In physics, P. N. Lebedev (1863–1912) measured the pressure of light, and A. S. Popov (1859–1905) demonstrated—before Marconi's patent application—that messages could be transmitted by electromagnetic waves. N. E. Zhukovsky (1847–1921) and K. E. Tsiolkovsky (1857–1935) made pioneering discoveries in aviation, with Tsiolkovsky's early contributions to rocketry being especially significant. The physiologist I. P. Pavlov (1849–1936) was awarded a Nobel Prize in 1904 for his work on digestion, and he later gained world fame for his experiments with dogs, which demonstrated the workings of conditioned reflexes.

Several important scholars did much of their work abroad. Sophia Kovalevskaia (1850–1891) studied in Germany and later became a professor of mathematics at the University of Stockholm. Her work on motion won her recognition from the Academy of Paris in 1888. Two years later, the biologist and bacteriologist I. I. Mechnikov (1845–1916) joined Paris's Pasteur Institute and in 1895 became its director. In 1908, he was a co-recipient of the Nobel Prize for Physiology and Medicine.

The Late Imperial era also provided a rich harvest in the social sciences (especially history) and philosophy. From 1851 to 1879, despite his teaching and administrative duties at Moscow University, Sergei Soloviev (1820–1879) completed each year a new volume of his *History of Russia from Ancient Times*. His pupil Vasili Kliuchevsky (1841–1911) became renowned for his graceful style, both in lecturing and writing, and his five-volume *Course in Russian History* made an indelible impression on many future historians of Russia, both within and outside the country's borders. Other historians of note included S. F. Platonov (1860–1933), who did valuable work on the Time of Troubles; Paul Miliukov, the Kadet leader; and several Ukrainian historians, especially Nikolai (Mykola) Kostomarov (see Chapter 19) and M. S. Hrushevsky (1866–1934).

The empire's most important philosopher was Vladimir Soloviev (1853–1900), the son of the historian. He studied and wrote on Western philosophy and developed his own original philosophic ideas. His *The Justification of the Good* (1895) was Russia's most important work in ethical philosophy and also offered an impressive philosophy of law.

LITERATURE

The Late Imperial age was Russia's greatest literary era. First came the Golden Age of the Russian novel, which basically coincided with the reign of Alexander II. Then a little later, during the reign of Nicholas II, literature shared a Silver Age with the other arts. Bridging the two ages was Russia's great short-story writer and dramatist Anton Chekhov.

Turgenev, Dostoevsky, and Tolstoy

The three greatest novelists of the Golden Age were Ivan Turgenev (1818–1883), Fedor Dostoevsky (1821–1881), and Leo Tolstoy (1828–1910). Turgenev and Tolstoy were from wealthy noble landowning families; Dostoevsky grew up in more modest surroundings in Moscow. Although their literary styles differed in many ways, all three writers were primarily realists in an age of literary realism.

Turgenev first received wide acclaim for his *Sportsman's Sketches*. The sketches began appearing in 1847 and were published in book form in 1852. By depicting serfs sympathetically, the sketches contributed to the growing dissatisfaction with the evils of serfdom.

Turgenev's most famous novel, which created a storm in Russia when it first appeared in 1862, was *Fathers and Sons*. Literary critics and others debated the meaning and significance of its central character, the nihilist Bazarov, and whether Turgenev had depicted him too harshly or sympathetically. Other Turgenev novels include *Rudin*, *A Nest of the Gentry*, *On the Eve*, *Smoke*, and *Virgin Soil.*

In his novels, he often dealt with contemporary social issues. He was a liberal westernizer, spent much time in Western Europe, and was the first Russian writer to gain a widespread European following, even receiving an honorary degree from Oxford University in 1879. His characters sometimes reflect his own views, but he prided himself on his objectivity and claimed that above all he was trying to portray life realistically.

Turgenev was also the author of several plays and many pieces of short fiction. His best play was *A Month in the Country*, written in 1850 but first produced in 1872. Compared to his novels, Turgenev's many shorter works tend to be more personal, poetic, and romantic, some even dealing with fantastic, otherworldly types of occurrences. His strong lyrical gift is more evident in his shorter fiction, as are his personal feelings: He looked back nostalgically at young love (he never married), lamented his own aging, and expressed a great fear of death.

Whether writing novels or stories, Turgenev's prose was characterized by brevity and clarity. All six of his novels together fall far short of the length of Tolstoy's *War and Peace*. In contrast to Dostoevsky and Tolstoy, Turgenev did not generally tell the reader a great deal about the inner life of his characters but revealed their feelings primarily through their words and actions.

Dostoevsky's life and works were both filled with more turbulence than Turgenev's. Although he received early acclaim for his first novel, *Poor Folk*, published in 1846, his involvement in the Petrashevsky Circle led to his arrest in 1849, followed by a decade of imprisonment and exile. While in a Siberian prison, he experienced a strong religious reawakening and became convinced that Russian intellectuals like himself must be spiritually reunited with the common people and their Orthodox religious beliefs.

