Cosmism is a movement of thought—whose boundaries and founding fathers may vary—that is relatively unrecognized in Western scholarship and yet had important ramifications in the Soviet Union. These ramifications began in the 1920s, as emphasis was being put on the sciences of the future, and were later reinforced by the conquest of space. Cosmism is part of the romantic and organicist tradition that rejects divisions of knowledge, presupposes that scientific progress and spiritual quest go hand-in-hand, and believes in an intrinsic link between micro- and macrocosm. Calling for the voluntarist transformation of nature by humankind, mainly by the mastery of space, cosmism tried to synthesize Gnostic beliefs and scientific progress. It therefore illustrated, in a rather unique way, an occult experience of modernity, founded on the idea that technological knowledge is power, in all its senses: the power to change humanity, to master nature, to abolish temporality and the relation to the body, and to transform the relations between states. A study of cosmism, therefore, calls for the seemingly obvious configuration between the rational and the irrational to be put into question. This configuration can be shown not to be a given but instead a social construction that belongs to a time and a place. Indeed, the status of non-conventional narrative of cosmism did not prevent it from operating as a framework—sometimes underground, sometimes recognized—for 20th-century scientific interrogations in Soviet Russia.1

**Genesis of Cosmist Thinking: a Contextualization**

Cosmism drew many of its philosophical precepts from the great currents of thought preceding it, and tried to put forward an original and innovative synthesis of the relations between science and faith. It is rooted in Romantic ideology of the late 18th and early 19th centuries and organicist theories that assume the existence of laws of harmony between humankind, nature, and the cosmos. Similarly, it also drew inspiration from the scientism of the turn of the 19th–20th century and the nomogenetic precepts used to challenge Darwinism. Lastly,

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1 I thank Michael Hagemeister for his very helpful comments on the first version of this text.
cosmism is inspired by the messianic statements of Soloviev and Dostoevsky concerning the reconciliation of humanity over and above its division into different nations.

Rooted in the German *Naturphilosophie* elaborated from the end of the 18th century, Romantic ideology appeals to a new model of intelligibility in which primacy is given to the human factor. It asserts that human beings retain their essential singularity, are irreducible to numerical analysis, and that science goes hand-in-hand with faith: the organization of phenomena is explainable by recourse to providence. Hence, Romantic ideology does not challenge the facts and laws established by experimental research, but rather their placement in the general scheme of knowledge. Though it accepts the encyclopedic knowledge of the Renaissance, it dismisses that of the Enlightenment, which it apprehends as a sum of unrelated pieces of knowledge which rejects faith. Romanticism aims, in fact, at promoting a lost unity by endorsing a science that is total and transdisciplinary. It endorses a return to a philosophy that recognizes the rights of imagination and emotion, and rejects the dry. For the Romantics, the value of an event appears only when it is placed in a meaningful context. As such, they maintained the necessity of constructing a higher level of knowledge, a philosophy of humanity encompassing both faith and science.\(^2\)

This Romantic thinking is strongly marked by the birth of a general theory of biology which encompasses animals and the vegetal in the same processes as humans. Nature is no longer considered a mythological divinity but an internal economy subject to regulations accessible to human intelligence. Accordingly, *Lebenskraft*, or vital force, became the major theme of the era. It is not mere chance that *Naturphilosophie* had great success in both the medical milieus and the fields of earth science and vegetal biology. The mechanistic revolution had assured the triumph of an analytic representation of the universe. However, machines have no self-consciousness, and therefore the mind that creates them must be of another order. Organicism thus sought to re-establish a previously dominant mode of knowledge, wherein instead of placing limits on its ambitions to decipher the superficial organization of phenomena, it strove to forge an alliance with the “essence” of reality. Against the artificial construction of mechanism, it substitutes a living growth, obeying not abstract rules, but an immanent inspiration. Organicism founded the possibility of understanding the world on the principle of analogy. It proposed a vitalist schema of growth whose dynamism progresses from birth to death, and which maintains, between the elements that it assembles, an intimate solidarity, in which mecha-

nisms are subordinated to the government of finality: the part cannot be realized without the whole, or the whole without the parts. Multiplicity and unity do not stand in contradiction.³

However, while Romanticism had wanted to “put Newton on trial”⁴ and asserted that a mechanistic and clockwork-like vision of the human automaton would lead straight to an industrial hell, cosmism affirmed exactly the opposite. In so doing, it drew on the scientist revival of the late 19th and early 20th centuries. This revival rejected positivism, interpreted as a resignation of the mind which considers that science has no say in the inner meaning of the phenomena whose sequences it sketches. For the scientists, on the contrary, science aimed to provide the response to the great questions—religious and moral—of humanity, those to which religion also responds. As Jules de Gaultier explained in 1911,

> scientist belief repeats the sum of petitions comprising the program of human hope in its messianic and moral forms. It restores the theme of the always reborn and unfulfilled dream of human consciousness on the search for better futures among the perspectives on a development that is inestimable in duration.⁵

Cosmism is based wholly on this scientist precept, which it pushes to its extreme. It can therefore be understood as a vitalist theory indirectly inspired by Bergsonian thought. Already convinced, thanks to its organicist influences, about rehabilitating the alchemy of the Renaissance, cosmism also drew inspiration from the para-scientific quests of its time, such as spiritism, hypnotism, somnambulism and telepathy, the discovery of animal magnetism (mesmerism), palingenesis, and metempsychosis. All these challenges to the limits of science encouraged the belief that there are some parts of scientific knowledge still inaccessible to the human mind. The discovery of the atom, the gene, and the idea according to which every living cell registers and reacts to natural phenomena, came to influence cosmism profoundly.

