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RUSSIAN NIHILISM OF THE 1860'S: A SCIENCE-BASED SOCIAL MOVEMENT

The Ohio State University

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RUSSIAN NIHILISM OF THE 1860'S: A
SCIENCE-BASED SOCIAL MOVEMENT

DISSERTATION

Presented in Partial Fulfillment of the Requirements for
the Degree Doctor of Philosophy in the Graduate
School of The Ohio State University

By
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* * * * *

The Ohio State University
1979

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PREFACE

In 1862 young Russians turned for leadership to Dmitrii Pisarev, a young radical literary critic who was rapidly becoming known for his extremist attitudes—a set of views that he aptly labeled nihilism. Because so many young Russians accepted Pisarev's views through the next half decade, his nihilism became not merely a radical pattern of thought, but also a social movement. Behind Pisarev's ideas and his following lay an intensifying desire on the part of young Russians to institute widespread social change.

This dissertation places the nihilist movement—Russia's Pisarevshchina—in its social context. It examines nihilists, their ideas, and their society. In doing so, it concentrates on interrelationships between the movement and social developments external to it. It examines the social dynamics that resulted in the nihilist movement's dramatic growth.

Chapter I delineates this study's scope and approach. Chapter II presents an overview of nihilism to describe clearly the trends that characterized Russia's radical movement through the 1860's. The overview not only describes the sequence of events that led to Pisarev's emergence as a radical leader, but also places nihilism in its
intellectual context by discussing the similarities and differences between Pisarev's ideas and the ideas developed by his predecessors and contemporaries.

Rather than use a chronological arrangement, the succeeding chapters use a topical arrangement to express the interrelationships between nihilist thought and social developments. The interrelationships discussed in Chapters III through VII are diagrammed in Appendix C.

Chapter III examines the lives of individuals who were nihilists during the 1860's. The purpose of this chapter is to answer such questions as: Were the nihilists old or young? Were they privileged or unprivileged? Were they well-educated or only partially educated? Determining the nihilists' group characteristics points to specific social and intellectual developments separate from the nihilist movement that influenced these radicals' lives. Thus, through the nihilists' group characteristics, interrelationships between the nihilist movement and specific social and intellectual developments external to it emerge.

These interrelationships are examined in the chapters that follow. Chapter IV examines the educated elite during the period immediately preceding the emergence of nihilist thought, and concludes that a growing interest in the sciences developed within this group--the group from which nihilists were to emerge. Chapter V shows how Pisarev, his colleagues, and the students who became their followers used science to create the nihilist pattern of thought.
Chapter VI parallels Chapters III, IV, and V in time, and
contrasts the existing social system's distrust of science with the
nihilists' more positive inclinations. Chapter VII interrelates the
developments discussed in Chapters III, IV, and V with those discussed
in Chapter VI. It shows how the nihilists' positive use of science
clashed with the negative attitudes prevalent in the existing social
system to give rise to nihilism: a radical social movement grounded in
science.

Unless indicated otherwise, the translations in this dissertation
are my own. Bibliographical citations were transliterated according to
the Library of Congress system. In transliterating nineteenth-century
citations, spelling was changed where necessary to conform to contem­
porary Russian orthography. Names were spelled as they would be
spelled in Russian; although certain names, such as Nicholas I,
Alexander II, and Alexander Herzen, were kept in their more familiar
Anglicized forms.

I wish to thank the staffs at the University of Helsinki Library,
the University Library at the University of Illinois, the New York Public
Library, the Library of Congress, and the Library of The Ohio State
University for the help that they so generously offered. The year spent
working at the University of Helsinki Library proved to be especially
fruitful. This study is based to a large extent on the lives of nihilists.
Tracing their identities and locating information on their lives was
greatly facilitated by the completeness of the Helsinki holdings. I also wish to express my appreciation to The Ohio State University for granting me the University Fellowship that made access to the Helsinki holdings possible.

I wish to thank Dr. Michael W. Curran for serving as dissertation adviser. I also wish to acknowledge the reading committee: Dr. Charles Morley, Dr. Allan K. Wildman, and Dr. George J. Demko. Dr. Wildman's detailed critique of an earlier draft proved especially useful in preparing the final version. I also wish to thank John Flynn and Chuck Moore for their helpful discussions. A special thanks goes to Barbara Austin for typing this manuscript.
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CHAPTER I

A DELINEATION OF THE PRESENT STUDY'S
SCOPE AND APPROACH

During the years that Pisarev wrote, intellectuals who represented diverse points of view actively discussed his writings. Few, in fact, viewed his ideas impassionately, in part because so many young Russians were accepting them. To radicals, Pisarev's concepts, particularly his individualism, emphasized decisive action and individual creativity; and as such, represented society's rejuvenation and growth. To moderates, many of Pisarev's ideas were potentially constructive, but so far to the left as to be unbalanced in their perspective. To conservatives, Pisarev's individualism represented an unconstrained spirit and a decadence that in time would lead to society's disintegration.

Much of the enthusiasm and anxiety that surrounded Pisarev's ideas through the 1860's declined in time, but people's interest in Pisarev's nihilism has not. Since nihilism's emergence, historians have continuously studied aspects of this radical movement. To many historians, nihilism represents an aspect of the modernization process.
Russia's Pisarevshchina is fertile ground for examining social and intellectual developments that have played a role in society's sporadic evolution. Nihilism is a means for studying aspects of both Russia's growth, and Western man's as well.

Most historical works that treat nihilism concentrate on nihilism's intellectual context. They deal for the most part with the ideas that Pisarev developed. They focus, for example, on Pisarev's concept of the thinking realist and view of aesthetics, and on his literary criticism as exemplified in his analysis of Turgenev's Fathers and Sons.

In addition to these intellectual histories, several biographical studies exist. These works, too, concentrate on the leading nihilist, Pisarev; though a recent Soviet biography examines the life of Nikolai Nozhin, one of Pisarev's colleagues.

The present study complements extant intellectual and biographical studies by placing nihilism in its social context. This study analyzes the social developments that made Pisarev's ideas meaningful to his followers. It is these developments that resulted in the widespread acceptance of nihilist thought by educated Russian youth.

To place nihilism in its social context, this study focuses on several specific questions: Who became nihilists? What were their backgrounds, interests, motives, and goals? What social pressures, either positive or negative, did they feel? How did the nihilists'
backgrounds, their goals, and society's pressures interact synergistically to form the radical movement that these individuals called nihilism?

The manner in which these questions are answered is shaped to some extent by the kinds of sources that are available. Few nihilists, for example, left personal material such as memoirs, diaries, and letters, the kind of material that reveals the growth of attitudes. Nihilists such as Shelgunov and N. K. Mikhailovskii who left memoirs include very little in them that describes their feelings, beliefs, and responses. Instead, they chronicle events and refer frequently to their friends' activities. The police watched nihilist circles carefully, and frequently confiscated material found in their apartments. That material included pamphlets, letters, and sometimes diaries. Unfortunately, little of this material has been published, and most of what has been published pertains to nihilism's leading spokesman, Pisarev.

Even though little useful personal material exists and police files are not open, two other sources are available. First, there are two nihilist publications: Russkoe slovo (Russian Word), a monthly literary review edited by Grigorii Blagosvetlov; and Knizhnyi vestnik (Book Herald), a bi-monthly review of books edited by Nikolai Kurochkin. Secondly, several individuals who were nihilists during the 1860's are identifiable, and information exists about such aspects of their lives as their class origin, their formal and informal education,
These two sources elucidate different aspects of nihilism's development. The nihilists' writings, even though heavily censored, reveal the nihilists' interests and goals. Their lives point to the particular segment of society from which they came and to their training; both point to the social changes that shaped their goals and influenced the course they eventually followed.

In working with the nihilists' writings and nihilists as a collective group, a methodological problem developed involving the terms nihilist and nihilism. Because these two terms describe radical activity so well, many different kinds of radicals have been called nihilists. Frequently, for example, this term refers to any Russian radical from the second half of the nineteenth century. Webster gives nihilist this meaning, as does George Kennan in his *Siberia and the Exile System* (1891). Kennan's definition reflects the generally accepted West European meaning for the term at the end of the nineteenth century, although the term at that time also frequently meant a terrorist.

In addition to these general meanings, the term nihilist is often used to refer to radicals active during specific periods of time. When nihilist means terrorist, as for example when Ronald Hingley uses the term in his short work *Nihilists: Russian Radicals and Revolutionaries in the Reign of Alexander II, 1855-1881* (1967), the term connotes
radicals active during the 1870's and 80's, decades during which terrorism flourished. Daniel Brower in his monograph *Training the Nihilists: Education and Radicalism in Tsarist Russia* (1975) defines nihilist as a radical from the 1840's through the mid-1870's. By choosing these dates, Brower distinguishes the radicals he examines in this work from terrorists and Marxists, two groups that became important after the mid-1870's.

Nihilist is also frequently used to mean any of the several different kinds of radicals active from 1855 to 1869. Michael Confino defines nihilist this way in his essay "On Intellectuals and Intellectual Traditions in Eighteenth- and Nineteenth-Century Russia" (*Daedalus*, Spring 1972). Moderate and conservative writers and critics such as A. Nikitenko, F. Dostoevskii, and N. Strakhov who wrote during the 1860's also give the term this particular meaning. Their definition distinguishes radicals active through the 1860's from those who joined the Movement to the People, the populist movement that dominated radical thought through the 1870's.

In addition to these more general meanings, nihilist has a very specific meaning: those individuals who either helped shape or who accepted that pattern of thought that Pisarev and his nihilist colleagues developed. Franco Venturi uses this definition in his *Roots of Revolution* (1952). R. V. Ivanov-Razumnik, in his work *Istorlia russkoi obshchestvennoi mysli* (A History of Russian Social Thought) (1911),
and D. N. Ovsianiko-Kulikovskii, in his *Sobranie sochinenii* (Collected Works) (1911), also define the term nihilist in this way.

When used as an historical reference, "the 1860's" covers a fifteen year period (1855-1869). Pisarev was popular for only part of this period (1862-1869). Consequently, when used in connection with Pisarev and his following, nihilist refers not to all radicals active through "the 1860's," but only to those who dominated its second half—1862 to 1869. Used in this context, the term distinguishes Pisarev's ideas from the ideas developed by his immediate predecessors, Dobroliubov and Chernyshevskii, and his non-nihilist contemporaries, Antonovich, Shchapov, and Khudiakov.

None of the multiple meanings given to the terms nihilist and nihilism is incorrect. Nevertheless, these many definitions cause some confusion. When a study uses these terms, obviously that study is dealing with radicals, but which group or groups is being analyzed? Are all radicals being discussed, or a specific group, and along with that group, a specific pattern of thought?

In the present study, the term nihilist refers to Pisarev, his colleagues, and followers, a group active from 1862 to 1869-1870. The term nihilism means both the ideas that Pisarev and his colleagues espoused—a radical pattern of thought that emphasized science and the thinking realist—and the expression of those ideas in the form of a social movement. Here, nihilism denotes a radical pattern of thought.
that young Russians accepted, and by doing so, made an integral part of Russian life. The dual denotation, both social and intellectual, that this study gives to the term nihilism reflects this study's objective. Here the nihilists' ideas are examined, but this study focuses on the social developments that encouraged those ideas to prosper.
NOTES TO CHAPTER I


2The most important biographical studies include: Evgenii Solov'ev, D. I. Pisarev ego zhizn' i literaturnaia deiatel'nost' (1894); E. P. Kazanovich, D. I. Pisarev, 1840-1856 gg. (1922); V. Kirpotin, Radikal'nyi raznochinets D. I. Pisarev (Radical Raznochinets D. I. Pisarev) (1933); L. A. Plotkin, Pisarev i literaturno-obshchestvennoe dvizhenie shestidesiatykh godov (1945); Armand Coquart, Dmitri Pisarev (1840-1868) et l'Idéologie du Nihilisme Russe (1946); Evgenii Lampert, Sons against Fathers. Studies in Russian Radicalism and Revolution (1965); E. L. Ruditskaia, Shestidesiatnik Nikolai Nozhin (A Man of the Sixties: Nikolai Nozhin) (1975).
Nihilism, the movement analyzed in this dissertation, did not evolve peacefully, but rather emerged tempestuously through a sequence of events that occurred in 1861 and 1862. After graduating with honors from St. Petersburg University in 1861, Dmitrii Pisarev began writing full-time for Russkoe slovo (Russian Word), a literary journal that Grigorii Blagosvetlov had recently reorganized. Blagosvetlov, a literary critic who first became radical while a student during the 1840's, returned to Russia from Western Europe in 1860 to take over the editorship of Russkoe slovo and turn this politically moderate journal into a radical one. By gradually changing both this journal's format and its staff, Blagosvetlov succeeded by 1861 in making Russkoe slovo as radical as its more established and more widely known counterpart, Sovremennik (Contemporary), the journal that served as Russia's radical voice through the 1840's and 50's.

Soon after Pisarev began to write full-time for Russkoe slovo, young Russians who criticized the status quo lost the two critics who had served as their ideological spokesmen since the end of the Crimean
War. In the fall of 1861, Nikolai Dobroliubov, one of these radical spokesmen, died. In the summer of 1862, the government arrested Russia's other radical spokesman, Nikolai Chernyshevskii, a literary critic who, like Dobroliubov, wrote for Sovremennik.

Just before Chernyshevskii's arrest, young Russians also lost both of their radical journals. In the early summer of 1862, following a series of fires that government officials implied had been set by dissident students, the government temporarily closed both Russkoe slovo and Sovremennik, limited the size of public gatherings, disbanded student groups, and closed the Sunday Schools that had constituted a form of public education run primarily by students.¹

As these events were occurring, Pisarev openly criticized the Tsar in a pamphlet entitled "Shedo-Ferroti" that was to have been published illegally by Peter Ballod, a student who earlier had been Pisarev's room-mate. In their search for Ballod's underground press, the police found this pamphlet among Ballod's papers, and this resulted in Pisarev's arrest.²

In the spring of 1862, three months before his arrest, Pisarev wrote an essay that marked the beginning of the nihilist movement. In this essay, published in Russkoe slovo, Pisarev evaluated Ivan Turgenev's new novel Fathers and Sons (Ottsy i deti) (1862) in which Turgenev presented what he believed was a realistic description of contemporary Russian youth. The ideas expressed by this novel's
leading character, Bazarov, were ideas that Turgenev saw emerging around him. As he explained in his memoirs:

... at the basis of its chief character, Bazarov, lay the personality of a young provincial doctor I had been greatly struck by. ... In that remarkable man I could watch the embodiment of that principle which had scarcely come to life but was just beginning to stir at the time, the principle which later received the name of nihilism.3

The character that Turgenev created was a medical student who, in addition to being insolent and self-assured, was a utilitarian, egalitarian, empiricist, skeptic, and independent thinker. Bazarov argued that a trade was more valuable to both the individual and to society than were the esoteric endeavors, such as art and literature, that educated Russians usually pursued. He ignored and mocked the aristocracy's interest in dress, deference, and decorum; and in his dealings with peasants, did not remain aloof or apart. Bazarov defined knowledge as that which is learned through one's senses. He critically examined all beliefs, and rejected those ideas that he could not substantiate or that he found useless. Believing that each individual was able to decide for himself what was acceptable, Bazarov valued not society's norms and expectations, but his own goals and desires.

In describing Bazarov, Turgenev called him a nihilist: a term that at this point in time had vague, but tantalizing meanings. To Bazarov's conservative antagonists, the term was suitably negative. It meant someone who respected nothing and seemingly wished to
destroy everything. To Bazarov, the term nihilist had positive connotations. It did not mean someone who destroyed, but someone who got rid of old ideas to make way for the new.

In his critique of *Fathers and Sons*, Pisarev praised Turgenev for creating realistic characters and situations. To Pisarev, Bazarov was especially attractive. Turgenev himself, Pisarev explained:

> will never be a Bazarov, but he has thought about this type and achieved an understanding of it that is truer than what any one of our young realists have yet achieved.⁴

Pisarev continued by explaining that Bazarov, even though not portrayed as the young would have depicted themselves, was nevertheless an admirable type. Bazarov's attitudes at the time of his death, Pisarev explained to his readers, revealed this novel's meaning:

> If Bazarov had become a coward, if he had betrayed himself, then his entire character would have emerged differently: he would be an empty braggart who would be neither staunch, nor decisive when such qualities were needed; the whole novel would have proved to be a slander on the younger generation, an unwarranted reproach. With this novel, Turgenev would be saying: Look, young people, even the wisest of you is not good for anything. But Turgenev, being an honorable man and a sincere artist, could not tell such a lie. Bazarov did not take a false step, and the meaning of the novel emerged as follows: today's young people get carried away and go to extremes, but this same enthusiasm results in fresh strength and an incorruptible mind. This strength and this mind, without any outside assistance or influence, will put these young people on the right road and support them in life.⁵

This essay expressed ideas that were later to become central to nihilist thought. It also represented a pivotal point in Pisarev's career.
Through this critique, Pisarev succeeded in capturing the essence of young Russians' thinking. Young Russians responded so favorably to Pisarev's appraisal of Bazarov that when Russkoe slovo and Sovremennik were allowed to reopen at the end of 1862, they turned to Pisarev for leadership. Thus, within a year after he began writing full-time for Blagosvetlov's recently reorganized journal, Pisarev became the leading spokesman for radical young Russians, and Russkoe slovo, the leading radical journal.

Over the next half decade, Pisarev and his colleagues, the most important of whom were Nikolai Shelgunov, Nikolai Sokolov, Varfolomei Zaitsev, and Nikolai Nozhin, developed a pattern of thought similar in some respects to the ideas developed by their intellectual predecessors, Dobroliubov and Chernyshevskii, but in other respects decidedly different. To distinguish themselves from their predecessors, Pisarev, his colleagues, and their followers called themselves nihilists, the label that Turgenev had used to describe Bazarov. This label continued to carry the connotations that Turgenev gave it, but after Pisarev's following adopted the term, it took on a more specific meaning: the radical ideas that Pisarev and his colleagues expressed.

The writers who became associated with this radical movement shaped the ideas that formed nihilist thought by carefully selecting the issues they discussed. They decided which problems were most pressing and how they might best be solved. In every sense of the
word, Pisarev and his colleagues created nihilist thought. Their essays, commentaries, and book reviews, however, recorded not only what these writers believed, but also what many other young Russians were already thinking. As expressed by Shelgunov:

It is usually thought (our reactionary journals have said this more than once) that the journalists of the sixties terrorized social opinion and despotically directed it as they saw fit... This idea is tendentious... It is difficult to say who gave more color to life—the press or society. Turgenev based Bazarov on a real person who caused him to think about fathers and sons. The family ideals portrayed in the novel "What Is To Be Done?" were also taken from actual situations that existed before the novel was written. Even without journals society thinks; journals only help work out an idea for society. That is what happened in the sixties. At that time everyone thought, and they thought very harmoniously. If "Sovremennik" and then "Russkoe slovo" found such sympathy in society, that was only because they conveyed to society what it wanted to hear and know. Very often the public went much farther and strove more irrepressibly than the press did. It left the press behind so to speak—from this came the well known idea that readers from this period were extremely clever and read between the lines... The press and the readers of the sixties stood side by side; between them existed the strongest intellectual sympathies, and often in practical conclusions, the reader went farther than the press did.

The increase in Russkoe slovo's subscriptions reveals how well these writers spoke for young Russians. In 1859, the year before Blagosvetlov became editor, Russkoe slovo's subscriptions numbered one thousand two hundred. By the mid-1860's subscriptions had climbed to five thousand. This figure nearly equalled subscriptions to Russkii vestnik (Russian Messenger), the moderate literary journal that published Turgenev's Fathers and Sons. In 1862, the year this novel
appeared, *Russkii vestnik*’s circulation numbered five thousand seven hundred.  

As a relative measure of the size of the nihilist movement, it is interesting to note that the total number of *Russkoe slovo*’s subscribers was numerically equal to Russia’s entire university population. In 1864, a year for which university enrollment figures exist, the combined enrollments at the Medical-Surgical Academy and Russia’s six universities: St. Petersburg, Moscow, Kazan, Khar’kov, Kiev, and Dorpat, numbered 5,328. 

During the 1860’s Pisarev’s followers were geographically widespread. Nihilist circles developed not only in St. Petersburg and Moscow, but also in the provinces. Circles are known to have existed in Kursk, Orel, Kherson, and Nizhegorod. Pisarev was also popular within the Jewish Pale. He appealed, in particular, to students within the Pale who attended the modern gymnasiums that the government established to promote the assimilation of Russian Jews. 

Those young Russians who accepted Pisarev’s ideas often did so enthusiastically. S. L. Chudnovskii, a gymnasium student during the 1860’s, noted in his memoirs that Pisarev:

... was the idol and god of gymnasium youth. ... They were excited by his essays; they took up his ideas with reverence, like the Gospel, like something unquestionable, like a sacred vow. I remember how with such ardent impatience we waited for each issue of the extremely popular *Russkoe slovo*, and how with such eagerness we fell upon a new issue if it contained an essay by Pisarev. ...
Thus, it can be seen that nihilism represented a focal point for a relatively large and widespread group of individuals who questioned the Russian establishment and who were motivated to institute social change. Underlying their movement were social developments separate from nihilism that encouraged these individuals to reject their society's traditional beliefs and follow a radically different course.

This study examines these social developments, the purpose being to delineate the various factors that resulted in Pisarev's ideas becoming widely accepted during the 1860's. To understand the inter-relationships between nihilism and other social developments, however, it is necessary to know what the radical ideas were that young Russians accepted so enthusiastically. This can be best achieved by placing nihilism in its intellectual context: How were the ideas that Pisarev and his colleagues expressed similar to and different from those expressed by their radical predecessors and contemporaries? What was it about the nihilists' ideas that was unique?

