the launch pad for Gagarin's launch on April 12, 1961. A still from a 16-mm movie shows him sitting in his spacesuit, with his spacesuited backup, Titov, sitting right behind him. Two other cosmonauts, in uniform, stand behind Titov's seat – Nikolayev and Nelyubov. Viewed from in front, Nelyubov's head is recognizable behind Gagarin's helmet.

Except, in most views, it's not there. The first version, released as early as 1961 even before Nelyubov's expulsion, has his faced smeared out to conceal a cosmonaut who was still unflown. Other versions, in undeterminable order of their creation, have his head removed and a fake background painted in – but his uniform jacket and collar remain. The next step is a view in which even that trace of him is removed with clumsy fill-in forms, until finally, the entire background behind Gagarin is blacked out.



Nelyubov on bus to Vostok launch, several different forged variations [Apr 12, 1961]

Upper left: original still Bottom: Three variations Right: Most extreme variation









[above] Dramatic sequence of incremental deletions of X-2 [Nelyubov] standing behind Gagarin on April 12, 1961. First his face, then his head, then his full body is removed from the scene.

Significantly, the image of a smiling Gagarin on his way to his launch, with the faked backgrounds, is probably the most popular of all images of the world's first cosmonaut on his launch day. Officially it was emblematic of the USSR's glory, but ironically, in hindsight, it also inadvertently symbolized the factual photographic falsifications that characterized official information in the Soviet era.

POST-SOVIET REVELATIONS ABOUT NELYUBOV

Although an outline of all the missing cosmonauts and their fates was first revealed by Yaroslav Golovanov in 'Izvestia' in 1986, under the 'glasnost' period of the final years of the USSR, details remained sketchy. The sea-change in Russian space history studies eventually culminated in a 2007 documentary film about the fate of Grigoriy Nelyubov. Entitled <<Oh мог быть первым>> ["He Could Have Been First"], the 45-minute video involved lengthy interviews with principle players in the drama, including – for the first time ever – his widow, Zinaida, and his younger brother, Vladimir.

The first third of the program goes into personal details of his youth, his flight training, his romance with his new wife, and the cosmonaut program in which he was finally one of three candidates for whom special form-fit spacesuits were assembled for the first spaceflights. Halfway through the program it is late 1961 and Nelyubov is next in line to fly, but then political needs intervene and other cosmonauts are assigned to special symbolic missions. While still in training for a near-term mission, Nelyubov is injured during a centrifuge run and placed on medical leave with reduced duties.

In the spring of 1963, Nelyubov had a nervous breakdown and was taken entirely off duty for three weeks. No longer on active duty restrictions, he decided to go out for a beer [alcohol wasn't allowed in the cosmonaut village]. At a nearby military airfield off-base bar he met two other cosmonaut trainees, Anikeyev and Filatyev.

According to Zinaida, the two uniformed cosmonauts began a noisy hand-speed competition at their table, and got so rowdy that a military patrol was called for. Nelyubov, off duty, was in civilian clothes. All three were brought in for questioning, and it was here that Nelyubov, still recovering from his nervous breakdown, abusively exhibited his 'hussar-ness'.

The next day, the cosmonaut team political officer visited Nelyubov at his apartment and said a formal apology was needed to prevent the report from going forward. Zinaida heard him promise to do so, and he went out – but never made the apology.

General Kamanin, head of the cosmonaut program, got the report the next day. In his diary entry for that night, he wrote that the other two cosmonauts were "of no value" – with previous behavior problems and low academic levels, Kamanin [with Gagarin's concurrence] had ordered them expelled.

But Nelyubov, he wrote, was another matter. He'd been one of the top cosmonauts. He was in civilian clothes, off duty, and by the patrol's report, had tried to get his rowdy mates to leave. The consensus was that some way should be found to save his career. At a political meeting organized by cosmonaut Pavel Popovich, Nelyubov was to listen to a round of condemnation of his behavior, and then apologize to his fellow cosmonauts.

But it doesn't work out that way, and he is expelled.

His wife recalled that she cried, but that Nelyubov was somehow calm. "Well, it's not the end of the world," she remembers him telling her.

But the end of the world was almost where they were sent – the Pacific Coast of Siberia, at an airfield in the middle of the forest with only a few buildings for the military personnel. Water was drawn from wells. They were 50 kilometers from the nearest town. Their furniture from Moscow took six months to catch up with them.

