

2002

# Russia and the Former Soviet Union

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## Recommended Citation

Howell, Yvonne. "Russia and the Former Soviet Union." *Encyclopedia of Literature and Science*. Edited by Pamela Gossin. Westport: Greenwood Press, 2002.

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**Russia and the Former Soviet Union.** Contested geographies and cultures in which (according to Iurii Lotman's and Boris Uspenskii's seminal study

“Binary Models in the Dynamics of Russian Culture”) there is a lack of relatively neutral political, social, economic, and legal institutions capable of mediating between the polarities of church and state, private and public, sacred and secular. As a consequence, for the last two centuries Russian literature and literary debate have assumed extraordinary significance as almost the sole realm of negotiating a collective as well as individual identity. The binary structure of Russian culture in large part characterizes the relationship between literature and science as well. Throughout modern Russian history, one finds either extreme tension between the two or radically synthetic attempts to erase the gap between different modes of knowledge altogether.

Few other cultures have been so defined, and self-defining, on the basis of their literary output as Russian culture. And no literary tradition has insisted more strongly on placing literature in the service of moral ideals, while simultaneously challenging hegemonic thinking. On the other hand, the self-proclaimed new Soviet culture that was meant to subsume Russian culture was defined by its thoroughgoing **scientism**. Soviet ideology (*see* Politics and Ideology) insisted that a single “scientific” **philosophy**—dialectical materialism—would inform not only scientific explications of the natural world but all fields of inquiry into human social and cognitive behavior, morals, and metaphysics. As is well known, the crude and dogmatic enforcement of this ideology resulted in tragic loss of life and perversion of scientific principles. Moreover, by restricting the purview of the humanities to a “Marxist-Leninist” philosophical framework, Soviet ideology deepened the divide between humanistic inquiry and science, since in the latter it was possible to avoid or even fruitfully apply the strictures of dialectical materialism, whereas work in the humanities that did not properly conform was silenced, “purged,” or driven underground. Yet writers and scientists themselves were reluctant to concede that science and genuine humanistic inquiry were incompatible. Evgenii Zamiatin’s antiutopian novel *We* (1920; published in USSR 1989) and his essay “On Literature, Revolution, and Entropy” (1923) are masterpieces of literary **imagination** deeply informed by scientific thought. The **poetry** and prose of such disparate writers as Mayakovsky, Bely, Mandelstam, Zabolotsky, and Bulgakov (all “silenced” in the 1930s by death, arrest, or censorship), as well as the work of Russian linguists and literary scholars (notably the school of Russian Formalism) in the first decades of this century, manifest an extraordinary interest in incorporating the perspectives of science into the realm of literature.

Today, when it is possible to retrieve more fully the legacy of the Soviet Union’s suppressed writers and thinkers, the interdisciplinary vantage point of LS studies should be particularly instructive in illuminating a unique intellectual milieu, formed out of a peculiar tension between genuinely scientific, pseudo-scientific, and literary cultures in a twentieth-century setting. Furthermore, it is now possible to engage the innovative and fruitful contributions of recovered and new Russian scholarship in the area of science and culture. The chronolog-

ical sketch provided below indicates some territory pertinent to the first issue and introduces the second.

At the beginning of the eighteenth century, European *Wissenschaft* was grafted onto Russian culture from above. Peter the Great (1672–1725), unlike his predecessors, was determined to modernize Russia by “opening a window to the West,” and he understood that developing the conditions for scientific research to flourish on Russian soil was essential to ensuring the political and military clout of his empire. He mandated the establishment of the **Russian Academy of Sciences** (1725) and imported scientists in all fields to work in it and train Russian cadres. Science and the gloss of European **Enlightenment** were absorbed rapidly by a thin layer at the top of Russian society; the pattern of rapid but imitative and inconsistent development of scientific and technical knowledge according to the needs of the State has characterized Russian scientific culture ever since. The rise of a Russian literary language (a prerequisite alternative to ecclesiastic Church Slavonic and oral vernaculars) and a cultivated audience for literature also occurred relatively late and abruptly in comparison with the continuous development of Western European literary art. Early examples of Russian prose literature penned by Karamzin in the genre of the “sentimental sketch” can be shown to reflect the late-eighteenth-century scientific paradigm emphasizing the importance of the senses in human perception and cognition.

