

## Cosmic Plots in Early Soviet Culture: Flights of Fancy to the Moon and Mars

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### Abstract

This article explores two classics of Soviet science fiction – Konstantin Tsiolkovskii's *Beyond the Earth* (1918) and Aleksei Tolstoi's *Aelita* (1923) – in their related historical contexts. Both had their origins in the popular nineteenth-century “cosmic romance,” owing to their staple characters, settings, and plots. These were extraordinary adventures into the heavens, modern signposts of how the fantastic was becoming real. Yet both novels also became leading texts in the genre of Stalinist Socialist Realism, stories that made “fairy tales come true.” Tsiolkovskii and Tolstoi both appealed to the Bolshevik Revolution as a radical break in time here on earth, much as they predicted that the rocket would become a radical new means to reach beyond into outer space. They centered their stories on real science and technology, articles of comprehension and anticipation. They created characters that revealed the utopian potential of human beings to create new regimes of equality and freedom. Part inheritance from abroad, part innovation at home, the cosmic romance in their hands became a successful medium to situate and justify the Soviet experience.

### Keywords

Konstantin Tsiolkovskii, Aleksei Tolstoi, Russia, Soviet Union, science fiction, rocketry, space travel, Socialist Realism

The Bolshevik Revolution was destined to reach the stars. Well, maybe not that far. But certainly to the Moon and Mars. That, at least, was the message of two of the leading science-fiction novels of the early Soviet era: K. E. Tsiolkovskii's *Beyond the Earth* (1918) and Aleksei Tolstoi's *Aelita: the Decline of Mars* (1922). Their authors could not have come from two more radically different worlds. Tsiolkovskii (1857-1935) was the son of a simple forester, one of eighteen children, who grew up in near poverty in Riazan' province, disabled with the loss of his hearing at the age of ten after a bout with scarlet fever. At sixteen, he was sent to Moscow, living the life of a

happy destitute, teaching himself higher mathematics and the natural sciences, thereafter working for over forty years as a school teacher in smallish Russian towns, first Borovsk and later Kaluga.<sup>1</sup> Count Tolstoi (1882-1945) was born in distant Samara province, child of a broken aristocratic home, a far-removed cousin of the famed writer, Leo Tolstoi. As an engineering student of the Petersburg Technological Institute, he participated in the secular and liberal politics of the day. By the First World War, he was a well-known author of poems, stories, and plays. An enthusiast of the Symbolist and Decadent movements, he also wrote a number of recognized works, romances of provincial Russian life in the critical realist style.<sup>2</sup>

For all their differences, and the diverse influences that weighed upon them, both men became the founders of a uniquely “Soviet” style in science fiction. The two authors were bound to each other, and to the Soviet regime, in remarkable ways. Tsiolkovskii’s work tended more to the philosophical and utopian; Tolstoy’s to the allegorical and earthly. Both of their novels appeared in print just after the Russian Revolution, signposts of its cosmic scope. Both survived into the 1930s to become, under the regime of Iosif Stalin, leading works in the canon of Socialist Realism. Yet both works were also squarely within the European and American tradition of the “cosmic romance,” a variation of the “scientific romance” (an early term for science fiction), centered on epic voyages on earth and into outer space, driven by the imperative of the impossible becoming the real. These stories captivated readers in Europe and the Americas between 1915 and 1946 – stories of genius and invention, love and adventure, tragedy and romance, space and time.<sup>3</sup> The tenacity of Tsiolkovskii’s and Tolstoi’s romances, which we will survey here, speaks to a revealing insight. Bolshevik culture, for all of its dramatic and vaunted claims for a singularly Soviet future, was

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<sup>1</sup> For a recent biography, see James T. Andrews, *Red Cosmos: K.E. Tsiolkovskii, Grandfather of Soviet Rocketry* (College Station: Texas A & M Univ. Press, 2009).

<sup>2</sup> A. P. Naldee, *Aleksei Tolstoi* (Moscow: Prosveshchenie, 1974), pp. 8-32.

<sup>3</sup> On the “cosmic romance,” filled with the promises and perils of science and technology, the rise and fall of civilizations, see J. O. Bailey, *Pilgrims through Space and Time. Trends and Patterns in Scientific and Utopian Fiction* (New York: Argus Books, 1947), p. 119; and W. H. G. Armytage, *Yesterday’s Tomorrows. A Historical Survey of Future Societies* (London: Routledge, 1968). A common theme in popular science and science fiction held that fantasy was fast becoming fact, that modern people first imagined new worlds of science and technology before they actually created them. William Burrows put it succinctly: “There had to be a dream before it could be realized. Fiction was therefore the blueprint of fact.” From *This New Ocean. The Story of the First Space Age* (New York: Random House, 1998), p. 39.

also predicated upon some rather tried and true plotlines of Western pulp fiction. Russia's "revolutionary dreams," as Richard Stites has called them, were a combination of the romantic and the revolutionary. Stalinism's slogans of fairy tales coming true, of fantasy becoming fact, were clichés straight out of European and American popular science, if amplified, exaggerated in the service of Soviet socialism.<sup>4</sup>

Tsiolkovskii was most famous for his pioneering studies of rocket power and space travel. He made some of his earliest musings, compiled into a surviving manuscript, "Free Space" (1883), with notebook sketches on the solar system, on rocket principles, and on the effects of zero-gravity on the human body.<sup>5</sup> But Tsiolkovskii first wrote "fantasy" tales about space travel, as he called them, well before he refined his research and calculus as scientific fact. His first ventures, *On the Moon* (1893) and *Dreams of Earth and Sky* (1897), were simple and lighthearted stories, easy to follow, painted with flashes of humor and self-parody.<sup>6</sup> Both works brought the heavens down to earth, imagined from a series of dream states, yet within the everyday walls of homes and schools. They were classroom lessons really, framed in the casual conversation or of a high-school Astronomy or Physics lecture. Tsiolkovskii brought to them the same preachy, pedagogical style that he brought to his school lesson plans over his long teaching career. In these and in all of his writings, Tsiolkovskii was always a teacher, posing several times for group or lone photographs, somewhat distant, bespectacled and neatly bearded, wearing his bourgeois suit with high starched collar and tie.<sup>7</sup>

<sup>4</sup> Richard Stites, *Revolutionary Dreams. Utopian Vision and Experimental Life in the Russian Revolution* (New York: Oxford Univ. Press, 1989).

<sup>5</sup> "From the Manuscript 'Free Space' (1883)," in K. E. Tsiolkovsky, *Selected Works*, ed. A. A. Blagonravov and trans. G. Yankovsky (Moscow: Mir, 1968), p. 28.

<sup>6</sup> See the separate editions: K. E. Tsiolkovskii, *Na lune* (Moscow: Sovetskaia Rossiia, 1957); and K. E. Tsiolkovskii, *Grezy o zemle i nebe. Na veste. Nauchno-fantasticheskie proizvedeniia*, ed. B. N. Vorob'ev (Moscow: Akademiia nauk, 1959). *Na lune*, written in 1887, was published in the popular-science magazine, *Around the World / Vokrug Sveta*, in 1893. *Grezy o zemle i nebe* (Moscow: A. N. Goncharov, 1895) first appeared as a separate monograph. I have quoted from the English versions of "On the Moon" and "Dreams of Earth and Sky" in *The Call of the Cosmos* (Moscow: Foreign Languages, 1960), originally in the compilation, *Put' k zvezdam* (Moscow: Akademiia nauk, 1960).

<sup>7</sup> See the photograph in Tsiolkovsky, "Dreams of Earth and Sky," in *The Call of the Cosmos*, p. 65.

*On the Moon* gently introduced readers to the wonders of the Moon's gravity, where an average person would be able to lift incredible weights, acquire the strength of a Hercules, and move about "by leaps and bounds," making "somersaults in space." Tsiolkovskii lectured on the positions and rotations of the planets relative to the sun and earth, on the basics of astronomy and lunar physics, on the moon's weak gravitational pull and its fluctuating temperatures.<sup>8</sup> In *Dreams of Earth and Sky*, he found his literary voice, a new pace and confidence. We find similar lessons in the sciences, the same preoccupation with free flight into zero gravity, his characters sweeping over the Earth as if in "an imaginary fairy-tale world." But there was also a new sense of depth and scale, of relative proportions. Tsiolkovskii compared the human person to the Earth, to the solar system, to the Milky Way galaxy, to the plurality of galaxies in the infinite universe. The human being writ large as observer became the human being writ small as space traveler, like a grain of dust within the "grandeur of the Universe." He turned the human being into a kind of moving planet all its own, flying by its own exploratory orbits, without up or down, other planets advancing or receding from our own moveable horizon.<sup>9</sup>

Both of these "fantasy" stories were rather plain in approach, projecting nearly-perfect, old-fashioned utopias into outer space, with science as a kind of new magic, one of the hallmarks of the classical "scientific romance." Tsiolkovskii's stories expressed a simple optimism in a confident style, without any of the pessimism and irony of other contemporary science-fiction tales. They did not fight any great aerial wars or pit capitalism against communism, nor revive the history of lost races or the city of Atlantis, nor contain any mysterious sub-plots or actual romances.<sup>10</sup> They lacked the epic sweep of John Jacob Astor's *A Journey in Other Worlds* (1894), which canvassed a future earth as a great machine of efficiency and progress, an earth that eventually sets off to explore the distant planets on paths of discovery and spiritual rebirth. They lacked the thrilling conflicts and

<sup>8</sup> K. Tsiolkovsky, "On the Moon," in *The Call of the Cosmos*, pp. 14-26.

<sup>9</sup> K. Tsiolkovsky, "Dreams of Earth and Sky," pp. 54-57, and 79.

<sup>10</sup> On the basic "scaffolding" and "structure" of the scientific romance, see the discussions in Bailey, *Pilgrims through Space and Time*, pp. 191-99, 293, including his survey of science as "magic," pp. 237-39. Compare Tsiolkovskii's stories with more adventuresome contemporary fiction, as discussed in R. Lancelyn Green, *Into Other Worlds: Space-flight in Fiction, from Lucian to Lewis* (London: Abelard-Schuman, 1958); and Thomas Clareson, "An Annotated Checklist of American Science-Fiction, 1880-1915," *Extrapolations* I, no. 1 (1959): 5.

adventures of H. G. Wells' *The First Men in the Moon* (1901), with its strange lunar creatures, masters of the giant machines that sustain the strange blue light of underground life, a story filled with plot twists of danger and disorder. But Tsiolkovskii's "cosmic romances" were never meant to be this entertaining. They were meant to be educational. He always had practical purposes and pathways in mind.