Yet Nelyubov bounced back, to his wife's surprise. His flying skills and cheerful nature returned. He seemed to be settling into, and thriving in, the new life. He made new friends and became 'the darling of the regiment'

But then his cosmonaut friend Pavel Popovich, on a tour of the region, visited the city of Khabarovsk and told local official that he had a friend at the air base. They flew Nelyubov in, right away, and for a day and a half, he was a 'cosmonaut' again. Even though Popovich had a one-on-one conversation to try to reconcile Nelyubov to his fate, the visit had the opposite effect – he wanted back in. "The meeting only harmed Grisha", Zinaida recalled many years later. "Somehow he was stirred up again – his mood became terrible."

NELYUBOV'S FINAL DOOM

Nelyubov flew to Moscow, and visited the cosmonaut center. Kamanin had apparently promised that he would only have to spend a year or two in exile and could then be allowed back. Even Gagarin promised to push for his reinstatement. Nelyubov returned to Siberia in high hopes.

The next two years were full of ups and downs, as he applied for advanced training programs. He transitioned to the new Mig-21 interceptor, and while in training at Lipitsk, met with Marina Popovich, the cosmonaut's wife and a test pilot in her own right. She, too, was encouraging. She worked to get him into test pilot school. The school asked for his personnel file, and a transfer appeared imminent. Friends recalled he was living 'in suitcase mode' – already packed up and ready to go.

But then he got a curt telegram turning him down, due to some 'reorganization'. He was thunderstruck. After a flurry of letters, he receives word from Marina Popovich about the true reason. One of the cosmonauts – even in the 2007 documentary interview she still won't say which – had warned the selection board about Nelyubov's 'hussar-ness'. The cosmonaut had told the board, "If you want to get into trouble with his audacious [дерзкий, also implying 'impudent' or 'cheeky'] character, then take him into the tester program."

Devastated by the rejection and its secret cause, Nelyubov began drinking in earnest. He would visit the local train station, mix with passengers there in the cantina, and regale them with cosmonaut stories and autographed photographs of his former colleagues, while they bought him round after round.

Nelyubov roused himself for one more effort – an appeal directly to the head of the Soviet space program, Sergey Korolev. Korolev had always favored Nelyubov due to his sharp academic skills, and according to some historians Nelyubov had been Korolev's choice for the first mission. "He knew that Korolev was well inclined towards him," Zinaida told the program.

Making plans for another trip to Moscow, Nelyubov is again 'on cloud nine'. He becomes friendly and out-going again, and is the master of ceremonies at the Officers Club party for New Years 1966. That evening he doesn't even need to drink champagne to feel joyous. In what everyone took to be a good omen, he won the door prize, a plastic cosmonaut figure. Fellow pilot Vladimir Upyr told the program: "Grisha cheered up. He was another person. Twinkle in his eye."

Two weeks later, the newspapers announced the death of the 59-year-old Sergey Korolev during surgery. His last hope was abruptly crushed. Nelyubov smashed the plastic cosmonaut figurine to pieces and sank into dark depression.

A few weeks later, his wife repeated what had become a routine protective measure in the evening. She locked the front door of their top-floor apartment and went to spend the night with friends. Nelyubov was left inside, away from alcohol or other threats.

But that night – February 17, 1966 – he got out, probably climbing down the outside balconies. He walked to the train station, onto the tracks, and right into a passing locomotive.

Zinaida's taped comment is heartbreaking in its pain. "For some time I had been afraid that this could happen," she said, biting her lip and looking off camera.

She knew it had been deliberate, because he had left her a note, which she read for the camera. "Zinok --he called me that almost always -- you were always the best of all. One needs to really search for such a woman. Forgive me." He hadn't signed it.



Nelyubov's apartment at Siberian airfield [now abandoned]. Locked in by his worried wife one night, he left an apologetic note, went out onto the top-floor balcony and climbed down, and stepped in front of a passing freight train.

[From 'He Could Have Been First']



Previously unknown before/after pair from collection of Zinaida Nelyubova, that she says her husband secretly carried in his flight jacket pocket. Nelyubov is behind Rafikov, but in oblique view has been airbrushed out.





DID NELYUBOV KNOW HE WAS BEING ERASED?