Cosmism also based itself on some Russian intellectual traditions. In the second half of the 19th century, several thinkers, challenged—whether positively or negatively—by the discoveries of Darwinism, set out to investigate the

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⁴ Title of a chapter of Gusdorf, *Le romantisme*, vol. 1, 197.

relations between science and faith, as well as the epistemology of science. The embryologist Karl Ernst von Baer (1792–1876), whose theories were very popular in Europe, objected, for example, to the idea that natural selection suffices to explain evolution. Heralding the theory of mutations that Hugo de Vries (1848–1935) will later develop, Baer subscribed to immanentism and was a supporter of so-called ontogenetic evolution, conceived as fulfilling a plan. Similar notions can be found in the famous Pan-Slav theoretician Nikolai Danilevskii (1822–1885). In his, \textit{Darwinism: A Critical Study (Darvinizm: Kriticheskoe issledovanie)} published in 1885 and 1889, he postulates that Darwinism is not a matter of botany or zoology, but a philosophical interrogation into the origin of humanity and the organicity (tselesoobraznost') of nature. He therefore acknowledged a positive point in Darwin’s theory, which is that it puts the naturalist back into nature insofar as it proves the need to study forms of life in their environment and not to classify them once dead: it is harmony that must be explained and not each living thing taken individually. Nevertheless, for him, the idea of systematizing chance in the mechanisms of evolution amounted to a negation of the existence of God: how, from a series of chance events without any coordination between them, could a harmonious order emerge? If humans are only descendents of the ape, then nihilist and atheist thinking is justified: Danilevskii judged the idea of the struggle for survival, in which the strongest only survive eminently anti-Christian. Here, he based himself on the German Theodor Eimer (1843–1898), who promoted the idea of inner predetermined evolution, an idea ignored by Darwin who instead privileged external causality.

In the early 20\textsuperscript{th} century, Lev Berg (1876–1950) pursued Baer’s and Danilevskii’s claims that there existed an alternative nomogenesis to Darwinism in his work \textit{Nomogenesis}, published in 1922. His nomogenetic theory of evolution postulates that evolution obeys laws, for example, that it is a development of pre-existing rudiments or potentialities, rather than a series of adap-

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tive responses by organisms to their environment. Berg, however, rejected all vitalist approaches. For him, conformity to a goal was a property of the living and not a mysterious force. In the same line, Boris Chicherin (1828–1904), anticipating Bergson, spoke of an inner, goal-oriented vital force and believed that the only explanatory principle of evolution was teleology. 10 Similar approaches also emerged with Vladimir Vernadskii (1863–1945), a geochemist by training and director of the biochemistry laboratory of the Soviet Academy of Sciences from the late 1920s until his death. 11 Renowned throughout Europe, he was especially interested in the energy of living matter. In the 1920s, he developed the notions of the “biosphere”—posing as his hypothesis that the earth was formed by a geological force he called life—and of the “noosphere”, or sphere of thought, presented as the next level of development of human-kind. The terrestrial envelope, he claimed, would soon be the object of regulation by human reason, which was itself beginning to appear as a form of energy, as it had the ability to change hitherto material processes. 12

Last but not least, Cosmism can also be considered as an inheritor of the Silver Age and the revival of Russian philosophy embodied by Semen Frank, Nikolai Berdiaev, Nikolai Grot, Pavel Florenskii, Sergei Trubetskoi, or Lev Karsavin. The philosophers of the Russian Silver Age pursued the Romantic will for synthetic knowledge in order to give meaning to the world. They wanted philosophical reflection to be meta-systematic and to provide essential responses to their interrogations. They saw the much-awaited realization of the union between science, faith, and poetry in a renewed philosophy. The cosmists are particularly indebted to Vladimir Soloviev 13 (1853–1900), who himself had borrowed the notion of “integral knowledge” (tsel’noe znanie) from Ivan Kireevskii (1806–1846), and had been influenced by his combination of mystical intuitions and interest in the “Russian question.” 14 Soloviev’s philoso-

10 On Baer and his successors, see the works of Patrick Sériot, Structure et totalité. Les origines intellectuelles du structuralisme en Europe centrale et orientale (Paris: PUF, 1999).
12 The term noosphere was employed for the first time by a disciple of Bergson, Edouard Le Roy, in his courses at the Collège de France in 1927, as well as by Pierre Teilhard de Chardin. Cf. Svetlana Semenova, ed., Russkii kosmizm. Antologiia filosofskoi mysli (Moscow: Pedagogika-Press, 1993).
13 On his life and thought, see Dmitri Stremoukhoff, Soloviev et son œuvre messianique (Lausanne: L’âge d’homme, 1975).
14 The Russian Idea (russkaia ideia) conventionally refers to late nineteenth and early twentieth-century debates in the Russian intellectual world, centered on the notion that the essence of
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phy comprises a meeting between the three approaches that, according to him, led humanity on the path to wisdom: theosophy (thought), theurgy (emotion, art), and theocracy (will). The philosopher believed that only Orthodoxy can imbue with Christian principles this new philosophy, to which he assigned the task of re-establishing the unity of the intelligible world. Nevertheless, Byzantium had moved away from the real Christian spirit while sticking only to the letter, and the Russian Church, since Nikon, had become corrupt by becoming secular. Orthodoxy could therefore be revived only by its reunion with Rome which had preserved the notion of a central authority. Soloviev’s philosophy therefore places the concept of all-unity (vseeedinstvo) at the core of its reflections: it defined the much-awaited Ecumenical synthesis in terms of a belief in humankind’s intuition of the organicity of humanity and the universe.