In 1866, Dostoevsky published *Crime and Punishment*, the first of his four major novels—the other three being *The Idiot* (1868), *The Possessed* (1872), and *The Brothers Karamazov* (1880). In *Crime and Punishment*, he attempted to demonstrate the bankruptcy of nihilism and radical thinking, which he blamed primarily on Western influences. In *The Possessed*, which reflected his alarm at the behavior of nihilists such as Sergei Nechaev, Dostoevsky suggested that westernized liberals such as Turgenev helped create a climate conducive to the growth of radicalism.

His criticism of Western influences and his Russian nationalism were sometimes accompanied by ugly prejudices, including antisemitism. At other times, as in his "Pushkin Speech" of 1880 or in *The Brothers Karamazov*, Dostoevsky spoke or wrote of universal reconciliation, establishing the Kingdom of God on earth, and displaying brotherly love toward Western Europe.

Religious themes were important to him. He believed that free will often led to

sin and suffering, but that such freedom was priceless and that from suffering, both humility and redemption could flow. He intended Prince Myshkin, the hero of *The Idiot*, to be a Christ-like figure, possessing great humility. ln *The Brothers Karamazov*, Alyosha Karamazov and the monk Zosima reflect some of Dostoevsky's own religious thinking.

Although Dostoevsky's reputation rests primarily on his four great novels, he also authored many other works, including other novels, short stories, sketches, and journalistic essays. *The Adolescent* is sometimes included in the ranks of his major novels. *Winter Notes on Summer Impressions* contains reflections on his 1862 trip to Western Europe. *The House of the Dead* is a novel based on his own Siberian prison experiences. *Notes from the Underground* and its Underground Man defend "irrational" behavior in the name of freedom. *The Gambler* reflects Dostoevsky's own gambling addiction during the 1860s.

Dostoevsky's style is more dramatic and frenzied than Turgenev's. The clashes of his characters often flow from their differing ideas—he was a master of the novel of ideas. His realism, which at times is mixed with gothic romantic touches, is primarily a psychological realism, and he was especially insightful when delving into the depths of abnormal behavior. Many of his characters, such as Raskolnikov of *Crime and Punishment*, were split personalities. Raskolnikov's behavior is partly explained by his residence in St. Petersburg, and much more than Turgenev and Tolstoy, Dostoevsky's prose captures the heartbeat of the new urban environments emerging in Russia.

As with Turgenev and Dostoevsky, Tolstoy first made his literary mark while still in his twenties. His trilogy *Childhood, Boyhood, and Youth* and his *Sevatopol Sketches*, all based largely on his own experiences, won him early acclaim for his realism. Among other works, he wrote two masterpieces, *War and Peace* during the 1860s and *Anna Karenina* during the 1870s

While writing *Anna Karenina*, Tolstoy began experiencing a spiritual crisis—a "middle-age crisis" it might be termed today. The acute realization that "the dragon of death" awaited everyone temporarily sapped life's enjoyments and led him to despair. Like Dostoevsky in prison two decades earlier, Tolstoy was "reborn" by the example of common Orthodox believers, only not convicts, but the peasants around him. And like Dostoevsky, Tolstoy retained a faith in the common people and their essential goodness until the end of his life.

In his last three decades, Tolstoy continued writing fiction as well as many nonfictional, often religious or didactic works. He also wrote several plays, the most famous being *The Power of Darkness*. During this period, he developed his own religious-political philosophy, one that attracted Tolstoyan followers and got him into trouble with both the Orthodox Church and the government (see Chapter 23). His religious beliefs infused much of his late fiction, but despite his frequent didacticism, he still wrote many excellent works. Stories such as *Master and Man* and *Hadji Murad* are among his finest, and even the novel *Resurrection*, which the critic Prince Mirsky thought an example of Tolstoy "at his worst," has its strong defenders.

Although the fictional characters of Turgenev and Dostoevsky often reflected the political-ideological struggles of their day, Tolstoy's characters were more concerned with eternal questions such as individual and family happiness and the

meaning of life and death. At times, as in *War and Peace*, Tolstoy interrupts his narrative to discourse on topics such as war and history.

Tolstoy was a master at depicting and analyzing his characters. Although some of them reflect his own inner turmoil and search for life's meanings, others exist more in their own mental worlds. Anna Karenina, Natasha (in *War and Peace*), and the Muslim warrior Hadji Murad are just a few notable examples. Although his writings before his "crisis" are full of realistic detail, his latter works are more concise and sparse.

Chekhov, Gorky, and Other Writers

Besides Turgenev, Dostoevsky, and Tolstoy, Russia's Golden Age produced other fine novelists, including Ivan Goncharov, Nikolai Leskov, Alexei Pisemsky, and Mikhail Saltykov-Shchedrin. Although both Turgenev and Tolstoy wrote a few plays, the chief playwright of their day was Alexander Ostrovsky (1823–1886), who wrote close to fifty plays. Ostrovsky's plays reflected the literary realism of the era; were usually full of drama; and often displayed the vices of merchants, patriarchal fathers, and others.

