



## ***CANINE SPACE PIONEER***

**by Christopher T. Carey**

I have often commented in my writing over the years on my special affection for Siberian Husky dogs. Siberians, along with all 'Spitz type' northern breeds (including, but not limited to Alaskan Malamutes, Siberian Huskies, American Eskimo Dogs, Samoyeds, and a few other closely related breeds), are members of that generalized branch of the canine family known as *Northern Working Dogs*, or dogs that were originally bred specifically for practical use (e.g. sledding, hunting, etc.) in the northern latitudes by aboriginal peoples. The nearest 'best guess' by those who have studied dog behavior and researched the genetic codes of canines is that today's 'Northern Working Dog' descended from wolves no less than about 10,000 years ago, despite their 'wolfish' looks. Other domestic breeds appear to be more closely related to the *Dingo* wild dogs of Africa, but the ancestral relatedness of northern dogs to '*Canis Lupus*' (wolf) may be most clearly seen in their appearance, their strikingly similar coat colorations, physical

characteristics, and semi-lupine behavior that are all found in today's domesticated husky breeds.

Over the more recent centuries, at least in the wealthier western nations, dogs have been bred more and more for human companionship and family pets, whereas in other, developing parts of the world, dogs still perform many useful working tasks for their human partners. By contrast, in the relatively affluent United States, we Americans have become so attached to our dogs, treating them as privileged family companions, that it is almost unthinkable for us to regard our four footed canine friends as anything other than the beloved members of the family we have made them.

Our modern western attitude of fond regard for dogs as close and much loved companions was not quite as aesthetically developed to the same high degree in the Soviet Union of the late 40 and early 50s, however, where dogs were a luxury few could afford in a Russia that was still reeling from severe depredation, consequent to the ravages of the Second World War.

Even in some of the larger Russian cities like Moscow and Saint Petersburg, many semi-wild domestic dogs roamed the streets, struggling to survive the severe winters and hardship that characterized that post-war nation's economy. These homeless dogs were constantly hungry, living on the ragged edge of bare survival, and always on the lookout for enough food to stay alive. Occasionally, the ancient archetypal instincts of their wolf ancestors would emerge, in response to the harsh conditions they existed under, resulting in roaming packs of loosely allied mongrels that functioned somewhat along the lines of a wild wolf pack, with its instinctive social hierarchies.

Interestingly, despite the random interbreeding of these homeless Russian urban mongrels, a large number of them were descended from a distinctive northern breed known as the '*Laika*'. There are two subgroups within the general breed grouping known as the *Laika* and these are the '*West Siberian Laika*' and the '*East Siberian Laika*'. Both of the subgroups appear to have originated many centuries ago in the cold northern regions of the globe, migrating with exogenous tribes of aboriginal peoples and settling in the harsh Northern Siberian areas of what is today the vast Russian subcontinent. There they performed important work as sled dogs, hunting dogs, and reindeer (or caribou) herding dogs, living closely together with their human masters, as both dogs and humans strove to thrive in that wildly beautiful, but frequently severely inhospitable region that is greater Siberia. Both of the *Laika* subgroups are very closely related to other breeds that are more widely known in the west, such as the Siberian Husky and the Alaskan Malamute (looking remarkably similar in many ways and sharing characteristics that clearly demonstrate their related ancestral blood lines).

The name of the breed, '*Laika*', translates roughly from the Russian into '*Barker*', curiously enough, and thus it was that the name *Laika* would soon figure

prominently in the earliest, most fundamental chapter of the *Cold War* race to land a man on the moon.

At the end of the Second World War broad knowledge of the extensive wartime German researches into the use of rocket propulsion finally came into possession of both the USSR and the USA, almost simultaneously. Russia had a long established tradition of interest in rocket science, originating with famed Russian scientist *Konstantin Eduardovich Tsiolkovsky*, who in 1903 (the same year the Wright Brothers were making their first powered flights) had already theorised that the minimal horizontal velocity required to achieve earth orbit was 5 miles per second and that this could be accomplished by a multi-stage rocket fueled by hydrogen and oxygen! As the valuable and more recent German data on rockets and high-altitude vehicles began to be integrated into the already enthusiastic indigenous rocket programs in both nations, so too were surviving German aeronautical engineers and rocket scientists quickly put to work by the former allies on both sides of the erstwhile '*Iron Curtain*' that separated the Union of Soviet Socialist Republics from the West. While the United States certainly recognized the potential value of wartime rocket research and had its own early rocket pioneer, Dr. Robert Goddard, it was the Russians who, despite official political bureaucratic resistance and a lack of interest by Stalin in their work, managed to put together the world's very first artificial earth satellite and fire it into orbit on 4 October 1957. This small 40 pound metal sphere, carrying a simple radio transmitter and sprouting 4 distinctive communications antennae came to be known by a startled world as '*Sputnik 1*'. It was fired into orbit by Soviet Space Program Chief Sergei Korolev's team of scientists atop an R-7 multiple booster rocket vehicle that had been originally developed by Mikhail Tikhonravov for possible use as an intercontinental ballistic missile.

With the shocking news that Russia had successfully orbited an earth satellite on 4 October 1957, the subsequent race to land the first man on the moon was underway, as both the USSR and the USA began to gear up for that terribly costly and socially questionable, but politically priceless technological objective. Owing to the great propaganda windfall from the successful Sputnik 1 orbital flight, Soviet rocket team leader Korolev, along with chief designer Tikhonravov (Mikhail Klavdievich) and the other scientists on the Russian space project, was suddenly put under great pressure to build and orbit a second, larger, and more importantly, *life bearing* satellite into orbit within a single month.