The ideas that Pisarev's followers found so appealing by 1862 were similar in several respects to the radical ideologies that both preceded nihilism and coexisted with it. Pisarev continued, for example, to develop certain ideas that were expressed earlier by Dobroliubov and Chernyshevskii. Pisarev's ideas were also similar in some respects to the ideas expressed by his radical contemporaries: Maksim Antonovich, Afanasii Shchapov, and Ivan Khudiakov. Antonovich became
Sovremennik's chief literary critic after Dobroliubov's death and Chernyshevskii's arrest. He continued, in that capacity, to express the ideas that Dobroliubov and Chernyshevskii had developed earlier, and thus represented the radical ideology that prevailed before nihilism emerged. Shchapov, an outspoken critic through the 1860's, was a populist and federalist; Khudiakov led a group of cadre-oriented activists who became involved in Dmitrii Karakozov's attempt in April 1866 to assassinate Alexander II. Both Shchapov and Khudiakov represented movements that were to become important in the decade that followed Pisarev's dominance.

All of these radical spokesmen--Pisarev, his radical predecessors, and contemporaries--were materialists. In Russia during the mid-nineteenth century, this term had two meanings. It sometimes meant an interest in material possessions; and when used in this context, referred to the knowledge and tools society needed to achieve material progress. At other times, materialism carried a philosophical connotation. Its adherents believed that no supernatural being, neither a God, nor a Devil, governed the individual and his universe. Nature functioned through the interaction of natural physical forces, and not because God intervened. Man, too, lived and breathed because his life was governed by mechanical and chemical processes, and not by an everpresent, beneficent, and sometimes vengeful, metaphysical Being.
Rejecting their society's image of God as a Controller, materialists turned their attention to the individual. They studied the physical forces that existed around him and within him, and concentrated on man's ability to use these forces as a source of power. God did not manipulate nature, but Man could. Materialists extended this image to society. Man could not only manipulate nature, he could regulate himself as well. He could determine right and wrong, and he could create a harmonious society, even though he no longer believed in God's beneficent influence. Thus, materialists rejected the conventional image of God, and in doing so, projected man, a worldly being, as the Controller.

Being materialists, Pisarev and his radical predecessors and contemporaries also shared a common interest in Russia's economic well-being. All of these radicals compared west Europeans' and Americans' standard of living with their own. Using such areas as agricultural production, commercial exchange, transport facilities, literacy levels, and public health standards as a basis for comparison, they concluded that their own country was woefully deficient. All also concluded that if they were to attain greater national prosperity, they would have to adopt certain attitudes prevalent abroad and use some of the methods that were being used there to induce economic growth.

All of these radical spokesmen were also interested in social change. Two related concepts were of particular interest: individualism
and emancipation. To these radicals, these terms implied emancipation for the peasantry, not only with respect to their legal independence, but with respect to economic self-sufficiency as well. They also implied emancipation for the educated elite. They saw themselves as oppressed by their society's inflexibility and intellectual stagnation, and sought ways to attain their own liberation: to create for themselves conditions that would foster intellectual freedom, social tolerance, and their own economic self-sufficiency and well-being.

Each of these different radical groups—the nihilists, their radical predecessors, and their radical contemporaries—proposed different means for achieving the economic and social change that they desired; however, these different radical groups all believed that the class to which they belonged, Russia's educated and upper class elite, was frivolous, backward, and decadent, and consequently, a source of Russia's problems. All also believed that this segment of society could promote progressive change if properly educated. Thus, these groups all promoted a traditional radical theme. The spokesmen for each of these groups wrote to reach the educated and upper class segment of society: to awaken its members, to provide them with a desire to act and knowledge of the goals that needed to be achieved.

Dobroliubov, for example, used Goncharov's novel Oblomov to castigate and motivate Russia's upper class. To Dobroliubov, Oblomov, an indolent and apathetic nobleman who desired to achieve but who
could never muster the energy to act, personified Russian life. In this novel:

there appears before us the living contemporary Russian type presented with merciless severity and truth; it reflects a new word that describes our social development... This word is--Oblomovshchina; it explains many phenomena in Russian life, and it lends Goncharov's novel far greater social significance than other novels possess. In the Oblomov type and in all this Oblomovshchina, we see much more than a successful work created by a talented writer; we see a product of Russian life, a sign of the times.14

Oblomov's apathy and uselessness, Dobroliubov explained to his readers, existed throughout society:

When I hear a member of the gentry talking about the rights of man and the need for developing personality, I know when he first begins to talk that he is an Oblomov.

When I meet an official who complains that government administration is too complicated and burdensome, I know that he is an Oblomov...

When I am among circles of educated people who understand man's needs and who for many years have been discussing with undimining fervor the same anecdotes about bribery, tyranny, and lawlessness, I feel invariably that I have been transported to old Oblomovka.

Stop these people's loud talk and say to them: "You say that this and that is bad; what needs to be done?" They do not know... You can get nothing more from them because all of them wear the mark of Oblomovshchina.15

By discussing the relationship between Oblomov and real life, Dobroliubov hoped that educated Russians would begin to see Oblomov in themselves, and having achieved this they might, unlike Oblomov, begin to act.

After Dobroliubov's death, Pisarev developed this same tactic. He repeatedly told his readers that his task was "to disperse, at least
to some extent, your mental lethargy." His goal was to reach Russia's educated and upper class elite and "to make this class more human." To achieve this, he urged his colleagues to be outspoken, and if necessary, caustic:

As a critic, you need to help create a social consciousness and not stand with folded arms while society risks making mistakes and you are able to tell it several truths. Olympic tranquility may be suitable for an academic gathering, but it will not do in the pages of a journal that serves a young and still maturing society. If your refined ear cannot tolerate loud noises, give up your work as a critic, work that brings you into contact with the living and disorderly world of people.

While Dobroliubov and Pisarev argued that Russia's educated and upper class elite was as a whole lethargic and unenlightened, a segment of this class did not need to be awakened. A significant body of young educated Russians, the same group from within which Pisarev found his following, was already pursuing a radical course. Students, particularly those in St. Petersburg, were already stirring when Dobroliubov wrote. By 1861 these students were so well organized that their demonstrations forced the government to close St. Petersburg University. When Pisarev began to write full-time for *Russkoe slovo*, students had long been part of study groups, aid societies, and journalistic ventures, and by that time had definite, meaningful plans. As expressed by Shelgunov, the young Russians who became *Russkoe slovo's* readers often "went farther than the press did."
While Pisarev, Dobroliubov, Chernyshevskii, Antonovich, Shchapov, and Khudiakov shared certain ideas, the pattern of thought that Pisarev developed after 1862 was unique. It differed from the ideas that Dobroliubov and Chernyshevskii expressed before Pisarev became young Russians' spokesman, and it differed from the ideas Antonovich, Shchapov, and Khudiakov developed during the years that Pisarev wrote. Pisarev's nihilism also differed from the ideas expressed by Alexander Herzen and Mikhail Bakunin, two radical spokesmen from the previous generation who during the 1860's wrote from exile in Western Europe.

Pisarev and Dobroliubov, for example, both believed that young Russians should emulate the qualities that certain literary characters possessed, but the two promoted different literary types. Dobroliubov was intrigued by Katerina, the leading character from Aleksandr Ostrovskii's play *Groza* (Thunderstorm) (1860). Katerina lived a miserable life. By marrying a man whom she did not love, she became part of a family dominated by a tyrannical mother-in-law. This life awakened in Katerina an inner striving that sent her searching for independence, friendship, love, and respect. After finding them through a paramour, it became clear to Katerina that her husband's family would force her to return to the monotony and tyranny that characterized their family life. Rather than lose the independence that her wretched life had taught her to cherish, Katerina, no longer cowed
and irresolute, seized her freedom by drowning herself.

In Katerina, Dobroliubov found a refreshing example of man's courage and natural, inner strength. Katerina, Dobroliubov explained, desired spiritual freedom. That desire was not the product of education or reason, but the product of a fierce, natural inner passion. Brought out by her oppressive environment, this natural passion forced Katerina to act:

She will not return to her old life: if she cannot meet her emotional needs and enjoy her freedom quite legitimately and religiously in broad daylight before all, if what she had found and what is so dear to her, is taken away, then she wants nothing of life— not even life itself. 21

In praising Katerina, Dobroliubov suggested that his readers examine her qualities carefully, for in Katerina's fierce inner passion lay a universal symbol of hope. In Katerina:

we see an already mature demand for rights and living space that emerges from the depths of the entire organism. Here it is not imagination, hearsay, or impulse, but a vital natural need. 22

In Katerina's natural, irrepressible desire for spiritual freedom:

is the true strength of character that one can always trust! This is the height to which our national life is rising in its development. Very few have captured this in our literature, and no one has captured it as well as Ostrovskii. He sensed that not abstract faith, but facts of life govern men, that not a way of thinking, not principles, but human nature is needed to develop strong character. . . . 23

Pisarev criticized Dobroliubov's admiration for Katerina's natural strengths, and in doing so, attempted to turn young Russians'
thinking in a direction that he believed was more fruitful. Readers, Pisarev explained, were mistaken in focusing on something as amorphous as the natural striving for freedom that gave Katerina her strength of character. They need not do so because strength of character was something Russians had always possessed. The peasant, Pisarev explained, was not an Oblomov. He was neither lazy, nor weak:

We have always had strength of character, and we have that in abundance even now. To support this point ... I will simply unfold before you a map of European and Asiatic Russia, and show you our history, the most eloquent expression of our colossal, iron character. Our history is marked by constant and massive colonization. We have cleared and worked land from the Baltic Sea to the Pacific Ocean. The energy and endurance that America's present pioneers possess does not compare with the energy and endurance of our colonizers. ... Iron will and ultra-strong endurance, we have always had enough of that.²⁴

Even though Russians, according to Pisarev, did not lack strength of character, they lacked something else that Westerners possessed: knowledge and technological skills. "In their struggle with nature Americans are armed with science and technology; our peasants have always worked, and work even now, only with their bare hands."²⁵

Believing that Russians needed something more tangible than Katerina's innate desire for freedom to progress, Pisarev encouraged his readers to study not Katerina, but a different literary type: one who exhibited attitudes that could result in social change if combined with the strengths that Russians already possessed. This type was personified in Bazarov. His scientific knowledge and his ability to question
and analyze were the qualities that Russians needed. Not Katerina's natural strength and innate wisdom, Pisarev explained, but Bazarov's reason and education would free them from tyranny and oppression:

We need people who are knowledgeable, that is, knowledge needs to be assimilated with the other qualities that characterize our national life. 26

While Bazarov's qualities intrigued Pisarev, not all of his radical contemporaries admired them. When Pisarev praised Bazarov after the novel was published in 1862, Maksim Antonovich, Sovremennik's leading writer, severely criticized Fathers and Sons. According to Antonovich, this novel contained a disparaging critique of the younger generation. Bazarov "does not have a heart: he is hard—like a stone; cold—like ice; fierce—like a tiger." 27 Concentrating on Bazarov's desire to negate ideas, a quality Pisarev found particularly attractive, Antonovich argued that Turgenev presented "the younger generation in a comic, simplistic, and absurd light." 28 "Obviously Turgenev hoped to depict in this hero a demonic nature." 29

Antonovich's intense dislike for Bazarov set the stage for a difference in views that soon divided Russkoe slovo and Sovremennik. In 1862 Antonovich and others who wrote for Sovremennik disassociated themselves from the Bazarov type. In the ensuing years, these writers repeatedly upbraided Russkoe slovo for criticizing both aesthetics and Dobroliubov's analysis of Katerina. They also criticized Russkoe slovo's interest in Bazarov, and the manner in which its staff
championed individualism and science; in doing so, Antonovich and his colleagues criticized the cornerstones of nihilist thought.  

The polemic that developed between Russkoe slovo and Sovremennik after 1862 appeared to divide radicals; however, this dispute actually represented a transition in radical thought. Antonovich admired Dobroliubov; he, too, liked Katerina's natural strength and inner wisdom. Antonovich was also a realist, and as such, accepted ideas Pisarev expressed. To Antonovich, however, Pisarev's emphasis on science and individualism was too extreme. Antonovich needed balance: he needed aesthetics as well as science; Katerina's natural passions as well as Bazarov's reason. Thus, Antonovich and Dobroliubov represented realism tempered with aesthetics; Pisarev represented a shift away from aesthetics toward the concrete. Because young Russians made Pisarev and not Antonovich their spokesman, they, like Pisarev, favored increased realism. Their interests in 1862 shifted toward science and the Bazarov type.

The nihilists and their radical predecessors and contemporaries not only admired different types, they also had different views with respect to the narod, Russia's peasantry. The nihilists' view of the narod differed, for example, from the view developed by Chernyshevskii in the years before Pisarev wrote.

Through the 1850's (before the Emancipation Decree of 1861), Chernyshevskii argued that the Russian peasantry was the only social
force capable of introducing social change. Thus, he both welcomed and hoped for a peasant jacquerie. In 1860, he wrote in a letter published in Herzen's Bell:

Peasants and liberals are moving in different directions. Peasants . . . are ready to take up the ax, and liberals are preaching moderation, gradual progress, and who knows what else . . . . Wait and see, soon Alexander II will show Nicholas' teeth. Don't get carried away with talk of our progress; we are still standing in place . . . . No, our position is horrible and intolerable; only the ax can save us, and nothing less than the ax will do . . . . This idea . . . is extraordinarily true—that there is no other means of salvation. You did everything possible to promote peaceful solutions, but now you are changing your tune; let your Bell not call people to prayer, but sound the alarm! Summon Russia to arms. 31

To Pisarev and his nihilist colleagues, writing after the Emancipation when it was obvious that the peasant, even though willing to riot, was not going to overthrow the autocracy, Russia's peasantry was not a source of social change. As explained by Zaitsev:

The narod is crude and obtuse, and because of this it is passive. This, of course, is not its fault, but this is the way it is. It would be terrible to wait for some sort of initiative on the part of the narod . . . And it is wise not to be confused by the grand pedestal democrats have put the narod on . . . . 32

This view of the peasantry expressed by Zaitsev diverged not only from Chernyshevskii's ideas, but also from Herzen's. Beginning in the 1840's, a period marked by idealism and romanticism, Herzen focused on the obshchina, the peasant commune or mir. Concentrating on what he believed were the mir's beneficial qualities, Herzen argued that this ancient institution would be Russia's salvation. The obshchina
unified, humanized, and sustained the peasant, and he in turn would socialize and humanize Russia. 33

Like Herzen, Pisarev and his nihilist colleagues valued socialist institutions, but they did not see in the mir what Herzen saw. They argued, as did Chernyshevskii, that centuries of spiritual and economic deprivation had destroyed the mir’s humanizing influence. The mir’s great merits, Pisarev explained:

belong only to our ancient civilization. We contemporary Russians can only sigh at the thought that we are not in a position to enjoy its blessings and in our extreme corruptness have even lost the ability to love and respect the past.34

Even though the nihilists rejected both Herzen’s concept of the mir and Chernyshevskii’s notion of a peasant jacquerie, they were interested in the peasant’s well-being. They simply did not see in the peasant what idealists like Herzen saw, and they did not believe that a peasant uprising would, in fact, change the situation in Russia. When the nihilists looked at rural Russia, they did not see idyllic pastoral scenes: healthy, tanned children enjoying nature, rippling grain fields, peasants turning freshly cut hay. Instead, they saw drunkenness, poverty, disease, and starvation—conditions that had always been paramount for most who lived a rural life. It was these conditions, which were described vividly by writers such as Nikolai Uspenskii, Fedor Reshetnikov, and Nikolai Pomialovskii, writers who published in both Russkoe slovo and Sovremennik, that the nihilists saw and wished
to change.

The nihilists' ideas differed in some respects from the ideas expressed by another radical who was interested in the peasantry, Shchapov. The differences that marked the nihilists' and Shchapov's views revolved around politics, another topic that distinguishes nihilists from their radical predecessors and contemporaries.

Through the 1850's and 60's, Shchapov advanced a concept that came to be known as federalism. Like the nihilists, he was aware of the poverty that plagued peasants' lives; unlike the nihilists, however, he believed that this problem could be corrected, in part, by developing local political autonomy. The autocracy's and aristocracy's conservatism and traditionalism could be greatly weakened by redeveloping local political organizations such as the zemstvo (elected assembly), obshchina, and mir. Once strengthened, these institutions could promote economic growth by initiating programs that solved local problems.35

Pisarev, his nihilist colleagues, and Shchapov all respected one another. They, in fact, shared a common bond: Shchapov and the nihilists were interested in science as a means for improving the peasant's life. Shchapov's federalism, however, did not particularly interest nihilists. Unlike Shchapov, Pisarev and his colleagues de-emphasized political solutions. Political change, Pisarev argued, would be inconsequential because even though a liberal constitution
could be put into effect, there was no way for the masses, being in
their present impoverished state, to guarantee that new leaders would
not become as tyrannical as the autocratic leaders they replaced:

Progressive thinkers in the eighteenth century were
convinced that good government in a very short time could
put any people at the highest level of civilization and
bliss. . . . Mankind's task presented itself in the simplest
and most elementary form: disarm tyrants, put sages in the
state council, and then be blessed. If you wish to ensure
your happiness forever, then simply make sure that the sages
do not become stupid or cunning. . . .

And so in the eighteenth century the question was to
entrust government to sincere friends and deserving repre-
sentatives of the people. Such an experiment was carried
out in France and it ended in failure—not in the sense that
the revolution brought nothing useful to France, but only in
the sense that the result did not correspond to the naively
exaggerated expectations of the people and their leaders. . . .

. . . Liberalism's real army was composed of people who
greedily gathered the fruits of the revolution and who did not
want the number of happy gatherers increased. A new
plutocracy became firmly established on the ruins of feudalism
and the barons of the financial world, the bankers, merchants,
manufacturers and all the various swindlers were no inclined
to share their advantages with the people. . . .

The barons of the financial world formed a new privileged
class and taking refuge behind the great principles of 1789,
defended only their own privileges. These sincere friends of
the people who lived and worked in the first half of the present
century thus found themselves accompanied by people of very
doubtful value.36

Nihilists were not only uninterested in political change through
legal or constitutional methods, they were also not interested in
revolution. They welcomed developments that weakened the Tsar, and
they would have welcomed his abdication or forced removal. Pisarev
wrote in "Shedo-Ferroti," the pamphlet that led to his arrest:
The Romanov dynasty and the Petersburg bureaucracy must perish. Neither ministers like Valuev, nor writers like Shedo-Ferroti can save them.

What is dead and rotten must of its own accord fall into the grave; we only have to give a final push and cover their stinking corpses with dirt.37

Even though the Tsar's removal would have pleased the nihilists, they were not eager to take the kind of action that would precipitate that end. With revolution, Pisarev explained, there was always an incalculable amount of human suffering and moral degeneration. Pisarev continued by arguing that if people acting to defend themselves found that there was no alternative course, then revolt was justifiable; but if they could, in fact, solve their problems with methods that were less disruptive, then revolution was not a desirable course:

If this relief can be achieved by peaceful means, then the thinker who defends the people's interests would be the first to condemn revolution as an unnecessary waste of physical and moral strength.38

To Nozhin, too, revolution was not desirable. According to Nozhin's friend Lev Mechnikov, Nozhin challenged Bakunin's tactics in conversations which occurred while both lived in Florence:

For Bakunin, revolution was already cast in the form of a grandiose ritual: anarchy, the destruction of government; and then socialism. . . . Unlike Bakunin, Nozhin almost never used the word "revolution." With his whole being, he agonizingly avowed that it was necessary to proceed to a different, more just, social and moral foundation. . . .

A clash between Bakunin and Nozhin developed every time fate brought the two together. The topics they discussed varied, but the essence of their arguments was always the same: Bakunin condemned bookish, scientific intentions; Nozhin with all the force of his lion-like oratory condemned
violent politics and the revolutionary and constitutional movements that used such politics as a base.\textsuperscript{39}

Nozhin and Pisarev not only criticized violent politics, the nihilists as a group steered away from political activism. From the group examined in this study, several belonged to politically oriented groups before 1862, but very few took part in the political movements that existed after 1862. Only one, Aleksandra Komarova, attempted to participate in the Polish Uprising of 1863.\textsuperscript{40} Two, Aleksandr and Vladimir Kovalevskii, were of Polish extraction, but neither took part in activities related to the Polish Uprising, and neither seems to have belonged to the Polish student groups that existed in St. Petersburg. Another nihilist, Petr Ballod, was a Latvian, but he, too, showed little interest in ethnic problems and political solutions. The fact that he showed little interest is, in his case, significant because he came from a politically active family. Both his father and grandfather were leaders of a revolutionary Protestant sect that promoted Latvian culture.\textsuperscript{41}

The nihilists examined in this study were also not involved in the terrorist organizations that developed during the 1860's. Many knew members of these terrorist groups, but they did not join these circles. Nozhin, for example, knew I. A. Khudiakov, one of St. Petersburg's leading revolutionary activists. They shared literary interests and on that basis were close friends. They did not, however, share political views. According to V. A. Cherkezov, a member of
N. A. Ishutin's revolutionary circle, Nozhin was a "'thinking realist' of the Pisarev type" and maintained a "socio-scientific point of view." Khudiakov, on the other hand, was a "Populist, a Federalist, and a revolutionary."  