By the beginning of the nineteenth century, Russian literature had already produced its greatest artist, the versatile poet, dramatist, and prose fiction writer Alexander Pushkin. A late short story by Pushkin, “The Queen of Spades” (1830), contains topical allusions to scientific fads such as **mesmerism** and Montgolfier’s balloon but retains its artistic freshness today precisely because innumerable critical attempts have fallen short of resolving its central narrative enigma, which is based on the interplay of chance and **complexity**. Thus, from the point of view of LS, the enduring work of narrative art seems to give temporal form to the paradoxical spatial incongruities implied by contemporary **physics**. In the second half of the nineteenth century, Western Europe’s increasing confidence in the authority of science and the influence of positivist and materialist ideas reached Russia at a time of political reform and cultural reawakening. During the relatively liberal early reign of Tsar Alexander II (r. 1855–1881, assassinated by radical terrorists), the beginnings of real social and political reform, such as the abolition of serfdom, led to an intensification of the debate over the direction of Russia’s future. In its broadest formulation, the debate pitted the Westernizers, who saw Russia’s future in European modernization, against the Slavophiles, who saw salvation in resisting Western influence in favor of a “third path” expressing the unique destiny of Russia’s Eurasian civilization. Nineteenth-century intellectuals hoping to push their nation westward or eastward enlisted literature and literary criticism, rather than the professional discourses of law and **politics**, to advocate (or undermine) Western theories in natural, physical, and social science.

Scholarship has taken account of the political and social factors shaping Russia's reception of new scientific ideas, but less attention has been paid to the lasting influence of literature and literary criticism on that reception. Indeed, the great polemical novels of Turgenev, Dostoevsky, and Tolstoy foreground the question of science's authority and incorporate this question into the larger argument over Russia's destiny. However, while Russia's intellectuals almost unanimously opposed the increasing conservatism that marked the second half of Alexander II's reign, that opposition seemed to be polarized into two camps: political radicals of varying hues who believed the efficacy of atheism, materialism, and rationalism as principles necessary for positive social change, and Idealist philosophers, writers, and many scientists, who shared a somewhat elitist distrust of the radicals and a common faith in humanistic and spiritual, if not religious, values. The radical social reformers (populists, anarchists, Marxists) endorsed **evolutionary theory**, for instance, as a potent ally in the battle against religious orthodoxy, Tsarist authority, and social backwardness. The most influential voices in this camp were literary critics, some of whom wrote their reviews from within Tsarist prisons. Broadly speaking, the radical literary critics judged literary worth on the basis of their own social and political ideals, which in turn were firmly linked to the scientific vindication of materialism and rationalism. The hero of Turgenev's novel *Fathers and Sons* (1862) can be interpreted either as a negative caricature or as a positive embodiment of the Russian tendency to harness science to extreme social and political radicalism. Dostoevsky, writing his major novels in the same pivotal decades of scientific advance, offers the Underground Man's famous diatribe against the limitations of rationalism's "two plus two equal four" and a gallery of "holy fools" (e.g., Sonia Marmeladova, Alesha Karamazov from *The Idiot*, 1868–1869) who defy modernity's diagnosis of "blessedness" as simply an organic pathology. In a different way, Tolstoy, no less than Turgenev and Dostoevsky, offers his literary masterpieces as proof of the narrowness and limitations of the scientific worldview, insofar as he could identify the latter with materialism, rationalism, and the European addiction to individualism.

At the turn of the century, writers and critics turned away from the scientific orientation of the nineteenth-century radical critics and the socially engaged, quasi-objective style of literary **realism**. Rather, **art** depicted a subjective realm and transcended material laws. Russian **modernism** defined itself in opposition to the nineteenth-century realistic novel, painting style, and classical **music** with the **Symbolist movement** (see also Symbolism) in poetry, abstractionism in the visual arts, and the twelve-tone scale in music. Recent scholars have fruitfully argued, however, that the Russian modernist dream of transcendence rests "on the solid positivistic substratum" (Paperno and Grossman 4) of nineteenth-century realism. The philosophers Nikolai Fedorov (1828?–1903) and Vladimir Soloviev (1853–1900) both developed highly influential moral and aesthetic doctrines proposing that the goal of human evolution is to achieve not only spiritual but also literal physical resurrection, or reconstruction of life forms

here on earth. The disparate work of the two philosophers shares the premise that scientific **positivism** can be reconciled with Orthodox theology and (particularly in Soloviev) with the true function of artistic creation. Thus, one of the most striking facets of Russian modernism in the arts is its adherence to an aesthetic philosophy that goes beyond aesthetics and emerges as a synthetic worldview known as "life-creation." Life-creationism posits that the creative potential of human beings in both the arts and the sciences should be channeled toward conquering the ultimate cause of individual malaise and social injustice: death. The enduring influence of "the immortality project" in Russian literature and science is only beginning to be adequately investigated.