Tsiolkovskii's most important work in the field of rocketry and space-flight theory, "The Exploration of Universal Space by Reactive Devices" (1903), the first part of which was published in the scholarly Russian journal, *Science Review*, established his priority as a founder of a whole new "rocket" science. It was the first work of its kind to define the nature of the liquid-fueled rocket, its launch capacities and its operation in the vacuum of outer space. He proposed "a reactive device, that is a kind of rocket, but one of enormous dimensions and specially designed," taking the form of an "elongated metallic chamber." By controlled explosions, its "condensed flaming gases" were to "race out through the flare pipes with a tremendous relative velocity," forcing it to "soar upwards," steered by the human mind and hand in control of its ascending pathways.<sup>11</sup> He further proved this trajectory by way of a mathematical formula defining the relationship between the rocket's velocity and its mass. As he wrote, "the increment in rocket velocity is proportional to the speed of the ejected explosion products." That is, the rocket's speed is dependent upon its initial mass (of fuel and structure and cargo), and the exhaust velocity of the fuel propelling it. The more the fuel ejected, the greater its reactive force and exhaust velocity, therefore the faster and farther the rocket will move. For optimal performance, he also recommended the advantages of liquid oxygen and liquid hydrogen as propellants of "excellent" efficiency. He suggested regenerative cooling, as well, to disperse the extreme heat of the flaming gases.<sup>12</sup>

Tsiolkovskii had, nearly single-handedly, invented the basic formulas and trajectories of modern rocket science. Yet this piece, filled with complicated differential equations, languished for many years in relative obscurity, little read and poorly understood. He remained best known for his fictional works and the odd scholarly article on physics or astronomy, a creative thinker of modest means. All of this changed in 1911-1912 when,

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<sup>11</sup> K. Tsiolkovsky, "Investigation of World Spaces by Reactive Vehicles (1903)," in Tsiolkovsky, *Selected Works*, pp. 53-55, 55-56, 62; originally published as K. Tsiolkovskii, "Issledovanie mirovykh' prostranstv' reaktivnymi priborami," *Nauchnoe obozrenie* 5 (May 1903).

<sup>12</sup> Tsiolkovsky, "Investigation of World Spaces," pp. 61-63.

thanks to Russia's rising aviation "craze," a number of enterprising popular-science journalists helped to re-publish his article on rocketry, now complete with its first and second parts, and turn Tsiolkovskii into a veritable newspaper sensation and Russian national hero. America might have its Wright Brothers, now famous worldwide for their invention of the first heavier-than-air plane. France might have its own leading aviation designers, Robert Farman and Robert Esnault-Pelterie; or its Loius Bleriot, the first flier to cross the English Channel. But Russia, according to the popular press of the day, had Tsiolkovskii, the truly visionary inventor of a whole new principle of terrestrial and interplanetary flight.<sup>13</sup>

In his newly fashioned work, as in his earlier works of science fiction and popular science, Tsiolkovskii again assumed his practiced role of teacher and storyteller, playfully entertaining the drawbacks of launching Jules Verne's cannonball into space, or the possibilities of H. G. Wells' lunar "Selenites" launching a rocket back at us. He painted pictures in words of the tense moments waiting for a launch into space just before "take-off," of the explosive launch and then the free movements in zero gravity. He literally gave shape to his rocket theories, offering the first drawing of his "reactive vehicle," a simple cigar-shaped dirigible "rocket" expelling its propellants via a straight and slender exhaust nozzle. He revived his philosophical voice, expressing his "love for an eternal striving outwards to the sun, to a release from the chains of gravity." We humans were mere specks, "dots" in the grand cosmic scheme of things, but nonetheless dots that were meant to move.<sup>14</sup> Tsiolkovskii also found a new confidence, repeating that standard cliché of the age – "What is impossible today becomes possible tomorrow" – about turning dreams into realities, fictions into real facts, as if it all represented a chapter from his own autobiography.<sup>15</sup>

In bold and colorful strokes, Tsiolkovskii also predicted the human colonization of earth orbit by new satellite moons and Saturn-like "living" rings

<sup>13</sup> B. N. Vorob'ev, editor of *Herald of Aeronautics / Vestnik vozdukhoplavaniia*, republished Tsiolkovskii's original work, now revised for a more popular audience and disseminated in a variety of public and professional forums. See also V. V. Riumin, "Na rakete v mirovoe prostranstvo," *Priroda i liudi* 36 (1912); K. E. Veigelin, "Kak možhno doletet' do Luny," *Priroda i liudi* 4 (1914): 53-55; N. Tolstoi, "Puteshestvie k planetam'," *Vokrug sveta* 20 (1914): 314-15; and Ia. I. Perel'man, *Puteshestviia na planety. Polety v mirovoe prostranstvo i dostizhenie nebesnykh svetil* (Petrograd: Soikin, 1915).

<sup>14</sup> Tsiolkovsky, "Investigation of World Spaces by Reactive Vehicles (1911-1912)," in Tsiolkovsky, *Selected Works*, pp. 83-84.

<sup>15</sup> *Ibid.*, pp. 84-89, 123.

of space stations, by a whole new “independent planet, a satellite of the sun and a brother of the earth.” Human beings were to tap in to solar energy, mine asteroids, and create whole new “greenhouse” ecosystems in space. Tsiolkovskii’s accent was on the human mind and body reaching out to these new horizons, maturing as a “new species of beings.” “These creatures will be born into citizens of the ether, of pure sunshine and the boundless expanses of the cosmos.”<sup>16</sup> Tsiolkovskii the scientist and mathematician transformed into more of a philosopher, the materialist become “monist,” the devotee of a plural and pan-psychic universe. He turned the plurality of outer worlds into the singularity of matter and the universe, into humanity’s charge to seek out those worlds for our use and exploitation. “The uncountable planet-worlds” of the universe, he wrote, were “islands of the limitless ethereal ocean.” “It pleases Him,” he continued in one of the rare moments when he spoke of God, “that all of His creation be for the well-being of humanity.” Tsiolkovskii turned his thoughts to the remaking of “planet Earth,” captivated by the powers of human intelligence and technology to clear away nature’s obstacles. He compared his projects to reach beyond gravity and the atmosphere with his related projects to tunnel to the earth’s core, or to invent a true submarine, to discover a new continent, indeed even to “improve life and to cure disease.”<sup>17</sup>

In all of these ways, well before the outbreak of the Russian Revolution of 1917, Tsiolkovskii was already something of a revolutionary thinker. According to one of his biographers, he did not initially take to the October Putsch. The Bolsheviks came as something of a shock. “They seemed to him as if people from another planet, like Martians come to seize power on Earth.”<sup>18</sup> But he had already adapted to Russia’s revolutionary moment, spending part of 1917 perfecting the elements of both his science fiction and his rocket science, writing *Beyond the Earth*, a story that he had already begun in the mid-1890s. It was, appropriately enough, his last major piece

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<sup>16</sup> *Ibid.*, pp. 110–17, 124–25. During the First World War, he also self-published his first works, *Nirvana* (1914) and *Grief and Genius*, (1916) dedicated to a new metaphysics. Both Tsiolkovsky’s, “On the Moon,” pp. 21 and 37, and “Dreams of Earth and Sky,” pp. 143–45, had already contained several elements of his later, more developed philosophy, his own take on a Russian “cosmism.”

<sup>17</sup> K. Tsiolkovskii, preface to his *Issledovanie mirovykh' prostranstv'e reaktivnymi priborami* (Kaluga: Izd. avtora, 1926), pp. 1–2. The English translation, “Investigation of World Spaces by Reactive Vehicles,” in Tsiolkovsky, *Selected Works*, pp. 128–139, lacks this preface.

<sup>18</sup> Lev Kassil', “Zvezdoplavatel' i zemliaki,” in I. A. Islent'ev, ed., *K. E. Tsiolkovskii* (Moscow: Aeroflot, 1939), p. 170.

of science fiction. From then on he wrote for fact. Events unfolding here on earth were compelling enough, it seems. The novel was definitive in many ways, completed when he was already sixty years old, perhaps no more perfect a statement of Tsiolkovskii's core beliefs, if something of a throwback to more innocent times. The story, first published serially in the popular magazine, *Nature and People* (1918), and in book form by 1920, expressed his abiding interests in rocket propulsion, in space habitability, and in cosmic evolution.

Fulfilling the contours of his recent notoriety, and a lifelong urge for public recognition, *Beyond the Earth* was a parable about Tsiolkovskii, the Russian everyman (the scientist "Ivanov" in the novel) sharing his and his nation's brilliance with the geniuses of Europe and America: Galileo, Newton, Franklin, Helmholtz and Laplace. None of this was coincidence or fantasy. Tsiolkovskii had in mind, perhaps smarting from many years of relative insignificance, to establish in fiction at least, his signal priority in rocketry among the great minds of the West. He did take some poetic justice against Verne and the French, who at first found his (Ivanov's) methods inconceivable. "It's a flying gun, with thin walls, and it emits gases instead of cannon-balls," explained Tsiolkovskii. "It's quite simple. I'm talking of a kind of rocket." For the assembled geniuses, this was a moment of some surprise; but for Russians, of intense pride. "Ivanov was the great dreamer; yet he was also a man of vast erudition. Pre-eminently the thinker among them, he was the one who more often raised such strange questions."<sup>19</sup>

Tsiolkovskii rewrote *Beyond the Earth* in the raw context of the Russian Revolution of 1917, a "concrete historical event" with world-historical, futuristic scope. Befitting the pace of such dramatic events here on earth, he placed the story only one hundred years into the future, in 2017. For the first time in his fiction, Tsiolkovskii now also took humanity to space in a real, liquid-fueled, multi-stage rocket. He wrote it with a modern, viable spacecraft in mind, an achievable "journey through space or time."<sup>20</sup> In both of

<sup>19</sup> Konstantin Tsiolkovsky, *Beyond the Planet Earth*, tr. Kenneth Syers (New York: Pergamon Press, 1960), pp. 19, 24. The Russian edition is: *Vne zemli. Nauchno-fantasticheskaia povest'*, ed. B. N. Vorob'ev (Moscow: Akademiia nauk, 1958). According to Anton Pervushin, Tsiolkovskii began the story in 1897 (the first ten chapters), finished it in 1917, and published parts of it in *Priroda i liudi*, nos. 2-11 (1918); and the whole story thanks to a local Kaluga publisher (in 300 copies only) in 1920. See Anton Pervushin, *Kosmonavty Stalina. Mezhpplanetnyi proryv sovetskoi imperii* (Moscow: EKSMO, 2005), pp. 248-49.

<sup>20</sup> I take these terms from Jurij Striedter, "Journeys through Utopia: Introductory Remarks to the Post-Revolutionary Russian Novel," *Poetics Today* 3, no. 1 (1982): 55-58. For a study of



these respects – the historical and the technological – the story offered the vision of a believable future. Utopia was intervening into reality.