The Soviets had been keenly aware of what the United States had been doing with their captured German V-2 rockets since the war had ended and had also experimented with small, ballistic rocket flights carrying mice, rats, and rabbits in their efforts to develop a vehicle capable of carrying a man into orbit. These early rocket flights were simple in their concept and intent, attempting sub-orbital ballistic trajectories reaching altitudes of perhaps a hundred thousand feet. From the late 40s through the early 50s, succeeding Russian rocket flight experiments were carried out using small dogs as passengers, since it was felt by the

Russians that small dogs would be 'less *excitable*' than monkeys (which the US was using in comparable rocket experiments). Between 1951 and 1952 a series of launches of the Soviet R-1 rocket vehicles carried several pairs of these small dogs into ballistic arcs through the atmosphere, achieving successful recovery through use of parachute equipped nose-capsules. On 15 August 1951, two of the Russian dogs named 'Dezik' and 'Tsygan' became the first suborbital space passengers. In September, Dezik and 'Lisa' were launched in a similar flight, but recovery was unsuccessful and sadly the dogs died. According to surviving records of that period, Korolev (and certainly others on the team) was 'devastated' by their loss, having taken a close personal interest in the canine test-subjects of his work.

Several more rocket flights were undertaken in subsequent months, each bearing two dogs as passengers. A total of 6 such flights were carried out, with the loss of two more dogs on the 4<sup>th</sup> rocket flight. By this time, somewhat more elaborate systems had been devised that even included small canine-sized pressure suits for the dogs to wear, in furtherance of research to determine the benefit of space suits versus a simple pressurized cabin for future astronauts. Some of the dogs used in these early sub-orbital rocket flights included 'Albina' ('Whitey'), 'Dymka' ('Smoky'), 'Modnista' ('Fashionable'), 'Smeleya' ('Bold'), 'Malyshka' ('Little One'), 'Bobik', and 'ZIB' (acronym for 'Substitute for Missing Dog Bobik', when Bobik ran off the day before his flight).

The surprise success of Russia's first artificial orbiting satellite, as small and simple as it was, suddenly placed a great amount of political pressure upon Korolev's team to launch a living creature in earth orbit, since an alarmed United States had regarded Sputnik 1's success as direct evidence that the Soviet Union was gaining technological superiority over the US. This served to spur American efforts to place a human astronaut in orbit (and started what has since become known forever after as *The Space Race*).

Thus it was that when Korolev and his team found themselves unexpectedly hosted by Soviet Premier Nikita Krushchev very shortly after Sputnik 1's ascent, the 'suggestion' that it would be a noteworthy testament to the Soviet party's glory to place a second Sputnik into earth orbit in time to honor the 40<sup>th</sup> Anniversary of the Bolshevik Revolution (7 November 1917) took on a somewhat imperious tone.

While Tikonravov and Korolev had a sophisticated research satellite underway (this would eventually become Sputnik 3), it would not be possible to place such a large and substantively more advanced satellite into orbit before December of 1957. Thus, within the short span of *less than 4 weeks*, Korolev's team was faced with the need to design, develop, and fabricate an entirely new satellite that could successfully carry a small animal into earth orbit. According to Korolev's deputy Boris Chertok in his recollections, the new satellite was created entirely without preliminary design...or in fact prior design of any sort. Chertok

states that most of the space vehicle was created from rough sketches, with fabrication taking its translation directly from these drawings by engineers who relocated to the production site to more closely direct workers, while the project took shape.

As the spacecraft's concept neared completion, Korolev and his team turned their attention to the matter of *which* animal to select to occupy the capsule, although sentiment clearly favored the selection of a small dog as its occupant. [Whereas the US used monkeys almost exclusively due to their shared human genetic traits, the Soviets felt dogs were more suitable, being less excitable than monkeys]. Although the precise details of how this particular dog was selected are a bit obscure, the consensus seems to be that one day, as Korolev was leaving his laboratory, he found a small (13 pound) dog sniffing furtively at some refuse in the alley next to the lab. Giving the dog some odd tidbit to eat, he soon coaxed it into the lab and it quickly displayed its gratitude for the food and water that was provided it by the researchers.

The small dog was a female mongrel, with small floppy ear tips, determined to be about 3 years old, of mixed canine heritage that suggested she was part 'Laika' and possibly part terrier. She was at first given the nickname of 'Kurdayavka' ('Little Curly'), then 'Zhuchka' ('Little Bug'), and later still 'Limonchik' ('Little Lemon'). Since the term 'Laika' is an established Russian name for several breeds of dog related to the Siberian Husky (e.g. the Eastern and Western Laikas), as well as a popular slang term for *all* dogs in Russia, she eventually became known by that name, *Laika*.

Along with two other small dogs (Albina and Mushka), Laika was trained for the Sputnik 2 flight by her handler as the capsule's passenger compartment rapidly neared completion. Female dogs had been chosen for flight use due to the relative ease in waste containment they posed, since female dogs do not need to lift their leg to urinate and typically squat to relieve themselves. Although Albina had already flown suborbitally twice and Mushka had had some previous experience being trained to occupy a small, instrumented cabin, the project's animal scientist, Oleg Gazenko, selected Laika as the principal Sputnik 2 passenger. In the few short weeks, she (along with Albina and Mushka) underwent a series of accelerated training procedures that included centrifuge rides, confinement in small containment spaces, and exposure to loud spacecraft sounds and high level noise effects. It was noted that all of these experiences caused certain physiological effects in the dogs that included a doubling of their normal pulse levels, as well as blood pressure increases of 30 to 60 mm of Hg. Part of the training included getting them used to eating a concentrated form of low-residue nutrition that resembled a solid gel; this helped obviate the problem of solid wastes.