To Soloviev’s concept of totality it is necessary to add other messianic precepts, such as those developed by Fedor Dostoevsky, notably in his Journal of a Writer (Dnevnik pisatelia), published between 1873 and 1881. Dostoevsky remained a Christian thinker who was more interested in faith and evil than merely in the future of Russia. His messianism, however, is ambiguous, being at once religious and national. He thought that the Russians had been called upon to save the world because they were the body of Christ, the people of freedom, and of social justice. “We Russians have two homelands: Russia and Europe—even in cases when we call ourselves Slavophiles (…). The greatest of all the great missions that the Russians realize lies ahead of them is the common human mission.”15 Accordingly, the national idea of Russia is a universal one, Russian genius being close to the other peoples throughout the world. Russian messianism is also universal in its biblical filiation. “Europe is almost as dear to all of us as is Russia: Europe is the home of the whole tribe of Japheth, and our idea is the unification of all the nations of this tribe and, eventually, in the distant future, of the tribes of Shem and Ham as well.”16 This Russian messianism is often adorned with eschatological characteristics. The prevailing theme of the imminent end of the world, or of massive upheavals, is traditional in Russian popular thinking, for instance in the famous legend of

16  Ibid., 833.
the submerged town of Kitezh and the various movements of old-believers who wandered as far as Siberia and Chinese Turkestan.\footnote{Viacheslav Shestakov, \textit{Eskhatologiia i utopiia. Ocherki russkoi filosofii i kul’tury} (Moscow: Vlados, 1995).}

From these multiple influences, cosmism tries to forge a reconciliatory synthesis of opposites.\footnote{On the links between Romanticism and the cosmos, see Jean Clair, ed., \textit{Cosmos: From Romanticism to the Avant Garde} (Quebec: Montreal Museum of Fine Arts, 1999).} Its main theoreticians, each in their own way, militate for the rebirth of holistic knowledge, in the manner desired by Romanticism, but without subscribing to the idea of humanity’s decadence. Of the organicism, they retain the claim about the ontological unity between Man and nature, and the need to converge the forms of knowledge of man, and the cosmos. Like the anti-Darwinian Romantic biologists, they believe that the evolution of life is based not on the idea of random selection, but on a predestined design—nomogenetic—which remains to be discovered. However, they never undermine science in itself, on the contrary: cosmism is fundamentally optimistic, futurist, and believes firmly in the idea of humanity’s progress through science. Lastly, the cosmists are part of the great currents of messianism to have developed in Russia: they think that their country is destined to accomplish, in one way or another, a form of reconciliation of humanity.

\textbf{The Founding Fathers:}
\textit{From Christian Exegesis to the Conquest of Space}

A great herald of the cosmist movement, Nikolai Fedorov (1828–1903) struck as an original, if marginal, figure in Russia at the start of the 20\textsuperscript{th} century.\footnote{The main work on him is Michael Hagemeister, \textit{Nikolaj Fedorov: Studien zu Leben, Werk und Wirkung} (Munich: Sagner, 1989). See also George M. Young Jr., \textit{Nikolai F. Fedorov: An Introduction} (Belmont: Nordland Publishing, 1979), and Stephen Lukashevich, \textit{N.F. Fëdorov: A Study in Russian Eupsychian and Utopian Thought} (Newark: University of Delaware Press, 1977).} A famous librarian of the Rumiantsiev Museum, he refused to publish while he was alive and expounded his ideas only orally to small groups of loyal supporters.\footnote{George M. Young Jr., “Fedorov’s Transformations of the Occult,” in Bernice G. Rosenthal, ed., \textit{The Occult in Russian and Soviet Culture} (Ithaca, London: Cornell University Press, 1997), 172.} His sole work, titled \textit{Philosophy of the Common Task} (\textit{Filosofiia obshchego dela}), was published posthumously by his two disciples, Nikolai Peterson and...
Vladimir Kozhevnikov. This long and complex work can be understood as a scientific exegesis of Christianity, strongly inspired by Soloviev and Dostoevsky. Fedorovism maintains that there is only one real goal of humanity, the resurrection of the dead. It claims that all of humanity’s intellectual, spiritual, and scientific activity is directed, wittingly or not, toward this accomplishment. Death is held only to be one state of humanity, which arises from our imperfect character, and is by no means a destiny. This quest for immortality and for liberation from suffering, Fedorovism maintains, will be achieved through faith, but also through technological knowledge. This first cosmism, or Fedorovism, is thus conceived as a practical and technological implementation of Christianity, construed primarily as a religion of resurrection. Created in the image of God, man must learn to resurrect that which is dead. Fedorovism thus considers the conscious re-creation of all our ancestors as a moral duty of the living toward the dead.

For Fedorov, the conquest of space is intrinsically linked to the question of the resurrection of the dead. “[The] conquest of the path to space is an absolute imperative, imposed on us as a duty in preparation for the Resurrection. We must take possession of new regions of space because there is not enough space on Earth to allow the co-existence of all the resurrected generations.” In fact, humanity does not cease to be when dead. Simply it assists in a transformation of its corporeal state, marked by the parcelization of bodies into atoms. With the conquest of the Moon, the planets, and the stars, humanity will be able to recover the set of particles and begin a vast undertaking of reconstituting the ancestors’ bodies, perhaps in different physical forms. In its last stage, humanity will therefore be all-knowing; not limited in time or space, it will simultaneously be one and plural (mnogoedinstvo) and solve the contradiction between the individual and the collectivity. Fedorov tried to formulate some first technical possibilities for the conquest of space and the mastery of nature. He believed strongly, for example, in gaining control of atmospheric processes and in the colonization of other planets (as a Malthusian, he was concerned about the growing demographic pressures exerted on the Earth), and wrote about humankind’s genetic transformations. However these topics elicited strong

21 *Filosofiia obshchego dela* was published posthumously, the first volume in 1906 at Vernyi (future Alma-Ata), and the second in 1913. His texts have been republished in Anastasiia Gacheva and Svetlana Semenova, eds., *N.F. Fedorov: Sobranie sochinenii v chetyreh tomakh*, (Moscow, 1995–2000).

distrust even among those who shared his philosophical and religious conceptions.