Classic Tsiolkovskii, the work included detailed calculations of rocket velocities and trajectories; spacecraft designs; lessons on Astronomy and Physics; exciting descriptions of life in zero-gravity space, with space suits, ease of free labor and mass production; recycled atmospheres and greenhouses for solar energy; discussions of the infinite universe and the plurality of worlds. He took the issue of free labor to new lengths, likely inspired by political events and ideologies. His space colonies in *Beyond the Earth* were sites of opportunity, prosperity and justice, reaching heights of social and economic salvation. Tsiolkovskii's cosmic humanity left its petty histories and class complexes behind. Its losses were relatively few: severe "depression," "apathy," and "boredom" brought on by the long-distance travels to Mars and beyond. But its rewards were many and rich: abundant supplies of food and fresh fruits; troves of precious diamonds, emeralds, and gems; freedom from garments and disease and squalor. Here were several staples in the genre of the Western "cosmic romance," staples to which Tsiolkovskii now gave a revolutionary spin.

In a continuing twist on his evolutionary ideal, Tsiolkovskii even imagined cosmic "plant-animals," creatures that moved about and felt sensations, absorbing the sun's rays through chlorophyll and photosynthesis, surviving by natural earthly means in such radically new environments. These were, perhaps, models for what were to become the makings of a new human race, the "free children of the ether" that so captivated him. One of the most interesting chapters addressed what Tsiolkovskii called "The Great Migration," human beings – "angels in human form" – forsaking the Earth forever to live in space colonies sharing labor and resources in common.

Despite their similarities with the genre of the cosmic romance, Tsiolkovskii's stories were *sui generis*, unique in that space was not a thoroughfare, a means to reach some exotic alien race or play out some entertaining space opera. Rather, for Tsiolkovskii space was a destination. The aliens were us, human beings become new space creatures all our own. He entertained a plotline of dissolution, as we first shed our earthly

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rockets as "trope" in early Soviet culture and of the "nationalistic nexus" between aviation and cosmonautics, see James Andrews, "Storming the Stratosphere: Space Exploration, Soviet Culture, and the Arts from Lenin to Khrushchev's Times," *Russian History* 36 (2009): 77-87.

possessions, then our clothes, then in time our own bodies, becoming androgynous beings, all spirit and no matter. Tsiolkovskii's rocket flights, however rooted in nineteenth-century conceptions, saw the terrestrial realm of necessity become a new realm of near total freedom, a true utopia of outer space.<sup>21</sup>

In comparison to Tsiolkovskii's literary biography, Tolstoi's path to his most famous science-fiction novel, *Aelita*, was rather circuitous and complex. In the fall of 1918, right at the start of the Russian Civil War, he fled with White forces to Odessa, where he served as a propagandist for General Anton Denikin's Volunteer Army, a public declaration of war against the Reds and Bolshevism. In defeat, he fled to Paris, finally settling in Berlin by October of 1921. Thereafter, he began to make contact with Maxim Gor'kii and other émigrés sympathetic to the Soviet regime, publishing in their magazines and newspapers. Here in Weimar Germany, in the spring of 1922, he began writing this curious piece, so different from anything he had ever written before: the story of a brainy inventor, Mstislav Sergeevich Los, who engineers a rocket-ship journey to Mars; enticed by the siren songs of the Martian princess, Aelita; accompanied by the gritty Red Army soldier, Aleksei Ivanovich Gusev, a point of some comic and political relief. The work soon became a Soviet classic, one of the best-selling books of the 1920s and 1930s.<sup>22</sup>

As a number of critics have surmised, the work was deeply autobiographical, a personal statement about Tolstoi's own wishes to return to his beloved homeland after several years of exile. Or better yet, the autobiography was actually something of an allegory. Here was a fable of sorts about Mars as the dying West, the decadent Weimar Germany where Tolstoi was then living; about Earth as the rising and revolutionary East, the Soviet

<sup>21</sup> Here I am clarifying and elaborating upon Tsiolkovskii's place in the broader and richer context of Soviet utopian science fiction during the 1920s, as discussed in Stites, *Revolutionary Dreams*, pp. 167-70.

<sup>22</sup> Aleksei N. Tolstoi, *Aelita. Roman* (Berlin: Ladyzhnikov, 1923; and Moscow: Gosizdat, 1923); first published as "Aelita (Zakat Marsa)," beginning with *Krasnaia nov'*, no. 6 (Nov.-Dec. 1922): 104. I have cited below from Alexei N. Tolstoy, *Aelita*, trans. Antonina W. Bouis (New York: Macmillan, 1981). On the "wide popularity" of the novel, see Robert Maguire, "The City," in Malcolm Jones and Robin Feuer Miller, eds., *The Cambridge Companion to the Classic Russian Novel* (Cambridge: Cambridge Univ. Press, 1998), p. 33. On Tolstoi's new sympathies for the Bolsheviks by 1922, see Vadim Baranov, *Revolutsiia i sud'ba khudozhnika. A. Tolstoi i ego put' k sotsialisticheskomu realizmu* (Moscow: Sovetskii pisatel', 1967); and Iu. A. Krestinskii, *A. N. Tolstoi. Zhizn' i tvorchestvo* (Moscow: Akademiia nauk, 1960), pp. 139-40.

Russia where he yearned to be.<sup>23</sup> He personally narrated the story in a dramatic book reading at the Soviet Embassy on the eve of his return to Russia, on 1 August 1923, a calling card to the new regime, a plea for return and redemption. The fictional Mars expedition, after all, finally returns to Earth by the end of the novel, no doubt a reflection of Tolstoi's own genuine love for his homeland, even the Soviet kind. All of this, along with Gusev's earthy Russian-ness (in speech and behavior) and his own heartfelt longings for Earth (and Russia), made the novel much more than personal. It was deeply patriotic and political, as well.<sup>24</sup>

A number of episodes and images confirm this interpretation. America, for example, figured into the story in a passive way: at the sidelines, watching and waiting; or as simple setting, the landing site for the Soviet spaceship. The intrepid reporter, Archibald Skiles, could only observe events unfold, gaze upon the Russian rocket with admiration and incredulity, belittled by the "inexplicable expression of superiority" in Russians' eyes, faces both supremely self-confident and "madly determined." Russia's cities were dilapidated, its people exhausted, yet they were still compelled to "fly into space." Only Russia had the power to realize such "an extraordinary and sensational project for interplanetary flight," to dare "approach the speed of light" and race through time, conquer space. The craft touched down at the coastline of Lake Michigan, of all places, to the astonishment of America's holiday vacationers, at rest and play on a sunny Sunday afternoon.<sup>25</sup> A favorite setting of science fiction and adventure stories, Lake Michigan meant Chicago, and Chicago meant the World's Fair of 1893, the "Columbian Exposition" commemorating the discovery of America some four hundred years before.

Tolstoi's main character, Los, follows this thread of "Soviet" patriotism as well. He was only the second Russian scientist in science fiction, after Tsiolkovskii's "Ivanov," to efficiently launch from earth into space in a rocket

<sup>23</sup> On *Aelita* as allegory, see I. S. Rozhdestvenskaia and A. G. Khodok, *A. N. Tolstoi. Seminarii* (Leningrad: Gosuchpedizdat, 1962), pp. 208–09.

<sup>24</sup> On these patriotic elements in the novel, see Naldeen, *Aleksei Tolstoi*, p. 47; L. M. Poliak, *Aleksei Tolstoi – khudozhnik. Proza* (Moscow: Nauka, 1964), pp. 246–47; and V. Skobelev, *V poiskakh harmonii. Khudozhestvennoe razvitie A. N. Tolstogo, 1907–1922 gg.* (Kuibyshev: Knizhnoe Izd., 1981), pp. 4–6. On the novel as more "political" than "utopian," a celebration of Soviet socialism, see Jurij Streidter, "Three Post-revolutionary Russian Utopian Novels," in John Garrard, ed., *The Russian Novel from Pushkin to Pasternak* (New Haven, CT: Yale Univ. Press, 1983), pp. 184–85.

<sup>25</sup> Tolstoy, *Aelita*, pp. 5–6.

craft, turning about in zero gravity, setting off to create or explore new worlds. As several commentators noted at the time and shortly afterward, Los was none other than the fictional equivalent of Tsiolkovskii himself (and his name perhaps a syllabic play on Tsiolkovskii's). Informed readers made the connection, what with all the media attention accorded to Tsiolkovskii just before the First World War and immediately after the Russian Revolution.<sup>26</sup> Los was a character study of Tsiolkovskii, a uniquely Russian national type, the genius inventor who “went to school on copper pennies, on my own since I was twelve.” He was the able engineer who takes “such an extraordinary and sensational project for interplanetary flight,” the space rocket, as routine; takes the news of racing “through space for fifty million kilometers” without any fanfare at all. He was the dreamer who was “certain that in a few hundred years airships will be traversing starry spaces.”<sup>27</sup>

Tolstoi's celebration of Russian national values falls into even greater relief when we compare *Aelita* to another Mars novel that appeared at this time in Berlin, also written by a Russian émigré, N. Tasin's *Catastrophe* (1922). Like Tolstoi's *Aelita*, it was a story about the rise and fall of civilizations, set in the year 1987, when the earth is besieged by the “zootaurs,” giant winged “interplanetary” beasts come from Mars to pillage and destroy human civilization. In their wake, humans discover both the worst and the best of themselves. First they fall into anarchy and civil war. Eventually they build magnificent underground cities, linked by vast planetary tunnels, to defend against the Martian beasts, something like the invaders in Wells' *War of the Worlds*. Yet in the end, so unlike Tolstoi's storyline, Tasin saved humanity not with Russian but with French and English inventions, including an “artificial sun” that illuminates the underground world and a magnetic shield that eventually destroys the zootaurs. Paris and London, not Moscow, were the repositories of “human genius.”<sup>28</sup>

<sup>26</sup> See V. Dynnik, “Tretii Aleksei Tolstoi,” *Krasnaia nov'*, no. 2 (Febr. 1926): 218. For further confirmation of the Los-Tsiolkovskii linkage, see I. I. Veksler, *Aleksei Nikolaevich Tolstoi, Zhiznennyi i tvorcheskii put'* (Moscow: Sovetskii pisatel', 1948), p. 179; and A. V. Alpatov's editorial remarks for *Aelita*, in Aleksei Tolstoi, *Sobranie sochinenii v desiatikh tomakh*, 10 vols. (Moscow: Gosizdat, 1958-61), 3: 708-11.

<sup>27</sup> Tolstoy, *Aelita*, pp. 2-3, 5-6, 24.