It is worth noting in passing that Laika had by then become quite close to all of the Sputnik 2 team, most of whom had developed a substantial affection for the

small dog. In particular, Laika's chief handler (fictionalized in Nick Abadkis' graphic novel '*Laika*' as *Yelena Alexandrovna Dubrovsky*) felt an especially keen sense of attachment to her, made all the more difficult by knowledge of the 'one-way' nature of the dog's orbital mission. Despite these strong sentiments, work by all continued at a fast pace towards getting the vehicle and the dog ready for the upcoming launch on 3 November.

The Sputnik 2 passenger containment vessel had been configured to use a simple life support system containing an oxygen generation system and carbon dioxide absorbing components; a fan had also been rigged electronically to circulate air when the vessel's temperature exceeded 59 degrees F, to help keep the canine occupant cool. A 7 day supply of the gelatinous food was provided and a sort of diaper-like device that collected wastes was devised that could be fitted to the dog. A harness would be worn inside the capsule by the dog and there were chains that confined it to sitting, standing, or lying down in one direction only, since the cabin was very small and there was no room to turn around in it. Finally, a set of electrocardiographic leads and other bio-instrumentation designed to monitor respiratory rate, arterial pressure, and movement were installed, along with a rude black & white television camera that would allow ground control monitors to vaguely discern her movements inside the close confines of the cabin.

Finally, on 31 October 1957, the spacecraft's hastily devised life support systems were completed, and brave little Laika was placed inside the spacecraft's severely confined cabin three days before launch, immediately after which the cabin's enclosure nose-cone was fitted to and installed on the top of the R-7 multiple rocket cluster propelled vehicle. By October, the ambient temperatures at the *Baikonur Cosmodrome* launch site in Siberia had already reached severely low levels and hot air had had to be pumped into the interior of Laika's capsule through a hose to keep her warm, while Laika's chief handler and another assistant looked after her during the interval of time before launch. Just before the expensive (estimated as costing about 500 million Rubles, this was a small fortune in post-war Soviet Russia) launch's countdown, final instrument links were established and rechecked, physiological electrodes placed upon Laika for monitoring her vital signs were activated, and her handlers shared a last few last poignant moments of affection with the brave little dog before Laika's capsule was sealed and the final launch count began.

That there were several critical problems that the accelerated launch schedule had left insufficient time to solve was not generally known outside of the immediate group of Soviet satellite program personnel and 'upper' political levels of the Soviet government. Among these insoluble obstacles was the fact that the USSR had not yet devised a proven, fail-safe system for protecting the reentry of a space vehicle carrying living creatures against the fiery heat extremes of reentry. Nor had a successful parachute recovery system been devised that would activate successfully after the 3500 degree F. atmospheric reentry at high

speed had been completed. Thus, from the outset of the hasty and politically motivated Sputnik 2 project, the decision to deliberately sacrifice poor, trusting little Laika for political expediencies had sadly been a foregone conclusion.

After the liftoff occurred, instrumentation aboard the capsule indicated that at maximum dynamic pressure ('Max-Q'), Laika's respiration increased to three to four times her resting rate before the launch, and that her heart rate, which had been about 104 beats per minute prior to launch, had risen to 240 beats per minute during the early acceleration boost phase. Clearly, the poor little dog was suffering extreme agitation due to the effects of the flight. The sheer terror that being confined within a small and restricted space during such violent maneuvers created for Laika may only be guessed at, but Laika did achieve the orbit intended for the space vehicle alive. Apparently, however, some of the thermal protection on the capsule seems to have torn away during the launch, thereby contributing to an increased interior capsule temperature rise of about 104 degrees F (survivable for a short period, but very hot for a confined animal). After three hours of weightlessness her heart rate had returned to the pre-launch level (104) and although still under great stress, the early bio-monitoring signals showed that she had at least managed to eat some of her gelatinous food and calmed a bit. Sadly, after about five to seven hours of flight, no further life signs were received from the capsule, leading to the conclusion that due to apparent excessive heat and other effects of the flight, pioneering space dog Laika had regrettably expired.

According to surviving documentation and later testimony by the Soviet canine satellite project personnel, the original plan had been to terminate the dog's life after a certain number of days with a dose of poisoned food and for many years after the flight, there were a number of conflicting reports as to what *exactly* had been the actual fate of Laika. Stories circulated about overheating in the capsule, oxygen systems failing, booster-rocket separation failure, and/or the failure of the capsule's batteries. It wasn't, however, until an international space conference in 2001 (the 'World Space Conference' in Houston, Texas) that Dr. Dimitri Malashenkov, one of the key participants in the Sputnik 2 program, finally revealed the actual truth...that Laika had not survived for more than about 7 hours of flight (including about 4 orbits around the earth) before succumbing to extreme environmental conditions (overheating and stress). Dr. Malashenkov commented (in 2001) that *"It turned out that it was practically impossible to devise a reliable temperature control system (for the capsule's occupant) in such limited time constraints."* After completing 2,570 orbits (5 months from the Sputnik 2 liftoff), the Sputnik 2 space vehicle (containing Laika's remains) was finally destroyed by the severe heat of reentry it experienced upon reentering earth's atmosphere on 14 April 1958.

In the immediacy of the period surrounding Laika's ascent into orbit, and for many months afterwards, the humane concerns of the Sputnik 2 experiment were largely ignored by the world's media and press, focused as the world was

on the political aspects of the event. Slowly, however, here and there individuals took time to focus on this sad, but apparently deliberate sacrifice of a dog to achieve purely political ends. Organisations such as the UK's *National Canine Defense League* protested officially to the Soviet government over Laika's needless death and there were a few scattered protest demonstrations at Soviet embassies around the globe. For the most part, however, little further notice was directed towards the unfortunate fate of the homeless little street mongrel from Moscow. Due to the far more important political ramifications of this opening round in the 'Soviet versus the USA space race', the regrettable matter of Laika's death was largely disregarded. The fact that of all the flown Soviet rocket flight dogs, Laika was to remain the *ONLY* dog ever to be *deliberately* expended in such a heartless manner, is something not realized by most, in retrospect.