Recent scholarship has similarly taken a new look at the alleged **discontinuity** between modernism and the artistic style mandated by Stalinist ideology, socialist realism. Whereas socialist realism ostensibly represented a return to the civic engagement and "scientific" objectivity of nineteenth-century realism, it actually absorbed much of the modernist aesthetic that attempts to recreate life in "more evolved" biological and spiritual form. Life-creationism is transformed into a fundamental principle of Soviet cultural ideology, epitomized in Stalin's infamous dictum that Soviet writers and artists are the "**engineers** of human souls." Thus, nineteenth-century realism, modernism, and socialist realism take their place on a continuum, and all three rest on a consistent and enduring belief in science. One of the implications of this recent reconceptualization is that there is a greater link than has heretofore been explored between the modernist ethos of life-creation and the very real achievements of Russian cosmologists, geneticists, and psychologists in the Soviet period. Likewise, the crucial role science played and will continue to play in Russian notions of transforming individual and social life, whether biophysically or culturally, must be examined. In short, the polarized debate between science and humanism that invigorated prerevolutionary Russian literary life resolved itself first into an idealist aesthetic synthesizing the "**two cultures**," then into a dystopian social experiment in the name of "scientific materialism." In practice, though, the most significant writers and scientists of the Soviet period tended to valorize the (officially suppressed) connection between science and the entirety of Russian humanistic heritage. The almost cultlike status among the scientific intelligentsia of the Soviet science fiction writers **Arkady** and **Boris Strugatsky** can be attributed to the way the Strugatskys render this connection in popular literary form. On another level, the enormous moral prestige of the physicist Andrei Sakharov derived from the inextricable connection between his scientific and humanistic principles.

At the 1931 International Congress of the **History of Science** in London, it was a member of the Soviet delegation, the Russian physicist and historian Boris Hessen, who revolutionized the field with his "paradigm-setting analysis" of Isaac Newton's (*see* Newtonianism) contributions to science, which Hessen insisted could only be fully understood by taking into account external social and economic factors (Graham, *Science in Russia* 145). Hessen died in prison in 1938; his fate was shared by almost all early Soviet theorists exploring the

possibilities of a sophisticated Marxist approach to both science and cultural studies. In fact, Stalinist ideological restrictions effectively channeled Soviet historians of science into a narrow “internalist” approach. As Daniel Alexandrov observes, this retreat ironically “left the sociology of science to philosophers who felt free to challenge both internalism and Marxism in their own way” (Alexandrov 331) and, it should be added, in their own “underground” or “kitchen seminar” space. With the collapse of the Soviet Union, these subterranean intellectual currents have surfaced to become the mainstream of a renaissance in Russian interdisciplinary studies of science and culture. Alexandrov highlights the Russian emphasis on viewing science as a type of “community of culture.” Generally speaking, a Bakhtinian emphasis on the communicative nature of all intellectual activity inspires many areas of Russian science studies and points the way toward a fruitful common ground between literary studies and the microsociohistory of science (Alexandrov 324). Recent Russian studies of the language of science have also been informed by dialogism, and in particular the theory of argumentation, in their efforts to reveal both the persuasive and logical structure of the scientific text and the dynamics of creative **problem solving** as it is manifested in the essentially dialogic verbal act, going beyond Bakhtin’s own relegation of scientific discourse to “monologue.”

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**Russian Academy of Sciences.** Organization established in 1725 by Peter the Great; after the Bolshevik Revolution reorganized as the Academy of Sciences of the Soviet Union and in 1990 reassumed its original title. The Academy exists separately from the universities as the dominant and unifying body of scientific (including humanities) research. Its pyramidal structure institutionalized a complex answerability to state ideology (*see* Politics and Ideology) in both Tsarist and Soviet Russia, constituting an alternative to the social organization of scientific endeavor in other modern civilizations.

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