<sup>28</sup> N. Tasin' [Naum Iakovlevich Kagan], *Katastrofa. Fantasticheskii roman'* (Berlin: Russkoe Universal'noe Idatel'stvo, 1922).

In contrast, *Aelita* offered salvation from the East, not the West, a rather clever play on Oswald Spengler's *The Decline of the West* (1922), then the talk of Europe's capitols, including Moscow. Tolstoi did not denounce the book, but co-opted and adapted it in nuanced ways, subtitling his initial story, "The Decline of Mars" (*Zakat marsa*) only a few issues after the host journal, *Red Virgin Soil*, had featured several full-length critiques of Spengler's work.<sup>29</sup> Spengler had, of course, forewarned of the decline of Western civilization, but all the while exalting the power and purpose of "Faustian," mostly Germanic, civilization. One crucial element of this culture was its yearning and reach for the infinite, its "craving" for "endless space, its "pathos of distance." Spengler represented these "Faustian visions" by "the upthrust of Gothic architecture, the Viking's voyaging into unknown seas, the language of Columbus and Copernicus," the physics and calculus of Newton. As he wrote, "an insatiable hunger drives us ever further and further into the remote." Yet much of the book simultaneously degraded Russian national culture as stagnant, as flat as the steppe, symbolized by the onion-dome cupola that enclosed rather than liberated it. Russia lacked the depth and breadth of infinite space. It was manifestly not Faustian.<sup>30</sup>

Tolstoi's *Aelita* turned the tables on Spengler, revealing Soviet Russia as the consummate Faustian culture, projecting it into outer space by the power of Russian national genius and its specific invention, the rocket. Russia, not Germany, took the leap into infinite space. Tolstoi's Los looks and sounds like Spengler's ultimate Faustian man, "the quiet engineer it is who is the machine's master and destiny." And Los' rocket operates very much like Spengler's perfect "*machine*, as a small cosmos obeying the will of man alone." Together they fulfill the Faustian imperative. "The intoxicated soul wills to fly above space and Time," Spengler wrote. "An ineffable longing tempts him to undefinable horizons. Man would free himself from the earth, rise into the infinite, leave the bonds of the body, and circle in the universe of space amongst the stars."<sup>31</sup> Tolstoi might very well have written this himself.

<sup>29</sup> See the series, "Zakat Evropy," *Krasnaia nov'*, no. 2 (March-April 1922): 196-241; and G. Piatokov, "Filosofia sovremennogo imperializma," *Krasnaia nov'*, no. 3 (May 1922): 182-97.

<sup>30</sup> Quoted from Oswald Spengler, *The Decline of the West*, vols. 1 and 2, trans. by Charles Francis Atkinson (New York: Knopf, 1926-28), pp. 334, 380, 386. The book was originally published in German as volume 1 in 1918, revised in 1922, with volume 2 published in 1923.

<sup>31</sup> *Ibid.*, 2: 501-05.

The myth of Atlantis, built into the plot, develops this theme of Russian superiority. It is an allegory within an allegory of sorts, conflating the myth of Atlantis and the planet Mars: the lost civilization, fallen on earth only to rise again on our near planet. This was a myth, moreover, that had become more and more open to scientific study by the early years of the twentieth century (much like the planet Mars itself), the venerable object of oceanographers and geologists, who speculated that Atlantis really did once exist. In an act of defiance, Tolstoi reduced one of the most powerful myths of the early twentieth century to naught. With a twist in his plot, he dismissed the “image of past perfection” that was Atlantis (and Europe), the “dreamworld” of “supermen and superscience.”<sup>32</sup>

In all of these ways, *Aelita* is not an easy novel to classify. Several scholars have described it as a rip-off of the “rocketship-to-Mars genre” of Verne and Wells; or as a strange hybrid of science fiction with the Russian “occult” novel.<sup>33</sup> In teasing ways, perhaps it was both of these. But it was also so much more. *Aelita* was a complex melodrama of simple parts. Tolstoi’s interlocking plotlines were cinematic: short, compact, yet densely rich with exotic Martian landscapes of blue vegetation, purple shadows, man-eating cacti, lizards and giant spiders, strange hieroglyphics and the mysterious ruins. It was a work of many voices, many ambiguities and nuances, combining “the lyric and the satirical.”<sup>34</sup> It was also made all the more complex and nuanced by the feature film that soon complemented the novel, Iakov Protozanov’s classic silent, *Aelita. Queen of Mars* (1924). Much like Tolstoi, Protozanov returned to Russia after the revolution and civil war to serve the new regime. And like the novel, the film “shrewdly combined . . . a scattering of exotic inventions and ill-disguised borrowings,” as Ian Christie has put it.<sup>35</sup> Both the novel and the film were filled with all the market hooks

<sup>32</sup> Based on the discussion, and quoted from the description of this myth, in Phyllis Young Forsyth, *Atlantis. The Making of Myth* (Montreal: McGill-Queen’s Univ. Press, 1980), pp. 184–85.

<sup>33</sup> See Robert A. Maguire, *Red Virgin Soil. Soviet Literature in the 1920s* (Ithaca, NY: Cornell Univ. Press, 1987), p. 84. Edward Brown, *Russian Literature since the Revolution* (Cambridge, MA: Harvard Univ. Press, 1982), p. 54. Nicholas Tyras, *Historical and Ideological Aspects in the Prose and Dramatic Works of the Soviet Writer A. N. Tolstoi, 1882–1945* (Lewiston, NY: Edwin Mellen Press, 2002), p. 22.

<sup>34</sup> Striedter, “Journeys through Utopia,” p. 56.

<sup>35</sup> Ian Christie, “Down to Earth: *Aelita* Relocated,” in Richard Taylor and Ian Christie, eds., *Inside the Film Factory. New Approaches to Russian and Soviet Cinema* (London and New York: Routledge, 1991), pp. 82–87. I have benefited from several studies of the novel and

that attracted readers to space adventure stories, framed by a ring of newspaper truth.

A number of critics received both the novel and the film with some scorn. Avant-garde formalists and proletarian writers severely criticized it on aesthetic and ideological grounds, given its bourgeois and boulevard style, just another series of cheap imitations of the foreign thrillers and melodramas then so popular, like Edgar Rice Burroughs' *Tarzan* or Douglas Fairbanks' *The Thief of Baghdad*.<sup>36</sup> The writers Iurii Tynianov and Konstantin Chukovskii were unsparing. They found some value in Gusev as a Russian national type, but were troubled by Los' role as a kind of Soviet "superfluous man."<sup>37</sup> If Tsiolkovskii's stories were svelte, all for clarity and precision, means to a greater end of teaching and preaching, Tolstoi's story was all means, filled with intricate plots and subplots that were expressly meant to mystify and complicate. As Tsiolkovskii's stories were all rather prudish, Tolstoi's was expressly erotic, a mosaic of elements drawn from the archive of the Western cosmic romance, centered on the hero and alien love interest.<sup>38</sup>

*Aelita* probably reminded most casual readers of Edgar Rice Burroughs' *Princess of Mars* (1912), which was already available in Russian translation at this time. Both stories shared a number of plot elements, including the male hero in the role of savior of the beautiful princess; the exotic races and tribes on the Martian setting; the mythic rise and fall of civilizations; the battles with ungainly spiders. Both stories began and ended with their

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film versions of *Aelita*, especially their surveys of multiple contexts and voices: Andrew J. Horton, "Science Fiction of the Domestic. Iakov Protozanov's *Aelita*," *Central Europe Review* 2, no. 1 (Jan. 10, 2000), accessed online: [http://www.ce-review.org/00/1/kinoeye1\\_horton.html](http://www.ce-review.org/00/1/kinoeye1_horton.html); Peter G. Christensen, "Women as Princesses or Comrades: Ambivalence in Yakov Protozanov's *Aelita*," *New Zealand Slavonic Journal* 34 (2000): 107–22; Katja Huber, *Aelita: als morgen gestern heute war. Die Zukunftsmodellierung in Jakov Protazanovs Film* (Munich: Otto Sagner, 1998); and Aleksandr Ignatenko, *Aelita. Pervyi opyt sozdaniia blokbestera v Rossii* (St. Petersburg: Lenizdat, 2007).

<sup>36</sup> Christie, "Down to Earth: *Aelita* Relocated," p. 82. For criticisms of the movie as a bourgeois melodrama, see Peter Kenez, *Cinema and Soviet Society, 1917–1953* (Cambridge: Cambridge Univ. Press, 1992), p. 43; Denise Youngblood, *Movies for the Masses. Popular Cinema and Soviet Society in the 1920s* (Cambridge: Cambridge Univ. Press, 1992), pp. 109–10. For the historical context, see Richard Stites, *Russian Popular Culture. Entertainment and Society since 1900* (Cambridge: Cambridge Univ. Press, 1992), pp. 42, 56.

<sup>37</sup> Sergei Borovikov, *Aleksei Tolstoi* (Moscow: Sovremennik, 1984), pp. 107–08; and Maguire, *Red Virgin Soil*, pp. 235, 275.

<sup>38</sup> Bailey, *Pilgrims through Space and Time*, pp. 226, 237–39.

heroes longing for their space sirens.<sup>39</sup> There are crucial differences, though. If Burroughs' hero, John Carter, set off on adventures in the search of "love and war," Tolstoi's dual characters, Los and Gusev, set off for love and revolution.<sup>40</sup>

Tolstoi probably read Burroughs and may indeed have borrowed from him. But Burroughs himself, as several scholars have pointed out, likely borrowed his own characters and plotlines from several works that came before, namely Gustavus Pope's *Journey to Mars* (1894) and Edwin Lester Arnold's *Lieut. Gullivar Jones. His Vacation* (1905).<sup>41</sup> Tolstoi might also have borrowed several elements from Gustave Le Rouge's, *The Prisoner of Mars* (1908), including the remnants of a once-advanced civilization, now fallen into magnificent underground ruins; alien monsters (like giant webbed moles and flying vampires); and vegetation of crimson, gold, and purple.<sup>42</sup> None of this suggests undue influence. Such similarities in approach were standard in the adventure stories of the day. Writers borrowed what had already worked, what was already popular and marketable in the stories that came before.