Inspired by the utopian socialism of Fourier, Saint-Simon or Bellamy, Fedorov appealed to an immanent universal resurrection. Such resurrection, he claimed, would by no means be reserved to a small circle of the elect, since there are no privileges in accessing higher knowledge: ideal reality is accessible only through pan-human labor, consciously organized. However, humanity’s victory over nature, he argued, remained inextricably linked to Russia, since it would be the country to lead the world on the path to salvation. Russia would be the key country to produce great advances in terms of mastery of the cosmos, interplanetary travel, transforming nature and climates, and establishing agriculture in space. Fedorov also believed that the nature of Russia’s ideocratic political regime was a further sign that it heralded the resurrection of humanity. For only autocracy, which tends toward the completion of man, but also toward the worship of ancestors, constitutes the apogee of a people’s maturity faced with capitalism and constitutionalism, deemed immature insofar as they proclaim that sons are superior to their fathers. Fedorov claimed that the territorial success of the Russian Empire, its immense advances into Asia, won without encountering great resistance, was the heralding sign of its destiny to conquer spaces of another nature, those of the cosmos.23

Fedorov’s world history is founded on a dialectical principle between civilizations that exploit the earth on the one side, and nomad and mercantile civilizations, on the other. In this world history, Russia is said to play a major role since the obshchina embodies the principle of the earth—the only regenerator able to contend with the commerce and luxury which will lead to humanity’s downfall. The tradition of the peasant commune had therefore prepared the Russian people for the cosmic control of nature. It is also destined to help all major agricultural civilizations, particularly Indian and Chinese, to become aware of their salvational role in countering the world of the steppes. The Russian autocracy is to bring about the sedentarization of the nomads, but also the passage of urban dwellers to the countryside: indeed, as a disciple of the first socialist utopians, Fedorov hoped that all people would live in fields in summer and in small-size factories during the winter. Russia purportedly rested on a twin mission: anti-colonialist, since it took up the defense of exploited peoples

against the colonizing West, but also messianic, since it is compelled to work towards world peace between the “white” and “yellow” races. In this combat, China is seen as one of Russia’s main allies: through this alliance, a renewed Orthodoxy would introduce the ancestral worship present in Confucianism, something that Fedorov was especially appreciative of, since, for him, ancestors and god were synonyms.\textsuperscript{24} Hoping that, in the long term, the Middle Kingdom would convert to Christianity, he was delighted at the discoveries of Nestorian steles in Chinese Turkestan. For him, this proved that Orthodoxy—as the majority of Russian intellectuals assimilated it to Nestorianism—was not foreign to China, but had formerly been its national religion.\textsuperscript{25}

Despite his ambiguous attraction to China, Fedorov’s attention was actually commandeered by India. In 1899, he went to Turkestan from Krasnovodsk, the departure point of the Transcaspian railway, and visited Pamir (today in Tajikistan), which the Tsarist Empire shared with the British Empire at the time by an agreement that gave rise to the buffer state of Afghanistan in 1895. The Pamir heightened his interest for the Indian question and came to have a fundamental place in his cosmogony: though Constantinople had announced Christianity, the Pamir symbolized the birth of the Aryan race and the first steps of the Indo-European languages. According to Fedorov, it is no coincidence if the Russo-British border had stabilized in Pamir, since it contains “the forgotten ancestors of all the Aryan and non-Aryan peoples, Japhet, Shem and Ham.”\textsuperscript{26} Pamir thus showed that the two colonial powers had a common origin and that this called for peace: should they prefer to make war here, he claimed, then the “cradle of the human species will also be its tomb.”\textsuperscript{27} The desire for a Russo-Indian alliance, however, was not directed against the West in itself: on the contrary, Fedorov was persuaded that a rapprochement would occur in the future between Germany and Russia, since, he alleged, both peoples shared the common roots of “all peoples of Aryan origin.”\textsuperscript{28} Nature itself would call for the presence of the Tsarist Empire in India: the Russian rivers need an opening to the southern seas and one could even foresee an “exchange of air” between the Siberian cold and the Indian monsoon, enabling the creation of a temperate climate in both countries.\textsuperscript{29}