The leading poets of this generation were Nikolai Nekrasov (1821–1877) and Afanasi Fet (1820–1892). The two men presented quite a contrast. Nekrasov, the radical editor and friend of Chernyshevsky and Dobroliubov, wrote realistic poetry reflecting his social concerns. The conservative Fet, who was known to register his disapproval at the liberalism of Moscow University by spitting out his carriage window when passing it, was a proponent of "art for art's sake" and wrote melodic love and nature poems. The leading poet of the succeeding generation was Vladimir Soloviev, the philosopher, religious thinker, and mystic, who died in 1900.

From the early 1880s until his death, Anton Chekhov (1860–1904) wrote the hundreds of stories and numerous plays that have gained him a worldwide reputation. Among his plays, *The Sea Gull*, *Uncle Vania*, *The Three Sisters*, and *The Cherry Orchard* are his most famous.

Chekhov gained early success writing humorous, often satirical, short stories, which have always been more appreciated in Russia than abroad. They made it unnecessary for him to earn a living as he had been trained to do, practicing medicine. A sadder atmosphere envelopes many of Chekhov's later works, partly because of his suspicion and eventual awareness that he had tubercuiosis, but also because of the social conditions of Russia.

Chekhov considered himself a realistic writer; a chronicler of his times; and being a humane and decent man, he was saddened by the life around him. His works reflect the poor state of the peasants, the backwardness of provincial life, the inhumane treatment of convicts (as depicted in his book *Sakhalin Island*), the decline of the nobility, and the ineffectualness of intellectuals.

Chekhov's characters are often bored, unable to connect with others, and more willing to talk than act. Even Chekhov's dramas are short on dramatic action. His style depends more on creating an atmosphere, a mood, a "slice of life"—often sad but lyrical. In this respect and in the conciseness of his language and frequent use of symbols, Chekhov's plays and latter stories display a strong poetic sensibility.

Another writer of short stories and plays was Alexei Peshkov (1868–1936), who adopted the pen-name Maxim Gorky. He grew up in harsh conditions, and before he reached his teens he began earning his own living—these experiences were later described in some of his best writing, an autobiographical trilogy (*Childhood*, *In the World*, *My Universities*). His short stories earned him fame in the mid-1890s, and other stories, novels, and plays soon added to his reputation. His play *The Lower Depths* (1902), like Chekhov's greatest plays, was staged by the new Moscow Art Theater, under the direction of C. S. Stanislavsky, one of the pioneer directors of modern theater. In this play and in works such as the novel *Mother* (1907), Gorky's radical sympathies are clear—although frequently supporting Lenin, Gorky also had his differences with him. In 1905, he spent more than a month in the Sts. Peter and Paul Fortress for penning a protest against Bloody Sunday. About a year after public pressure helped free him, he left Russia and lived abroad until 1913, including part of 1906 in the United States.

Literature in the Silver Age

The Silver Age was characterized by experimentation and a wide variety of writings and literary camps, but also by a new cultural spirit. It veered away from realism toward neoromanticism and philosophical idealism. In literature, this change was most evident in the new poetry of "decadence" and "symbolism."

The Silver Age was a great age for poetry. So many talented poets began writing in this period that only a small number can be mentioned here. Constantine Balmont and Valeri Briusov were two pioneering poets of the time, and Alexander Blok and Andrei Bely, both born in 1880, were two of the Symbolist movement's greatest practitioners. Viacheslav Ivanov was another leading Symbolist. A slightly younger group of poets (all born between 1886 and 1893) who published at least some of their poetry before 1917 include Nikolai Gumilev, Anna Akhmatova, Boris Pasternak (who later wrote D*octor Zhivago*), Osip Mandelstam, Marina Tsvetaeva, and Vladimir Maiakovsky.

A central influence on many of the poets was Vladimir Soloviev's mystical poetry, but they were also influenced by foreign works such as those of the French Symbolist poets and Nietzsche. The experimentation and diversity that marked the poetry of the Silver Age emanated from the era's restless intellectual searching. Writers and other intellectuals sought fulfillment in religious and mystical truths and sensual delights or by helping "transform humanity," but they also feared apocalyptic catastrophe.

Although it was not a great age for the novel, Bely's *Petersburg* (1913) and Fedor Sologub's *The Petty Demon* (1907) were noteworthy. Like Bely, both Sologub and Ivan Bunin (1870–1953), another fine prose writer, were also poets of note. Bunin's short story, "The Gentleman from San Francisco" (1915), is perhaps his best-known piece of fiction. Some of Bunin's work was published by the Knowledge Publishing House, which resisted the dominant trend of the time by supporting realistic literature. Among some of the other first-rate short stories and longer fiction it published were works by Gorky, Leonid Andreev, and Alexander Kuprin.