Cherkezov states that even though Nozhin was Khudiakov's friend, Khudiakov did not discuss his organization's plans with Nozhin or with Nozhin's type. However, Nozhin may have learned about the assassination attempt that was to be carried out by Karakozov, one of Khudiakov's associates, and if so, he may have attempted to thwart them. Nozhin died unexpectedly on the night of April 3, 1886, the night before Karakozov attempted to assassinate Alexander II. According to the Russian historian Evgenii Kolosov, Nozhin may have been murdered to prevent him from disclosing Karakozov's plans. Kolosov's conclusion is based on the fact that N. K. Mikhailovskii, Nozhin's close friend, believed that his death occurred under mysterious circumstances, and Count Murav'ev's Commission to investigate the Karakozov assassination attempt believed that Nozhin's death was in some way tied to Karakozov's activities. Kolosov's conclusion is further supported by the fact that Nozhin's uncle, Baron A. I. Del'vig, states in his memoirs that Nozhin asked to see the Chief of Police just before he died.  

Even though the nihilists were not interested in promoting gradual political change or revolution, they were interested, as were all their fellow radicals, in promoting social change. To achieve that end, they
located what they believed were the roots of Russia's problems. They then developed solutions for those problems, and attempted to reach a specific group within Russian society which they believed to be capable of instituting the social changes that they desired.

When the nihilists began proselytizing, they concluded that they "could not influence the outcome of administrative questions." The Tsar and his officials had already formulated a program for reform and were initiating the changes that they believed were needed. Consequently, there was no reason even to attempt to reach this particular group. The nihilists also concluded that they could not reach the masses, the narod:

It is obvious that we cannot get closer to the people through journalism. . . . At present, the people are not in a position to adopt [our] ideas, to turn them into their intellectual property. . . . The inexpensive editions mentioned in the March issue of Russkoe slovo . . . will not provide the people with anything obviously useful. These books are written by men who have an abstract, bookish knowledge of the people. Their works are impractical and are fully ignorant of the soil they want to cultivate. 46

The nihilists believed that they could neither reach the highest government officials nor the masses, but they were confident that they could reach a large proportion of Russia's educated and upper class elite.

Do not forget that in our society there are thousands of people who understand our bookish language and who wear our clothing; in short, are gentlemen. . . . 47

This middle group was interested in journalists' ideas, and it could also serve as a vehicle for change. This group:
is able to read and understand a scholarly article in a journal and at the same time lives among the people, in the villages and provincial towns of our vast country. Quite unintentionally, these people have learned to speak with the people and know their needs. By virtue of their position, these people stand on the edge of two elements—society and the people; and it would seem, are the most likely candidates to transmit knowledge and ideas to the masses. 48

Thus, the nihilist writers decided to carry their ideas to Russia's upper class and educated elite, and it was hoped, change this group's thinking.

What is it that journals can and should do for that part of the public that reads journals? They should dispel readers' prejudices and help them to develop a reasonable world-view. In doing so, they should focus on that part of the public which advances young and vibrant people who are capable of accepting the truth and renouncing their fathers' delusions. 49

As will be seen when the nihilists' social backgrounds are examined, the group that the nihilists attempted to reach was the same group to which they themselves belonged.

In presenting their ideas to Russia's educated and upper class elite, the nihilists began by outlining what they believed were Russia's problems. They focused on two that were fundamental: "We are poor ... [and] we are stupid." 50 To the nihilists, Russia's foremost problems were not the autocracy and the aristocracy's privileges—not politics and social inequality; Russia's foremost problems were her lack of economic and intellectual development.

In concentrating on these two problems, the nihilists acknowledged that wealth and learning existed in Russia. They themselves
exemplified both. What concerned them was not a shortage of wealthy, educated people, but Russia's general economic state. Wealthy and erudite Russians existed, but the bulk of Russia's population was impoverished and ignorant. These conditions made the vast majority weak, which in turn allowed the autocracy and conservative aristocracy to remain strong.

To solve these fundamental problems, Russia's poverty and ignorance, the nihilists developed ideas that revolved around two closely interwoven concepts: science and the thinking realist. Through their writings, the nihilists promoted science. To them, science symbolized power, not just physical, but intellectual power as well. In Nozhin's words: "At the present time, science is the only area of human endeavor where a positive quality, constructive creativity, still exists." 51

Science, the nihilists explained, solved material problems by creating wealth. Science, in the form of both scientific knowledge and technology, made man's labor more efficient and that, in turn, made each individual more prosperous. Greater self-sufficiency made the individual increasingly independent, which served in turn to alter social relationships. Thus, science was capable of gradually transforming the whole of society. As Nozhin explained: "Today in the sciences there are no questions that when solved will not provide solutions to important social questions." 52
The nihilists were enthusiastic about science's potentially salubrious effects, but they saw that in their science-starved society, to be effective science had to be integrated into individuals' thinking. Such was not the case in Russia at the present time. Thus, a new transitional type was needed, a type who possessed a world-view that combined both science and the individual's needs.

The new type the nihilists projected became known as the thinking realist. To explain his qualities, the nihilists analyzed literary characters. The type they eventually developed combined the qualities exhibited by several of their favorite literary types. The thinking realist possessed Bazarov's individualism, egoism, empiricism, and skepticism; he was a socialist and humanist like Vera Pavlovna, Kirsanov, and Lopukhov, characters from Chernyshevskii's *What Is To Be Done?*; and he possessed the fortitude and commitment exhibited by Rakhmetov, a character who was also Chernyshevskii's creation. Those who became thinking realists valued all of these qualities, but in most people's minds, particularly the nihilists' critics', one of these qualities became closely linked with this transitional type—Bazarov's negation, his desire to get rid of old concepts to make way for the new.

The two ideas that formed the core of nihilist thought—the nihilists' thinking realist and their belief in science's beneficial effects—were not new ideas among Russian radicals. As early as the 1840's, Herzen discussed the value of science and the need for individualists
like the thinking realist. Through the 1850's, Chernyshevskii, by pointing out the deleterious effects of Russia's poverty, focused attention on the importance of solving Russia's economic problems. Through his novel *What Is To Be Done?* (1863), he also helped to project some of the characteristics that became part of the nihilists' new type.

Specific ideas the nihilists expressed were not new, but inherent in nihilism was something new nevertheless. Herzen and Chernyshevskii discussed science and some of the qualities that the thinking realist possessed, but unlike Herzen and Chernyshevskii, the nihilist writers made these concepts dominant ideas. The nihilists emphasized the benefits of science while their radical predecessors did not. The nihilists brought the thinking realist's qualities together and made this transitional type an extremely popular concept. They made the idea of the thinking realist more tangible, more practical, and more clearly defined, where others only discussed some of the qualities the thinking realist came to possess. By emphasizing science and the individualism, egoism, and rationalism that characterized thinking realists, the nihilists made these ideas an important part of Russian radical thought.

As explained at the beginning of this chapter, the nihilist writers attracted a significant following. Thus, the concepts central to nihilist thought were not simply radical ideas expressed in a journal; these concepts were being accepted and spread. This, too, was part of
nihilism's newness. A segment of society during the 1860's accepted nihilist concepts, and by doing so, made these ideas a central part of their lives. These young Russians, Pisarev's followers, rejected the traditional beliefs on which they were raised and turned not to traditional radical concepts, such as the obshchina, peasant revolt, and constitutionalism, but to two ideas not emphasized by radicals in the past—science and the thinking realist. Thus, through nihilism's supporters, science and individualism during the 1860's became an exceedingly important force in Russian life.
NOTES TO CHAPTER II

1 These developments are discussed in: M. Lemke, Politicheskie protsessy v Rossii 1860-kh gg. (Moskva i Petrograd: Gosudarstvennoe izdatel'stvo, 1923), Chapter III: Delo N. G. Chernyshevkogo, and Chapter IV: Delo "Karmannoi tipografii" i D. I. Pisareva; Franco Venturi, Roots of Revolution, translated from the Italian by Francis Haskell (New York: Grosset and Dunlap, 1966), Chapter V: N. G. Chernyshevkii.


5 Ibid., p. 420.

6 Two of these leading nihilist writers—Pisarev and Shelgunov—contributed to Russkoe slovo from either prison or exile. Pisarev received a four year prison sentence in 1862; he was released in the fall of 1866, six months after the government closed Russkoe slovo. Shelgunov, after being arrested in 1863, lived in exile until 1877.

7 N. V. Shelgunov, "Iz proshlogo i nastoiashchogo," Sochineniia N. V. Shelgunova, Izdanie tret'e (S.-Peterburg, 1904), pp. 653-664.

Subscription figures for Sovremennik could not be located for the 1860's. This volume, however, contains figures for earlier years: in 1848 Sovremennik had 3100 subscribers; between 1849 and 1855, a period of tight censorship controls, subscriptions dropped to 2000-2500. It can be assumed that this journal's subscriptions, like Russkoe slovo's, rose after 1855.

Enrollment figures for Russia's universities appear in: N. V. Shelgunov, "Domashnaia letopis,'" Russkoe slovo, Otdel III, No. 6 (June), 1865, p. 31; figures for the Medical-Surgical Academy are listed in: Istoriia imperatorskoi voenno-medsinskoi akademii za sto let. 1798-1898 (S.-Peterburg, 1898), p. 568.


Ibid., pp. 30-31.


18. Ibid., p. 350.


22. Ibid., p. 356.

23. Ibid., pp. 357-358.


25. Ibid.

26. Ibid., p. 172.


28. Ibid., p. 46.

29. Ibid., p. 42.

30. The most important of the essays that were part of this polemic were: Pisarev, "Tsvety nevinnogo iumora," Russkoe slovo, No. 2, 1864; Antonovich, "Strizham," Sovremennik, No. 7, 1864; Pisarev, "Realisty," Russkoe slovo, No. 9, 1864; Antonovich, "Russkomu slovu," Sovremennik, Nos. 11-12, 1864; No author, "Postoronnemu satiriku 'Sovremennik' (red. aktsionnaia)," Russkoe slovo, No. 12, 1864; Antonovich, "Russkomu slovu," Sovremennik, No. 1, 1865; Blagov, "Buria v stakane vody, ili kopeechnoe velikodushie g. Postoronnogo satirika,"


33 Herzen's views are discussed in: Martin Malia, Alexander Herzen and the Birth of Russian Socialism (New York: Grosset and Dunlap, 1965).


40 [A. A. Komarova], Odna iz mnogikh. Iz zapisok nigungistiki
(S.-Peterburg: Tipografiia E. Mettsiga, 1881), p. 49.

41 P. I. Valeskaln, Revoliutsionnyi demokrat Petr Davydovich
Ballod (Riga, 1957), pp. 5-8.

42 E. Kolosov, "Molodoe narodnichestvo 60-kh godov," Pt. II,

43 E. Kolosov, "N. K. Mikhailovskii v delo Karakozova," Byloe,
No. 23, 1924, pp. 64-75.

44 A. I. Del'vig, Moi vospominaniia, Vol. III (Moskva: 1903),
p. 347.

45 D. I. Pisarev, "Skholastica XIX veka," Sochineniia (1894),

46 Ibid., pp. 336-337.

47 Ibid., p. 337.

48 Ibid., pp. 337-338.

49 Ibid., p. 338.

This essay was first published in Russkoe slovo in 1864.

51 [N. D. Nozhin], "Nasha nauka i uchenye: uchenyia knigi i

52 E. L. Rudnitskaia, Shestidesiatnik Nikolai Nozhin (Moskva:
"Nauka," 1975), p. 61. This quote comes from archival material used
by Rudnitskaia.

53 For examples see: A. I. Gertsen, "Pis'ma ob izuchenii prirody,"
Sochineniia (Moskva: Gosudarstvennoe izdatel'stvo khudozhestvennoi
chteniia g-na professora Rul'e," Izbrannye filosofskie proizvedeniia
(Moskva: Gosudarstvenno izdatel'stvo politicheskoi literature, 1946),
CHAPTER III

A SOCIAL ANALYSIS OF PISAREVIAN NIHILISTS

To place nihilism in its social context, it is necessary to understand the nihilists' interests, grievances, and goals. The present chapter contributes to this understanding by analyzing the nihilists' sociological background including their age, social origin, social milieu, and education. This information linked with broader historical developments to be described in subsequent chapters leads to a unified exposition of the social factors that contributed to the emergence and growth of the nihilist movement.

To find the specific sociological information that places nihilism in its social context, this chapter examines nihilists' lives. The group under investigation includes all individuals who are known from available source materials to have been either Pisarev's colleagues or his followers.

Many of the individuals who are included in the group examined here expressed ideas before and after the 1860's that were not nihilistic. Such a transition in thought is a natural occurrence. People's ideas change as their individual needs and their society's needs change.
Thus, the fact that people did not place as much emphasis on science and the thinking realist before the 1860's as they did during the 1860's, or did not continue to emphasize these ideas after the 1860's should not be taken as an indication that they were not nihilists during the period in question.

As discussed above, the term nihilist has acquired several meanings. Consequently, no individual was included in the group examined here solely because he was referred to as a nihilist in a memoir or labeled a nihilist in a police report. Individuals were included in the group studied here only if material other than the label nihilist existed that showed that the individual in question was a nihilist as the term is defined in this study. If they were writers, their essays were used as proof of affiliation. If they were not writers, other material was used to show that they affiliated with nihilist circles or considered themselves to be Pisarev's followers. The biographies in Appendix A present the corroborative information that made it possible to deduce that each was a Pisarevian nihilist.

Corroborative information was found for twenty nihilists, and thus, these twenty form the group examined here. An additional thirty-eight individuals were labeled in one or more sources as nihilists. They were not, however, included in the group examined here because additional corroborative information could not be found. Evidence indicates that material on these individuals may exist in police files compiled by
the Third Section. If access to these archival files were to become available, they might serve to document that additional individuals should be classified as Pisarevian nihilists, and this could form the basis for further study.

The following individuals constitute the group of twenty nihilists examined in this study:

P. D. Ballod
G. E. Blagosvetlov
A. A. Komarova
S. V. Kovalevskaiä
A. O. Kovalevskii
V. O. Kovalevskii
N. S. Kurochkin
N. K. Mikhailovskii
N. D. Nozhin
F. F. Pavlenkov
D. I. Pisarev
N. S. Rusanov
N. V. Shelgunov
N. V. Sokolov
N. P. Suslova
M. A. Timofeev
P. N. Tkachev
I. V. Vedernikov
V. A. Zaitsev

This group contains all of the major nihilist writers who shaped the ideas that came to be known as nihilism. It also contains many of those individuals who helped form St. Petersburg's earliest nihilist circles. In addition to these St. Petersburg nihilists, it also contains representatives from the provinces. All members of this group were committed nihilists who took the movement seriously.
The nihilist writers form the core of the group examined here. These individuals include: Dmitrii Pisarev, Nikolai Sokolov, Varfolomei Zaitsev, Nikolai Shelgunov, Petr Tkachev, Grigorii Blagosvetlov, Nikolai Kurochkin, Nikolai Nozhin, and Nikolai Mikhailovskii. Pisarev, the best known of these writers, was the critic whom young radicals made their leading spokesman in 1862. Sokolov, a writer for Russkoe slovo, concentrated on economics in his essays. Zaitsev worked for both Russkoe slovo and Knizhnyi vestnik as a book reviewer. Shelgunov, a writer for Russkoe slovo, discussed a great variety of topics. Tkachev, like Zaitsev, worked for Russkoe slovo as a book reviewer. Blagosvetlov both edited and contributed to Russkoe slovo. Kurochkin edited and contributed to Knizhnyi vestnik. Nozhin and Mikhailovskii, roommates during the mid-60's, both worked for Knizhnyi vestnik as book reviewers.

In addition to this core of nihilist writers, the group includes several non-writers who were members of St. Petersburg's nihilist circles. These include: Petr Ballod, Florenti Pavlenkov, Vladimir Kovalevskii, Sof'ia Kovalevskaia, Aleksandr Kovalevskii, Ivan Vedernikov, Varvara Zaitseva, Nadezhda Suslova, and Aleksandra Komarova. Ballod, Pisarev's roommate before his arrest, operated an underground press. Pavlenkov was a publisher and in that capacity published the first edition of Pisarev's collected works (1866-69). Vladimir Kovalevskii, his wife Sof'ia Kovalevskaia, and his brother
Aleksandr Kovalevskii were students who were also involved in editing, translating, and publishing. Zaitseva, Zaitsev's sister, was interested in aesthetics. Suslova and Komarova were both students.

The group of twenty nihilists examined here also includes two others, Nikolai Rusanov and M. Timofeev, who considered themselves to be Pisarev's followers, but who were not part of St. Petersburg's nihilist circles during the 1860's. Through the years that Pisarev was popular, Rusanov attended the gymnasium in Orel and Timofeev studied at the gymnasium in Kursk.

Information demonstrating that these twenty individuals were members of nihilist circles or considered themselves to be Pisarev's followers is presented in short biographies included in Appendix A. Because this information is presented to demonstrate that these individuals were nihilists, the biographies focus on their activities during the 1860's. These biographies also include pertinent personal data such as year of birth, social origin, and schools attended, information used to place nihilism in its social context. All of this sociological material is summarized in tabular form in Appendix B.

In reviewing the lives of these twenty nihilists, it became apparent that in 1862 most were between the ages of eighteen and twenty-three. Most came from the nobility and those who did not were privileged in other ways. Being from Russia's privileged class, many attended Russia's universities and elite professional schools, and
several also studied and traveled in Western Europe. Many of the men, even though they attended schools designed to staff the military and civil service, avoided careers in these areas, and many of the women defied society's standards by studying and pursuing careers in their respective disciplines. Being well educated, most were part of Russia's active student environment through the 1850's and 60's, and there came into contact with a topic that interested nearly all of these nihilists—the sciences. In summary, these twenty nihilists were young, privileged, and individualistic. Many were students who attended Russia's finest schools, and while not all majored in the sciences, nearly all participated in the sciences. Many in addition had contact with Western Europe.

Each of these characteristics is examined separately in the remaining sections of this chapter. Because these characteristics emerge from examining a group that includes all known nihilists instead of randomly selected individuals, an effort is made to demonstrate that these traits also characterized the larger group of individuals who constituted Pisarev's following. Each group characteristic is examined to determine how well that trait represents the nihilist movement as a whole.
Youthfulness

In 1862, the year that young radicals turned to Pisarev for guidance, fourteen of the twenty nihilists under study were between the ages of eighteen and twenty-three. Four years later, in 1866, the point at which nihilism reached the height of its development, three of the remaining six had not yet reached twenty. (These nihilists' years of birth are listed in Table 4, Appendix B, page 287.)

Youth characterized not only these twenty, but also Pisarev's many followers. Contemporaries who mention nihilists in their essays or memoirs indicate that most of Pisarev's followers were students at Russia's lyceums, universities, professional schools, or gymnasiums. Pisarev also states that his followers came for the most part from Russia's youth. Because his following included gymnasium students as well as university students, both of whom joined his following through the end of the 1860's, the average age of his following was probably eighteen to twenty. This is somewhat younger than the average age of the twenty examined here.

The nihilists' youth provided their movement with internal momentum. People in their late teens and early twenties tend to evaluate themselves and their society. They tend to search for their own identities and try to improve their lives. At the same time, they tend to be idealists and believe that there is nothing that they cannot do. If, as they analyze and criticize, they find a reason to be dissatisfied,
then they often become, like the nihilists, defiant, idealistic, enthusiastic, and optimistic.

As is frequently pointed out in historical works that treat the 1860's, a conflict between generations accompanied the nihilists' youthfulness. Young radicals of the 1860's rejected ideas that had been advanced earlier by their intellectual predecessors—the radicals of the 1840's. They also rejected their society's traditional beliefs—the values that were promoted by both the church and the educational system, and that were accepted by most families.  

As discussed in Chapter II, the radicals of the 1860's included nihilists, their immediate radical predecessors and contemporaries, and all were materialists, empiricists, and realists. As such, they were interested in studying the world that surrounded them. In analyzing their world, they focused on what they believed was its real state. They did not attempt to make their world appear to be better than it was, nor did they envision intangible forces that were moving their world toward a predestined goal. They were interested solely in describing the world as it was and in understanding the many factors that worked together to create its present state.

Like the radicals of the 1860's, the radicals of the 1840's were realists. They, too, for example, were interested in the world that surrounded them. The radicals of the 1840's, however, were realists with an idealist bent. Herzen, Bakunin, and Belinskii, for example,
all admired philosophical idealists such as Schelling, Hegel, and Fichte. Like these philosophers, Herzen, Bakunin, and Belinskii talked of Russia's mission and national spirit. These radical spokesmen from the 1840's were less interested in the real world—the world that existed then—and more interested in creating abstract idealist visions of what they believed their world might become.

At the same time that the radicals of the 1860's developed views different from those advanced by the previous radical generation, their views also differed significantly from the views that their parents, teachers, and clergymen espoused. The radicals of the 1860's were libertarian, egalitarian, and atheistic. Their society, on the exterior at least, was religious, hierarchical, and dogmatic.

Viewing nihilism as a conflict between generations points out differences in views, which helps in turn to describe the nihilist movement. To understand nihilism, the radicalism of the 1840's, or the traditionalist society that surrounded both, it is necessary, however, to understand the social and intellectual factors that underlay each group's ideas. It is these factors that created the differences in views that eventually became expressed as a conflict between generations. The vitality and natural iconoclasm that is inherent in youth was one contributing factor. It motivated not only the nihilists, but Herzen, Bakunin, and Belinskii as well. Youth alone, however, does not account for nihilism's emergence and growth. Other factors combined with the
zealousness of youth to produce this movement.