\begin{itemize}
\item \textsuperscript{24} Nikolai Setnitskii, \textit{Russkie mysliteli o Kitae. V.S. Solov’ev i N.F. Fëdorov} (Kharbin, 1926).
\item \textsuperscript{25} Nikolai Fedorov, “Po povodu khristianskikh pamiatnikov v Kitae,” \textit{Russkii vestnik}, no. 1, 1901, 151-66.
\item \textsuperscript{26} Nikolai Fedorov, \textit{Filosofiia obshchego dela} (Lausanne: L’Âge d'homme, 1985), vol. 1, 268.
\item \textsuperscript{27} Ibid., 268.
\item \textsuperscript{28} Ibid., 262.
\item \textsuperscript{29} Cited without precise references in Lukashevich, \textit{N.F. Fedorov}, 270.
\end{itemize}
As the first step toward the reconciliation of humanity, Fedorov proposed organizing a Russian-British scientific expedition—a form of Aryan pilgrimage—to search for the original language of humanity on the high summits of the Pamir.30 Once found, the first ever Aryan would then be brought back and buried in a “museum of the human species” to be located in Moscow, which would again become the capital of Russia and would take up its place as the world center of awareness of the paternity, and therefore of the fraternity, of Aryan humanity. In this vein, his disciple Nikolai Peterson argued in 1899 that the 12th Russian Archeological Congress should be held in Central Asia, in Tashkent, Samarkand or Merv, in order to affirm Russia’s Aryan nature: according to him, research conducted on Pamir and other presumed sites of the general patrimony of Aryan peoples would “reconcile Slavophilism and Westernism into a higher unity, Ariophilia (ariosofil’stvo).”31 Paying respect to the original Aryan remains would bring about global salvation since “the discovery of the bones of the ancestors of all peoples must work towards a goal of pacification, of unification.”32 Fedorov assigned a major importance to the army, in which he saw the ideal prototype of a collectivized humanity working to master nature. Russia would then put together a Christian army (khristoliubivoе voisko) to provide protection to any peoples that asked for it.

By organizing a world conference of linguists in order to recreate humanity’s original language as it existed prior to the division of Babel, Russia would announce a sort of eschatological return of humanity to itself and the much-awaited “end of history.” National divisions would disappear and schools set up where the entirety of world knowledge would be taught. Fedorov thus sketched future society as a form of totalitarian psychocracy, in which the idea of “returning to the earth” is combined with that of a world of science-fiction resembling Fourier’s phalanstère but placed under the patronage of an Orthodox “Big Brother.”33 Fedorov’s thought had its main success after a Revolution that many intellectuals saw as the second coming of Christ, one that implied not only social, but also metaphysical changes. However, after him, the theme of overcoming death was understood less and less as a religious phenomenon, linked to a Christian awareness of the world, and more and more as a mechani-
The Intellectual Experience of Cosmism

In the first years of the new Soviet regime, the main theoreticians of cosmism merely oriented toward a more technical and practical vision something that had been originally deployed as a religious philosophy.

In the emigration, Fedorov’s thought gave rise to a movement laying claim to him in Kharbin, Mandchuria, centered around Nikolai Setnitskii (1888–1937), and played a key role in the crystallization of National-Bolshevism by Nikolai Ustrialov (1890–1937), as well as in so-called leftist Eurasianism, whose views were expressed in the Evrazia newspaper, published in Paris at the end of the 1920s. 34 Fedorov’s disciples in the Soviet Union, the so-called Fedorovtsy, led by Aleksandr Gorskii (1886–1943), were organized in Moscow and Kaluga. At the time, they focused chiefly on the technical elements that Fedorov had evoked in the struggle against humankind’s mortality, rather than on his Christian philosophy, which no longer suited the ideological presuppositions in Russia after the Revolution. According to them, the cosmos is a machine, certainly one of extreme complexity, but nonetheless one that can be correctly deciphered in order to find the reverse process which will enable the passage from disaggregation to recomposition. Many groups that were stamped by revolutionary eschatology were particularly fascinated by the Fedorovian metaphysics of technology, including the famous god-building movement (bogostroiteli) of Anatoli Lunacharskii (1875–1933) and Aleksandr Bogdanov (1873–1928), the lesser known groups of biocosmists and immortalists, 35 but also central personalities of Soviet history, such as Lev Trotskii (1879–1940) and Maxim Gorky (1868–1936).

Following more or less strict definitions of cosmism, it is possible to present Fedorov either as its founding father, or as the founder of Fedorovism, leaving the paternity of cosmism, properly speaking, to Konstantin Tsiolkovskii (1857–1935). 36 Soviet propaganda sought not to highlight Tsiolkovskii’s philosophical presuppositions, which diverged from the regime’s atheist ideology, and a number of his writings have thus remained in the archives. However, in a second phase of his life, the thinker no longer revisited the technical


36 See Michael Hagemeister’s chapter in this volume.
elements linked to the construction of rockets and largely emphasized the religious background of spatial conquest. Since the 1960s he has been called a “disciple of Fedorov” even if Tsiolkovskii always denied this influence. Both men knew each other in the 1870s, but Fedorov’s influence on him occurred not so much on the theme of the conquest of space, as on that of the transformation of bodies: “And the Earth, and we other humans, and all contemporary organic life on the planet, were material of the sun. We have always lived and we always will, but each time in a new form and, of course, without memories of the past.” Tsiolkovskii seems to have been a fervent believer, and sought to make the events described in the Bible compatible with modern science. For him, it was evident that the conquest of space is not an end in itself, but a technical means to fulfill humanity’s self-perfection and the search for happiness.