The theme of star-crossed lovers was a favorite literary hook. We find it over and over again in the cosmic romances of the day, dashing Romeos and beautiful Juliets torn by their Earthly Montagues and Martian Capulets. The classic "Aelitas" in recent European literature derive, of course, originally from H. Rider Haggard's, *She. A History of Adventure* (1887), the story of the immortal and deadly queen Ayesha, who plied her "celestial" beauty to win influence and power; or, more recently, from Pierre Benoit's *L'Atlantide* (1919), popular in Russia, the story of fiery Queen Antinea, descended from

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<sup>39</sup> Compare, for example, the final lines in both stories. From Burroughs: "I can see her shining in the sky through the little window by my desk, and tonight she seems to be calling me again . . . across that awful abyss of space. . . ." From Tolstoi: "Los was staring straight ahead with dilated eyes. . . . The voice of Aelita, of love, eternity, the voice of longing, flew through the universe, calling, beckoning, entreating – where are you, where are you, love. . . ." Edgar Rice Burroughs, *A Princess of Mars* (New York: Penguin Books, 2007 [1917]), p. 186; and Tolstoy, *Aelita*, pp. 16, 88, 167; Tyrras, *Historical and Ideological Aspects*, p. 22.

<sup>40</sup> Quoted from Erling Holtmark, *Edgar Rice Burroughs* (Boston: Twayne Publishers, 1986), pp. 23–24.

<sup>41</sup> See Richard Lupoff, *Edgar Rice Burroughs* (New York: Ace Books, 1968), pp. 55–59; and John Seelye, "Introduction," Burroughs, *A Princess of Mars*, p. xix.

<sup>42</sup> Gustave Le Rouge, *Le prisonnier de la planète Mars and La guerre des vampires* (Paris: Albert Méricant, 1909).



the kings of Atlantis, who entrapped two Frenchmen in her Saharan sanctuary.<sup>43</sup>

But Aelita had a number of other precursors in science fiction, as well. In Percy Greg's *Across the Zodiac* (1880), she was Eveena, attractive daughter of the Martian "Children of the Light," the love interest and soon-to-be wife of the hero. In Hugh McColl's *Mr. Stranger's Sealed Packet* (1889), Mr. Stranger marries the Martian beauty, Ree, amid all kinds of marvelous adventures on Mars and in space. In Gustavus Pope's *Journey to Mars* (1894), Navy officer Frederick Hamilton falls in love with the Martian princess Suhlamia. Edwin Lester Arnold's *Lieut. Gullivar Jones. His Vacation* (1905) sees Gullivar Jones of the U. S. Navy fall in love with the urbane Martian Heru, daughter of an Atlantean civilization of abundance and peace, delivering her from the barbarian King Ar-hop of the forest race. In Gustave Le Rouge's, *The Prisoner of Mars* (1908), the terrestrial explorer, Robert Darvel, finds a love interest on Mars, the diminutive Eeeoys (she, at least, loves him). In Mark Wicks', *To Mars via the Moon* (1911), John Claxton falls in love with the Martian gal, Siloni, though she dwarfs him at seven feet tall. In sum, Mars was the site of true cosmic romances, painting the Martians as highly advanced, attractive, eroticized beings. The men of Earth were no match for their sultry temptations.

For all these echoes in other fiction, Tolstoy's story still stands alone, rises above its competitors and rivals with a rare philosophical and spiritual depth. It might seem so ordinary and pedestrian for its day, just one of many such novels on the popular market. But it aspired for more. As Halina Stephan has argued, Tolstoy laced his novel with all the wonderful theological and mystical values of Vladimir Solov'ev and the Symbolist poets. Thus the inventor Los represented their version of the human *logos* (reason) in the world; Aelita the enticing *eros*, Lady Sophia, their constant muse.<sup>44</sup> Sophia was also known as the "Divine Wisdom" and "Eternal Feminine," the

<sup>43</sup> H. Rider Haggard, *She. History of Adventure* (London: Longmans, 1887); Pierre Benoit, *L'Atlantide* (Paris: Michel, 1919). On these and other influences on Tolstoy, see Peter Yershov, *Science Fiction and Utopian Fantasy in Soviet Literature* (New York: Research Program on the USSR, 1954), p. 19.

<sup>44</sup> Halina Stephan, "Aleksi Tolstoy's *Aelita* and the Inauguration of Soviet Science Fiction," *Canadian-American Slavic Studies* 18, nos. 1-2 (Spring and Summer 1984): 69-70. See also Brown, *Russian Literature since the Revolution*, p. 54. This interpretation confirms how Soviet writers and intellectuals were able to co-opt and adapt Symbolist values and images for Soviet socialism, as mentioned in Judith Deutsch Kornblatt, *Divine Sophia. The Wisdom Writings of Vladimir Solovyov* (Ithaca, NY: Cornell Univ. Press, 2009), p. 9.

“World Soul,” the “Beautiful Lady” and “Woman Clothed in the Sun.” These were the various manifestations and names, after Solov’ev, for the “divine” personality of light and vision who united the heavens and earth, matter and spirit. For him, she always remained more of an ascending angel, Aphrodite (*Afrodita*) Ourania, ultimately representing the ideal of love as “erotic passion,” as corporal and terrestrial salvation.<sup>45</sup> But for Solov’ev’s followers, especially the poet Andrei Bely, Sophia became more of an Aphrodite Pandemos, a falling angel, an anti-Sophia, more demonic than divine, more the Harlot than the Virgin. In Bely’s poems and stories, she is less clarifying light, more siren song, the voice of *eros* lamenting from across history and time, the “call of eternity.”<sup>46</sup>

Tolstoi colored Aelita in all the significant hues of the Solov’ev and Symbolist school, bathed in a golden light, illuminating the black darkness around her in a halo of azure blue, calling Russia’s space sailors by interplanetary signals to her lair.<sup>47</sup> He literally transformed all of these creative versions of the Slavic *Afrodita* into his own Soviet *Aelita*. Like a Symbolist fallen angel, though, she also seems to perish in the Martian revolution, denied to Los except in his dreams (and interplanetary radio transmissions), befitting the meaning of her name, “starlight seen for the last time.”

Compared to its competitors, Tolstoi’s novel also maintained a rare breadth of coverage, canvassing realistic and believable views of the future, all drawn from the recent discoveries of modern science. He built his story, for example, around several casual references to the popular astronomy of the day, advancing Svante Arrhenius’ “panspermia” thesis that organic life travelled through the universe in the folds of meteors or upon the pressure gradients of solar energy. “The dust of life,” he wrote, “races through the universe.”<sup>48</sup> He also designed his Martian civilization around the

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<sup>45</sup> See Judith Deutsch Kornblatt, “The Transfiguration of Plato in the Erotic Philosophy of Vladimir Solov’ev,” *Religion and Literature* 24, no. 2 (Summer 1992): 43; and her wider study, Kornblatt, *Divine Sophia*. Solov’ev had envisioned her through a “mystical eroticism,” as Samuel Cioran has called it, at once “divine and indescribable, distant and alluring, fleshless yet fleshy.” Samuel D. Cioran, *Vladimir Solov’ev and the Knighthood of the Divine Sophia* (Waterloo, ON: Laurier Univ. Press, 1977), p. 1.

<sup>46</sup> On these demonic aspects of the ideal, see Cioran, *Vladimir Solov’ev*, pp. 188, 274. Quoted from Samuel D. Cioran, *The Apocalyptic Symbolism of Andrej Belyj* (The Hague: Mouton, 1973), pp. 120–21.

<sup>47</sup> On these colors, symbolizing the unity of God and humanity, heavens and earth, man and woman, see Cioran, *Vladimir Solov’ev*, pp. 48–53, 142–43, 163.

<sup>48</sup> Tolstoy, *Aelita*, p. 12.

“scientific” Mars of Camille Flammarion and Percival Lowell, who had famously speculated about a planet suffering from an arid, declining environment, made habitable by the massive network of canals, engineered by an advanced technological civilization.<sup>49</sup> As its original cover illustrated, Los and Gusev travelled to a Mars straight out of Percival Lowell’s Martian science, a planet studded with the famous canals. On this score, Tolstoi joined a veritable flood of popular-science and science-fiction works in these years that speculated on the kind of civilization that might have given form to the canals.<sup>50</sup>

Tolstoi’s most original contribution in this genre of Mars novels was to confront Albert Einstein’s new “general theory of relativity” (1916), which had been coursing through European intellectual circles since the end of the First World War. Einstein had speculated on the possibilities of time travel, that a spacecraft approaching the speed of light would actually slow time down while moving through the curvatures of “space and time.” Russian scholars received both Einstein’s formulas and his speculations with interest. In several widely-disseminated brochures, Academician A. E. Fersman conceived of a craft in interplanetary space, speeding at 250,000 kilometers a second, traversing two hundred years in two. The rocket pioneer and student of Tsiolkovskii, F. A. Tsander, similarly wrote about the “slowing of life and possibility of returning to earth alive after

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<sup>49</sup> Camille Flammarion, *La planète Mars et ses conditions d’habitabilité* (Paris: Gauthier-Villars, 1892). Percival Lowell’s *Mars* (Boston: Houghton Mifflin, 1895), *Mars and its Canals* (New York: Macmillan, 1906), and *Mars as an Abode of Life* (New York: Macmillan, 1909). For a survey of the topic, see Robert Markley, *Dying Planet: Mars in Science and the Imagination* (Durham, NC: Duke Univ. Press, 2005). Krestinskii, *A. N. Tolstoi*, p. 140, notes that Tolstoi may have received Lowell’s theories second-hand, through his own note-filled copy of Joseph Pohle’s, *Die Sternenwelten und ihre Bewohner. Ein populär-wissenschaftlicher Versuch über die Bewohnbarkeit der Himmelskörper nach dem neuesten Standpunkte der Wissenschaften* (Köln: Bachem, 1902, 3rd ed.), with editions in 1885, 1899, 1906, 1910, and 1913; translated as Dzh. Bole, *Zvezdnye miry i ikh obitateli. Vvedenie v sovremennuiu astronomiiu*, ed. A. A. Ivanov and introduction by S. P. Glazenap (St. Petersburg: Brokgauz-Efron “Biblioteka samoobrazovaniia,” 1903).