**Privileged Status**

Examining the estate to which each of the twenty nihilists belonged at birth reveals that they came for the most part from the nobility. Thirteen were of noble origin; one was probably of noble origin; and six were of non-noble origin. Of the latter, four came from the raznochintsy: two were children of non-noble bureaucrats and two were sons of clergy. The social origin for Timofeev cannot be confirmed, but it is known that his family owned an estate. In 1879, he was exiled to this estate instead of being sent to Siberia. Usually only noble families owned estates, and usually only noblemen could avoid being sent to Siberia. Consequently, it is reasonable to assume that this individual was a member of the provincial nobility. (The nihilists' social origins are presented in Table 5, Appendix B, page 288.)

Numerous historians who have examined the 1860's argue that many radicals active during this decade were not of noble origin, but came instead from the raznochintsy, a non-noble, bureaucratic class between the nobility and the masses. This class included middle and lower level bureaucrats, lower court officials, and non-commissioned military officers, plus those individuals whose class of origin was the clergy, but who chose to leave that class to study at a university. These sons of clergymen became raznochintsy at the time they left the
seminary, and were later reclassified if, through their chosen profession, they entered another class.⁸

Other historians' interpretation raises a proposition that cannot be ignored: if radicals active during the 1860's came to a large extent from the raznochintsy, then the twenty nihilists' predominately noble origin would be unrepresentative. Evidence indicates that this proposition is false. This group of nihilists contains few raznochintsy not because the group is unrepresentative, but because radical raznochintsy were not as numerous during the 1860's as many historians have believed.

Four pieces of evidence support this supposition. First, social origins are known for seventeen additional individuals who were labeled in one or more sources as nihilists, but who were not included with the twenty studied here because their acceptance of nihilist thought could not be confirmed.⁹ Raznochintsy were not prevalent among these seventeen: twelve came from the hereditary nobility, one was the daughter of a "personal" nobleman, one came from the merchant class, three came from the clergy.

Secondly, N. K. Mikhailovskii, a radical active during the 1860's, points out in his memoirs that writers who came from the raznochintsy became both popular and influential at the end of the 1850's. In explaining this development, Mikhailovskii refers only to writers and literary critics and not to the radical community as a whole,
and he indicates clearly that these raznochintsy existed along side
noblemen and did not, in fact, replace them:

We noted earlier the arrival of the raznochintsy as a central
and definite part of our society and literature at the end of the
1850's and beginning of the 1860's. . . . But tied closely to the
raznochintsy's arrival was the appearance of another social
element which at first played only a secondary role, but subse­
quently controlled the entire scene. I am referring to the repen­
tant nobleman. . . . Pisarev, in literature at least, was probably
this group's most outstanding representative.10

Thirdly, the social origins of the twenty nihilists studied here
are remarkably similar to the social origins of a group of thirty-eight
student radicals active at St. Petersburg University in the late 1850's,
a group examined by Daniel Brower:

<table>
<thead>
<tr>
<th></th>
<th>The Twenty Nihilists</th>
<th>Brower's Thirty-eight University Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>nobility</td>
<td>65%</td>
<td>63%</td>
</tr>
<tr>
<td>merchant class</td>
<td></td>
<td></td>
</tr>
<tr>
<td>peasantry or</td>
<td>10%</td>
<td>13%</td>
</tr>
<tr>
<td>foreign born</td>
<td></td>
<td></td>
</tr>
<tr>
<td>raznochintsy</td>
<td>20%</td>
<td>11%</td>
</tr>
<tr>
<td>origin unknown</td>
<td>5%</td>
<td>13%</td>
</tr>
</tbody>
</table>

Fourthly, in her monograph Intelligentsia v Rossii vo vtorii
polovine XIX veka (The Intelligentsia in Russia in the Second Half of the
Nineteenth Century) (1971), Soviet historian V. R. Leikina-Svirskiaia
shows that the raznochintsy was not a large class during the 1860's.
Because it increased in size throughout the second half of the nineteenth
century and children of raznochintsy entered the universities and pro­
fessional institutions in ever greater numbers throughout those years,
it was becoming a more important class. During the 1860's, however, this process, which Leikina-Svirskaja calls a gradual democratization of the educated elite, was just beginning to take place. Raznochintsy were just beginning to enter the universities, and consequently, this class' influence was just beginning to grow at this point.

Raznochintsy was defined in Russian law as the non-noble, bureaucratic class, but historians have frequently not defined the term in precisely this way. They define it not as the non-noble, bureaucratic class, but as the unprivileged segment—the entire non-noble segment—of Russian society. Because non-noble means not only lower level bureaucrats and former seminary students, but also merchants and peasants, redefining the term in this way enlarges the group, and also alters the implications that go with it. Linking the raznochintsy with the idea of an unprivileged group implies that this class was seeking social advancement.

If the term raznochintsy is used to connote non-noble, as opposed to bureaucratic, the number of nihilists who fall into this group increases. Instead of four there are now six. If children of "personal" noblemen are included, the number increases to eight. Because a group's ideas reflect its members' social status, this increase in numbers indicates that these eight nihilists' social status should be examined more closely.
If these eight nihilists became radical because society denied them privileges that it granted to others, then it is implicit that society, in fact, denied these individuals such privileges. Examining their lives reveals that that was not, in fact, the case. These particular individuals came from Russia's non-noble class, but few were unprivileged. From those nihilists, for example, who did not acquire noble status at birth, two, Zaitsev and Zaitseva, were the children of "personal" nobility. Because children born into this class could not inherit their father's title, they did not acquire noble status at birth, but they acquired other rights. Children of "personal" nobility, for example, could attend schools reserved for Russia's upper class, and during the 1860's they automatically became hereditary Honorary Citizens (pochetnye grazhdane). This title granted them important rights: they did not pay the poll tax; they could not be drafted; and if they completed a course of study at one of Russia's universities, they obtained the right to enter government service. Because these individuals became hereditary and not "personal" Honorary Citizens, their children inherited these rights.  

Most of the other nihilists who fall into the non-noble group were also not disadvantaged. Suslova, technically by birth a member of the peasant class, was not really a peasant, but the daughter of one of Russia's wealthy peasant entrepreneur.  

Her education reflected this privileged background. She attended boarding schools in Moscow
and St. Petersburg, studied at the Medical-Surgical Academy, and then completed a degree at the University of Zurich. Shelgunov, another non-noble nihilist, was also not socially disadvantaged. His father was a non-noble bureaucrat, and as such, a member of the raznochintsy, but Shelgunov attended the Aleksandrov Military School, a school not open to sons of mid or lower level bureaucrats. Apparently, he was accepted by this school because his uncle, a member of the nobility by way of military service, had the right to enroll members of his family, and he chose to send Shelgunov. After studying at this school, Shelgunov transferred to the Institute of Forestry, another military school reserved primarily for Russia's upper class. After graduating, he entered government service and eventually advanced to the rank of colonel, a rank that granted him hereditary noble status.

Two other non-noble nihilists, Blagosvetlov and Ballod, were also not unprivileged. Because Blagosvetlov attended St. Petersburg University and completed a degree in law, he could have easily entered government service at a middle level and advanced if he had wished to do so. Because Ballod attended St. Petersburg University, he, too, could have advanced. He chose to join radical circles and was arrested and exiled before he graduated; but, unlike most children of non-noblemen who never reached a university, he had an opportunity to pursue a career in a field other than the one for which he was destined at birth.
Most nihilists who came from the nobility were like their non-noble counterparts in that they, too, were unusually privileged. Many of these noblemen attended Russia's universities; others attended such schools as the Aleksandrov Lyceum, the Mikhailov Artillery Academy, the School of Jurisprudence, the Institute of Mining, and the Institute of the Corps of Civil Engineers. Because these schools were primarily for members of Russia's noble class, graduating from them facilitated advancement in the particular fields they served.

In summary, the nihilists both noble and non-noble who form the group studied here were, for the most part, unusually advantaged. Both groups were well educated, and therefore had access to Russia's elite positions. These individuals were not being denied opportunities; they were being offered opportunities. Consequently, they do not represent a disadvantaged group seeking social advancement, but instead represent a privileged group rejecting the opportunities that society offered.

The nihilists' privileged social status was tied closely to several other factors that characterized this group. Many, for example, attended Russia's best schools. They would not have been able to do this if their families had not been part of Russia's privileged elite. Many shunned careers in government service. They were able to do this, in part, because their families provided them with an alternative means of support. Women nihilists defied society's traditions. Again,
they were able to do this successfully, in part, because their families offered them financial support. Several nihilists traveled or studied in Western Europe. They were able to obtain passports, pay their tuition, and support themselves while they were students because they came from Russia's privileged class.

Another quality that the nihilists possessed was also tied closely to their privileged social position. Because most came from the provincial or service nobility, they came from a class in Russian society that managed the government's agencies and commanded its military units. Consequently, they came from the class that was accustomed to making decisions—accustomed to taking few orders and giving many. Most of those nihilists who came from the non-nobility also came from a similar environment. They, too, either received a military education or came from families accustomed more to giving orders than to taking them. Shelgunov, for example, was trained as an officer; Ballod's father and grandfather were leaders of a Latvian Protestant sect; Suslova came from a family that managed factories; and Rusanov's family was involved in railway development and paper manufacturing.

Sociologists have found that children who are trained by either their families or society to take few orders and give many tend to become self-assured and independent—two qualities that support individualism. When the nihilists developed their pattern of thought, they rejected all authority—the state, the church, and society—and
made the individual the primary decision maker. Such a complete rejection of authority is, generally speaking, only accepted by people who can live comfortably without the church or their society's guidance. A background that trains an individual to give many orders and take few contributes to this process.

When the nihilists' life-style is examined in a later section it will become apparent that this, too, was tied to the nihilists' social position. The nihilists, for example, were not only individualists, but also libertarians. They did as they pleased, and in doing so, acted in much the same way as non-radical members of the Russian aristocracy did. In establishing relationships, for example, the nihilists behaved much like Tolstoi's Anna Karenina and Count Vronskii. Like this legendary couple and many other representatives of Russia's aristocracy, the nihilists ignored society's moral standards in order to satisfy their individual needs.

**Individual Liberation**

Young men who were upper class in origin and well educated were expected to serve the state through either the military or civil service. The nihilists did not follow this pattern. (The nihilists' occupations are listed in Table 6, Appendix B, page 299.)

From the older nihilists, those who would have entered government service before the 1860's, all except one had government careers.
All, however, left government service before or during the 1860's. Among the younger nihilists, those who would have entered government service during the 1860's, only one, Pavlenkov, had a government position. He resigned from that post in 1866. Two others, Nozhin and Vladimir Kovalevskii, were to have entered government service, but did not. Nozhin, who was to have entered service after graduating from the Aleksandrov Lyceum, petitioned the Tsar to be allowed to study in Western Europe in lieu of service. His request was granted. Because Vladimir Kovalevskii attended the School of Jurisprudence on a state scholarship, he too was obligated to enter state service. After graduating, he received a civil service ranking and an assignment. He immediately, however, asked for a leave of absence and permission to go abroad. When his leave was about to expire, he received a temporary discharge by sending his superiors a medical report stating that he had tuberculosis, a report that according to available evidence was fictitious.

In rejecting government service, these nihilists followed a pattern long established among the nobility. As explained by Marc Raeff in *Origins of the Russian Intelligentsia. The Eighteenth Century Nobility* (1966), educated noblemen through the eighteenth century became increasingly dissatisfied with government service. Their estates declined during their years of absence, and as noblemen became increasingly better educated and more Westernized, the intellectual
stagnation and rigorous living conditions that accompanied service life became distasteful. Consequently, noblemen through the eighteenth century became increasingly interested in avoiding service.

The nihilists felt the same pressures that eighteenth century noblemen felt. The nihilists, however, also rejected government service because once they chose to follow a radical course it became difficult for them to work for the state. Sokolov, for example, left the military in 1863 because he sympathized with Polish nationalists, and therefore, did not wish to be part of one of the units that would soon be sent to quiet that area.23 Shelgunov left government service not because he could not work for the state, but because his superiors, once they learned that he was connected with St. Petersburg's radical groups, transferred him to Astrakhan. To avoid this transfer, Shelgunov resigned.24

The nihilists also rejected government service because they believed that social change would not be achieved by working within the government. The nihilists, it will be remembered, believed that high government officials were not interested in what radical critics had to say,25 and even if they could be removed, there was no reason to believe that their replacements would be any more receptive to new ideas.26 Why the nihilists developed this view will become clearer when differences between the nihilists' proposals and the government's programs are examined in Chapter VI.
In rejecting government service, the nihilists also attempted to free themselves from society's traditional values. As explained by Shelgunov:

"Below, the peasants were to be freed from serfdom; above, the intelligentsia was to be freed from service to the state and from old Muscovite attitudes."\(^{27}\)

Nihilists were interested in searching for the essence of their individual being. They wanted to be independent, spontaneous, and egoistic, like Pisarev's thinking realist. Government service represented rigidity, conformity, and constraint.

At the same time that men sought their individual liberation through the nihilist movement, women also sought their freedom. Nihilism, in fact, proved especially attractive to women. The group of twenty studied here includes four women: Komarova, Kovalevskaja, Suslova, and Zaitseva. (The nihilists are broken down according to gender in Table 7, Appendix B, page 290.) If one examines descriptions of Pisarev's following as well as these twenty, it becomes clear that these four women represent a significant group. Shelgunov states, for example, that "women related to Pisarev with unusual reverence."\(^{28}\)

And according to Kovalevskaja, many women left their homes in the provinces and went to St. Petersburg. Once there, they joined nihilist circles.\(^{29}\)

Women's decision to join the nihilist movement was motivated, in part, by their desire to study. Kovalevskaja, Komarova, and Suslova,
for example, all wished to study at a university or professional school and complete a degree. Because Kovalevskaia states that many of the women who joined St. Petersburg's nihilist circles did so to further their studies, this desire characterized not only these three, but other nihilist women as well. 30

Through the 1860's, women could not receive degrees from a Russian university or professional school such as the Medical-Surgical Academy. Up to the late 1850's, they could not even attend classes at these schools. Because women challenged this standard during the 1850's, a small number was allowed to attend classes on a trial basis at both St. Petersburg University and the Medical-Surgical Academy. That experiment, however, came to an end in 1864 when policy makers in conjunction with the government's university reforms decided that women should not attend these schools. Because no institutions of higher learning specifically for women existed in Russia at this time, if a woman wished to study and to complete a degree she could only do so by attending a university in Western Europe.

For women, studying in Russia was not only an unrealistic goal, leaving Russia to study abroad or even leaving the provinces to study in St. Petersburg could also be an equally difficult objective. An unmarried woman under twenty-one could not obtain a passport and the right to travel without parental permission. Thus, if a woman's parents did not share her interests, she was not free to pursue her goals.
Because a man could obtain a passport without parental permission after he turned seventeen, he was free to leave if he chose to do so. An unmarried woman could obtain her own passport once she turned twenty-one, but if she married she lost that right. According to Russian law, a married woman had to have her husband's consent to obtain a passport. 31 If a woman simply left her family and moved to St. Petersburg she faced additional problems. If she left without her parents' or husband's consent she could be returned by the police. 32 If she left without their approval, she lost their financial support, and thus had to support herself. For many that, too, was a difficult task. A woman could work in a factory or work as a governess or companion, but few people believed that she could, or should, do anything else.

Even though society did not support those women who wished to study and to be independent, the nihilist writers championed their cause. While nihilist women argued that a woman was "not her husband's slave, his cook, and bearer of his children," but was instead a "free citizen" entitled to full and equal rights, 33 Pisarev argued that only the individual--and not society--should decide what that individual's goals should be. 34 Before Pisarev developed this idea in the essays that he wrote for Russkoe slovo, he wrote for a moderately progressive women's journal, Rassvet (Dawn), and thus, was a woman's advocate before he even began to develop nihilist thought. Two other nihilist writers, Blagosvetlov and Shelgunov, were also interested specifically in
women's problems. These two became well known during the 1860's, more so even than Pisarev, for their defense of women's rights.

Even though nihilist writers supported women through their writings, their movement was not a "women's movement." The nihilists' goal was not to emancipate women, but to emancipate mankind. Being humanists as well as individualists, the nihilists hoped to promote not only their own liberation, but also greater tolerance for all segments of Russian society.

Among nihilists, women found not only intellectual support, but more substantive support as well. Within nihilist circles, for example, women were able to procure partners for "fictitious" marriages. This type of marriage was a church marriage, and therefore, a legal marriage. Both participants agreed before the ceremony, however, that their marriage was a formality and both were free to do as they pleased after the wedding. They married not to establish a conjugal relationship, but to free the woman from parental control. Of the four women studied here, two resorted to a "fictitious" marriage to obtain their independence. Zaitseva "married" to escape her father's demand that she leave St. Petersburg and return home; Kovalevskaia "married" to be free to study in Western Europe. This type of marriage was also used by a number of other women who joined St. Petersburg's nihilist circles for according to Liudmila Shelgunova, Shelgunov's wife, the "fictitious" marriage "came into fashion" in the 1860's and was a common occurrence.
throughout those years. In addition to "fictitious" marriages, the nihilists participated in an arrangement that they called a "civil" marriage. The two who married in this manner did not arrange a church marriage, the only kind of marriage recognized by the state, but instead simply considered themselves to be married. Among nihilists, this kind of arrangement was as prevalent as the "fictitious" marriage. Komarova, Aleksandr Kovalevskii, and Vedernikov all chose this course, and according to Komarova, many others believed that a "civil" marriage was best. Such an arrangement was ideal for those like the nihilists who did not recognize the church's authority. It was also ideal for those women, and men, who wished to marry, but remain legally free. Because the state did not recognize "civil" marriages, the husband did not have the legal right to make decisions for his wife, and if "civil" marriage partners decided to separate, they could do so without benefit of a formal divorce, which at best was a difficult process.

For those women who sought their independence, the nihilists also provided material support. So that members could support themselves and live as inexpensively as possible, they organized communes and artels. Men benefited from these arrangements, but they were particularly important to women who, because of society's restrictions, often found supporting themselves difficult.
The nihilists also organized public lectures and study groups. This again was particularly attractive to those women who wished to study, but who were not able to leave Russia to study abroad. These groups put them in contact with students who attended the university and with students returning from Western Europe. These circles also gave them access to recent works. Those illegal and legal Western works that interested young Russians appeared first among these circles after being translated and published by members of these groups.

Through the experiences of those women who joined the nihilist movement, some of the social pressures that contributed to the emergence and growth of the nihilist movement begin to appear. Nihilist women were serious students who wished to pursue formal degrees and careers. These women also wished to travel and to marry whomever they pleased. Through its laws and customs, society made leaving home and traveling difficult. It made studying on an advanced level impossible. For these young women no adequate substitutes existed. There was no moderate middle way. Consequently, if these women were to satisfy their individual needs, they had to reject society's standards, and in doing so, become radical.

To satisfy their individual needs, these women, however, did not have to become nihilists. In St. Petersburg during the 1860's other radical circles existed that also supported women. These circles included such feminists as Avdot'ia Panaeva and Ekaterina Zhukovskaiia,
and for the most part supported Antonovich and *Sovremennik*. These groups, for example, were more interested in aesthetics than the nihilists and less interested in science and the thinking realist than the nihilists were.

Women who joined nihilist circles could have joined these other groups. There they would have received the same support that the nihilists provided. These other groups, for example, also organized communes, artels, and study groups. They supported women through their writings and they, too, participated in "fictitious" marriages. Among these other radical circles, however, women could not have satisfied an interest that was not tied directly to women's unique problems. This interest, which will be discussed subsequently, was their interest in science.

**Education**

Nihilists as a group were extremely well educated. Sixteen of the twenty attended a university or professional institution before or during the 1860's. Two of the remaining four studied at a university or professional school a decade later. Many from this group studied not only in Russia, but also in Western Europe, and several completed advanced degrees. (The nihilists' education is listed in Table 8, Appendix B, page 291.)
This finding is supported by Daniel Brower's research on radicals' level of education. In studying radicals active from the 1840's through the mid-1870's, Brower found that "the locus for the school of dissent lay in the upper levels of education, not among the half-educated." Eighty-nine percent of four hundred radicals studied by Brower attended a university or professional school.

Nihilists were not only well educated, but most as has already been explained were also upper class in origin. Changes introduced by Nicholas I through the 1840's and 1850's worked to create this combination. Following the Revolutions of 1848, Nicholas attempted to control the spread of radical ideas by increasing the percentage of nobility at Russia's universities. Figures compiled by the Soviet historian Iu. E. Egorov show, for example, that in 1836 60 percent of the student body at St. Petersburg University came from the provincial or service nobility. In 1843 the percentage of nobility decreased to 57 percent, but in 1849 nobility increased to 66 percent, and in 1855 increased to 72 percent.

After Alexander II ascended the throne in 1855, a greater percentage of non-noblemen were allowed to enter Russia's universities, but even with this change in policy the educational system still favored the upper class. To enter the university a student needed a diploma from a classical gymnasium. Because these schools, too, were restructured by Nicholas I after 1848 to serve primarily the upper class, students who possessed the educational background needed to succeed at
the university came for the most part from Russia's privileged class.

**Student Environment**

Because nihilists were both well educated and young, most from the group examined here were students at some point during the 1860's. (See Table 6, Appendix B, page 289.) Most also studied at St. Petersburg University or St. Petersburg's professional institutes, and consequently, were part of the active student community that existed there. Being part of such a community, these individuals were less strongly subject to parental influence, a force that often instills respect for traditional values. Because many studied at lyceums, military schools, or boarding schools before they enrolled in the university or St. Petersburg's professional schools, most had been away from parental control for several years. Consequently, most of the twenty grew up not with their parents, but with their peers. This pattern also characterized Pisarev's many followers. Most, for example, were students, and most did not live at home, but at residential schools in St. Petersburg or Russia's provincial centers.