There is one puzzling aspect of Zinaida's interview with 'He Could Have Been First'. Apparently, according to the program's narrator, Nelyubov kept a clipping of a cosmonaut group photograph that had been published in 'Izvestia', taken just after Gagarin's flight. "The picture shows the whole group," the narrator intones, "In it, there is no cosmonaut Nelyubov."

Zinaida's words were explicit: "He said: 'I already don't exist.' He has already been deleted from the lists, and from all of the photos they even have retouched his image."

This is a touching story but there is one major problem with it: I cannot believe that any mid-1960's-era Soviet newspaper would ever publish either of these views, which show as-yet unflown Soviet cosmonauts. This would have been contrary to strict censorship practice that had nothing at all to do with Nelyubov's personal failings. Yet Zinaida Nelyubova told the interviewer that at least one of the scenes had been published in 'Izvestia'.

At least TWO scenes with Nelyubov 'gone' WERE published prior to his death. The first is him on the bus to the launch pad on April 12, 1961, standing behind Gagarin. I've seen that from a Soviet military newspaper shortly after the flight, in mid-1961, with Nelyubov's face crudely smudged out. The second is the scene of Gagarin and Titov talking in Red Square, with their companion, Nelyubov, cropped out of the right side of the photograph. That also was published shortly after Titov's flight.



1961 view of Gagarin and Titov in Red Square; 1980s release shows them talking to erased man



But both cases were consistent with the general Soviet of policy of not showing faces of ANY unflown cosmonaut. And since they were published while Nelyubov was still a cosmonaut in good standing [he was not expelled until 1963], he would have seen them then, and could not have been alarmed by the deletions of his own likeness.

I suspect Zinaida's comments are retrospective mnemonic editing of the narrative of her husband's horrible fate. Otherwise, I can find no justification to believe her claims that her husband, while still alive, had seen his own face being punitively deleted from the cosmonaut program.

Zinaida had also managed to play the photography game herself and get Grigoriy's photograph in front of the Russian public. Back in Moscow, she made the acquaintance of Svetlana Savitskaya, daughter of the Soviet defense minister and an avid aerobatics pilot and skydiver. They apparently became friends, and years later, after becoming a cosmonaut herself, Savitskaya wrote her autobiography. In describing her pre-cosmonaut flying activities, she included photographs of many colleagues, and one of them was Zinaida, identified as 'sports parachutist'. Her smiling

picture included a second happy character, identified as 'military pilot Grigoriy Nelyubov' – but no mention of his cosmonaut career.

[left] Svetlana Savitskaya autobiography [1987] with caption: "Fighter-pilot Grigoriy Nelyubov and sports-parachutist Zinaida Nelyubova, 1965". No explanation in text. [right] A pensive Zinaida Nelyubova in 2007 documentary, "He Could Have Been First".





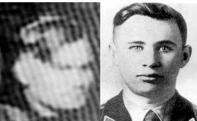
FALSIFICATION ABOUT BONDARENKO

Not all of the coverups of the 'unflown' cosmonauts involved photographic forgeries – one actually involved a falsified grave stone.

Another man, 'X-7' on my original 1973 roster of 'unknown unflowns', took a secret to his grave that might have given NASA a fighting chance to save the lives of the Apollo crew who perished in the pad fire in January 1967. Valentin Bondarenko was killed in a pressure chamber fire just weeks before Gagarin made the first-in-history human space flight (the death led to the notorious rumors that Moscow had lost 'unidentified cosmonauts' on 'secret space missions'). The fire was so vicious because it involved enriched levels of oxygen and a careless abundance of flammable materials -- a warning that NASA might (or might not) have taken to heart before having to learn it again through their own mistake.

Valentin Bondarenko [1937-1961], first cosmonaut training fatality. From left: "X7" unknown cosmonaut from 1960 training scene [Oberg, 1973]; Bondarenko in 1960 parachute training group shot; formal military portrait; Valentin with wife Hanna ['Anya']. He was killed before the Sochi photos.







"Valentin was the youngest of the first batch of cosmonauts (he was 24 years old)," Yaroslav Golovanov wrote in his bombshell 'Izvestia' article in 1986. 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.