Tsiolkovskii’s belief in pan-psychism differs from Fedorov’s materialism. The world, he claimed, was guided by a “cause” (prichina), and the universe was a living being endowed with a mind, since the intellect is located in each atom. Like Fedorov, he advocated a monist approach to the cosmos. In his Monism of the Universe (Monizm Vselennoi), published in 1925, he states that we must think earthly life and the beyond in terms of unity. Humankind is only an assemblage of cells, which themselves are mere assemblages of liquids and gas: since all is divisible down to the level of the atom and humankind is part of an eternal whole, it cannot be conceived autonomously from the cosmos. “I am not only a materialist, but a pan-psychist, who recognizes the sensitivity of the whole universe. I consider this property [sensitivity, ML] to be inseparable from materiality.” Tsiolkovskii also seems to have been inspired by the German philosopher Carl du Prel (1839–1899), author of Die Philosophie der Mystik (1885), which had been translated into Russian. Du Prel was famous for drawing a link between cosmic and biological evolution, stating that Darwinian natural selection applied to planetary bodies just as it did to living organisms. An inhabitant of Kaluga, Tsiolkovskii was also probably up

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37 On the differences between these two thinkers, see Vladimir Kaziutinskii, “Kosmizm i kosmicheskaia filosofia,” In: Boris Raushenbach, ed., Osvoenie aerokosmicheskogo prostranstva: Proshloe, nastroiaschchee, budashchee (Moscow, IIEET RAN, 1997). This point is confirmed by Siddiqi, “Imagining the Cosmos,” 266–267.


39 “Nauchnye osnovanii religii”, “Etika ili estestvennye osnovy vravstvennosti,” “Nirvana,” etc.


41 See Michael Hagemeister’s chapter in this volume.

Among his disciples, Aleksander Chizhevskii (1857–1964)—who also lived in part in Kaluga and was a member of the group of biocosmists and a personal friend of Tsiolkovskii—played a special role.\footnote{See his memoirs: Aleksandr Chizhevskii, \textit{Na beregu vseleinoi: gody druzhby s Tsiolkovskim. Vospominaniiia} (Moscow: Mysl’, 1995).} Chizhevskii’s career was more or less type of an original researcher in the Soviet period, in the sense that it alternated between recognition and repression. In 1924, Chizhevskii published an introduction in German to Tsiolkovskii’s monograph, and this played a key role in the launching of the first Soviet space experiment as well as this issue’s fashion among the general public.\footnote{Siddiqi, “Imagining the Cosmos,” 284} In 1926, both men participated in the world’s first experiment in the field of space biology. In the 1920s–1930s, Chizhevskii worked at the Medical Department of Moscow University, at the Institute of Biological Physics at the Ministry of Health, and then at the Zoopsycho Laboratory of the People’s Commissariat for Education of the Russian Federation. His main book, \textit{Physical Factors of the Historic Process} (\textit{Fizicheskie faktory istoricheskogo protsessa}), published in 1924, earned him a rebuke from Stalin, who demanded that he retract his theories concerning the role of the sun on human activity. A self-proclaimed sun-worshiper and poet of his time, Chizhevskii refused and was repressed, spending eight years in the Gulag between 1942 and 1950, and then being imprisoned in Karaganda until 1958. Afterwards he was permitted to return to Moscow, where he ran an aero-ionification laboratory under the USSR State Planning Organization. Not until 1995 was the most complete version of his manuscript, \textit{The Earth in the Embrace of the Sun} (\textit{Zemlia v ob’iatiiakh solntsa}), finally published.\footnote{Available on http://www.chizhevski.ru/zemla} Similar to Tsiolkovskii, Chizhevskii was actively in favor of the Soviet space program and hoped to see the conquest of other planets, since “in subjugating
nature and our victory over it, the goal of the final triumph of human knowledge will be realized.”

Above all, he contributed to developing two scientific domains that he called heliobiology—the study of the impact of solar flare cycles on human history—and heliotaraxy—the study of the effect of solar activity on the biosphere. According to him, the Earth’s physical fields, variations of solar activity, solar magnetism, and dependent geomagnetic oscillations, all impact on human life. “It is not the earth, but the cosmic spaces that will become our homeland, and we are just starting to feel the importance of radiation, in all its authentic immenseness, for terrestrial existence and the displacement of remote celestial bodies.”

Analyzing sunspot records and proxies as well as battles, revolutions, riots and wars for the period 500 BCE to 1922 CE, he found that 80 percent of the most significant events occurred around the sunspot maximum. The history of humankind, he therefore claimed, responded to cosmic regularities (zakonomernost’), notions that were developed later by Lev Gumilev (1922–1992). In his “historiometric” works, Chizhevskii states that human history is shaped by 11 year cycles in the sun’s activity, as manifest in political events (revolts, wars, revolution), and other events such as power shortages or plane crashes. He therefore marked a new threshold in the evolution of cosmist theories in that he was more removed from Fedorovism than Tsiolkovskii, and was more distinctly focused on the sole topic of space—in particular toward sun-centered theories—rather than on the question of humanity’s overcoming the state of death; moreover, he emphasized a sort of cosmic determinism which did not exist in Fedorov’s works.

**Cosmism, a Paradoxical Reading of the Occult**

Cosmism is stamped by the historical context in which it emerged. The October Revolution provided fertile ground for futurist utopias, which seemed thus to be shifting from the status of dream to that of possibility. The Bolshevik Revolution gave a new lease of life to a secular millenarism that was founded on ancient utopian traditions present in Orthodoxy. God-building, biocosmism, theories of rejuvenation with blood (Bogdanov), Lenin’s embalming… all constituted part of this intellectual kaleidoscope, which the Revolution had

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48 Aleksandr Chizhevskii, “Kolybel’ zhizni i pul’sy Vselennoi,” Zemnoe ékho solnechnykh bur’.
awakened.51 These universalist utopias emerged in the early 1920s, but were liquidated during the “great turn” of 1929. Stalinism no longer wanted to hear of dreams about humanity’s potentialities; it wanted to change nature and society by force. It was no longer committed to a transformation of humanity as a whole, but sought to prove the superiority of Russian-Soviet science in its competition with the capitalist world. As a maximalist ideology par excellence, cosmism was the only futurist current of the early 1920s to survive this “great turn”. Its totalitarian features and the importance it assigned to technological modernity were in agreement with the ambitions of “total realization” that were operative in the Bolshevik years and then again under Stalin. Cosmism was thus able to find some common ground with Stalinism, permitting the latter to instrumentalize it as part of the victory of Soviet science. Later, cosmism also found common ground with Khrushchevian détente over the conquest of space. It therefore managed to navigate in the “grey” and troubled waters of the informal Soviet world: it was neither completely reduced to an instrument of state propaganda, nor was it open dissidence. It found its place in the various niches of intellectual freedom permitted in the Soviet society.