Beginning in the late 1850's, students, particularly those in St. Petersburg, were an active group that successfully created a subculture where ideas circulated freely. Students organized public lectures and formed their own libraries and study groups. They organized student journals and translated illegal as well as legal works,
and operated both legal and illegal presses to publish these works. Through students who rejoined this student body after studying and traveling in Western Europe, they quickly became aware of new developments and ideas.

The student subculture to which nihilists belonged was composed of relatively few individuals. In 1864, a year for which student enrollment figures exist, 847 students were enrolled in St. Petersburg University; an additional 687 students were enrolled in the Medical-Surgical Academy also in St. Petersburg. Enrollment figures for the other technical and military schools in the St. Petersburg area were not available, but graduation figures and enrollment figures for later decades reveal that the combined enrollments at these additional fifteen schools was approximately equal to the total enrollment at both St. Petersburg University and the Medical-Surgical Academy. Consequently, the largest student group in St. Petersburg at this time numbered less than one thousand, and most student groups numbered closer to two hundred, and in many cases less.

By facilitating discussion and response, the smallness of St. Petersburg's student groups contributed to the development of ideas. Students tended to know each other well, which tended, in turn, to create both unity and a certain like-mindedness on many issues.

Once students became nihilists they entered a subculture that was an extension of their student life-style. Nihilist circles, for
example, also translated West European works, and published them by means of presses organized by V. Kovalevskii and Pavlenkov. Nihilist circles also organized study groups. While some of these groups were impromptu, others were highly structured. Komarova, for example explains that among one group "lectures on the latest scientific findings were held twice a week in the evening." 45

At the same time that nihilists organized publishing firms and study groups, they also organized communes and artels. Both helped individual nihilists by providing economic assistance. Communes, for example, allowed them to live inexpensively and artels provided them with jobs. By providing financial support, these communal arrangements contributed to not only the individual's well-being, but also to the nihilist movement's growth. Women, for example, were able to leave their families and join nihilist circles because the communes and artels that these circles sponsored offered refuge and economic assistance.

The nihilist life-style was not only communal, but also libertarian. Many nihilists, for example, defied society's mores. Men frequently wore their hair long and went about unwashed and unshaven. Women defied society's standards by cutting their hair and by wearing plain dresses without crinolines. Nihilists through "fictitious" marriages used the church to circumvent parental authority, and when they wished to marry, they frequently ignored the church and established "civil" marriages through which they essentially married themselves.
Nihilists also sometimes participated in a *ménage a trois*. When Shelgenov, for example, married Liudmila Petrovna Mikhailis, the two agreed that they would not restrict one another in any way. After several years of marriage, Liudmila Shelgunova established a relationship with Shelgunov's close friend, Mikhail Illarionovich Mikhailov, and eventually bore him a son, Misha. Shelgunov maintained his friendship with both his wife and Mikhailov, and after the latter's death, helped to raise his son.

This relationship closely resembles the relationship that Chernyshevskii depicted through Lopukhov, Vera Pavlovna, and Kirsanov, characters from his novel *What Is To Be Done?* Through the 1850's and early 1860's, the years during which Shelgunov, Shelgunova, and Mikhailov were a threesome, all knew Chernyshevskii well. Consequently, Soviet scholars believe that their *ménage a trois* was a prototype, and possibly the major prototype, for Chernyshevskii's novel.

The group oriented life-style that people like Shelgunov adopted helped to sustain the nihilist movement. Through their communal living and working arrangements, nihilists provided one another with not only financial, but also intellectual support. Through their study groups, journals, and publishing ventures, they developed and disseminated their ideas. Even more importantly, however, the communal environment that these free-thinking individuals created helped fellow members
to exist within a society that was not only critical, but also hostile.

**Participation in the Sciences**

The nihilists' education is marked by a prominent interest in the physical, biological, and applied sciences. Before or during the 1860's, thirteen of these nihilists—both men and women—studied in one or more of these fields. Three studied the physical and biological sciences; seven studied the applied sciences; two studied both the applied and theoretical sciences; and one studied mathematics. One additional nihilist, Komarova, studied the natural sciences independently, and two others, Rusanov and Timofeev, entered formal programs in these fields during the 1870's. In addition to studying the sciences on the baccalaureate level, several from this group completed advanced degrees in these fields: A. Kovalevskii completed both a master's and a doctoral degree in zoology; V. Kovalevskii completed a master's degree in mineralogy and geology and a doctorate in geology and paleontology; Kovalevskaja completed a doctorate in mathematics; and Suslova and Kurochkin both completed medical degrees. (The areas that nihilists studied are listed in Table 9, Appendix B, page 292.)

Many of these nihilists not only received formal training in the sciences, but also pursued careers in this area. Several, for example, taught the sciences: Shelgunov taught at the Institute of Forestry; A. Kovalevskii taught zoology at the universities of Kazan, Kiev, Odessa,
and St. Petersburg; V. Kovalevskii became a professor of geology at Moscow University; and Kovalevskaia taught mathematics at the University of Stockholm. Several also engaged in scientific research. Shelgunov, for example, studied forestry techniques and forestry management in Western Europe, and in conjunction with this program of study completed one text on forestry, *Lesovodstvo* (Forestry) (1856), and co-authored another with V. Greve, *Lesnaia tehnologiiia* (Forestry Technology) (1858). Shelgunov also published numerous articles on forestry in *Gazeta lesovodstvo i okhota* (Journal of Forestry and Hunting).

In addition to writing for *Knizhnyi vestnik*, Nozhin conducted research on lower forms of marine life. Vladimir Kovalevskii studied the paleontology of the horse, while his brother, Aleksandr, worked in the field of evolutionary embryology. Kovalevskaia concentrated on research that dealt with differential equations, and Suslova worked in the field of physiology. Before leaving St. Petersburg to study in Europe, she completed one research project on the nervous system, and while at the University of Zurich, completed another on lymph glands.

While some members of this group became well-known for their research, others translated, edited, and published works on the physical, biological, and applied sciences. In 1859, for example, Kurochkin started a medical newspaper, *Sankt Peterburgskaiia meditsinskaia gazeta* (St. Petersburg Medical Newspaper). Balloa helped to translate a three volume German text on human anatomy, and while a student at
St. Petersburg University edited a student journal on the natural sciences. After resigning his military commission in 1866, Pavlenkov opened a bookstore and publishing house. Before he was arrested two years later, he published three works: a ten part, first edition of Pisarev's collected works, a text on physics, and a volume on Darwin. Vladimir Kovalevskii, with Zaitsev's help, started a publishing company for the specific purpose of publishing and promoting works on the sciences. Between 1864, the year these works began to appear, and 1869, he published, edited, or translated forty-nine titles, thirty-eight of which dealt with the sciences.

Other nihilists who worked as literary critics—Pisarev, Shelsgunov, Sokolov, Mikhailovskii, Nozhin, Tkachev, and Zaitsev—all promoted the physical, biological, and applied sciences in their essays and book reviews. Nozhin not only promoted the sciences through his essays, but also promoted them through public lectures. In 1865 he prepared a series of lectures entitled "O sovremennom znachenii estestvenno-nauchnogo metoda po otnosheniiu k obshchestvenno-ekonomicheskoi nauke" ("On the Contemporary Importance of the Natural Sciences and the Scientific Method to the Social and Economic Sciences"). According to an advertisement for these lectures, he intended to discuss Darwin's theories, the problems inherent in the division of labor, his own "theory of healthy living and whole personalities," and the scientific method. At least one of these lectures
was delivered.

The nihilists' interest in the sciences is one of their most striking characteristics: all except one of these twenty individuals has an identifiable interest in this field. Fifteen, for example, studied the sciences formally and one was preparing to do so. Of the remaining four, three—Pisarev, Tkachev, and Sokolov—promoted and popularized the sciences through their writings.

This interest in the sciences characterized not only this group, but also Pisarev's following. The nihilist circle to which Komarova belonged, for example, carefully studied three German scientists: "Vogt, Büchner, and Moleschott, who gave us their own and others' hypotheses on the latest irrefutable and firmly established scientific findings." Rusanov's friends read not only Vogt, Büchner, and Moleschott, but were also "captivated by Pisarev, who talked to us about the great value of the natural sciences for developing a 'thinking realist.'" Those students in the Jewish Pale who followed Pisarev belonged to a concurrent movement known as Haskalah (Enlightenment). One of this movement's objectives was to promote the sciences.

Many of the nihilists studied here became interested in the sciences well before nihilist thought emerged. Blagosvetlov, Kurochkin, and Shelgunov, for example, studied the sciences in the 1840's. Ballod, Mikhailovskii, Nozhin, Vladimir and Aleksandr Kovalevskii all began studying the sciences in the 1850's. Even
though Komarova received no formal advanced training in the sciences, she, too, became interested in this discipline before Pisarev began to write. In 1859 Komarova, who at this time was a student at a girls' boarding school, enrolled in a course offered by a new geography teacher:

Where earlier I had simply admired the stars and the moon, I now wanted to penetrate all their secrets. Now novels no longer interested me, and instead I sought out various popular works on the natural sciences.56

Other nihilists became interested in the sciences at the same time that they became interested in nihilist thought. Timofeev and Rusanov, for example, both read works by Büchner, Vogt, and Moleschott during the late 1860's, the same period during which they became Pisarev's followers. After graduating from their respective gymnasiums in the 1870's both continued to study the sciences. Rusanov enrolled in the Medical-Surgical Academy, and Timofeev entered the Faculty of Physical and Mathematical Sciences at St. Petersburg University.

While some nihilists became interested in the sciences and began to pursue careers in that field before nihilist thought emerged, and others became interested in the sciences while the nihilist movement was developing and pursued careers in this discipline after Pisarev's influence had begun to decline, all of these nihilists saw science as a solution to Russia's problems. As will be seen in Chapter V when the nihilists' ideas are examined, this group believed that
science could not only improve the quality of life, but help to free the individual as well.

**Contact with Western Europe**

While nihilists were becoming interested in the sciences, a large part of this group had contact with Western Europe. Before or during the 1860's six studied in Western Europe and three others traveled or lived there for an extended period of time. (The nihilists who studied or traveled in Western Europe are listed in Table 10. Appendix B, page 293.)

Traveling to Western Europe provided nihilists with an opportunity to meet older radicals who lived there in exile. Many nihilists took advantage of this opportunity. Nozhin and Kurochkin, for example, both spent time with Bakunin while all three lived in Florence. While in England, Suslova and Shelgunov spent time with Herzen. V. Kovalevskii, Blagosvetlov, and Sokolov not only met Herzen, but worked for him as well. They tutored his children, and provided him with material that he used in his journal *Kolokol* (Bell).

In addition to bringing nihilists into contact with older radicals, traveling in Western Europe brought them into contact with a standard of living different from their own. When Blagosvetlov, for example, first traveled to Western Europe, he wrote "how far behind the West Europeans we are in civilization—it is difficult to measure the distance."
During his first trip abroad, Shelgunov responded in a similar manner:

The trip abroad was my first visual lesson in social humaneness and decency of a simple everyday nature. For the first time I saw free people who live without a club and an autocracy, but live much better and richer than we do; for the first time I saw that peasants eat a bread which we call half white, take butter and cheese to work for lunch, and sleep on beds under blankets . . . our peasants eat pushnoi khleb [a coarse bread], live in a hut, . . . and instead of a bed, lie down on an earthen floor . . . 60

Contact with Western Europe showed nihilists that others were solving important problems, particularly economic problems, significantly better than they were. To Shelgunov, it was visually apparent that North European farmers were eating and living better than Russian peasants were. As will be seen when the nihilists' ideas are examined, these obvious differences became tied to their interest in science. While science to the nihilists became a means to solve economic problems, contact with Western Europe showed them what others had already achieved by using both science and technology.

In summary, the nihilists under study here were as a group not only young, but also privileged. Both the men and the women were interested in individual liberation, and all were well-educated, a reflection in part of their privileged social position. Being young and well-educated, most were students during the 1860's. Once these students entered Russia's universities and technical schools, they came into contact with an active student environment that merged readily with radical circles, a sub-culture comprised of students and former students.
In addition, nihilists were unusually interested in the sciences. While most from this group studied the sciences formally, others promoted the sciences through their writings and publishing ventures. At the same time that this group focused on the sciences, many through their contact with Western Europe saw what other nations had achieved by using both science and technology.

Each of these several group characteristics contributed to the emergence and growth of the nihilist movement. In the ensuing chapters, however, one of these characteristics—the nihilists' participation in the sciences—will become a pivotal point. The nihilists' pursuit of the sciences will be shown to be an outgrowth of such factors as their contact with Western Europe, their youth which through their education put them in touch with recent scientific developments, and their privileged status which allowed them to attend the best schools in both Russia and Western Europe where training in the sciences was most advanced.

Science will become the pivotal point for several reasons. First, as has already been explained, nihilist writers made science part of their ideology. By making science a central part of their thinking, they succeeded in making science an important part of Russian radical thought. They also succeeded in attracting a following, and by doing so, made science a more important part of Russian life.

Secondly, the nihilists' interest in the sciences was linked to developments that emerged within their society before nihilist writers
began to express their ideas. This study's objective is to place the nihilist movement in its social context. Consequently, the nihilists' interest in science is viewed as particularly significant.

Thirdly, very few of the many works that treat nihilist thought deal with the relationship between the nihilist movement and science, and the few that touch on this topic do not do so adequately, although some offer tantalizing bits of information. Previous works have not examined the nihilists' interest in science, in part, because in these works nihilism was approached by studying Pisarev's writings rather than the movement itself. During the 1860's the type of science that interested young nihilists was controversial. The censors, for example, permitted radical writers to describe recent scientific research, but they did not allow these writers to analyze this research or correlate it with contemporary life, at least not directly. Consequently, if one approaches nihilism through nihilist writings their interest in scientific topics appears to be comparatively unimportant, particularly when their purely descriptive essays on science are read in conjunction with their lively analytical literary reviews. If, however, one approaches nihilism through the lives of nihilists, a different picture emerges. Immediately, it becomes clear that many from this group studied the sciences formally. When this interest is pursued further, one finds that all except one from the group studied here had an identifiable interest in this field. Consequently, while the nihilists' writings mask the importance of science,
the nihilists' lives point out its importance, and by doing so, open an area that has not been explored.

In reading the chapters that follow—all of which examine the interrelationships between the nihilists' interest in science and the nihilist movement—the reader should be careful not to adopt an absolutist posture. The correlations that emerge from a study of these twenty nihilists are analytical tools and not absolutes. This chapter has pointed out, for example, that nihilists were interested in the sciences, and the following chapters will examine this correlation. In reading these chapters, the reader should not assume that all nihilists were interested in the sciences. All were not. That does not mean in turn, however, that this characteristic was not important. All members of a particular group do not have to share a common characteristic for that characteristic to have influenced the group as a whole.

When reading the following chapters, the reader is also cautioned against applying reverse logic. The reader, for example, should not interpret the nihilists' interest in the sciences to mean that all individuals who were interested in the sciences became nihilists. All did not. Again, that does not mean, however, that the nihilists' participation in the sciences was not important. All members of society do not need to have been influenced by a particular factor for that factor to have influenced one segment.
When analyzing the correlation between nihilism and science, it is advantageous to think of the nihilists as free-thinking agents. In other words, young Russians did not become interested in science and then automatically become nihilists. Instead, they saw that Russia was plagued with problems, and in looking for solutions to those problems found answers within science. Science did not coerce the nihilists; instead, they chose to become science's adherents. In focusing on this choice, this study attempts to show how significant the correlation between the nihilists and science was, and to point out developments within their society that encouraged this relationship to emerge.
NOTES TO CHAPTER III


9 While these individuals' acceptance of nihilist thought could not be confirmed, evidence strongly indicates that these seventeen were Pisarev's followers. Many of these seventeen spent time with the twenty who are known to have been nihilists, and police records for most of these seventeen indicate that they were interested in nihilism. As most of these records were compiled in 1865, the height of nihilism's development, and these records do not call radicals who were not Pisarev's followers nihilists, radicals such as Dobroliubov, Antonovich, and Khudiakov, these records appear to have used the term nihilism as a label for Pisarev's ideas.


12 This study by Brower is the only work, other than this dissertation, that examines the social origins of radicals active during the fifteen year period that is called the 1860's.

Even though nihilists were for the most part a privileged group, this does not put an end to the question of the raznochintsy. Few nihilists came from this class and the raznochintsy as a group does not appear to have been particularly large during the 1860's, but nevertheless some radicals did come from this class. Shelgunov, Blagosvetlov, Dobroliubov, Chernyshevskii, Antonovich, Eliseev, and Shchedrin all, for example, came from the raznochintsy. It might, therefore, be worthwhile to examine individuals who were both from the raznochintsy and radical during the 1860's—examine radicals who came from this one class rather than those who advocated a particular pattern of thought.

If radical raznochintsy are studied, their backgrounds will have to be examined carefully because the raznochintsy as a class was far more varied than the dvorianstvo (the nobility). Even though sons of clergymen, for example, became members of the raznochintsy if they chose not to enter the priesthood, they were not necessarily unprivileged or middle class. Levels existed within the beloe dukhovenstvo (the white clergy). The highest of these levels were equivalent to the highest levels in the Table of Ranks. Consequently, if a radical was the son of a clergyman, he will be classified in police and school records as raznochintsy, but he could, in fact, have been the son of an Archpresbyter assigned to the Tsar's court, and could have attended a prestigious seminary.

Members of the merchant class become raznochintsy if the term is given its broadest definition, but members of this class, too, were not necessarily disadvantaged. They did not possess the social status that noblemen possessed, but sometimes merchants were more wealthy than noblemen and by virtue of that wealth possessed more decision-making power than many members of the nobility did. Rusanov, for example, came from the merchant class, but some members of his family were involved in railroad construction, an exceedingly important business during the 1860's.
If radical raznochintsy are studied, the number of raznochintsy who were radical during the 1860's should be compared with the number who were radical during the 1840's to determine if the raznochintsy who were active during the 1860's represent a larger group. If this is done, then radicals' ages should be examined carefully because not all radical raznochintsy who were active during the 1860's represent new radicals. Chernyshevskii, Shelgunov, and Blagosvetlov, for example, all came from the raznochintsy, but all also numbered among the oldest radicals during the 1860's. These three were students in St. Petersburg during the 1840's and first came into contact with radical ideas during that decade. Consequently, they were part of both the 1840's and the 1860's. Thus, do raznochintsy who were radical during the 1860's represent a new breed of radicals or were many of them older radicals who were influenced by people like Belinskii and who then influenced the new younger radicals of the 1860's? Pisarev considered Blagosvetlov to be his teacher, and the nihilists thought of Chernyshevskii more as their mentor than their contemporary. Consequently, Blagosvetlov and Chernyshevskii both fall into the second category.

If radical raznochintsy are studied, it would also be useful to examine not only raznochintsy who became radical, but also those who did not. A greater number of people from this class entered Russia's universities during the 1860's, but were they becoming radical? It would also be useful to try to determine how coming from the raznochintsy influenced these individuals' thinking. Many historians assume that the raznochintsy's social origin was influential, but few have attempted to explain what from their background may have led these individuals to think and act as they did. One work that does attempt to do this is Rose Burns Glickman's "The Literary Raznochintsy in Mid-Nineteenth Century Russia" (Ph.D. dissertation, Chicago, 1967). In this dissertation, Glickman examines the writings of three raznochintsy writers, Nikolai Uspenskii, Nikolai Pomialovskii, and Fedor Reshetnikov, and also examines the manner in which their social background affected their attitudes.

18 Cathy Porter, Fathers and Daughters, p. 118.


30 Ibid.

After Nozhin helped his sister, Mariia, leave their family estate, she was located by the police and returned to her parents. See: N. K. Mikhailovskii, "V peremezhku," Polnoe sobranie sochinenii N. K. Mikhailovskogo (S.-Peterburg, 1909), Vol. IV, p. 271; A. I. Del'vig, Moi vospominaniiia (Moskva, 1903), Vol. III, pp. 344-347.


Ekaterina Zhukovskaia, Zapiski (Leningrad: Izdatel'stvo pisatelei v Leningrade, 1930), pp. 103-106.


L. P. Shelgunova, Iz dalekogo proshlogo, p. 113.


Ibid., Table 1, p. 37.

43 N. V. Shelgunov, "Domashnaia letopis'," Russkoe slovo, Otdel III, No. 6 (June), 1865, p. 31.


45 [A. A. Komarova], Odna iz mnogikh, p. 64.

46 L. P. Shelgunova, Iz dalekogo proshlogo, pp. 35-42.


49 These publications are listed in N. M. Rassudovskaiia, Izdatel' F. F. Pavlenkov (1839-1900). Ocherk zhizni i deiatel'nosti (Moskva: Izdatel'stvo Vsesoiuznoi knizhnoi palaty, 1960), p. 89.

50 L. P. Shelgunova, Iz dalekogo proshlogo, p. 151.

51 This list of titles appears in L. Sh. Davitashvili, V. O. Kovalevskii, pp. 548-552.


53 [A. A. Komarova], Odna iz mnogikh, p. 65.


56 [A. A. Komarova], Odna iz mnogikh, p. 19.

57 L. I. Mechnikov, "M. A. Bakunin v Italii v 1864 godu. (Iz vospominanii L. I. Mechnikova)," Istoricheski vestnik, No. 3 (March), Vol. 67 (1897), pp. 807-834.


61 From the Western works that discuss nihilist thought, two treat the nihilists' interest in science: Evgenii Lampert, Sons against Fathers. Studies in Russian Radicalism and Revolution (1965); and Armand Coquart, Dmitri Pisarev (1840-1868) et l'Ideologie du Nihilism Russe (1946). Both approach the nihilists' interest in science by describing the essays in which Pisarev discussed scientists' writings. Neither show how the nihilists' interrelated science with other topics that they discussed, and neither show that the nihilists' interests were related to social developments.