Despite a suppressed sense of broad general feeling in Russia during the late 50s that the Sputnik 2 flight was strictly a senseless propaganda stunt, it was not until the late 90s that much attention was given to Laika's Sputnik 2 flight in the former Soviet Union (well after the break-up of the USSR). At that time, Russian space scientist Oleg Gazenko, one of the team of scientists responsible for sending Laika on her one-way flight in 1957, expressed sincere regret for allowing her to be sent to die without a plan to recover her. *"The more time passes, the more I'm sorry about it. We shouldn't have done it. We did not learn enough from that mission to ever justify it."*

Laika's handlers also later expressed their feelings about having bonded so closely with the little dog and revealed surprisingly strong emotional regret over having helped to send her to her death on a one-way trip into space. Although the sentiment that Laika's flight had served no important purpose worth sacrificing her life became common, this view has been further reinforced in recent historical assessments of that contentious international period of US/Soviet competition. Despite the hindsight, there is no denying the compelling duress the Soviet rocket team had been subjected to in being 'ordered' to prepare the Sputnik 2 project in such a short period of time.

Gazenko's observations have been subsequently echoed by several prominent historians, who also support the notion that the aims and objectives of the Sputnik 2 flight were solely political in nature and that no useful purpose was served by sacrificing Laika; but given the extreme political pressure exerted by the Soviet government, and the heightened tensions characterizing the 'Cold War' between the USA and the Soviet Union, it is understandable why the project was undertaken, even if in retrospect it is now unequivocally seen as a needlessly wasteful and tragic error.

In the years following Laika's historic flight, however, as the pioneering first living creature to be placed in orbit around the planet, subsequent Russian orbital space vehicle launches carrying dogs were carried out with varying success. In mid-1960, an attempt to place a pair of dogs named 'Bars' ('Panther') and

'Lisichka' ('Little Fox') was initiated, although sadly the rocket exploded on liftoff, killing the two canine occupants. This failure was offset in late 1960 by the successful orbital flight and recovery of two more Russian space dogs, 'Belka' ('Squirrel') and 'Strelka' ('Little Arrow') in Sputnik 5. Strelka later gave birth to a litter of puppies after that flight, one of which was given by Soviet Premier Krushchev as a gift to US President J.F. Kennedy. Strelka's descendents still thrive in America to this day, it is happy to relate.

Another unsuccessful Soviet space dog flight took place in December of 1960, carrying two dogs named 'Pchelka' ('Little Bee') and 'Muska' ('Little Fly') on the Sputnik 6 spacecraft. After completing its orbital objectives, the spacecraft burned up upon reentry, killing the two dogs. Another Soviet space dog ('Chernushka', or 'Blackie') was launched on an experimental spacecraft (Sputnik 9) in March of 1961, and also in the same month 'Zvezdochka' ('Little Star') was sent into orbit and recovered safely from an orbital trial flight of the Soviet man-carrying orbital prototype Vostok spacecraft.

With the liftoff of the USSR's first successful human astronaut-carrying Vostok 1 in 1961 (Yuri Gagarin), no further flights were carried out using dogs as space passengers, with the exception of a record-setting 21 day orbital flight made by two Soviet dogs named 'Veterok' ('Breeze') and 'Ugoyok' ('Little Piece of Coal') aboard the Kosmos 10 spacecraft in February of 1966. That span of 21 days in space still stands as a canine record for earth orbital flights, and was in fact surpassed by human astronauts only in 1974, when American astronauts aboard the Skylab 2 craft exceeded that period.

It is worth noting that all of the previously referenced Soviet space flights with canine passengers were carried out (despite accidents) with full intent to safely recover the canine occupants, the sole *exception* being poor, brave little Laika, the pioneering space voyager who gave her life in November of 1957 in blazing a path into space.

An unintended, though highly beneficial after-effect of the Sputnik 2 flight was to focus attention on a renewed debate about animal rights, a movement that would gain considerable ground on both sides of the Atlantic as the years passed, so Laika's death was not entirely in vain, despite the questionable political motivations that inspired her mission. It was one of the unforeseen few positive results of her sacrifice.

Today there are a few small memorials and reminders of Laika the space dog scattered throughout our world-wide culture. In on the outskirts of Moscow, off to one side of the Russian 'Star City' bronze memorial (at the Institute of aviation & Space Medicine) dedicated in 1964 to its space pioneers (*Monument to the Conquerors of Space*), a small little dog may be seen looking up at the sky in bas relief. Perhaps fittingly, Laika is the only non-human space voyager specifically honored by name on that famous monument.

Over the years, and most especially back in the late 50s and early 60s, a number of postage stamps from various nations came out honoring the Russian space dogs with likenesses of Laika, Belka, and Strelka. There are also small bits of memorabilia and collectibles bearing Laika's portrait, including medallions, metal candy boxes, and certain brands of chocolates and cigarettes that were also named in her honor.

The saga of Laika the space dog has in recent years inspired a number of literary works of various kinds, including some science-fiction stories, children's books (one that comes to mind is artist Nick Abadzis' beautiful and heart-rending 208 page book on Laika: see below) and several fictional novels, and there have even been a few musical groups (rock bands) that have borrowed Laika's name ('*Laika and the Cosmonauts*' being the most well known). In 1985 a Swedish film of some note titled '*My Life as a Dog*' (about a boy who feels powerless to control his own life) was inspired by the story of Laika's space mission; it was consequently nominated for an Academy Award in 1989.