<sup>50</sup> One popular story also drew from the best of current astronomical learning, if with much more optimism, to imagine a Mars organized by an “ideal Socialism,” engineering a planet governed by environmental order and civic freedom. See Mark Wicks, *To Mars via the Moon. An Astronomical Story* (Philadelphia: Lippincott, 1911), which also applied the theological values of telepathy and reincarnation.

millions of years, by flying at velocity near the speed of light, according to Einstein's theory of relativity."<sup>51</sup>

Tolstoi broached this issue of time travel with creative gusto, well before anyone else in science-fiction. The whole work is really a play on time, the travelers speeding by rocket through a time warp in space, then regressing to an alien world, a Lowellian Mars populated by colorful primitive tribes, ruled by the remnants of Atlantis, though their technocratic society was falling into an advanced state of decay. Meanwhile, through all of this, back on earth, the USSR was speedily rebuilding and transforming from a country broken by the Civil War into a country already modernizing and developing along the lines of Stalin's "socialism in one country." In these ways, *Aelita* heralded the Soviets as the premier conquerors of time, either by the measure of Einsteinian relativity in outer space, or by the measure of the Bolshevik revolution on earth. Both conquests, however rooted in the traditional structure of the cosmic romance, represented the new Soviet realms of freedom as a utopia of time.<sup>52</sup> Or as one Russian engineer put it, space travel by rocket as predicted by Tsiolkovskii was an intellectual "revolution" equal to Einstein's relativity or even to the Russian revolution. All had conquered time, reduced thousands of years to rubble, sped up evolution, like flight itself, created the grounds for humanity's "unlimited future."<sup>53</sup>

Tsiolkovskii, Tolstoi, and their novels enjoyed a remarkable staying power through the seventy years of the Soviet Union, a legitimacy formalized during the Stalinist 1930s. In their biographies and in the critical essays written about them, the two authors came to symbolize the generosity and prosperity of Soviet power: Tsiolkovskii come from behind to contribute to its aviation and astronautics achievements; Tolstoi come from abroad to

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<sup>51</sup> Quoted from Akad. A. E. Fersman, "Zavoevaniia nauk," *Nauka i tekhnika* 1 (1922): 6; and in A. E. Fersman, *Vremia* (Petrograd: Izdatel'stvo Vremia, 1922), pp. 67–71. F. A. Tsander, *From a Scientific Heritage* (Washington, DC: NASA, Technical Translation TT F-541, 1969), p. 43. The first academic interpretations of Einstein in Russia were those in the journal, *Uspekhi fizicheskikh nauk* (1922), *Mysl'* (1922), and none other than *Krasnaia nov'* (1921–22). Also see Ia. I. Frenkel, *Teoriia otноситel'nosti* (Petrograd: Mysl', 1923); and A. A. Fridman, *Mir, kak prostranstvo i vremia* (S-t. Peterburg: Akademiia, 1923).

<sup>52</sup> In his chapter on "Utopia in Time," Stites defined *Aelita* as a "romantic, symbolic, and theosophic adventure story . . . actually the end of a tradition (dating from 1905) rather than a model for the new genre" of early Soviet science fiction (namely, the works of Vivian Itin, Yakov Okunev, V. D. Nikolsky, and Yan Larri). Stites, *Revolutionary Dreams*, pp. 172, 173–84.

<sup>53</sup> Engineer A. V. Egorov, "Poplyli v vozdukh! Poplyvem v efire?," *Vsemirnaia illiustratsiia* 11 (July 1923).

share in the making of its literature and culture. These fellow travelers were living proof of the successes of the Bolshevik revolution, two Tsarist era writers who had successfully converted to the Soviet cause. As Tsiolkovskii was the great scientist broken by Tsardom, Tolstoi was the great writer redeemed from it.

The narrative arcs of their lives matched well with the ideology of Bolshevik revolution. But so did the narrative arcs of their science fiction. By 1936, Tsiolkovskii's rather pedantic stories and Tolstoi's boulevard scripts gave way to a plotline of greater substance and significance, the grand historical plotline of Marxism-Leninism. Scientific romance fused to the "revolutionary romance" of the Bolshevik regime. Popular science and science-fiction combined with official Soviet ideology. As Czeslaw Milosz saw it, "dialectical materialism, Russian-style, is nothing more than nineteenth-century science vulgarized to the second power," packed with "emotional and didactic" force.<sup>54</sup> They both shared the same core romantic value of transformational change: science fiction governed by the dictum of the fantastic become real; political ideology by the Soviet slogan of "making fairy tales come true" (from the aviation song, "Ever Higher"). Tsiolkovskii's and Tolstoi's rocket, together with Lenin and Stalin's revolutionary party, served the same generative purpose, moving human beings beyond earth or moving historical events here on earth, against all odds. Thus the two writers, masters of the conventions and clichés of nineteenth-century science fiction, become pillars in the canon of Stalinist Socialist Realism.<sup>55</sup>

What else accounted for this status and patronage? In significant part, the authors succeeded because of who and what they were not. They were manifestly not Evgenii Zamiatin or Aleksandr Bogdanov, whose science fiction works were ideologically suspect. Zamiatin's dystopian novel, *We*, had been suppressed by the main literary administration, "Glavlit," since the

<sup>54</sup> Czeslaw Milosz, *The Captive Mind*, tr. Jane Zielonko (New York: Vintage, 1981 [1951]), p. 200.

<sup>55</sup> "Revolutionary romanticism," as a foundation for Socialist Realism, according to Gor'kii, meant celebrating the "heroism and enthusiasm of socialist workers" and their "transformation of reality." See Herman Ermolaev, *Soviet Literary Theories, 1917-1934. The Genesis of Socialist Realism* (Berkeley: Univ. of California Press, 1963), pp. 157-58. Oddly enough, neither Tsiolkovskii nor Tolstoi, nor the theme of cosmism, appear in several of the leading studies: Hans Gunther and E. A. Dobrenko, eds., *Sotsrealisticheskii kanon* (St. Petersburg: Akademicheskii Proekt, 2000); and Boris Groys and Max Hollein, eds., *Traumfabrik Kommunismus: die visuelle Kultur der Stalinzeit / Dream Factory Communism: the Visual Culture of the Stalin Era* (Frankfurt: Schirn Kunsthalle, 2003).

manuscript first made the rounds of high society in 1922–1923. Bogdanov's widely-read novels, *Red Star* (1908) and *Engineer Menni* (1913), had enjoyed several waves of popularity with their first publication, then again after the Revolution and Civil War into the mid-1920s, all this in spite of his ideological battles with Lenin before the revolution, and Bogdanov's ever-increasing political isolation afterward. By 1934, Bogdanov's name and novels were suppressed.<sup>56</sup> Tsiolkovskii's and Tolstoi's science fiction, without any sharp dystopian elements and political edges, were far preferable to the Stalin regime. In essence, Tsiolkovskii became the anti-Zamiatin. He launched his rocket into space for Soviet exploration, not as a symbol of a totalitarian society in civil war. Tolstoi became the anti-Bogdanov, who travelled to Mars only to find decadence and collapse there, not a relatively bright communist future. In both cases, the true revolution happened here on earth, in Soviet Russia. As one of Tolstoi's biographers argued, thanks to the Bolsheviks, Earth was the true "red star."<sup>57</sup>

The survival and success of Tsiolkovskii's and Tolstoi's science fiction illustrates just how tenuous and difficult the genre was between 1931 and 1953. Scholars have quite rightly marked the Soviet Union in the 1920s as a golden age of utopian science fiction done wrong by Stalinism of the 1930s, which launched a "war against revolutionary utopianism."<sup>58</sup> Radical utopian fantasies did not match with the new orthodoxy of building socialism brick by brick. Soviet science fiction lost its visionary edge. Its stories tended now to focus on the radical yet possible, dramatic technical or engineering achievements here on earth. Its writers bowed to Stalinist political dictates.

Yet these developments also followed a worldwide trend, the "Hard Science" approach that began fitfully with Hugo Gernsback's *Amazing Stories* (1926) and that eventually came to dominate the golden age of

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<sup>56</sup> Bogdanov had singlehandedly invented Bolshevik science-fiction with these classics. See the discussion in Richard Stites, "Fantasy and Revolution," in Aleksander Bogdanov, *Red Star. The First Bolshevik Utopia*, eds. Loren Graham and Richard Stites, trans. Charles Rougle (Bloomington: Indiana Univ. Press, 1984), pp. 1, 13–15.

<sup>57</sup> From Veksler, *Aleksei Nikolaevich Tolstoi* (1948), pp. 172–74, 177, who recounts Bogdanov's philosophical and political blunders. On Tolstoi's positive *Aelita* as an answer to Zamiatin's negative *We*, see Baranov, *Revoliutsiia i sud'ba khudozhnika*, pp. 233–35.

<sup>58</sup> The phrase is from Stites, *Revolutionary Dreams*, pp. 8–9. "The 1920s marked a peak of utopian euphoria," concurs Irene Masing-Delic, *Abolishing Death* (Stanford, CA: Stanford Univ. Press, 1992), p. 287. The 1920s were the finale of Russia's "cosmic visions," also notes Scott W. Palmer, "Red Stars and Rocket Ships," in John Zukowsky, ed., *2001: Building for Space Travel* (New York: Harry N. Abrams, 2001), p. 44.

science fiction (1939-1959). The approach spanned “from U.S. pulp magazines to the Soviet Agitprop,” as Darko Suvin has argued. Real “science” in the new science fiction was a thread common to the mass print culture of free-market capitalism and to the mass propaganda politics of state communism. The values and images at the heart of U.S. popular science found a strange reflection in the fictions of Soviet mass propaganda.<sup>59</sup> The trend away from the sociological and utopian, toward the scientific and technological, was global. The USSR was a part of it. The Stalin regime did not suppress science-fiction and fantasy stories altogether. It co-opted them as its own, into its own “administrative utopia,” as Richard Stites has called it, a utopia of discipline and hierarchy, science and technology, and the “magic of rationality.”<sup>60</sup>

In this context, the Stalinist state elevated Tsiolkovskii to a personality cult all his own, as the “patriarch of aviation and pioneer of astronautics” (*patriarkh aviatsii i pioner zvezdoplavaniia*), the first and the greatest of the rocketry pioneers. He came to represent the best of Soviet socialism, breaking a “path to a future” of global and planetary peace, a utopia that capitalism was capable of dreaming about, but incapable of achieving. Or as Tsiolkovskii himself put it, thanks to Soviet power, “What is impossible today becomes possible tomorrow.”<sup>61</sup> In honor of his seventy-fifth birthday in 1932, the state awarded Tsiolkovskii the “Order of the Red Banner of Labor” in formal ceremonies at the Hall of Columns of the House of Soviets (Moscow). He received a new home in Kaluga and a better pension. Scholarships were named in his honor; streets were renamed after him. A host of government agencies touted his achievements with meetings and discussions, telegrams and press releases: from the Civil Aviation Fleet to the Young Communist League. Tsiolkovskii’s writings on aviation and rocketry were now published as “selected works.”<sup>62</sup>

<sup>59</sup> Darko Suvin, *Metamorphoses of Science Fiction* (New Haven, CT: Yale Univ. Press, 1979), p. 28.

<sup>60</sup> Stites, *Revolutionary Dreams*, pp. 243-44, 249. Among Soviet adventure, popular-science, and science-fiction magazines, *Around the World / Vokrug Sveta* continued to publish, as did *War of the Worlds / Bor'ba mirov* and *Knowledge is Strength / Znanie-sila*.