James Rogers recognizes the importance of the nihilists' interest in science in his essay "Darwinism, Scientism, and Nihilism" (The Russian Review, No. 1 (January), Vol. 19 (1960), pp. 10-23. In this essay, however, he misinterprets the relationship between science and nihilist thought. He states, for example, that:

The gross emphasis on the physical sciences soon led Pisarev to a denial of free will, to a form of historical determination, to the denial of aesthetics. It gave him a feeling of apathy for politics amounting almost to contempt (p. 15).

The nihilists did not deny free will, were not determinists, and did not reject aesthetics. Politics did not interest them, but their attitude towards politics was related to many factors other than their interest in science.

superficial sketch of young Russians' interest in the sciences through the 1850's and 60's. Both Soviet works discuss Pisarev's essays on the sciences, but both also criticize Pisarev's interest in that topic. Prokof'ev explains, for example, that the nihilists' interest in science was important, but he criticizes them because they were not true dialectical materialists. Plotkin explains that Pisarev's interest in German materialists' vulgar materialism prevented him from appreciating dialectical materialism. Consequently, German scientists had an undesirable effect on Pisarev's views.

Three works are noteworthy exceptions to the patterns described above. Alexander Vucinich, author of Science in Russian Culture, 1861-1917 (1970), interprets Pisarev's interest in science favorably. Because his topic is science and not radicalism, Vucinich does not examine the relationships between science and Pisarev's radical views or the nihilist movement, but he recognizes that the connection is important. In Mirovozzrenie D. I. Pisareva (The World-View of D. I. Pisarev) (1969), V. A. Tsybenko notes that science had a beneficial effect on Pisarev's ideas. Instead of interpreting Pisarev's promotion of science as undermining or postponing the growth of dialectical materialism, he sees it as a necessary step toward dialectical materialism's growth and acceptance. A. L. Shvartsman presents a similar interpretation in D. I. Pisarev i russkoe estestvoznanie (D. I. Pisarev and Russian Science) (1955). While Tsybenko and Shvartsman both agree that the relationship between science and nihilism is important, neither examines that relationship. Both also focus on the relationships between Pisarev's ideas and developments that followed, and they do not look for the origins of nihilism itself.

One additional essay, Alexander Gerschenkron's "The Problem of Economic Development in Russian Intellectual History of the Nineteenth Century" in Ernest J. Simmons (ed.), Continuity and Change in Russian and Soviet Thought (1955), pp. 11-39, touches on a topic that these other works do not discuss: technology. In this essay, Gerschenkron discusses briefly Pisarev's interest in industrialization.

CHAPTER IV

THE GROWING INTEREST IN SCIENCE WITHIN
THE NIHILISTS' SOCIAL MILIEU

The previous chapter examined nihilists' lives and demonstrated that a significant segment studied, promoted, and popularized the sciences. The present chapter demonstrates that their involvement with the sciences reflected a growing interest in this discipline that developed within the educated segment of Russian society. This chapter examines four parallel developments: educated society's growing interest in the sciences; radicals' growing interest in materialism, a science-oriented philosophy; the government's nurturing of the sciences; and the increasing ability of science to address problems of social as well as theoretical significance.

As depicted in Figure 1 and shown in Table 1, material collected by the Ministry of Education reveals that a growing interest in the sciences began to evolve during the 1850's. Clearly more educated Russians were becoming interested in these disciplines. As depicted in Figure 1, Part A, the number of published works in the sciences increased significantly between 1850 and 1860. Moreover, while not as
striking, there was also an increase in the number of scientific titles relative to the total number of titles published. Figure 1, Part B demonstrates this increase by depicting scientific titles as a percentage of total titles published.

FIGURE 1: MINISTRY OF EDUCATION'S DATA REVEALING A GROWING INTEREST IN THE SCIENCES
### TABLE 1

**DATA COLLECTED BY THE MINISTRY OF EDUCATION**

The number of books and periodicals published in 1850, 1855, and 1860 after receiving censorship approval from the Ministry of Education.

<table>
<thead>
<tr>
<th></th>
<th>1850</th>
<th>1855</th>
<th>1860</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematics and</td>
<td>24</td>
<td>52</td>
<td>69</td>
</tr>
<tr>
<td>Military Sciences</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Natural Sciences</td>
<td>39</td>
<td>63</td>
<td>109</td>
</tr>
<tr>
<td>Agriculture and</td>
<td>54</td>
<td>106</td>
<td>139</td>
</tr>
<tr>
<td>Technology</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medicine</td>
<td>15</td>
<td>66</td>
<td>142</td>
</tr>
<tr>
<td>Total Number of</td>
<td>132</td>
<td>287</td>
<td>459</td>
</tr>
<tr>
<td>Science Titles</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Number of</td>
<td>696</td>
<td>1239</td>
<td>2085</td>
</tr>
<tr>
<td>Titles Published</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>in All Fields</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percentage of</td>
<td>19%</td>
<td>23%</td>
<td>22%</td>
</tr>
<tr>
<td>Science Titles</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SOURCE:** M. V. Muratov, *Knizhnoe delo v Rossii v XIX i XX vekakh* (Moskva i Leningrad: Gosudarstvennoe sotsial'no-ekonomicheskoe izdatel'stvo, 1931). These figures were compiled from information presented in Table III, p. 201.

This new interest in the sciences that emerged during the 1850's continued to grow through the decade that followed. As depicted in Figure 2 and shown in Table 2, forty-two science-oriented periodicals existed during the years of the Crimean War (1853-1855), the last two
years of Nicholas I's reign. Between the year the Crimean War ended (1856) and the year the government closed the nihilist literary journal Russkoe slovo (1866), eighty-six new scientific journals appeared.

FIGURE 2: NEW SCIENTIFIC PERIODICALS REVEALING CONTINUING GROWTH IN THE SCIENCES, BASED ON LISOVSKII'S LISTINGS
TABLE 2

TABULATIONS FROM LISOVSKII'S LISTINGS

The number of scientific periodicals that existed at the time the Crimean War was in progress, 1853-1855, and the number of new scientific periodicals that appeared between the year the Crimean War ended and the year Russkoe slovo closed, 1856-1866.

<table>
<thead>
<tr>
<th>Field</th>
<th>Time of the Crimean War</th>
<th>New Journals Initiated in the Following Decade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural Sciences, Physical and</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>Mathematical Sciences</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Engineering, Technology, and</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>Handcrafts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agriculture and Forestry</td>
<td>18</td>
<td>26</td>
</tr>
<tr>
<td>Medicine and Veterinary Medicine</td>
<td>5</td>
<td>24</td>
</tr>
<tr>
<td>Naval Sciences</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>42</strong></td>
<td><strong>86</strong></td>
</tr>
</tbody>
</table>

SOURCE: N. M. Lisovskii (comp.), Russkaia periodicheskaia pechat' 1703-1900 qq. Otdel 1. Bibliografiiia russkoj periodicheskoi pechat (Petrograd, 1915). These tables were compiled from the journals listed in Section D: Publications Devoted Primarily to the Natural, Physical, and Mathematical Sciences and the Applied Sciences. This sub-section appears under three main headings: St. Petersburg, Moscow, and the Provinces.

NOTE: Lisovskii's work, which lists periodicals published in Russia from 1703 to 1900, gives the years each was published and divides the periodicals according to topic.
The scientific journals that existed between 1853 and 1855, the Crimean War years, were compared with the number of new scientific journals that appeared between 1856 and 1866. The Crimean War years were used as a basis for comparison because these years marked the end of Nicholas I's reign and the beginning of that period which is referred to generally as the 1860's. They were also used as a basis for comparison because Russia's war effort did not force journals to close, and thus the total number of journals was not artificially low. During the Crimean War, for example, three periodicals existed that dealt with the natural, physical, and mathematical sciences. Lisovskii lists only five other publications under this heading for the entire first half of the nineteenth century. All five closed before the end of the 1840's, and thus, none ceased publication because of the economic strains caused by the war. Other scientific categories used by Lisovskii reflect this same pattern.

Because some journals closed between 1856 and 1866, the total number of scientific journals published in 1866 was less than 128.

At the same time that a growing interest in the sciences developed among Russia's general reading public, a growing interest in this topic also appeared among students at the university. As depicted in Figure 3, the average number of science graduates at St. Petersburg University between 1850 and 1858 was only thirteen. This represented fifteen percent of the graduating class. Between 1859 and 1863, the average number of science graduates increased to thirty-nine, which represented twenty-six percent of the total number of graduates. Because most who graduated in 1859 entered the university in 1855 and those who graduated in 1863 entered by 1859, students' growing interest in the sciences developed during the 1850's, approximately a half decade before nihilist thought emerged.
Nicholas I's death → Post war students begin graduating

Crimean War ends → Post war students enter university

![Bar chart showing the total number of science graduates from St. Petersburg University from 1850 to 1863.](chart1.png)

**A. TOTAL NUMBER OF SCIENCE GRADUATES**

![Bar chart showing science graduates as a percentage of total graduates from 1850 to 1863.](chart2.png)

**B. SCIENCE GRADUATES AS A PERCENTAGE OF TOTAL GRADUATES**

**FIGURE 3: SCIENCE GRADUATES FROM ST. PETERSBURG UNIVERSITY**

REVEALING A GROWING INTEREST IN THE SCIENCES
### TABLE 3

**GRADUATES FROM ST. PETERSBURG UNIVERSITY, 1850-1863**

**FACULTY OF PHYSICAL AND MATHEMATICAL SCIENCES**

<table>
<thead>
<tr>
<th></th>
<th>1850</th>
<th>1851</th>
<th>1852</th>
<th>1853</th>
<th>1854</th>
<th>1855</th>
<th>1856</th>
<th>1857</th>
<th>1858</th>
<th>1859</th>
<th>1860</th>
<th>1861</th>
<th>1862</th>
<th>1863</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mathematics</strong></td>
<td>4</td>
<td>11</td>
<td>8</td>
<td>6</td>
<td>7</td>
<td>9</td>
<td>7</td>
<td>3</td>
<td>6</td>
<td>7</td>
<td>22</td>
<td>20</td>
<td>29</td>
<td>7</td>
</tr>
<tr>
<td><strong>Physical Sciences</strong></td>
<td>3</td>
<td>5</td>
<td>8</td>
<td>4</td>
<td>4</td>
<td>12</td>
<td>10</td>
<td>7</td>
<td>5</td>
<td>15</td>
<td>22</td>
<td>21</td>
<td>30</td>
<td>22</td>
</tr>
<tr>
<td><strong>Total Number of Science Graduates</strong></td>
<td>7</td>
<td>16</td>
<td>16</td>
<td>10</td>
<td>11</td>
<td>21</td>
<td>17</td>
<td>10</td>
<td>11</td>
<td>22</td>
<td>44</td>
<td>41</td>
<td>59</td>
<td>29</td>
</tr>
<tr>
<td><strong>Total Number of Graduates</strong></td>
<td>153</td>
<td>131</td>
<td>135</td>
<td>37</td>
<td>85</td>
<td>96</td>
<td>103</td>
<td>74</td>
<td>88</td>
<td>68</td>
<td>162</td>
<td>206</td>
<td>271</td>
<td>105</td>
</tr>
<tr>
<td><strong>Percentage of Science Graduates</strong></td>
<td>5%</td>
<td>12%</td>
<td>12%</td>
<td>27%</td>
<td>13%</td>
<td>22%</td>
<td>17%</td>
<td>14%</td>
<td>13%</td>
<td>32%</td>
<td>27%</td>
<td>20%</td>
<td>22%</td>
<td>28%</td>
</tr>
</tbody>
</table>

**SOURCE:** V. V. Grigor’ev (ed.), *Imператорский Санкт-Петербургский университет в течение первых пятидесяти лет его существования* (S.-Peterburg: Tipografiia V. Bezobrazova, 1870). These figures were compiled from the list of graduates, pp. CIV-VXXII.

**NOTE:** An increase in enrollments between 1855 and 1857 helped to produce the increase in total number of science graduates after 1858, and a decrease in enrollments in 1859 affected the decrease in total numbers evident in 1863. An unusually low total number of graduates produced the increase in percentage of science graduates in 1853.

The figures included in this table end at 1863 for two reasons: first, graduating classes after 1863 were greatly affected by the expulsions that followed student demonstrations in 1860; and secondly, the important information is that which describes the years preceding 1862, the year young Russians made Pisarev their spokesman.
The increasing number of science graduates clearly indicates that more students became interested in the sciences through the 1850's; but that, in turn, only begins to describe students' growing interest in this discipline. Public lectures reveal, for example, that the sciences during these years reached many more students than those few who completed science degrees. Through the late 1850's and early 1860's, students enthusiastically attended these lectures. One series of lectures that interested students, a series organized by the Firm of Strugovshchikov, Pakhitonov, and Vodov, was devoted entirely to the sciences. A second series of lectures organized by students in the early 1860's offered thirty-six lectures. Fifteen of these thirty-six focused on such scientific topics as agronomy, the morphology and physiology of plants and animals, theoretical chemistry, physics, and geology.

A study group formed by students attending the Aleksandrov Lyceum also reveals that this new interest in the sciences touched many students' lives at this time. Because the Aleksandrov Lyceum trained sons of noblemen for high-level civil service positions, its students traditionally studied history, languages, and jurisprudence, but little science. Even though students from the Lyceum had little formal training in the sciences, a group during the late 1850's organized an independent study group to explore topics from this field. Several became so completely engrossed that they left the Lyceum to study the sciences
formally and to pursue careers not in government service, but in this new area. 3

From the group of twenty nihilists studied here, several came into contact with both the sciences and St. Petersburg's student community during the years that students' growing interest in the sciences emerged. Pisarev, for example, entered St. Petersburg University in 1856, and in the ensuing years was influenced by a close friend and fellow nihilist, Petr Ballod, a student at the Medical-Surgical Academy. After enrolling in St. Petersburg University in 1858 to study law, Zaitsev transferred to Moscow University to study medicine. Shelgunov began teaching at the Forestry Institute in St. Petersburg in 1859. While studying at the Aleksandrov Lyceum from 1854 through 1860, Nozhin was part of the independent study group that students there organized to explore the sciences. With the exception of Ballod, all of these individuals became part of the literary circle that shaped nihilist thought.

The growing interest in the sciences that developed through the 1850's was not unique to the student community. As will be shown in the following three sections, related developments occurred within the radical community, within the government, and within the sciences themselves.

As students' interest in the sciences increased through the 1850's, radical spokesmen and their followers became increasingly interested in materialism, a philosophical orientation that viewed life as physical
rather than metaphysical in nature. In 1855, for example, Chernyshevskii attempted through his master's thesis "The Aesthetic Relation of Art to Reality" to encourage creative individuals to become more interested in man's real world:

To defend reality against fantasy, to demonstrate that works of art cannot possibly be compared with living reality—that is the essence of this essay. Does talking about art in this way degrade it? Yes, if showing that art is lower than real life—is less perfect than real life—means degrading it. Taking that position, however, does not necessarily result in abuse. Science does not claim to be higher than reality and is not ashamed of that fact. Art also must not claim to be higher than reality. To do so will not degrade it. . . . Let art not be ashamed to say that its goal . . . is to reproduce reality and explain it for the benefit of man.

Let art be satisfied with its sublime and beautiful task of serving as a substitute for reality, and of being a textbook of life for man.4

Later, in an essay entitled "The Anthropological Principle in Philosophy" (1860), Chernyshevskii argued that man should make reality the basis not only for his aesthetic views, but also his philosophical outlook. It was obvious, he explained, that man did not, as idealists believed, have two separate natures: a tangible physical one—man's body, and an intangible spiritual one—man's soul. "What is this 'anthropological principle in the moral sciences'? . . . It is that a man must be thought of as a single being having only one nature. . . ."5

Man's thought and actions did not exist separate from his physical nature, but instead were part of man's physical being:

The principle underlying the philosophical approach to human life and all of its phenomena is the idea, worked out by the natural sciences, that the human organism is unified; the observations of
physiologists, zoologists, and doctors have pushed aside all thought of dualism in man. Philosophy sees what medicine, physiology, and chemistry sees; these sciences demonstrate that no dualism is evident in man. Philosophy adds that if man had another nature apart from his real nature, then this other nature would show itself in some way, but since it does not show itself and since everything that shows itself in man comes from his real nature alone, he does not have another nature.6

Through the 1850's Russian radicals also paid increasing attention to a German materialist philosopher, Ludwig Feuerbach. Probably best known for his work The Essence of Christianity (1841), Feuerbach attempted through his writings to anthropomorphize religion. He argued, for example, that God did not exist separate from man, but instead had been created by man. God was not a Spiritual Being, but man's image of himself. In discussing the anthropocentric nature of God and religion, Feuerbach focused on two material entities that he believed were life's primary components: the individual and the nation state. Man's ideas and actions, Feuerbach explained, reflected both the individual's needs and the manner in which the individual interacted with others and with nature. According to Feuerbach, man satisfied his needs and formed suitable modes for interaction by creating the nation state. Through the state, the ultimate expression of man's creativity, man achieved social harmony and unity.7

Throughout the 1850's and 60's, young radicals read Feuerbach's works carefully. To them, he was just as important as Büchner, Vogt, Moleschott, Chernyshevskii, and Pisarev. In reading Feuerbach, young
radicals accepted both his anthropomorphism and his particular understanding of the individual, but they ignored the emphasis that he placed on the state. To nihilists, in particular, the state was not a means for achieving harmony and unity. One reason for this will become clear when the nihilists' arrest record and their criticism of Alexander II's programs are discussed in Chapter VI.

In developing his anthropological concept of religion, Feuerbach tied that concept to science:

The new philosophy makes man, together with nature as the basis of man, the exclusive, universal, and highest object of philosophy; it makes anthropology, together with physiology, the universal science. [The italics are Feuerbach's.]

Feuerbach frequently discussed recent research by scientists, particularly physiologists. He became one of the first materialist philosophers to point out that man's general health, a product of man's diet, influenced man's attitudes and actions. As will be seen when the nihilists' ideas are examined, they, too, interpreted scientific findings in much the same way as Feuerbach.

The link between philosophy, theology, and science that Feuerbach created is important. Such links contribute to the growth of an idea. For example, philosophical materialists argued that no metaphysical Being governed man's life. Such a belief was tenable, in part, because scientists were developing a more comprehensive understanding of the body's workings. They were beginning to ascertain the chemical and
mechanical procedures that govern such life-giving processes as respiration, circulation, and digestion, and finding no tangible evidence for a manipulating spiritual force. In their minds, the body's processes were natural. A spiritual force was not needed to understand life. Consequently, to these individuals, anthropomorphism—a belief that de-emphasized metaphysics, was the more logical concept.

Links between philosophy, theology, and science also contribute to the general acceptance of an idea. A segment of society does not reject one idea, such as traditional Orthodoxy, and accept a diametrically opposed substitute, such as anthropomorphism, without having strong reasons for doing so. The reasons are numerous and varied, but generally speaking, a new idea becomes widely accepted because it appears to its adherents to be perfectly logical, while the idea that is being replaced appears to be patently absurd. By tying his view of God and man to nature and science, Feuerbach made his anthropomorphism appear to be logical to many who had the same understanding of nature and science as he did. He created a pattern of thought that incorporated what he and others knew of their physical world. It is this sense of inner logic that helped to create Feuerbach's appeal.

As more students studied the sciences and young radicals became more interested in materialism, a philosophical outlook tied to the sciences, the Russian autocracy also became increasingly interested in
these topics. Disapproving of Feuerbach's anthropomorphism, the
government on the one hand took steps to control its spread. It forbade
the publication of Feuerbach's works and carefully censored works that
attempted to de-mystify religion. Conversely, however, the material
benefits that the sciences offered proved to be increasingly attractive.
Consequently, the government also took steps to encourage science's
development. Many of the programs that the autocracy instituted to
achieve this goal touched the lives of students, the group from which
Pisarev's following was to emerge.

The autocracy's interest in the sciences began to develop during
the early years of Nicholas I's reign. Through the 1830's and 40's, for
example, Nicholas upgraded Russia's elite technical and professional
schools. By restoring its engineering curriculum, Nicholas transformed
the Mining Institute, which prior to his reign had become a prestigious
finishing school for nobility, and as such, well-known for its program in
theater and dance. Nicholas also created the Gorygoretsk Institute, an
agricultural school, and founded the Mikhailov Artillery Academy, a
school that by the 1860's was known internationally as a center for
studies in the field of rocketry.  