One could argue, in the final accounting, that although Laika's death was ultimately in vain, given the lack of hard scientific gain derived from the flight, there is little question that the poignant story of this homeless little dog, who went from being just another unwanted Moscow mixed-breed mongrel to an internationally distinguished pioneering space voyager, will never be fully forgotten. As humanity advances into mature space flight, with knowledge and experience underscored by her accomplishment in 1957, her memory will remain fresh and alive to those who are versed in aerospace history. Furthermore, it is a recognised and acknowledged fact by most space historians and the world's scientific community that without the early efforts to learn about the effects of space flight from placing dogs in orbit around the earth, there would most certainly have been far *more* human fatalities than have occurred since the early 1960s. That in itself is a wonderfully superb and fitting tribute to our wonderful 4-footed canine companions and furry friends who bring so much unrestrained and freely offered joy into our human lives.

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**POSTSCRIPT:**

Over the years, I have been fortunate to have shared life with several wonderful dogs, most being of the Siberian Husky breed and thereby closely somewhat related to the famous Russian space dog of Sputnik 2, *Laika*. In 1992 I found a Siberian female puppy that has remained with me as a much-loved companion to this date, although she has now lost most of her hearing and is getting gray with advancing age. As a child of 11 years, I well recall having seen the original space dog Laika's satellite blazing a star-lit trail across the skies in Sputnik 2 and in honor of that pioneering dog I named my own puppy 'Laika'. Every time I see my

own Laika, I am reminded of her famous namesake and that tragic journey into history. It never fails to make me a little sad when I reflect upon that fact, but I am heartened by recognition that Sputnik 2's brave little canine occupant will never be forgotten as long as there are men in space, moons to explore, and other planets to be visited. What more could one hope for from mankind's 'best' friend than this enduring legacy of faithful loyalty to mankind provided by Laika, the first and original space voyager?

One final melancholy thought to reflect upon is the fact that although Laika was sealed into a cylindrical metal pressurized compartment on the Sputnik-2 spacecraft, there was a transparent port placed directly in front of her face, very likely situated so that her ground handler could view her after she had been hermetically isolated within the compartment. According to the intended design function of the passenger compartment, which was contained within the bottom section of a pyramidal structural support, the outer shroud of the satellite's nose was discarded upon reaching the intended orbit. Although it has never been discussed, this suggests that despite her short-lived survival in space, she had the benefit, however brief, of seeing the magnificent sight of that beautiful blue-green planet that is our earth displayed below her before her death. Of course, it is questionable as to whether a mere dog can appreciate something as aesthetically abstract and beautiful as this, but I like to feel that it was a privilege she was the first to be given, alone among all living creatures who came before her...*including man*.

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## **BOOKS:**

One book I particularly recommend dealing with the story of Laika's historic flight and the equally interesting political events of that stored period is Nick Abadzis' excellent work (*'Laika'*, by Nick Abadzis, ISBN 596431016 and 978-1596431010) of 208 pages, set forth in a sophisticated, simplified graphic format (cartoon style). The book is available at Amazon.com for a reasonable cost (\$12.00), having been recently re-published. The below review by one E.R. Bird appeared at the Amazon website and is an exceptionally crafted review of Abadzis' story, prompting me to include it here for your benefit.

*"Dead dog books used to be a dime a dozen. Time was a kid couldn't walk into a bookstore without getting whacked over the head with Old Yeller, creamed in the kisser by Sounder, and roughed up royally by Where the Red Fern Grows. Recently, however, dogs don't die as often as all that. You could probably concoct some magnificent sociological explanation for this, citing changes in the political and emotional landscape of our great nation leading to the decrease in deceased literary pups, but as I see it, a good dead dog story is as hard to write as an original paper on Moby Dick. What else is there to say? Man's best friend dies and everyone feels bad. In this jaded culture it would take a pretty steady hand to find a way to write a dead dog tale that touches us deeply. Not a dog person myself, I direct your attention*

today to Nick Abadzis. I don't know how he did it. Laika, the world's most famous real dead dog (a close second: the dead pooch of Pompeii), is now presented to us in a graphic novel format. Though I prefer cats through and through, "Laika" the novel grabs your heart from your chest and proceeds to dance a tarantella on the remains. The best graphic novels are those books whose stories couldn't have been told any other way. "Laika" has that honor.

"Her story was more than just her own. It encapsulated a vast range of people, many of whom you may have never heard of. As the book begins we see a man named Korolev leaving a Russian gulag in a freezing night. Eighteen years later, he is the Chief Designer of Sputnik and his success is without measure. Buoyed by the success of the successful launch, Khrushchev demands that his space program launch a second orbital vehicle within a single month. Enter Laika. An unwanted pup, abused and abandoned on the street, she's eventually caught and taken to the Institute of Aviation Medicine. There she is one of many dogs, trained for flight travel. Laika bonds immediately with her caretaker Yelena Alexandrovna Dubrovsky and endears herself to the other scientists as well. As it stands, however, no dog is better suited for space travel and Laika is slated to make a trip from which she will never return. Abadzis deftly describes the people who care for the little dog and the process by which she was ultimately abandoned and killed by both science and Cold War mechanics.