Bondarenko had been undergoing routine training in a pressure chamber, which was part of a tenday 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 ail 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, Hanna, and a five-year-old son, Aleksandr ("Sasha"). Hanna, or 'Anya' in the Russian version, remained at the cosmonaut center in an undisclosed job. When he grew up, young Aleksandr became an air force officer and also worked for many years in cosmonaut training..

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 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. This is clearly a garbled version of 'Bondarenko'.

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[ingl 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 wrote, he saw a photograph of this deathwatch officer in the newspapers. He had been Yuriy Gagarin, who became the first man in space. But in hindsight, we know what Gagarin was doing in those final days before the Vostok launch, and standing by a dying comrade had not been on his agenda. In hindsight it probably was another short blond cosmonaut, possibly Anikeyev.

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.

It was then that Bondarenko's tragic story appeared in the mass Western press, and I was widely interviewed for historical background. In response to this revelation about his fiery death, and about the young wife and infant son he had left behind, I received a touching letter from an American who fully sympathized with their loss. It was from Don Chaffee, whose 31-yr old son Roger had been killed in the flash fire which hit Apollo-1 in January 1967. Chaffee asked me how he could send Bondarenko's family a copy of the book he had written about his son's life. The obvious route was to contact Golovanov.

In July 1988, Golovanov published an article in 'Izvestia' about what happened next. He had forwarded the letter from Chaffee, with my translation of it, to Hanna Bondarenko's home in Kharkov. He then telephoned her to ask permission to give me her address.

"I am very grateful to Mister Chaffee for his warm letter," she told Golovanov, and authorized the exchange of addresses so that she could get the book. Then she added: "Roger Chaffee and my husband Valentin Bondarenko arrived in cosmonautics in the period of its youth, and they themselves were young men full of strength and glorious plans. Well, any great affair involves

losses, sometimes human losses. Roger and Valentin did not fly into space, but they gave their lives happy that in so doing their comrades could fly there."

Golovanov expanded on that theme in the newspaper article. "Reading the letter of Mr. Chaffee and hearing Hanna," he wrote, "I thought about how it's not just smiles that bring people together, but grief is able to accomplish it too, if people believe in thoughtfulness and good will." From these exchanges, over the following ten years, the two families developed a friendship that ended only with Don Chaffee's death in 1998.

One last revision was required to convert 'Soviet reality' into a more truthful version of reality. The headstone on Bondarenko's grave contained a brief tribute "from his fellow pilots". Sometime around 1990, an additional line was engraved and gilded. It then read "from his fellow pilots, cosmonauts of the USSR". Sometimes, retouching serves truth after all.





'After' photo courtesy of Bert Vis, Amsterdam

Bondarenko's grave in his home town of Kharkov had a message from his "pilotfriends" -- but only thirty years later was added the inscription identifying them (below) as "cosmonauts of the USSR"



OTHER DELETIONS, OTHER MOTIVES

Even when the disqualifying reasons were not dishonorable or disastrous, the Soviet passion for the appearance of perfection compelled their publicity officials to perform similar photo forgeries. Ten years after Gagarin's flight, one rookie cosmonaut was dropped from a launch for purely medical reasons – but related to another cosmonaut, not himself. So later when photographs of the other cosmonauts were released, they had been altered to mask his presence among them.

The most striking before-after forgery involving his face is called the "On Top of the World" shot in early 1971. It is part of a sequence where the three crews training for the world's first space station, Salyut-1, are gathered around a giant globe. When this scene was released in 1972 in the documentary "Steep Road to Space", dedicated to the tragic end of the Soyuz-11 visit to Salyut-1 in June 1971, the figures were recognizable as the two crews that had flown to the station

[Shatalov, Yeliseyev, and Rukavishnikov on Soyuz-10 which failed to dock properly, and Dobrovolskiy, Volkov, and Patsayev, who reached the station successfully but died during their return to Earth] and two veteran cosmonauts, Leonov and Kubasov, plus a ninth unknown figure.



[above] Still from 1972 Soviet film 'Steep road to Space', about the June 1971 Soyuz-11 disaster. The three primary crews for the Salyut-1 space station mission are shown, L to R, Yeliseyev, Volkov, Patsayev, Doborovolskiy, Leonov, Rukavishnikov, Kubasov, Kolodin, Shatalov.