Following the Revolutions of 1848, Nicholas revised the gymna-
sium curriculum, and in doing so, increased the amount of time students
were required to devote to the sciences and other related modern subjects.
Gymnasiums were divided into two types: classical and modern.
Students who attended classical gymnasiums continued to study the subjects that they had previously studied: religion, Russian language and literature, Russian and world history, mathematics, geography, physics, Greek, Latin, German, and French. Now, however, they spent less time studying traditional subjects such as Greek and Latin, and more time studying modern subjects: the sciences, mathematics, and modern languages. As depicted in Figure 4, classical gymnasium students now took sixteen hours of Latin where formerly they had taken twenty-six. Those who continued to study Greek, now an optional course, took eight hours where formerly they had taken twenty. Except for religion and history, which remained unchanged, the hours devoted to the remaining subjects increased: students now took twenty-four hours of Russian language and literature instead of twenty-three; twenty-four hours of mathematics instead of fifteen; seventeen hours of physics and geography instead of fourteen; twenty-one hours of German instead of six; and twenty-one hours of French instead of twelve.
FIGURE 4: CURRICULUM CHANGES INSTITUTED AT CLASSICAL GYMNASIUMS IN 1848
Students who attended modern gymnasiums studied the same amount of religion, history, physics, geography, German and French as their classical counterparts, but instead of Greek and Latin, they now took twelve hours of Russian law. They also took twenty-six hours of both mathematics and Russian language and literature, two hours more than in the classical curriculum.\textsuperscript{11}

This change in the gymnasium curriculum was one step in a series of developments that led to nihilist thought. The correlation between radicalism and this increase in time spent studying the sciences should not, however, be given the emphasis that historians such as Rogers and Confino give it.\textsuperscript{12} Even though these changes in the curriculum introduced students to more science before they entered the university, these changes did not create a curriculum that was predominately science-oriented. Note, for example, that classical students studied more French, German, and Russian (sixty-six hours) than science and mathematics (forty-one hours). All material taught at gymnasiums was scrutinized by clergy. Thus, even though gymnasium students studied more science, their educational experience was tempered with Orthodox values. Also, the process that led to nihilist thought involved far more than the contact with the rudiments of mathematics and science that students at the gymnasiums received. The nihilist movement was tied more closely to contact with a freer environment like the one found after 1855 at universities, and to contact with
advanced scientific study, the type of scientific material taught at the universities and advanced professional schools.

During his reign, Nicholas also transformed education within the Jewish Pale. To encourage assimilation, Nicholas in 1835 decreed that Russian Jews could establish their own educational system and could also send their children to any state or private boarding school and to any institution of higher learning outside the Pale. During the 1840's, Nicholas encouraged further assimilation by establishing state gymnasiums within the Pale that offered a modern curriculum. Instead of the Talmud, students studied Russian history and culture, Russian language and literature, mathematics, and the physical and biological sciences.  

During the years that Nicholas worked out this educational program, a segment of Russia's Jewish community became increasingly active in Haskalah (Enlightenment), a reform movement that promoted assimilation. Those who joined Haskalah studied the Russian and German languages, modern culture, and the sciences. Young Jews who became Pisarev's followers during the 1860's were members of Haskalah, and studied not at traditional Rabbinic schools, but at the modern gymnasiums that Nicholas established within the Pale or at Russian schools outside the Pale.  

Nicholas restructured Russia's professional and secondary schools, in part, to satisfy Russia's military, commercial, and
industrial needs. In modernizing these schools, however, Nicholas did not attempt to liberalize them. Instead, he tempered modernization with greater conservatism. When Nicholas, for example, upgraded Russia's professional schools he turned them into military institutions. When he revised the gymnasium curriculum in 1848, he placed greater emphasis on modern languages, mathematics, and science not only because these subjects served the state's needs, but also because he wished to de-emphasize Greek and Latin, two subjects that the Autocracy associated with radical thought. Thus, he revised the gymnasium curriculum, in part, to control the growth of progressive ideas. To further this end, he placed all gymnasium courses under the clergy's supervision.

Even though Nicholas linked modernization with conservatism, education under Nicholas' reign nevertheless became more modern. Nicholas' changes, for example, gave young Russians two skills that most other groups, particularly the older generation, did not possess. The amount of time spent studying German and French made it easier for these students to read West European works and study at West European schools. The amount of time spent studying the sciences and mathematics allowed them to speak a second, more universal language that helped them to understand recent scientific developments. Armed with these two language skills, these young Russians were better able than their predecessors to communicate with individuals both inside and
outside Russia who either engaged in scientific research or applied the results to practical problems.

During the years when Nicholas modernized professional and secondary schools, he also transformed the universities. In doing so, he discouraged growth within the humanities by restricting courses and censoring faculty, and he encouraged growth within the sciences by either directly supporting their expansion or by allowing them to exist comparatively unhindered when he placed severe restrictions on other disciplines. Through reforms initiated in 1835, for example, Nicholas increased the number of chairs in the Faculty of Medicine from six to ten. After the Revolutions of 1848, Nicholas, fearing the spread of revolutionary activity from Western Europe to Russia, strengthened administrators' control over faculty, restricted faculty participation in public lectures, reduced university enrollments, and weakened all areas that had traditionally interested young radicals: classical literature, philosophy, history, and law. Logic and psychology, the only courses in philosophy that continued to be taught, were now taught by clergy. Constitutional law was no longer offered, and those who taught history, literature, and law were not allowed to discuss such topics as paganism, the rise of Christianity, and England's constitution. At the same time that Nicholas weakened the humanities, he did not restrict enrollment in the Faculty of Medicine and, comparatively speaking, placed few limitations on the sciences. Thus in 1848, as a result of Nicholas'
intervention, the humanities began to atrophy while the sciences in
contrast continued to grow. In the humanities people became silent and
then lethargic. In the sciences people continued to discuss new issues
and topics.

Students who entered the universities after Nicholas' death in
1855 felt the absence of activity and thought that Nicholas helped to
create within the humanities. One who felt these effects keenly was
Pisarev. During his first months as a student in the Faculty of History,
Languages, and Literature, Pisarev asked his professor, Kreozotov, to
recommend supplementary reading. Kreozotov suggested that he read
Ersch and Gruber's *Encyclopedia* and source material from ancient
history. Pisarev began reading Herodotus and Ersch and Gruber as well.
However, because he knew little Greek history and was given nothing to
serve as a point of reference, Pisarev gained little from Herodotus'
works. Reading the encyclopedia proved to be equally frustrating. After
completing the first volume, he knew only that Ersch and Gruber's
*Encyclopedia* existed, that it was composed of a large number of volumes
arranged alphabetically, and that none of these volumes could be taken
home to be read.¹⁷ This lack of stimulation produced a predictable
effect. Pisarev began to criticize:

Kreozotov's advice aroused in me a venomous seed of skepticism
from which grew a fateful harvest. Now, if someone decides to
reproach me for my nihilism, I immediately point out Kreozotov to
my accuser and say: There is my first advisor! Ask him; let him
answer for my lost soul!¹⁸
After Nicholas' death in 1855, his successor, Alexander II, relaxed censorship controls, eliminated many of the restrictions that Nicholas had placed on the universities, and encouraged discussion, particularly on the one topic that to Alexander was foremost: social change. Responding to these changes, conservatives, moderates, and radicals, and the old as well as the young, began discussing Russia's spiritual and material needs. They all began analyzing her problems and exploring solutions.

To those who welcomed this exploration, life in Russia quickened. Many began to shake off the stupor that years of lethargy had induced. While these individuals began slowly to reawaken, others, particularly the young who had never felt the full effects of Nicholas' reign, began generating an energy marked by expectation. It was this new energy that made professors like Kreozotov unacceptable to students such as Pisarev who were now asking questions and expecting a response.

During the early years of his reign Alexander not only encouraged the discussion of Russia's problems, he also attempted to solve them. In doing so, he employed technology, in particular, technology imported from Western Europe. Committed to implementing change as quickly as possible, Alexander decided to link the interior of Russia with its river routes and ports by greatly expanding Russia's railway system. Planning for this massive construction project began soon after Alexander ascended the throne, and the first new lines were opened by 1861. By
1870, some 5,750 miles of new track—almost six times more than the length that existed when the project was initiated—and connected St. Petersburg and Moscow with Russia's rural centers: Nizhni-Novgorod, Riazan', Vitebsk, Smolensk, Orel, and Voronezh. These new lines connected towns in the northwest with ports on the Gulf of Finland and the Baltic Sea, and connected towns in the central and southwestern sections of European Russia with ports on the Black Sea and the Sea of Azov. In initiating this railway construction program Alexander not only brought rural Russia closer to the capitals and all of Russia closer to Western Europe, he also called attention to science's ability to transform life.

At the same time that Alexander used technology to implement social change, he also took steps designed to promote the growth of the sciences. Alexander, for example, encouraged public lectures. The first offered dealt with the natural sciences. Alexander relaxed controls on foreign publications, allowing more scientific works to be imported. He also relaxed restrictions on foreign travel and once again began sending students to Western Europe to study. Many who were sent abroad, Shelgunov and Nozhin among them, studied the sciences.

While initiating these changes, Alexander expanded the science programs offered at Russia's schools. In the late 1850's, for example, he expanded and upgraded programs offered at professional schools. The Institute of Civil Engineering and the Mining Institute began offering
university level courses, and the Forestry Institute began offering an advanced course in both theory and practical training to students who had already completed a university degree.  

Through the reforms initiated in 1863 Alexander expanded the science programs offered at the universities. In 1863, the Faculty of Physical and Mathematical Sciences, which since 1835 had been a sub-division of philosophy, became a separate department, and the number of chairs increased from eight to twelve. The new chairs indicate clearly that interest in the sciences was developing. Some chairs, such as the chair of physics and physical geography, and the chair of mineralogy and geology, were divided. Others were expanded to include more than they had included earlier. Geology, for example, now included paleontology; astronomy became astronomy and geodesy; chemistry was expanded to include practical and theoretical chemistry, technical chemistry, and agricultural chemistry.  

The Faculty of Medicine also experienced growth at this time. Its chair increased from seventeen to twenty-three, and as in the Faculty of Physical and Mathematical Sciences, many chairs were expanded. After 1863, for example, physiology included both physiology and general pathology, and anatomy included the anatomy of the healthy body, pathological anatomy, embryology, histology, and comparative anatomy.
Through the years that both Nicholas and Alexander promoted the sciences, changes occurred within the sciences themselves. A product of internal growth, these changes reflected scientists' increasing ability to understand and manipulate nature. How much their abilities increased becomes clear if the achievements that were attained by the 1840's in such fields as agriculture, engineering, communications, and medicine are contrasted with the achievements that were attained during the 1850's and 1860's.

By the 1840's, for example, Justus von Liebig, a German physiologist, had discovered the key to plants' nutritive needs, but was not yet able to apply that knowledge. Through the next two decades he developed chemical fertilizers, and by 1860 this agricultural technique, which was significantly better than manuring, was being used successfully in some areas of Western Europe to restore depleted soil.

By the 1840's farmers used a variety of modern implements, but two of the most important, the steel plow and the mechanical reaper, were not used extensively until the 1850's. By speeding up planting and harvesting, these two devices significantly reduced the losses in crops that sudden changes in weather caused at these two times of the year. These tools became practical at this time because during the 1850's Bessemer developed a furnace that increased the quantity of steel produced, thereby reducing its price.
By 1840 a few buildings were heated and lighted with natural gas, but the use of gas did not become widespread until a practical burner was developed in 1855. By lengthening the day this simple device quickly transformed the lives of those who lived and worked in the cities.

By the 1840's various telegraph systems were in use, but major systems were not yet interconnected. During the 1850's engineers laid the first cable across the English Channel, and during the 1860's laid the first transatlantic line.

Before 1840 no safe anesthesia existed, but by 1850 surgeons were using both ether and chloroform with success. Before 1840 surgeons used few antiseptic techniques, but by 1860 a few surgeons were using new antiseptic solutions that not only made surgery a safer treatment, but also controlled the spread of disease.

By the 1840's Liebig had developed techniques to analyze the content of organic substances. His new methods were a significant advancement, but they marked only the beginning of a series of developments that in the ensuing two decades transformed scientists' understanding of plants' and humans' nutritive needs. Using these new methods, Liebig isolated the chemicals that contributed to plants' development, and located the proteins that contributed to human growth. These findings led eventually to the Nitrogen Cycle, expounded in 1857 by one of Liebig's former students, Carl von Voit.
explained, used nitrogen from the soil to build nitrogen compounds, and animals used these compounds to build protein. After plants and animals died these chemical substances were returned to the soil.

Mikhail Voronin, a Russian botanist, added to scientists' understanding of this process when in 1866 he located nitrogen-fixing bacteria in leguminous plants. Voronin, who during the 1870's acquired an international reputation in mycology, the branch of botany that deals with fungi, was one of the growing number of young Russians who studied the sciences at St. Petersburg University during the 1850's.

By the 1840's scientists understood that all living tissues, both plant and animal, were composed of organic cells. Like Liebig's research, this thesis, known as Schwann's Cell Theory (1839), marked a turning point in the biological sciences. During the 1850's Rudolf Virchow concluded that all living cells came from other living cells. Louis Pasteur supported Virchow's statement during the 1860's by disproving spontaneous generation: a belief that living substances could emerge from non-living matter. Those who believed in spontaneous generation considered God's beneficent influence to be the source of life, and consequently, for them living material substances did not need to be present for life to emerge.

By the 1840's Darwin had completed his voyage on the Beagle. Through the following decade he developed his theory of evolution, and in 1859 published his findings in The Origin of Species. During the
1860's other scientists incorporated this theory into paleontology, anatomy, and embryology.

In summary, between the 1840's and the 1860's scientists and engineers developed concepts and techniques that transformed the sciences. Paralleling these developments, Russia's educated elite became increasingly interested in the sciences. The radical community, a sub-section of the educated elite, became increasingly interested in materialism, a science-oriented philosophy. To satisfy Russia's military, commercial, and industrial needs, the autocracy through these years promoted the sciences. The curricular changes that the government initiated to achieve this goal affected students, the group from which nihilists would emerge. Underlying all of these developments were changes that occurred within the sciences themselves. Theoretical and technological developments that occurred through the mid-nineteenth century not only altered man's thinking, but also worked to significantly improve the quality of life.

All of these developments occurred while those young Russians who were to turn to Pisarev for leadership in 1862 were in their formative years. During the 1850's future nihilists were students at Russia's technical schools, gymnasiums, and universities. There they not only studied more science than the previous generation had, but also came into contact with science's recent theoretical and technological advancements.
NOTES TO CHAPTER IV


The Firm of Strugovshchikov, Pakhitonov, and Vodov was founded in 1858 to promote the natural sciences.


6 Ibid., p. 240.


11 Ibid.


15 Ibid., pp. 255-257.


18 Ibid., p. 16.


20 L. F. Panteleev, Iz vospominanii proshlogo, p. 162.

21 S. Svatikov, "I. S. Turgenev i russkaia molodezh v Geidel'berge (1861-1862)," Novaia zhizn', No. 12 (December), 1912, pp. 149-185.


24 Ibid.
CHAPTER V

THE NIHILISTS' USE OF SCIENCE TO
CREATE NIHILIST THOUGHT

The present chapter describes the way in which the nihilists incorporated science-based concepts into their ideas and used a scientific approach to formulate these ideas. The objective is to demonstrate that the nihilists' involvement in the sciences (discussed in Chapter III) and the science-related social developments that occurred within the educated segment of Russian society prior to the emergence of nihilist thought (discussed in Chapter IV) are related to nihilism. This, in turn, will form the basis for demonstrating how a conflict between the nihilists' ideas (as described in the present chapter) and conservative society's beliefs (to be described in Chapter VI) worked to transform the nihilists' interests and goals into a radical social movement (Chapter VII).

The present chapter examines the relationship between science and the ideas expressed by the five leading nihilist spokesmen: Pisarev, Shelgunov, Sokolov, Zaitsev, and Nozhin. Collectively examining the essays of these five nihilist writers elucidates ideas, the importance of
which may be obscured if one focuses on their works individually. 1

Examining the ideas that these five nihilist writers expressed establishes a framework within which to view nihilist thought that includes their ideas on social change, the economy, the individual, philosophy of science, and progress. The following sections in this chapter discuss the relationship between science and the ideas expressed by the five nihilist writers on these topics.

Social Change

The nihilists attempted through their writings to change people's beliefs and to institute new practices. Thus, they argued that life should not remain as it was, but should change. Social change, they explained, was both natural and desirable, and therefore, should be welcomed.

To support this argument, the nihilist writers turned to history. This is not unusual in that their intellectual predecessors, the radicals of the 1840's, also used history to argue that change was desirable. The nihilists' predecessors, however, accepted concepts advanced by Hegel, while the nihilists presented a view of history that was distinctly different. To Hegel, history was a process whereby man proceeded through successive stages, each more advanced than the other, until he finally arrived at the goal—the perfect state or absolute idea—that history had been striving to reach. Hegel described this goal as the
perfect freedom that man attained through the state and the Christian church. Thus, to Hegel history was man's destiny unfolded—God's plan carried out.

When the nihilists discussed history, they developed a view more like Proudhon's. They discarded Hegel's absolute ideal, and focused not on what man might be striving towards, but on what had, in fact, existed in the past and what existed at present. They focused not on history's goal or man's destiny, but instead on change and the social pressures that created it. Sokolov, for example, explained in reviewing man's past that society had never been static, but had constantly changed. By abandoning institutions and beliefs that no longer satisfied man's needs, society had slowly and continually evolved through those forms that had existed in the past to the form that existed at present:

Life does not tolerate stagnation. History shows us that people's concepts and convictions, their morals and customs, and all of their civil, political, and social institutions change of necessity as a result of life's bitter experiences.  

This view of historical change correlates with what the nihilists knew of the change that characterized nature. When the nihilists discussed change in nature, they concentrated on recent theories developed by such geologists and naturalists as Lyell, Darwin, and Vogt. Referring to their works, Shelgunov, for example, explained how erosion and internal pressure slowly and constantly changed the earth's
surface; and as this process took place, species that were no longer able to compete for food and space gradually disappeared to be replaced by others that were better able to satisfy their physical needs.  

According to the nihilists, change governed man's life as well as nature, and both changed slowly through a similar process. In nature, a species evolved into one that was better able to cope with its environment. Those that could not adjust became extinct. In society, institutions and beliefs, like species, gradually evolved into new institutions and beliefs that were better able to satisfy man's needs. Institutions, such as slavery or the medieval church, that no longer served a purpose were negated. Like species, if they could not adapt, they eventually became extinct.

It is important for later development to point out that the nihilists in presenting scientists' views of geological transformation and evolution took the mysticism out of these processes. Like Lyell, Darwin, and Vogt, they saw these processes as natural, and not as part of a divine plan or process controlled by God. By rejecting Hegel's perfect ideal--his concept of man's destiny--the nihilists similarly took mysticism out of history. To the nihilists, history was not a divine plan unfolding, but simply constant, natural change: a product of social pressures and social needs.

The nihilists believed that man, his environment, and those that shared his environment naturally and constantly changed. They never
thought of themselves, however, as passive beings influenced only by external, deterministic forces. Such forces, they explained, affected both their environment and their own lives, but they as individuals played as much a part in this process as the forces that affected them. According to the nihilists, man consciously promoted his own well-being, and in doing so, slowly and constantly reshaped the world that surrounded him:

Progress really exists in the organic world. This is a fact that cannot be doubted. But does this progress take place completely independently of the will and consciousness of individual animals, or on the contrary, do some animals influence through conscious effort the changes that transform their species? . . . Individual reason, individual resourcefulness, diversity in character and aptitude, a suitable education, . . . the ability to take part through conscious rational effort in the progress of its own species—that is what we find. . . . conscious progress and purely historic development are the inalienable possession of all higher species in the animal kingdom.

The Economy

Believing that they could influence the environment that surrounded them, the nihilists studied their society, and in doing so, focused on its poverty. While Sokolov, for example, described poverty as "the scourge of contemporary Europe," Pisarev focused on the poverty that existed in Russian life. Poverty, he explained, was one of Russia's two foremost problems: "We are poor . . . [and] we are stupid."

The nihilists saw poverty as a major problem, in part, because they compared life in Western Europe with life in Russia, and in doing
so, noted material differences. Shelgunov, it will be remembered, was struck by the standard of living that North European peasants enjoyed. While Russian peasants "ate a coarse bread, lived in a hut, . . . and instead of a bed, lay down on an earthen floor," the peasants that he saw in Northern Europe "ate a bread which we call half white, took butter and cheese to work for lunch, and slept on beds under blankets."7

The nihilists also focused on Russia's poverty, in part, because they were trained in disciplines that offered solutions to Russia's economic problems. While some were trained in such applied sciences as medicine, engineering, and forestry, others studied basic sciences such as biology and chemistry, two disciplines that were transforming agriculture and the medical field. As will be seen later, Russia was not implementing the solutions that these disciplines were now capable of offering.8

Having classified poverty as a primary social problem, the nihilists made solving this problem a primary goal. To the nihilists, greater material well-being through economic growth became an end in itself. As Sokolov explained when he was tried for publishing a monograph that according to the censor criticized the church:

It is known to all that socialism's task is to redeem the working masses from poverty, ignorance, and suffering. . . . Is it possible that socialists are guilty for attempting to create on earth the Kingdom of God that Christ told us about?9
To achieve greater economic wealth, the nihilists focused attention on man as a producer. Man, they reasoned, could improve his life if he could create greater material wealth. And because, as Sokolov explained, "only man's skill and man's labor turned something from nature into something of value to society," the key to greater material prosperity was work. One acquired wealth by producing agricultural and industrial goods more intelligently--more efficiently. As explained by Sokolov, work "the only source of wealth . . . was tied to man's mental and physical abilities." 11

According to the nihilists, work was not only the key to material growth, it also underlay man's psychological well-being. While inactivity and ineffectual labor produced intellectual stagnation, tyranny, poverty, and crime; work that was meaningful and effective produced contentment as well as wealth. In Pisarev's words:

the evil that exists in human societies has two causes: poverty and idleness; and these two causes have one common source, which can be called the chaotic condition of labor . . .

Whoever wants to fight evil . . . must solve the question: how can work be made productive for the worker and how can all the unpleasant and difficult aspects of modern work be eliminated? Work is the only source of wealth; wealth acquired by work is the only remedy for the sufferings of poverty and the vices of idleness. 12

In summary, the nihilists in developing their ideas focused on Russia's economic problems. In doing so, they repeated a theme developed through the previous century by such classical liberal economists as François Quesnay, Adam Smith, and J. S. Mill: national
Prosperity was tied to labor and greater productivity.