Cosmism, however, cannot be reduced to a specifically Russian phenomenon, able to be explained completely by its local cultural context. It also has to be placed in larger intellectual traditions such as occultism—though the issue here is not to distribute labels of belonging, but instead to inquire into parallelisms, mimetisms, and intellectual hybridizations.

Cosmism shares very many features with the so-called classic occultist traditions, such as Kabbalah, astrology, alchemy, etc. Its main presupposition is that the separation, formulated during the Renaissance, between metaphysics—either institutionalized religions or arcane sciences—and the modern sciences is a confusion of human thought, a negation of the multiplicity of the dimensions of human existence. Cosmism, therefore, like occultism, appeals to the recreation of holistic forms of knowledge, forms which would reconcile mind and matter, metaphysics and science. These holistic forms of knowledge are supposed to provide access to a higher reality, a hidden and ideal world. This presupposition is common to both intellectual traditions, although they differ as regards the interpretation they give of the relation between reality and

the hidden world. For occultism, this higher reality is parallel to the real world in which humanity lives, whereas cosmism maintains that the real world is destined to become a higher one: for the former, there are two co-existing worlds, while, for the latter, they are one and the same world, but they occur at different times. For the former, the difference between both worlds is of essence, while for the latter it is uniquely temporal.

Both traditions meet up again, however, in the idea that holistic knowledge, which enables the passage to another world, must be founded on a certain connectedness and the recreation of a lost link. For occultism, this connectedness between the different levels of reality is materialized in the secret doctrines that humanity has inherited from a time when it could still feel the unity of itself and the cosmos, a premonition that is lost today and that contemporary humans must seek in ancient texts, whose meanings are concealed or occulted. In cosmism, however, connectedness materializes with the rebirth of the past, properly speaking, since the return of the dead, in various physical forms, heralds the reconciliation of humanity with itself and its environment. Where occultism views connectedness from an intellectualized angle—that of lost forms of knowledge to be rediscovered and relearned—cosmism does seek out intermediaries: it is the dead themselves who will return to symbolize the vanished link, not the texts or the practices of the living. The idea of a living knowledge (zhivoe znanie), so dear to occultist thinking, thus finds in cosmism a practical implementation—that of the resurrection—pushed to its extreme. Another trait that dissociates both movements is probably that of moralism: cosmism calls for the redemption of humanity—the Christian theme par excellence—and therefore brings a moralizing judgment on the contemporary failure of humanity—a feature that is very noticeable in Fedorov in particular. This trait, however, is largely absent from the occult traditions, even though it is found in some currents, such as Guénonian Traditionalism.52

One of the major differences distinguishing cosmism from the other occult traditions is its socialism: according to cosmism, hidden reality will become obvious to all of humanity, not for a small group of the privileged. The secret character of the activities of connectedness, as a sort of “lodge” for the initiated, does not comprise part of the intellectual and organizational apparatus of cosmism which, on the contrary, likes to speak of the greatest number. For Fedorov, humanity as a whole must participate in the “common tasks” of resurrecting the dead and conquering space. This socialism, however, is not with-

out its totalitarian background: it amounts to an obligation, since the resurrection it heralds will not be individual but collective. Individual refusal therefore cannot be tolerated, and nobody will escape the military brigades working toward the transformation of the cosmos. Here, cosmism is far from the individualist features of other occult traditions, which instead tend to emphasize the personal nature of the quest towards spiritual awakening, and put value on belonging to an elite. With the cosmist, the transformation of man into superman is to eventuate through the authoritarianism of an enlightened state and a certain measure of physical violence, both features that are pushed to their extreme in the eugenicist theories of Tsiolkovskii. In the other occult traditions, which do not have a totalitarian character but, on the contrary, emphasize the individuality of each person’s path, the idea of violence against humanity in the name of its obligatory awakening is absent. Cosmism awaits the re-animation of humanity into a single universal organism—and the conjunction between two adjectives, single and universal, is a sign of totalitarian thought—whereas occultism sketches a world of awakening filled with multiple, diverse, specific individualities, each one having formed its consciousness, via different paths, of the harmony of man and the cosmos.

In terms of practice, cosmism proves much poorer than occultism. Its calls to connect body, mind and soul did not give rise to any precise practices, applicable in the everyday, even if Tsiolkovskii, for example, claimed he spoke to angels. For Fedorov, it might be noted that man’s harmony with the cosmos is created through a specific agriculturally-based economic system: inspired by the Slavophiles, he actually saw agriculture as the economic sector that was most harmonious. Tsiolkovskii, on the contrary, was more directed toward “cosmic industry” than toward “cosmic agriculture.” The nationalist character of cosmism also distances it from the occult traditions, which do not lay claim to the superiority of one nation over another. According to them, the quest is at once individual and universal, but not national, even if Elena Blavatsky and Nicholas Roerich (Nikolai Rerikh) have commented the uniqueness of the “Russian way” too. In cosmism, in particular with Fedorov, Russian messianism is an intrinsic part of the utopian message. This nationalism is expressed differently with Tsiolkovskii, which stresses more particularly the progress of Soviet science on matters of spatial conquest. This nationalist narrative is today being heavily revised by the Russian neo-cosmitists, according to whom Russia alone, through its awareness of the religious bases of all scientific progress, is able to show the future path to a humanity in perdition.53