<sup>61</sup> Quoted from K. Altaiskii, “Pioner zvezdoplavaniia,” *30 dnei* 9 (1932): 53, 59; B. Vladimirovich, “Tam – rodina skorosti,” *Iunyi proletariat* 10 (May 1933): 17; and G. V. Averbukh, “Pioner v oblasti zavoevaniia kosmosa,” *Nauka i zhizn'* 11 (1935): 54-55. Tsiolkovskii quoted in Ia. I. Perel'man, *Tsiolkovskii. Zhizn' i tekhnicheskie idei* (Moscow-Leningrad: ONTI, 1937), p. 113.

<sup>62</sup> K. E. Tsiolkovskii, *Izbrannye trudy*, 2 vols. (Moscow: ONTI NKTP, 1934).

In one of his most famous speeches, relayed by loudspeakers to Red Square during the May Day celebrations of 1935, he congratulated the “heroism” of the Soviet Union’s “glorious conquerors of the air,” the pilots of its airplanes and dirigibles and stratospheric balloons. Soon, in fulfillment of the Soviet slogan (and song), “ever higher,” they might even achieve “interplanetary travel,” flights like “Moscow-Moon” or “Earth-Mars” by way of his own latest discovery, the multi-stage space rocket.” Tsiolkovskii came around to realizing that the fantasy of rockets was becoming more and more achievable. His initial pessimism of reaching speeds necessary to reach orbit and leave Earth’s gravity was giving way to a new optimism. 100 years was giving way to perhaps 10. The USSR might even send a rocket to space within 10 years.<sup>63</sup>

Children became a priority audience for Tsiolkovskii’s fantastic ideas. State publishing houses reprinted Tsiolkovskii’s classic science fiction, *On the Moon* and *Dreams of Earth and Sky*, from before the Revolution. In children’s magazines, he now became little “Kostia,” the boy who came from nothing to become the “great Russian prodigy,” the original “astronaut” (*zvezdoplavitel’*). He was the inventor of that marvelous machine, the rocket, closed on one end, open on the other, carrying its own propulsion by purely reactive force. Thanks to him, fourth graders learned, the USSR would become the first country to “conquer the Moon.”<sup>64</sup> Children’s groups, mostly young teenagers, corresponded with “grandfather Tsiolkovskii,” as they called him, building models of his metal dirigibles, stratospheric planes and space rockets. A widely reproduced photograph of the day depicted two youngsters at the old man’s feet, in rapt attention, model in hand, listening to his kind wisdom.<sup>65</sup>

<sup>63</sup> “Radio Speech of K. E. Tsiolkovsky (1 May 1935),” in James von Geldern and Richard Stites, eds., *Mass Culture in Soviet Russia. Tales, Poems, Songs, Movies, Plays and Folklore, 1917-1935* (Bloomington: Indiana Univ. Press, 1995), p. 259; K. E. Tsiolkovskii, “Tol’ko li fantaziia,” *Komsomolskaia Pravda* (July 23, 1935).

<sup>64</sup> In its series, “Scientific-Technical Library for Youth” – K. E. Tsiolkovskii, *Na lune*, ed. Ia. I. Perel’man (Moscow-Leningrad: ONTI, 1934). K. E. Tsiolkovskii, *Grezy o zemle i nebe*, ed. Ia. I. Perel’man (Moscow-Leningrad: ONTI, GRIUL, 1935), with a second edition in 1938. Quoted from L. Kassil’, “Prezhde chem letet’ na lunu,” *Pioner* 21 (1932): 6-7; and O. Drozhzhin, “Polety na lunu,” *Pioner* 20 (1935): 10-12.

<sup>65</sup> Quoted from A. Volkov, “K. E. Tsiolkovskii i deti,” in I. A. Islent’ev, ed., *K. E. Tsiolkovskii* (Moscow: Aeroflot, 1939), p. 223. The photograph is in *Znanie-sila* 23-24 (1932): 6; and *Izobretenie* 10 (1935): 5; and reproduced in Vladimir Lytkin, “Tsiolkovskii’s Inspiration,” *Ad Astra* (Nov.-Dec. 1998): 35-37.



Strangely enough, Tsiolkovsky's *Beyond the Earth* was not republished in the 1930s. But this does not mean that it was forgotten. On the contrary, it had an even better venue, as a feature silent film, *Cosmic Flight* (*Kosmicheskii reis*, 1936). Thus Tsiolkovskii flew to space yet a second time, albeit in science fiction. Only this time he flew to space not as the dreamy, love-struck Los but as the enterprising Soviet Academician, Pavel Ivanovich Sedykh. Tsiolkovskii, in fact, served as scientific consultant to the film, corresponding with the director, Vasily Zhuravlev, who collected his thoughts and drawings in an album for the film.<sup>66</sup> Tsiolkovskii offered sketches of the rocket plane, catapult, space suits, zero-gravity environment, and spacewalks; corrections about the look of the stars and sun and earth from space; and strict advice on the mechanics and physics of spaceflight.

The movie, one of the last Soviet "silents," offered a fitting tribute to Tsiolkovskii. Set in the year 1946, it took a team of Soviet "astronauts" on an adventure flight to the moon, led by Academician Sedykh and his two companions, the Young Communist Marina and the Pioneer Andriusha. The accent was on the real, or rather on how only the USSR could really turn fantasies into realities, on a fact-based "flight of thought" (*polet mysli*), as one commentator put it.<sup>67</sup> The rocket was launched by a long catapult ramp built at "Star City" (*Astrogorod*) on the outskirts of Moscow. Across its bow was written: "Stalin" and "USSR 1." The travelers were protected, in scenes out of earlier Tsiolkovskii stories, by a liquid barrier from acceleration forces. They floated and flew in zero gravity, soft-landing back to earth by parachute. They sent a signal back to earth to prove their achievement: the bright letters: USSR.<sup>68</sup>

<sup>66</sup> The film is available on DVD: *Kosmicheskii reis* (Moscow: Kompaniia Vostok, 2009). Several of Tsiolkovskii's sketches from his "Album of Cosmic Flights" (*Alboma kosmicheskikh puteshestvii*) were later published in K. E. Tsiolkovskii, *Trudy po raketnoi tekhnike*, ed. M. K. Tikhonravov (Moscow: Oborongiz, 1947); translated as K. E. Tsiolkovskiy, *Works on Rocket Technology* (Washington, DC: NASA, 1965), pp. 89, 236, 377–79, 382–83. The famous pilot, M. M. Gromov also consulted on the look of the rocket cabin; the astronomer, K. N. Shestovskii advised on the lunar landscape.

<sup>67</sup> Mikh. Dolgoplov, "Zhiul' Verny sovetskogo kino. Nauchno-fantasticheskii film *Kosmicheskii reis*," *Komsomolskaia Pravda* 120 (May 24, 1934): 6. By this term, he meant an exercise that was part real, since humans had already conquered the air with aviation technology, and part fantasy, since we continued to dream about what was achievable next.

<sup>68</sup> B. Finney, V. Lytkin, and L. Alepko, "Tsiolkovsky's 'Album of Space Voyages.' Visions of a Space Theorist Turned Film Consultant," paper at the 48<sup>th</sup> International Astronautical Congress (Turin, Italy, October 6–10, 1997), IAA-97-IAA.2.1.02. Nikolai Zhuravlev, "*Kosmicheskii*

By most accounts, the film was a success. When it premiered to Moscow's youngsters during the cold winter holidays of 1936, they broke into waves of laughter and cheers.<sup>69</sup> It was a "movie for the millions," at one with similar adventure films about "flying, building and exploring," proving the Stalinist slogan that even "fairy tales can come true," confirming the "promethean battle against nature," celebrating the exploits of the Soviet Union's record-breaking aviators and Arctic explorers.<sup>70</sup> Like other Stalin-era space adventures, Tsiolkovskii's *Cosmic Flight* raised a generation on the real possibilities of rocket flight and human passage to the Moon, or Mars, or even Venus. When, by the early 1950s, the rocket pioneer M. K. Tikhonravov published a short newspaper article on the likelihood of flying to the moon, his graphics included Tsiolkovskii's catapult ramp and rising rocket, straight out of *Cosmic Flight*, launched from central Moscow, alongside its Stalinist architecture, the metro stations and Moscow State University. Only the USSR, Tikhonravov declared, could fly so "ever higher and farther" (*vse vyshe i dal'she*).<sup>71</sup>

Thanks to his science-fiction works like *Aelita*, along with his patriotic-historical novels about Russia's newly-admired statesmen (Ivan the Terrible and Peter the Great), Tolstoi became "the most privileged writer in the Soviet Union" under Stalin, as one literary historian put it. He was the model Soviet careerist and "poet laureate," wrote another. In the 1920s, Tolstoi had already been raised to the critical realist tradition in "revolutionary" literature, second only to Maxim Gor'kii in terms of media coverage and prestige. In the 1930s, he became an official forerunner of Socialist Realism.<sup>72</sup> Granted, he did not have as much success as Tsiolkovskii at the movies. By 1936, government censors repressed the screen adaptation, *Aelita. Queen of*

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*reis* – skazka moego detstva," *Tekhnika molodezhi* 10 (1987). Sergei Eisenstein was one of the film's promoters at Mosfilm. For a review of the film and its contexts, in partial comparison with *Aelita*, see Andrews, "Storming the Stratosphere," pp. 77-87.

<sup>69</sup> R. Kron, "Kosmicheskii reis. Novyi film rezh. V. N. Zhuravleva," *Komsomolskaia Pravda* (Jan. 11, 1936).

<sup>70</sup> Stites, *Russian Popular Culture*, pp. 66-91.

<sup>71</sup> M. K. Tikhonravov, "Polet na lunu," *Pionerskaia pravda* (Oct. 2, 1951). The same catapult rocket image appears on the inside title page of Boris Liapunov, *V mire mechty. Obzor nauchno-fantasticheskii literatury* (Moscow: Kniga, 1970).

<sup>72</sup> Quoted from Richard Freeborn, *The Russian Revolutionary Novel* (Cambridge: Cambridge Univ. Press, 1982), p. 281; and Brown, *Russian Literature*, pp. 204-05. On Tolstoi's status, also see Maguire, *Red Virgin Soil*, pp. 249-50, 314; and Naldeen, *Aleksei Tolstoi*, p. 73.