A year later, when Leonov and Kubasov were switched from the Salyut program to fly the Apollo-Soyuz linkup [in July 1975], Russia released photographs of the two of them training in a Soyuz mockup. But several of the pictures showed indications of a third crewman training with them, indicated by portions of his body not quite entirely cropped from the scenes. The most striking scene shows, in the extreme lower right corner of the shot, the mystery crewman's wrinkled forehead and part of his cap.

His name, as we learned years later, was Pyotr Kolodin -- and that name, like Nelyubov's and Bondarenko's and others -- never made it onto any roster of 'flown cosmonauts'. Not even selected until 1963, he hadn't been around for the Sochi photographs or the consequent need for deletion, then.

Leonov, Kubasov, and Kolodin had been within days of blasting off on Soyuz-11, to become the first men to occupy an orbital space station, Salyut-1. But then a medical problem with one of the other cosmonauts had grounded the entire crew, and their backup team went up instead. And when an air leak struck the returning ship three weeks later, the backup team died, instead of the men who had, until that moment, been cursing their bad luck at having been grounded [for a medical false alarm, it had turned out].

The Soyuz's third seat on following flights was then filled with emergency oxygen supplies and the crew size reduced to two. Leonov and Kubasov would up given the 'consolation prize' of the Apollo-Soyuz linkup mission in 1975, and Kolodin, without a flight assignment, flunked his next flight medical exam and was grounded.

Several years later, the original April 1971 pre-launch group photograph was released, but Kolodin's body was airbrushed out [he was at extreme right and could easily have been cropped out – the need to airbrush him is unexplained]. Curiously, and apparently for purely aesthetic compositional reasons, the partially visible parts of another uniformed cosmonaut in the left portion of the shot were also airbrushed out. Inspection of the wider views of the same scene in 'Steep Road to Space' show this figure was Leonov, hardly a 'disgraced' cosmonaut but in this case, a visual distraction.



But Kolodin, no longer a cosmonaut, stayed in the space program as a ground operator. And twenty years after he had come within days of space, and a decade after I had published a set of before-after photographs that showed him being erased from official histories, I was introduced to him on the floor of Mission Control in Moscow. He had been amused by his notoriety (a moral victory over officials who had tried to "unperson" him), and we shook hands warmly.

To actually touch an 'erased cosmonaut' -- now THAT, I found, was an immensely satisfying experience that I never had expected, or even dared hope for. It was more than adequate compensation for the extinction of what for years had been an enjoyable hunt for more examples of such forgeries. In post-Soviet Russia, the practice of erasing the images of failed cosmonauts has itself, at long last, been erased..



CAPTION: [left] Arthur C. Clarke confronts cosmonaut Aleksey Leonov with my book 'Red Star in Orbit' containing erased cosmonaut photographs [1983]; [right] Oberg with erased cosmonaut Pyotr Kolodin on the floor of Mission Control in Moscow [1991].

Still more forgeries, different motives

It would be too simplistic if all cosmonaut photo forgeries could be traced to one motivation -- conceal the existence of unflown candidates. The search for before-after pairs found other examples of forgeries where the motivations were much less clearcut.



Aesthetics (& peace propaganda)

Korolyov bids farewell to Gagarin at launch pad, and extra characters are one-byone removed so false fill-in is needed (but fence stops). Marshall Kiril Moskalenko, missile commander, departs.



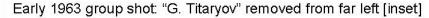


"The Case of the Missing Missileman" -- In one multi-step forgery sequence from April 12, 1961, Sergey Korolev is seeing off a space-suited Yuri Gagarin on the launch pad at Baykonur, with Soviet military rocket commander Kirill Moskalenko standing with them. In the original scene, there are other pad workers in the background, but the 'cleaned up' version removes the small figures and leaves the three main players alone. Then the major forgery appears, with Moskalenko [the commander in Chief of Strategic Rocket Forces, successor to Nedelin who was burned to ashes in a missile disaster less than six months earlier] erased, and a false background painted in. Another version masking Moskalenko's presence has Korolev's left arm raised to grasp his hat, totaling covering the military officer. Whether it was a convenient accidental shot, or an artistic concealment tactic, I'm still not sure.