"I admit it. You'd think that at this point I'd have learned to trust the First Second imprint of Roaring Brook Press. In the past two years they've managed to churn out consistently engaging, entertaining, fascinating graphic novels. But when I heard that they were doing "Laika" I was incredulous. You work as a children's librarian long enough and you see far too many complex issues simplified and sad stories made light, all in the name of the kiddies. I looked at "Laika" and wondered whether or not the book would even touch on her death. I thought to myself that maybe the author would put it in an Afterword or something. I mean, what child/YA GN is going to actually show a dog die? After finally finishing "Laika", you will be pleased to hear that I gave myself a rousing series of slaps to the face. The death of the dog is practically the point of the entire enterprise from the book's start.

"Laika's entire story, as conceived by Abadzis, is heartbreaking but there are certain moments towards the end that I found particularly easy to identify with. When Comrade Yelena visits Laika for one last time she can hear the dog saying her name with every bark, even when Yelena is too far away to hear them. She dreams that Laika is calling out to her for help. That she's scared and uncomfortable and just wants to get out and play. Anyone who has ever owned a pet will be familiar with this feeling. When the pet is missing or in pain, it's difficult to keep from emphasizing with it. How much worse then when the dog in question is imprisoned in a capsule and shot into the sky? Abadzis doesn't just show Laika's plight. He makes you feel it in the core of your being.

"The art is interesting as well. For the most part Abadzis chooses to maintain a simplified cartoony style. At moment of great importance, however, he will make the figure of Laika more three-dimensional. In terms of visual storytelling this is a remarkably interesting choice. As Laika sits in the red light of her capsule, mere moments before takeoff, she becomes vastly realistic. Other portions of the book were just as interesting. Sometimes scenes will be black and white, like stills from a

*movie. Other times they're vast two page spreads that drill home the wonder or the horror of a given moment. And in dreams the lines that make up a panel will grow soft and colorful. There are all kinds of interesting stylistic choices taken in this book if you're just willing to look for them. As with any good graphic novel, these choices make up a significant portion of the storytelling as well.*

*"I am happy to report that at the end of this book you will find an extensive Bibliography, replete with book, video, and Internet sources. Abadzis obviously took a great deal of time researching his subject, a fact mentioned in an Afterword by Alexis Siegel. He has gone from, "the stacks of the British Library to Korolev's house in Moscow." These facts are then combined with fictional details and the result is this book. To what extent does he hold himself accountable for accuracy? To my delight, Abadzis includes a final Author's Note that I've seen in children's books before, but that always amuses me when I spot it again. To quote: "In this book, all phases of the moon depicted on specific dates are accurate to the day - although I may have erred on the side of drama about the time of moonrises." Beautiful.*

*"The last page of this book contains a quote that offers a 1998 statement from Oleg Georgivitch Gazenko. In it, he laments the way that Laika was misused. "We did not learn enough from the mission to justify the death of the dog." It's a dead dog book. Anyone who knows the story of Laika will be aware of that. But above and beyond the obvious this is an ode to dogs themselves. To the animals that we befriend and love and, ultimately, destroy. It's also about history, humanity, and the price of being extraordinary. No one can walk away from this book and not be touched. Consider Nick Abadzis a name to watch from here on in."*

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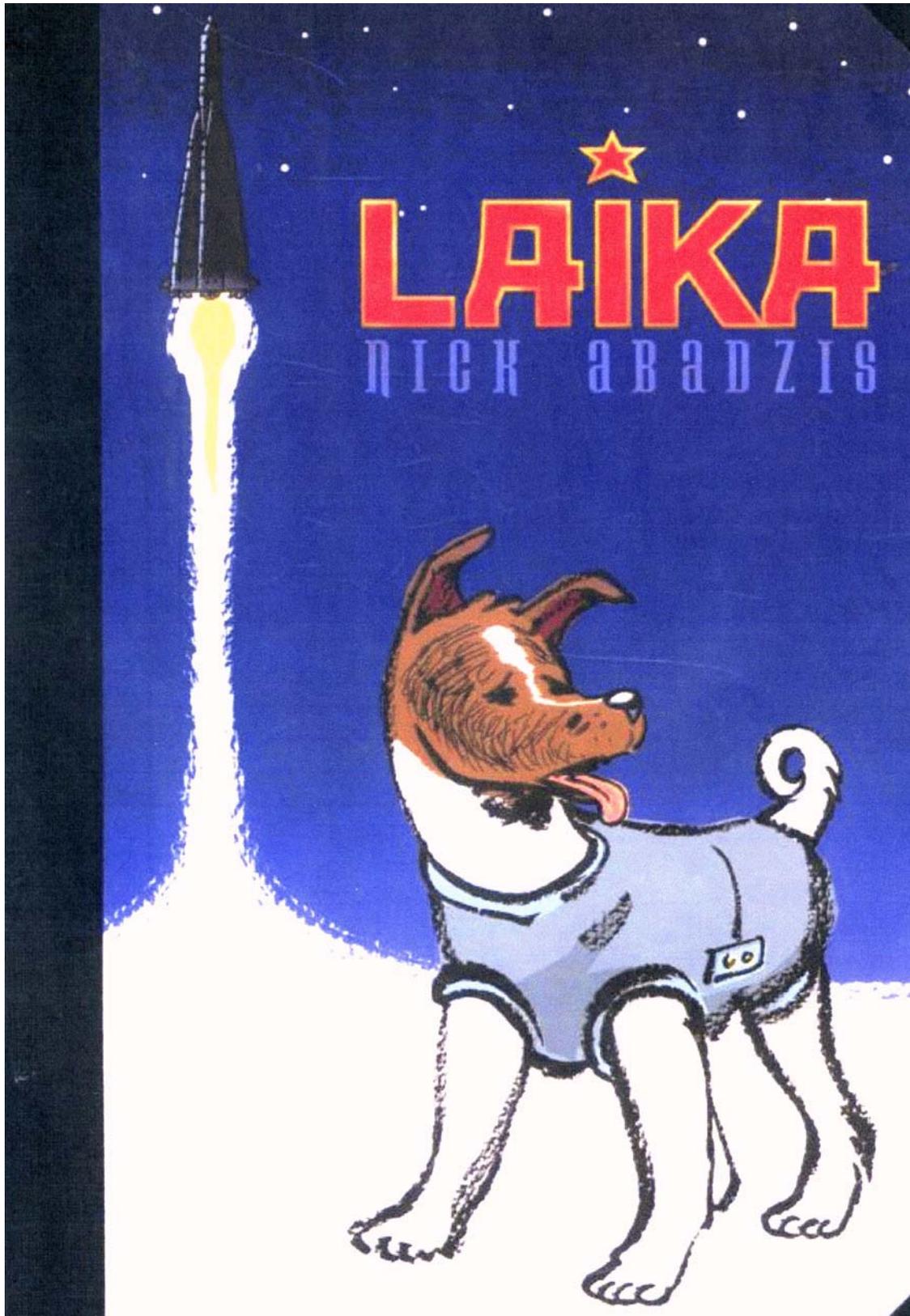
## WEBSITES:

A melancholy, but beautiful and simple memorial to Laika may be found at: <http://www.novareinna.com/bridge/laika.html> and another website, belonging to the **Moscow Homeless Animals Organisation** and dedicated to Laika's memory, is to be found at <http://www.moscowanimals.org/index.html> . There is much available on the internet about this subject and the events that led up to and followed it.

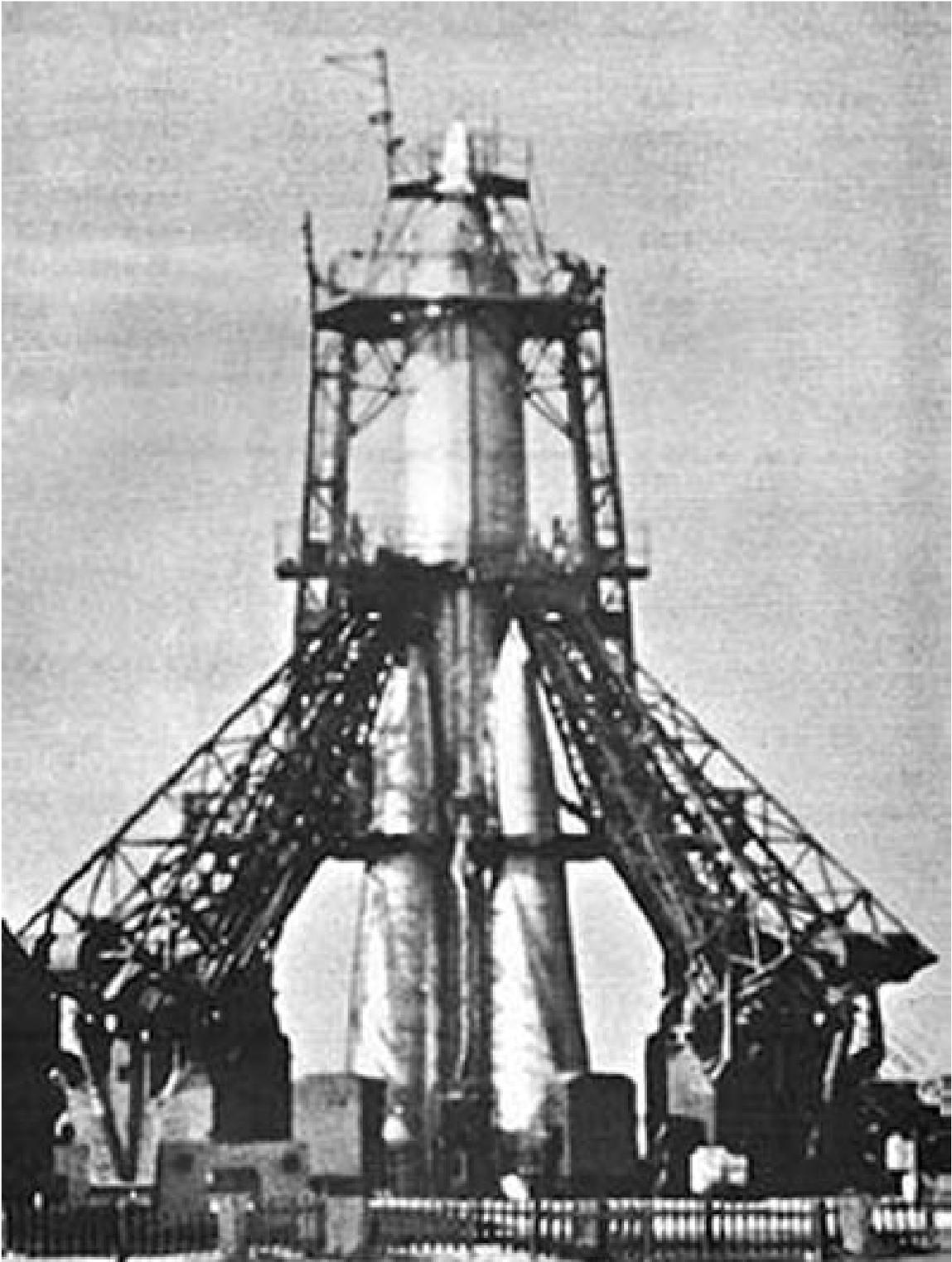
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## PHOTOGRAPHS AND IMAGES:

(Selected images appear on the following pages of Laika and her satellite.)