*Mars*, as anti-Soviet.<sup>73</sup> But the novel lived on, edited and reworked by Tolstoi to serve the new Stalinist standards, as well as to reach the new generation, Russia's young people, in a juvenile edition, now advertised as a "fantastic story" in the series, "Library of Adventures," graced with illustrations of Tsiolkovskii's rocket headed toward a Lowellian Mars, studded with the infamous canals.<sup>74</sup>

Tolstoi was not spared criticism through the 1930s and 1940s. Several biographers revived the formalist and proletarian critiques of old against his "utopian novels," still painted as little more than stale reproductions of a Rider Haggard, of an Edgar Rice Burroughs, or of a Pierre Benoit.<sup>75</sup> His leading biographer, Alexander Starchakov, accused him of dualism and "pessimism," promoting characters who struggled too much and too miserably with divided loyalties. Los remained "something of a made-up provincial dreamer," entranced by spiritualist ecstasies, yet was also "the bravest of heroes" venturing off to Mars. Gusev was an "interplanetary" revolutionary fighter, to be sure, but was also a carpetbagger and trader in gold and precious gems, a Bolshevik gone somewhat bad, coopted by the NEP's bourgeois values.<sup>76</sup> In response, Tolstoi deleted some of the more mystical and melodramatic parts of the story, dulled some of Los' more pessimistic and self-consumed character traits, his spiritualist yearnings, his erotic attraction to Aelita. He sharpened Gusev's communist traits, made him less greedy and rapacious.<sup>77</sup>

Tolstoi touted the revisions as significant. But none of the changes were all that comprehensive or dramatic. *Aelita* remained a cosmic romance, if a bit more of a Stalinist one. Critics continued to fault the novel, into the 1970s and 1980s, as provisional, a reach for but not a true achievement of the

<sup>73</sup> Kenez, *Cinema and Soviet Society*, p. 131.

<sup>74</sup> Aleksei Tolstoi, *Aelita* (Moscow-Leningrad: Izdatel'stvo Detskoi Literatury, 1937), with drawings by P. A. Aliakrinskii.

<sup>75</sup> See Raisa Messer, *A. N. Tolstoi. Kriticheskii ocherk* (Leningrad: Gosizdat Khudozhestvennaia Literatura, 1935), pp. 69–71; and Veksler, *Aleksei Nikolaevich Tolstoi*, pp. 169–70, 185.

<sup>76</sup> Alexander Starchakov, *Al. N. Tolstoi. Kriticheskii ocherk* (Leningrad: Gosizdat Khudozhestvennaia Literatura, 1935), pp. 92–95.

<sup>77</sup> For a discussion of these revisions, see A. V. Alpatov, editorial remarks for *Aelita*, in Tolstoi, *Sobranie sochinenii* 3: 708–11. On how Los is cleansed of some of his mysticism and spiritualism and pessimism between the first and second editions; and on how Gusev is cleansed of some of his own pessimism and vulgarities, see L. A. Kolobaeva, "Problema polozhitel'nogo geroia v romane A. N. Tolstogo 'Aelita,'" in A. V. Alpatov and L. M. Poliakov, eds., *Tvorchestvo A. N. Tolstogo. Sbornik statei* (Moscow: Izd. Moskovskogo Univ., 1957), pp. 41–55.

Socialist Realist ideal. They pointed out its mixed messages, mainly for pairing the anxieties of Los' unrequited love with the certainties of Gusev's revolutionary politics.<sup>78</sup> Why then, did it continue to draw both official approval from above and a genuine mass readership from below?

The answer may lie in that very pairing of Los and Gusev, so discomforting to some critics, yet so enlightening and ennobling to others. Simply put, the two characters needed each other. According to Tolstoi, at the start of the story, as he prepared for his space journey, fearing "hopeless solitude in eternal darkness," Los realized that he could not make it alone, that he needed a companion traveler. He needed the Red Army soldier Gusev, with whom he shared a cosmic imperative, an urge for the universal.<sup>79</sup> Tolstoi thus turned the central allegory of *Aelita* into a complex of allegories, an allegory about coming home, from Mars (Europe) to Earth (Russia); but also an allegory about joining forces, about the necessary union between the old and the new, between the bourgeoisie and the proletariat. As decadent Europe was a necessary foil for an ascendant Russia, the bourgeois Los was also a necessary foil for the proletarian Gusev.

No doubt, Aelita herself remains central to the plot. She is the object of Los' infatuations, after all. But when paired with both Los and Gusev, Aelita becomes something so much more than simple eros. She draws Los' logos, his rational self, into her erotic affections, as we have seen. She entrances him with an individual ideal of happiness. But she also helps to set the stage for revolution on Mars, albeit unwittingly, whereby Gusev becomes the agent of Bolshevik "pathos" or "passion" (*pafos*), representative of a collective ideal of happiness, of the self-sacrificial, revolutionary zeal that ultimately justifies the whole Martian mission. During the Stalin era, Tolstoi's biographers and critics recognized that his true achievement as a writer, primarily in his historical-patriotic novels but also in his science fiction, was to express the "pathos of historical progress" and social development; the "the power of human genius" in technology and culture; and the life-affirming love of "homeland" and cultivation of its achievements. In *Aelita*, these values culminated in the character and contributions of Gusev.<sup>80</sup> He was the truly dynamic character in the narrative, the agent of historical

<sup>78</sup> See V. V. Petelin, *Aleksei Tolstoi* (Moscow: Molodaia gvardiia, 1978), pp. 183-85; and Rozhdestvenskaia and A. G. Khodok, *A. N. Tolstoi*, pp. 208-09.

<sup>79</sup> Quoted from Tolstoy, *Aelita*, p. 11. On their shared cosmism, see L. A. Kolobaeva, "Problema polozhitel'nogo geroia," pp. 45-46.

<sup>80</sup> Messer, *A. N. Tolstoi*, pp. 7, 47, 68-71.

change: the “restless revolutionary, the “optimist and “dreamer,” filled with *paños*, with “love of earth” and of the “motherland.” He was the centerpiece of “historical and philosophical optimism,” representing the Soviet rise against the Spenglerian decline.<sup>81</sup> Very much like Tsiolkovskii, he was a Russian patriot, builder on earth and discoverer of new worlds beyond. He expressed a core value at the heart of the Russian national character, to make the “impossible becoming possible,” to take the utopian as something routine, expected, mundane.<sup>82</sup>

According to one leading Soviet interpretation, the story was not so much about the sublimation of eros to pathos. Rather it was more about a union between the two. In the end, it was Gusev’s pathos that counted most. The “positive hero” in Gusev redeemed *Aelita* for Soviet socialism. No matter that he was somewhat prone to anarchy and plunder. No matter that he was forced to retreat back to Earth (Russia), that the revolution that he helped to lead on Mars had failed. So too did the expected world revolution of communism in 1918-1921, after which the Soviet Union retreated into “socialism in one country.” Gusev nonetheless remained a true Russian-Soviet soul, big-hearted and happy, dedicated to the revolutionary values of equality and justice, even on Mars. He was the perfect Soviet hero, filled with creative will, with “manliness” and dynamism, with idealistic dreams and real strengths, in sum with the “revolutionary enthusiasm” (pathos) that would take him to the stars.<sup>83</sup>

As one Soviet critic put it, the story distilled the “heady spirit of the times,” in the sense that “the all-consuming mad love of Los for Aelita is in the same key as the revolutionary zeal of the truth-seeker and defender of the oppressed, Gusev.” Los’ love for Aelita was a presentiment of Gusev’s love for the people. This is what made *Aelita* such a classic, along the lines of Vladimir Maiakovskii’s poetry and Maxim Gor’kii’s stories. Pathos was kin to eros, collective passion of a kind with conjugal love.<sup>84</sup> Tolstoi’s story was, in all of these ways, a unique study in science fiction, a cosmic romance

<sup>81</sup> Veksler, *Aleksei Nikolaevich Tolstoi*, pp. 170, 176-79, 187-89, 198.

<sup>82</sup> L. A. Kolobaeva, “Problema polozhitel’nogo geroia,” pp. 50-55.

<sup>83</sup> Quoted from Poliak, *Aleksei Tolstoi*, pp. 244-47. For discussions of Gusev as positive hero, see Borovikov, *Aleksei Tolstoi*, pp. 107-08; Naldeen, *Aleksei Tolstoi*, p. 73; and Krestinskii, *A. N. Tolstoi*, p. 140.

<sup>84</sup> Quoted from Vl. Gakov, “Laser Ray in 1926: Alexei Tolstoy’s Science Fiction,” *Soviet Literature* 418 (1983):164. On the narrative arc, “revolution – cosmos – love” (and back again), see Baranov, *Revolutsiia i sud’ba khudozhnika*, pp. 225-28, 233.

become revolutionary romance, a study of what Matthew Cullerne Bown has termed, at least with reference to Soviet painting, the “conflation of revolutionary enthusiasm and sexiness which was to become a commonplace of socialist realism.”<sup>85</sup>

The Tsiolkovskii and Tolstoi brands of “realistic fantasy,” stories about turning fantasy into reality, about making the impossible become possible, offer interesting case studies of several Soviet “flights of fancy,” how scientific romances became revolutionary. At first glance, they might seem to verify all the exaggerated, bombastic claims of Stalinist mass culture, Socialist Realism as an “impossible aesthetic.” Travelling into space by rocket – indeed.<sup>86</sup> Yet we already know that, with the invention of ballistic missiles in Nazi Germany during the Second World War, and with the development of intercontinental ballistic missiles and space launchers by the U.S.S.R. and U.S. during the Cold War, the seemingly fantastic did indeed become real. Tsiolkovskii’s theorems and equations, built into his cosmic storytelling, literally helped to turn nineteenth-century cosmic fantasies into the real science of twentieth-century “cosmonautics.” Tolstoi’s *Aelita* confirmed Tsiolkovskii’s relevance in the character of Los, Soviet Russia’s most famous and well-remembered rocket scientist. The story carried on in memorable ways, coming to “symbolize Soviet science fiction” as a whole, the very name given to the 1982 prize for the best book in science fiction. Cafes and bars were named after Aelita. Writers celebrated her in poetry and song. The book itself retained a genuine, universal appeal. People young and old, in Russia and around the world, continued to read it with care and “emotion,” be it for Aelita’s erotic attractions or for Gusev’s revolutionary passions.<sup>87</sup> Both stories continued to express not only the achievements, but also the continuing allure, of the impossible.

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<sup>85</sup> Quoted from Matthew Cullerne Bown, *Socialist Realist Painting* (New Haven, CT: Yale Univ. Press, 1998), p. 32. See also Matthew Cullerne Bown, *Art under Stalin* (New York: Holmes and Meier, 1991), p. 108.

<sup>86</sup> See, for example, Régine Robin, *Socialist Realism. An Impossible Aesthetic*, trans. Catherine Porter (Stanford, CA: Stanford Univ. Press, 1992); and Alexander Etkind, *Eros of the Impossible. The History of Psychoanalysis in Russia*, trans. Noah and Maria Rubins (Boulder, CO: Westview Press, 1997).

<sup>87</sup> Quoted from Gakov, “Laser Ray in 1926,” p. 162. It went on to be published in over a dozen editions in Russian, as well as the national languages of the USSR, between 1955 and 2001. It has been translated into at least four English and several more European-language editions as well.