The "Voskhod-2 Rolling Head" – On the bus to the launch pad for Voskhod-2 in March 1965, spacesuited cosmonauts Belyayev and Leonov sit in front, and cosmonaut Komarov kneels between them, deep in conversation with mission commander Belyayev. Sitting behind Leonov and peering intently over his shoulder is another uniformed officer – at least in the original image. The photograph actually published soon after the 1965 flight showed only an empty space where that man's head had been. Curiously, another version – the only copy of which I have is a poorquality transparency from the private collection of a journalist – shows that same head partially concealed behind Leonov's seat.

"Rolling head" from Voskhod-2 bus, March 1965. Top: 'Before' and 'After' versions Bottom left: blowup of missing head; center: poor-quality still, several seconds away, of head half obscured; right: possible match from 1961 Gagarin bus scene.







The 1963 group shot "Doctorectomy" – A 1963 group photo, released in 2008, had been subjected to several different retouching efforts. The most glaring forgery was the removal of a figure at the far left of the group, identified in 2008 as a 'training official' named 'G. Titaryov'.; the clumsy forged version merely replaced him with a white wall. Subsequently, a second image [a few seconds apart in time] with him still in the scene appeared. For unknown reasons, cosmonaut Shonin, who had been standing next to and slightly behind him, had his right arm retouched to place him in FRONT of Titaryov. The actual sequence of forgeries, and the motivations, remains unknown.

What they were NOT:

In assessing what these photo forgeries meant, it can also be helpful to enumerate what they did NOT mean. And there has been no shortage of misinterpretations and misrepresentations.

First, the forgeries are not evidence for secret Soviet space fatalities -- just the opposite. In the early 1960s there were many Western press stories alleging that some Soviet cosmonauts had been killed in secret space missions. Some of the stories were even marginally plausible, at least at first, even if the evidence was weak or ambiguous.

But by the time the forgeries became widely known, the stories were already discredited by the same sort of archive revelations that produced many of the forgery before-after scenes. And the full records of the first cosmonaut team selection and training showed that there were no 'missing

cosmonauts' unaccounted for. Disappear from photographs some did, but their fates were well documented and none involved spaceflight accidents.

Second, the photographs were not evidence for the most persistent of the Gagarin-era rumors, that senior Soviet test pilot Vladimir Ilyushin actually was the first man in orbit. This story is still periodically resurrected on cable channel documentaries and internet websites. Amusingly, the Sochi-6 before/after cosmonaut group forgery is featured on a contemporary website devoted to promoting the Ilyushin-was-first theory and other dubious claims of the Italian radio listener brothers, Achille and Giuseppi Judica-Cordeglia. Less amusingly, the website claims 'copyright' of the Sochi-6 photographs.

The real question of copyright was a genuine issue when I first published the photographs in book form, in 'Red Star in Orbit' [1981]. Lawyers from the New York City publisher, Random House, wanted assurances we had the legal right to use the images. Fortunately I was able to establish to their satisfaction that since they were official Soviet government products, and since that government had never signed the International Copyright Union convention [and in fact enthusiastically violated thousands of foreign copyrights of books, music, and other intellectual properties], the images were legally owned by nobody. They were -- and despite any modern overreaching websites, still are -- free of copyright restraints.

Third, the deletions are not related to political differences, such as the notorious Stalin-era revisions. One or two later cosmonaut candidates did get into trouble over inadequate political correctness, but there's no evidence they ever were erased from any photographs -- they just were fired.

Fourth, contrary to explicit excuses that Soviet diplomats in Washington made to me in the mid-1970s, they were not interlopers who sneaked into the scenes without permission and then were chased off before taking the group pictures again. I'm not making this up -- that was the straight-faced story I was told.

Lastly, they were not kidnapped by space aliens, another version that has long festered in darker corners of the Internet. Based loosely on fables first circulated by 'journalist' Frank Edwards in the 1960s, these stories of alleged disappearances in space don't even try to explain why, even if true, such events would then require the same victims to disappear from archival images.

The continuing anonymity of unflown cosmonauts from later classes continued as official Soviet policy right up until the final days of the USSR. It wasn't until 1989 that the full 'unflown cosmonaut' roster became public, purely by accident.

I was at 'Star City' consulting for a '60 Minutes' news team doing a program on cosmonaut training. While the crew was being videotaped doing exercises in the gymnasium, an incredibly careless escort officer directed me to get out of the scene and 'wait over there' – and took me through a door into the locker room. Left alone there, I quickly noticed that all the dozens of lockers had individual names posted on them. As calmly but as quickly as I could manage, I discreetly jotted down every name up and down four rows. But that's another story.