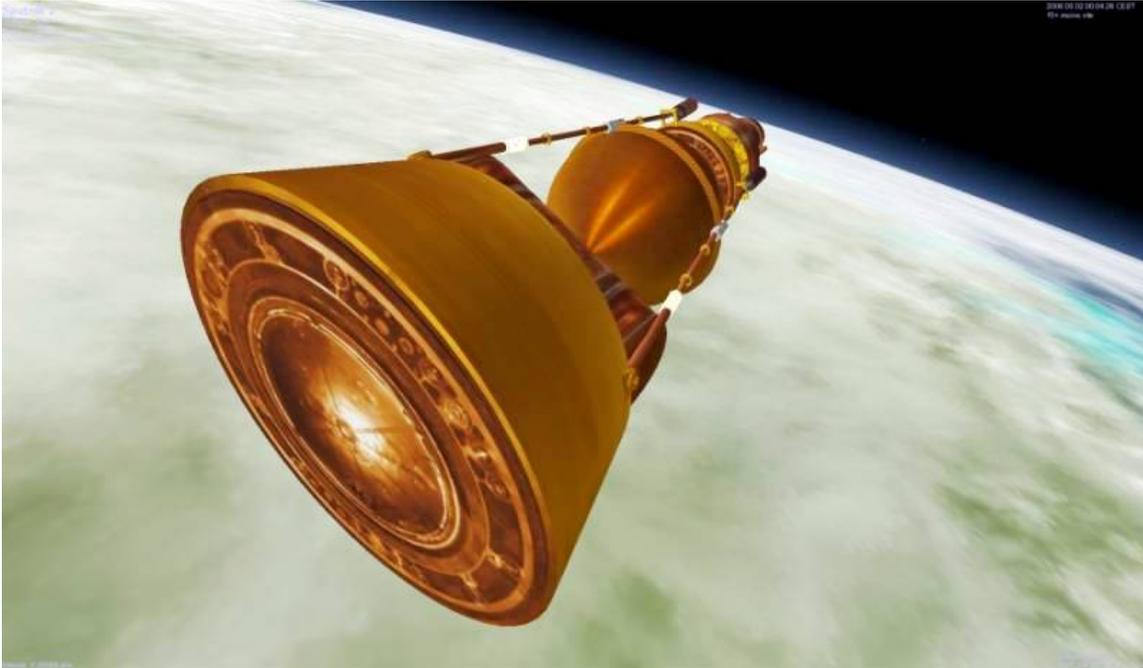
The cover of Nick Abadzis' poignant graphic fictional novel about Laika.



Massive Soviet R-7 launch vehicle for the Sputnik 2 satellite, at *Baikonur Cosmodrome*.



Model of the Sputnik-2 satellite, with external shroud removed; note viewing port.



Artist's impression of Laika's view of earth from her orbiting capsule.



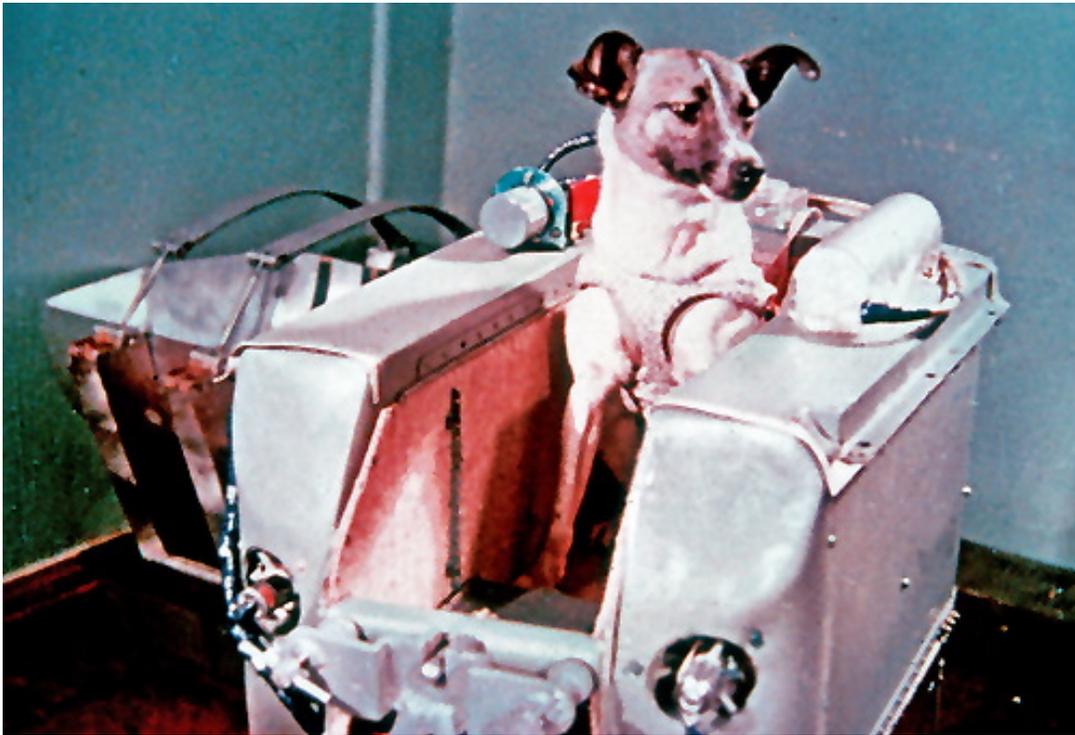
Artist's impression of the Sputnik-2 satellite in orbit; note discarded external shroud.



A memorial Soviet postcard, dated 1958.



Romanian postage stamps honoring Laika.



Laika, posing in her compartment, well prior to flight.



One of the last few video images taken of Laika in Sputnik-2, as she orbited earth.