53 For example, see the texts of Evgenii Troitskii (born 1928), founder and president of the
While nearly all occult traditions deem that higher knowledge had been better preserved in the East than in the West, this Orientalist fascination is practically absent from cosmism. With the exception of Fedorov’s texts in which he points up Zoroastrianism as a precursor of Eastern Christianity, and his fascination for the Pamir mountains, the other currents of Eastern thought are not underscored, and neither Tsiolkovskii, nor Chizhevskii were oriented toward the Orient. However, the presence of the main Soviet cosmist theoreticians at Kaluga, the “capital” of theosophy in Russia, is surely not a geographical coincidence and can lead us to suppose that there had been direct influences, but probably not concerning this “Eastern” feature. The cosmists of the Soviet era such as Tsiolkovskii are closer to the western ufologists, than they are to the great classical strands of occultism. For them, the space of self-realization has evolved; it is no longer situated in a mystic East of Egyptian or Babylonian wisdoms, of Brahmanic or Buddhist knowledge, nor on the high plateaus of the Himalayas, as it was for Blavatsky and Roerich. Instead, it is located in the extraterrestrial world: thanks to space flight, human liberation from the Earth has geographically shifted the future of humanity from the East toward the cosmos.

The complex relation of cosmism towards temporality, however, links it partly to occultist traditions. Cosmism’s complexity in this relation comes from the fact that it can, paradoxically, be read simultaneously as turned toward the future—the quest for a new mankind—and toward the past—the resurrection of the dead. In much the same way that the cosmists expected science to fight against the decomposition of bodies, and to enable the displacement of humans in time and space, the alchemists of the Renaissance also sought methods by which to transform living bodies and objects, and to travel through the corridors of space and time. For the cosmists, the magical knowledge of alchemy was supposed to evolve into simple scientific and technical prowess. The cosmists, then, participated in Gnosticism insofar as they believed in a magical power to transform the world, but they concentrated this power in technology.

Association for the Complex Study of the Russian Nation (Assotsiatsiia po kompleksnomu izucheniiu russkoi natsii), such as Russkaia ideia, slavianskii kosmizm i stantsiia Mir (Kaluga: Oblizdat, 2000), or those of Vladimir Dudenkov, chair of philosophy at the Technical University of Saint-Petersburg, such as Filosofiia kosmizma v Rossii rubezha 19–20 vekov (St. Petersburg, 1998).

54 Young, “Fedorov’s Transformations of the Occult,” 176.
Despite its technologizing obsessions, cosmism has continued to think that the mastery of technology was only a means to attain a higher degree of humanity, and not an end in itself. Such mastery necessarily had to be accompanied by humanity’s spiritual transformation, as machines have utility only in order to help humans develop their physical and psychic potentialities. For cosmism, the human control of nervous-energy flows will make it possible to change reality over the long-term. As such Fedorov, Tsiolkovskii, and Chizhevskii all developed pan-psychic theories: as thought is lodged in atoms and these atoms occupy the entire universe, the universe itself is considered a living and thinking being. Human transformation thus depends on the inherent active teleological forces and the supreme—nomogenetic—causality which brings the world forward. The cosmists are, however, marked by an anthropocentric reading of this interaction: humans must, through an active and conscious process, integrate themselves into the whole ambient cosmos. Some see this anthropocosmism as a Russian tradition that has been stamped by the personalism of Russian philosophy, according to which the person (lichnost’), who lives in harmony with the collectivity, is emphasized, while the individual, cut off from the group, is criticized. However, Chizhevskii’s theories point toward a strong determinism: they no longer exult humankind’s capacity to transform nature, including its own, but conceive humans as beings subjected to cosmic activities over which they have little control. Despite this deterministic presupposition, which does not exist in either Fedorov or Tsiolkovskii, all cosmist theoreticians share with occultism the idea that the ultimate knowledge is that of awareness.

Conclusion

Cosmism belongs to those non-conventional spiritual traditions, combining strong allusions to Christianity (redemption via resurrection)—albeit an absence of interest in Eastern religions—a pan-psychic reading of the universe, belief in still unknown cosmic forces and in an extra-terrestrial future for humanity. Its complexity resides in its twofold scientific aspect. It is both a science of spatial conquest, construed as conventional, legitimate science and endorsed as the embodiment of progress; and a science of the ability to change material realities by the force of the spirit, perceived as illegitimate. Without the success of spatial conquest, which did indeed broaden the limits of human possibilities, cosmism’s scientific pretensions would have remained marginal. It would not have been able to present itself as anything other than a pseudo-science or a para-science. But its ability to predict, and then to accompany, the
message sent with the conquest of space multiplied its power of expression and reception tenfold. Responding to the fashion for a “science with a conscience,” cosmism presented itself as a scientific religion, a mysticism of technology, and a finalism able to speak to Soviet society, which was torn between exulting its industrial exploits, ecological concerns, and spiritual interrogations outside the channels of the institutionalized Churches. Buoyed by many occult convictions, of which it offers a modern reading, cosmism advanced holistic responses and aimed to rethink, fundamentally, the boundaries of the visible skies. Reprising an archetype of human thought according to which the physical sky above our heads is the place of the divine, it tried to find novel formulations for human interrogations into the meaning of life and humanity’s place in the universe.