The Last 'Unknown'

Perhaps the greatest 'unknown' about these forgeries, in retrospect, is not WHY they were performed – but WHO ordered them? As far as I can tell, there's no 'paper trail' leading back to any specific person, or office. At least, I haven't found it yet.

But one approach might be to develop characteristics we can presume the perpetrator would have HAD, even if we don't know who that perpetrator WAS. In keeping with the designation scheme of the X-cosmonauts from forty years ago, for convenience I want to label this man as X-0, the cosmonautical cipher.

As the perpetrator, X-0 would have to have been in a high position within the cosmonaut program in the period those forgeries were occurring, specifically 1960-1971? And he would have to have known by face all of the cosmonaut candidates to know WHO needed to be erased.

X-0 probably had to have been familiar with the Stalin-era mass photographic falsifications carried out for national propaganda purposes, so he couldn't have been too young. He would also have been somebody who was very concerned with 'public image' of 'Soviet heroes' -- who might even have been an official "Hero of the Soviet Union" himself.

X-0 might even have been at the very top of the cosmonaut program. He may have been personally involved in making the real cosmonaut candidates "disappear". In that case, making their photographic existence also vanish was just a matter of completing the job?

There are further helpful clues in the DIFFERENCES between the 'cosmonaut forgeries' and typical Soviet falsifications. Perhaps they also can lead to identifying X-0.

The biggest difference is that unlike the run-of-the-mill political forgeries of the 1930s and later, which removed people who were already well-known to the public but had BECOME 'bad guys', THESE forgeries removed people who were UNKNOWN to the general public, in order to KEEP them unknown.

This is a very important clue since the population of people who DID know who these men were, which included X-0, was very limited. So candidates for the forger-in-chief are few in number. Some of the removed figures (such as Anikeyev in the parachute preparation line-up) were hard to recognize. Only somebody who knew all the original figures by face, probably personally, would know WHO needed removal.

The decisions had to have been made at 'Star City', but detailed instructions could have been sent to existing forgery workshops run by the Soviet news bureaucracy. The artists who did the actual work probably didn't even know who the people were they were erasing, and didn't ask.

When the list of characteristics is compiled this way, I think only one name rises to the top of the short list of possibilities for X-0. This is General Nikolay Kamanin [1909 – 1982], who was head of the cosmonaut program from 1960 to 1971.

Kamanin was the first officially designated 'Hero of the Soviet Union', and later, a military hero of World War II. Straight-laced, strict, and merciless, he became the cosmonauts' godfather, taskmaster, confessor, and ultimate judge and jury and 'executioner'. The more one learns about him, the easier it is to imagine him protecting the 'hero myth' by marking up photographs with a red crayon for the forgery department to go to work.

Yet he was also honest with himself, in private. And Kamanin kept detailed, candid diaries that have been published. They are full of detailed insights into the highs and lows, rewards and challenges, promotions and punishments he was involved with, concerning the cosmonauts. For all that, they do not address the question of photographic falsifications for the sake of public patriotic imagery. But they reveal a character who could easily find such methods justifiable, even necessary.

Kamanin is such an obvious leading candidate for 'X-0', researchers have to always consider the possibility that the real 'X-0' concealed his own existence as thoroughly as he did those of the erased cosmonauts. One potential candidate is a mysterious figure, "KGB official M. S. Titov", who appears with cosmonauts in three photographs from 1961. No further information is available, although a thorough Internet search located a WW2 military officer named "Mikhail Stefanovich Titov" [1923-1986] whose much-younger photograph bears a slight resemblance to the 1961 Titov. However, his official obituary made no mention of any KGB service or any association with cosmonauts [nor in Soviet times should it have been expected to].

In perhaps the greatest erasure in the history of Soviet manned space flight, X-0, the man who ordered the erasure of so many of the early cosmonauts and their fates, met with only temporary success in these endeavors aimed at his victims. But regarding himself, as author of the forgeries, X-0 took measures that so far have effectively erased his falsification role from history.

Until that final erasure is remedied, and the hole that X-0 tore in the fabric of cosmonautical reality is filled back in with the whole truth, the mystery of the 'erased cosmonauts' will be a story without an ending.