To make man's working hours more productive, the nihilists turned to both technology and basic scientific knowledge. By correlating productivity with science, the nihilists introduced new concepts into Russian radical thought. Even though their immediate intellectual predecessors were interested in economic problems, they never focused on science's ability to increase productivity. In discussing the obshchina, Chernyshevskii noted in passing that new agricultural methods that had been recently developed by scientists could increase agricultural production. He did not, however, emphasize this point in his writings, and he ignored the relationship between science and manufacturing. Unlike their predecessors, the nihilists turned their attention to both agriculture and manufacturing. They argued that Russia would have to develop both to prosper; and the key to doing so was technology and theoretical scientific knowledge.

To explain how science could make man's labor more productive, the nihilists pointed to research conducted by scientists such as the German physiologist, Liebig. Through research carried out in the 1830's and 40's, Liebig determined that protein was the product that the body used to build blood, muscles, and brain tissue. He analyzed foods to determine which contained the most protein, and encouraged people, particularly workers and invalids, to eat those foods. Liebig also isolated the inorganic substances that plants needed in order to grow,
and he found ways to return these substances to depleted soils. As a result of this research, more farmers in Northern Europe began using Liebig's chemical fertilizers and crop rotation techniques. Armed with these new methods, these farmers produced more food per acre of land than they had by using the traditional three-field system. Farmers who used the three-field system ineffectively controlled soil depletion by allowing one-third of the land to lay fallow each year. The new techniques allowed farmers to use all of their land without depleting the soil.

Because many of Liebig's findings were only in the developmental stage during the 1840's, it is not surprising that the radical spokesmen who dominated this decade expressed little interest in this kind of research. Because many of the nihilists were trained in such areas as biology and forestry, areas that incorporated Liebig's research, it is not surprising that they focused on his findings. When nihilists' training is viewed in light of peasants' ineffective agricultural techniques—nearly all Russian peasants used the three-field system—it is understandable that the nihilists were eager to promote and implement the results of Liebig's work.

The nihilists took Liebig's research and showed how useful it was. They explained, for example, that if people ate foods that contained high amounts of protein, the material that scientists now knew the body needed, they would become healthier. If healthier, they would
be better able to work and to provide for their families. As Pisarev explained:

Wholesome food reduces a worker's sick days by five times. Clearly, along with this, it also significantly alters a worker's character; whoever becomes sick five times less, becomes at least twice as hale and hearty, and at least twice as successful in their work, and as a result of this, more prospects and ventures develop.\textsuperscript{13}

The nihilists not only believed that diet affected the individual's life; they also believed that diet affected an entire nation's character.

To demonstrate this point, the nihilists compared the diet and attitudes of Americans and Swiss with the diet and attitudes of Irish and Russians. Americans and Swiss, they explained, ate an abundance of meat and dairy products—foods high in protein—and both were active and prosperous. Irish and Russians ate primarily potatoes and foods made from oat flour—foods low in protein—and both were apathetic and poor. Diet, the nihilists explained, contributed to these differences. When the Irish, for example, emigrated to North America, both their diet and their attitudes changed. Because they now ate meat and dairy products, they became healthier. That health allowed them to work harder, which in turn helped them to become prosperous.\textsuperscript{14}

Conservative and moderate critics frequently criticized the nihilists' interest in diet and health. While the nihilists, for example, explained that those who ate an abundance of meat and dairy products (protein) had healthy blood, and "such blood creates strong muscles,
develops noble feelings, and a zealous spirit for the defense of freedom," their critics argued that nihilists were reducing man to natural physical laws. The nihilists were mechanists and determinists who viewed man as merely a machine.

The nihilists were interested in man's biological needs, and in that sense, were interested in reducing man to natural physical laws. They were not, however, determinists. The nihilists, for example, never argued that man was simply a product of diet or some combination of purely physical factors. Rather, they argued that diet and other purely physical factors were extremely influential aspects of man's life. They discussed such topics as diet, health, and the body's physiological processes to show how important these purely physical processes were, and to emphasize that these aspects of man's life were not beyond man's control.

In explaining how science increased productivity, the nihilists linked physiology not only with health, but also with labor. Again pointing to Liebig's research, they explained that scientists now knew which inorganic substances plants needed in order to grow. The nihilists explained that if peasants were armed with such information, they could significantly increase their yield without increasing the amount of land they tilled or the amount of labor they expended. As explained by Pisarev:
rational agriculture . . . is indissolubly connected with the wealth, enlightenment, and general prosperity of the masses, who until now have always been overworked and yet have constantly been half starving. We have seen how much knowledge a peasant farmer needs to know if he wants to make his work not a game of chance, but a profitable, reliable occupation. We can add to this that no other occupation has such a broad future as agriculture; no other occupation is capable of such infinite improvement as working the soil, because it is based on the study of nature, which is continually being enriched by new facts, experiments, and observations.  

The nihilists also pointed out that if peasants were armed with technology as well as scientific knowledge, they could produce more abundantly with even less physical effort. To explain, Pisarev pointed to the beneficial effects produced by harnessing wind and water. When introduced into the milling industry this power increased the quantity of flour produced, improved its quality, and reduced the amount of time spent on this necessary task. Sokolov emphasized this point by adding:

Technology—the science of labor, and the product of observing and studying nature—represents the highest demonstration of man's useful creativity.  

While the nihilists explained that scientific knowledge and technology made labor more productive, they added that science would not only make man a more efficient producer now, but would continue to do so in the future. First, the natural phenomena that man used to create the labor-saving machines that would "get rid of chronic poverty," were always present. Steam, for example, had always existed and would continue to exist as long as there was both heat and
water. Secondly, the combinations that could be derived from natural phenomena were infinite. The raw materials that were used to implement technological developments were finite, but scientists continually discovered new properties that allowed them to combine these materials in new and more productive ways. The variety of materials was so great that these combinations were for all practical purposes endless.

Even though the nihilists believed that science could help solve economic problems by making man a more efficient producer, they believed that science would only produce this effect in Russia if society's attitudes changed. For the general populace to prosper, the educated elite, Pisarev explained, had to become more aware of science and its powers, and concentrate on promoting the growth of science in Russia:

Our Academician Karl Ernst von Baer is considered throughout all of Europe to be one of the greatest embryologists of our time. Darwin, Karl Vogt, and Huxley always quote his opinion with particular respect. In his "Physiology of Common Life," Lewes cited both Ovsiannikov's research on the spinal cord and Iakubovich's research on nerve cells. The French scientist Béclard mentioned several experiments by Botkin and Sechenov in his physiology. What about the rest of us? I do not doubt that we do not even know that we have scientists who study embryology, physiology, and nerve cells. [And those who are finding out about these Russian scientists] are learning about them from foreign texts.

The nihilists also believed that if Russia was to prosper, the educated elite had to begin to see that their country could not remain an agricultural nation. Russia, the nihilists explained, exported grain and
raw material and imported finished goods from Western Europe. If these raw materials were used to buy the scientific knowledge, technological skills, and labor-saving devices needed to stimulate Russia's industrial development, then this arrangement was advantageous provided that it was both short term and for the purpose of stimulating Russia's economic growth.

Such an arrangement could not, however, continue indefinitely. Russia would never become prosperous by exporting grain and raw materials and importing Western finished goods. West Europeans, the nihilists explained, produced their goods with great technical skill and efficiency; Russians used manual labor and little skill to grow their grain and extract their raw materials. Consequently, the grain and raw materials that Russians sold required more hours of labor to produce than the goods that they received in exchange. From this perspective, the exchange was a costly one for Russians, and if they continued to export the products that they needed, it would continue to be so. As explained by Sokolov:

We trade grain; we sell unfinished hemp and wool abroad; we give away our gold while we both starve and ruin ourselves. . . . [We have] raw materials but we do not know how to work them. We have neither adequate factories, nor mills. . . . We pay dearly for what we import. Let foreigners know that we do not intend to fall behind Africans and Indians, nor are we ready to give up free national labor and economic development.24

To the nihilists the road Russia must take was clear. She had to develop her own scientific and technological skills, and then use that
knowledge to produce for herself the goods that she needed. Russia, the nihilists explained, must industrialize. In Shelgunov's words:

> the question of Russia's manufacturing and trading activity stands at the very center of the general question of our material well-being.²⁵

Even though the nihilists emphasized the need for industrial development, they did not ignore agriculture. Both, they explained, were interrelated, and both needed to be developed. As explained by Pisarev:

> The truest guarantee of a civilization's vitality is the development of a rational agriculture, the development namely of that area of activity that former civilizations neglected and ignored.²⁶

In stressing the need for industrialization, the nihilists recognized that this was not a simple task. To industrialize successfully, they explained, required far more than a commitment to science and technology. Russia's decision-makers, for example, had to begin to see that Russia's national prosperity was tied to the well-being of her entire population. As Pisarev explained:

> The various experiences of many centuries have shown us that a civilization will become strong, secure, and wealthy only if it develops the intellectual abilities of all of the people who form that society.²⁷

Sokolov summarized this point by explaining that a country "becomes rich only when none of its members are becoming poor."²⁸

Russian decision-makers, the nihilists explained, also needed, for the moment at least, to ignore grand technological projects that
touched the lives of only a few—projects such as the government's railway building program—and concentrate instead on smaller projects that touched the lives of many. At present Pisarev pointed out, peasants moved their products along roads that were often rivers of mud. Railroads did not begin to solve this problem, but more surfaced roads and canals between the peasant's village and local trade centers would:

Economists and all others who are interested in society's well-being should from time to time turn their enlightened attention from great and splendid railway lines to the lowly and commonplace things that are generally referred to as muddy country roads. Within these roads lay the power of communication, a power that can feed and clothe the peasant, enlighten his mind, and make him a prosperous and useful man.

A country's roads, rivers, and canals may be called the blood vessels through which the nourishing juices of the social organism flow. Everyone who rightly understands a society's real interests should want these juices to circulate as smoothly and quickly as possible; they should not stagnate in any part of the circulatory system; there should be no congestion, and no part of the country should suffer from anemia.

Pisarev's emphasis on local internal development as opposed to foreign trade, his emphasis on developing both agriculture and industry, and his depiction of the economic system as a delicately balanced biological organism reflects ideas expressed during the 1830's and 40's by the German-American economist, Friedrich List. Even though the nihilists mention in their writings a great variety of economists ranging from classical liberals to socialists, both European and North American, it is not clear that they were familiar with List's concepts. It is clear, however, that the same problem that interested List interested the
nihilists: what plan of action best suited an industrially underdeveloped country?

In developing their program, the nihilists emphasized that science and technology would only lead to greater prosperity if it reached those members of society who worked. Science could only be effective if those who worked knew how to use it. To achieve that goal workers had to be better educated than they were at present. Consequently, before science would reach these individuals, an educational system that reached all members of society had to be developed.

Pisarev emphasized this point by saying:

Knowledge is distributed extremely unequally among the different strata of society; it penetrates to the lower layers slowly, and remaining in the upper layers is frequently turned into a game to distract an idle mind, but incapable of contributing to any productive work. In one section of society there is a mass of useless knowledge, while at the same time in another section, human strength is strained to the point of exhaustion—strained in blind, mechanical, and consequently ungrateful labor. Unite knowledge and labor; give knowledge to those who of necessity will derive from it all the practical use that it contains, and then you will see the wealth of the country and the people increase at an unbelievable pace.30

In attempting to solve Russia's economic problems, the nihilists adopted an idea that had been developed through the previous century by classical liberal economists: the need for a free labor force. As Pisarev explained:

to develop a rational agriculture two conditions are essential: the spread of useful information among the masses and a variety of occupations that lead to the growth of local centers that are capable of attracting production. These two conditions, it should be noted,
are always inseparable, and are only two different aspects of that normal process that results in rational agriculture. Indeed, no artificial means can instill useful knowledge in a population that is scattered across the country, has no industrial ties, and is oppressed by poverty and monotonous labor. Neither the government's support for agricultural and technical schools, nor compulsory education can improve the general acceptance of agricultural practices or broaden the intellectual horizon of the working millions. The masses will become educated neither by educational decrees nor by crumbs that fall from the intellectual table of the elder brothers, but only by a correct, healthy, and unhampered development of their social and economic life. When obstacles that impede this development are removed, when freedom of labor appears and that free labor finds a variety of applications, then each piece of the drab masses will begin to feel like a man and will quickly seize all the knowledge that he needs to live.  

Nihilists also adopted an idea expressed by socialists such as Owen, St. Simon, and Fourier: the need for workers' associations or artels. To the nihilists an artel did not conflict with free labor, but instead enhanced it. It was through the artel that the worker became truly independent. As Sokolov explained:

Let poor workers follow the example set by rich capitalists, and collecting your kopecks, form joint-stock companies. . . . create workers' associations. . . . people's banks and cooperative unions. 

Such associations, the nihilists explained, not only provided the capital that was needed to develop local industry, but also circumvented government interference. A government, the nihilists pointed out, could easily disband a trade union, but it could not interfere if workers by pooling their own resources created their own economic organizations.

To solve Russia's economic problems, the nihilists interlinked the need for greater productivity with individual freedom, socialism,
and greater democratization. They devoted far more attention, however, to producing goods more efficiently than to distributing goods more equitably. According to the nihilists, the first step in solving Russia's economic problems was innovative scientific knowledge, the type of knowledge that helped man to satisfy his material needs. There is, wrote Pisarev:

only one evil—ignorance; against this evil there is only one medicine—science; . . . [and] this medicine needs to be taken not in homeopathic doses, but by the bucket and the barre1ful.  

The Individual

Even though the nihilists argued that the key to economic prosperity was scientific knowledge and technology, they believed that science was not the only ingredient needed. To achieve prosperity, society also needed individuals who possessed values and traits compatible with both science and social change. Society, for example, needed people who possessed the individualism, self-confidence, and knowledge needed to develop innovative ideas.

The nihilists expressed the specific character traits that they found desirable through a composite type that they called the thinking realist. Because they promoted the thinking realist's characteristics as much as they promoted science, the thinking realist and science became the two primary components of nihilist thought.
The thinking realist possessed three dominant qualities: egoism, collectivism, and realism. Valuing his own contentment above all else, the thinking realist, the nihilists explained, did all that he was capable of doing to satisfy his individual needs. As Pisarev explained:

If all were egoists by conviction--egoists in the pure sense of the word, that is, concerned only with themselves; if they obeyed only their own feelings without creating artificial ideals and duties for themselves, or interfering in someone else's affairs, then life would be far more comfortable than it is now, . . . Unfortunately, our critics . . . have looked on egoism as a vice, and have seen virtue in feats of self-sacrifice. Regarding the philosophy of life, they still think of ideas as absolutely necessary, and see the best aspects of human personality and activity in ideas and in a sense of duty. They call any desire for enjoyment animal-like. . . .

The nihilists incorporated egoism into their thinking realist because to them egoism was a source of creativity. Pisarev explained this by saying:

God forbid that you set for yourself a goal that does not suit your nature. That will only ruin your life. You will expend all your energy struggling with yourself; . . . if you conquer yourself, then you will become a purely rational automaton, a dry and withered person. Try to live a full life; do not regulate yourself; do not destroy what is original in you in order to please the established order and the crowd; living in this way, do not ask about the goal to be attained; it will be found by itself, and life will answer all questions before you even ask them.

This egoism was similar to the individualism expressed through the early nineteenth century by classical liberal economists. Like Adam Smith and J. S. Mill, the nihilists argued that the free individual who worked to satisfy his individual needs was far more creative and
productive than the repressed individual who passively accepted society's dictates.

The thinking realist that the nihilists created was not only an egoist—an individualist—but also a socialist. The thinking realist, Pisarev explained, was like Lopukhov, Vera Pavlovna, and Kirsanov, characters from Chernyshevskii's novel *What Is To Be Done?* They created artels where:

- the profits were divided equally among all the workers and spent in the most economical manner. Instead of several small apartments, they rented one large one; instead of buying food in small amounts, they bought it wholesale.  

Even though individualism and socialism may appear on the surface to be incompatible, to the nihilists they were not. Communal arrangements did not limit one's freedom, but instead augmented it. It was through communal arrangements, for example, that Vera was able to find freedom and eventually happiness.

Reasons for the nihilists' interest in both individualism and socialism become clear if their environment is examined. As will be explained more fully in Chapter VI, which deals with conflict between the nihilists and their society, the nihilists lived in a repressive society. Their writings, for example, were heavily censored, and they were frequently arrested. Thus, it is understandable that the nihilists incorporated individualism into their ideas, and developed an egoistic and defiant life-style. To achieve one's goals in a hostile environment,
it is advantageous to band together. Doing so offers a degree of protection and also helps those involved to develop and disseminate their views. Thus, again, it is not surprising that the nihilists combined individualism with collectivism in developing nihilist thought, and made communes and artels part of their life-style.

At the same time that the thinking realist was an egoist and a socialist, he was also a critical thinker—a skeptic who only accepted ideas supported by facts and who constantly questioned, doubted, and criticized. The thinking realist, Pisarev explained, was like Bazarov. Being an empiricist:

Bazarov acknowledged only what he could feel with his hands, see with his eyes, taste with his tongue; in short, only what he could experience through use of his five senses.37

To this Pisarev added:

New people have unlimited confidence in their own intellect. This does not mean that each one of them considers himself to be the most intelligent man on earth. By no means. Each one of them believes only that every adult human being with normal intelligence can judge his situation and his actions much better and more clearly than they could be judged for him by the most intelligent of thinkers. No matter how beautiful and comforting any world-view is; no matter how many centuries and peoples considered it an irrefutable truth; no matter how many world geniuses bowed down before it, the most modest of the new people will accept it only if it suits his needs and the make-up of his own intellect. Each new man has his own inner world in which his own personal intellect rules with absolute power.38

In developing their concept of the individual, the nihilists correlated each of the thinking realist's three principal qualities with concepts from the sciences. Pisarev explained, for example, that the
thinking realist's egoism was an instinctive need that he shared with all other forms of life. Animals did not practice self-denial or strive to be virtuous. Instead, they did all that they were capable of doing to feed and protect themselves. Like the thinking realist, their primary goal was always to satisfy their individual needs:

every species constantly operates for itself alone, and complete selfishness is a fundamental law for all of life.  

According to the nihilists, the thinking realist's collectivism was also "a basic law of nature." Struggle and competition, Nozhin explained, were fundamental parts of life, but members of the same species did not, he pointed out, usually struggle among themselves. Instead, they banded together. Recognizing that each benefited from the support offered by others, they formed harmonious, cooperative units. This, Nozhin explained, provided them with the strength that they needed to vie successfully for their share of food and space. Cooperation allowed them to compete and not be destroyed.

The nihilists did not base their decision to become egoists and collectivists primarily on their study of nature. Their interest in individualism and socialism was tied far more closely to their society's repressiveness than to natural history. Nevertheless, correlating the thinking realist's egoism and collectivism with nature served a purpose. Examples from nature supported their ideas, and helped to create a coherent world-view for radicals who were educated in the sciences.
To develop the third quality that the thinking realists possessed—realism—the nihilists turned to the scientific method. Pisarev correlated realism with empiricism. Truth, he explained was verifiable. It was something that could be seen with the eyes and felt with the hands. A statement that could not be verified might be true, but until it could be verified, it was subject to doubt. According to Pisarev, realism was also a process. It was the product of opyt and razschet: experiment and calculation, test and analysis, proof and logic. Realism was also the product of a third and equally important step—the "constructive negation" that was used successfully by such scientists as Vogt and Moleschott.

The constructive negation that Pisarev described is part of the scientific method. It is the belief that all scientifically based concepts are in theory tentative; even if they appear at the moment to be true, they must be constantly retested to see if they still agree with all available facts. If during this process, a concept continues to correspond to the facts, it remains acceptable. If it no longer conforms, it is rejected, and may be replaced by a new statement that represents accurately all that man at present knows. Because scientific concepts must be based on empirical evidence, and the body of facts that is used to support such concepts continually grows, it can be assumed that concepts will change over the course of time. As man's ability to observe nature improves, some concepts will become obsolete; once
obsolete, they will be rejected and be replaced.

The concept of negation that the nihilists worked into their concept of realism is similar to the ideas expressed through the nineteenth century by both Hegel and Marx. The nihilists, however, did not correlate their concept of negation with concepts developed by either of these philosophers. They criticized Hegel's concept of negation because he correlated it with idealism. Because they do not mention Marx in their writings, it seems that they were not familiar with his ideas. When the nihilists discussed negation, they referred either to scientists such as Vogt, Moleschott, and Darwin, or to Proudhon.

In explaining the thinking realist's egoism, collectivism, and realism, the nihilists correlated these traits with society's productivity, the same theme that dominated their essays on economics. They saw in the thinking realist's characteristics the same qualities that they saw in scientific knowledge and technology. Like science, the thinking realist's egoism, collectivism, and realism made the individual a more effective producer.

To become prosperous, Pisarev explained, a society needed good workers as well as new solutions to old problems. The thinking realist's egoism helped to satisfy both of these needs. Because he settled only for work that both interested him and matched his abilities, he worked tirelessly and well. Being an individual who satisfied his own needs first, he was not likely to be forced by social pressure to
think and to act as others did. Consequently, the thinking realist was more likely to provide society with the unique, individual responses that it needed to grow.  

The thinking realist's collectivism also contributed to society's prosperity. By pooling resources and forming artels, realists created a work environment that they controlled. Being their own masters, they were able to alleviate those conditions that made work difficult and to create an environment that suited individual needs. Such an environment, Pisarev explained, led to greater prosperity because an individual who was able to control his work environment became content, and once content, he had no desire to exploit others. If he controlled his environment, he became interested in his work, and as a result, produced work of high quality. As he gained greater control over his environment, he became freer, and once freer, more creative. The innovative ideas that emerged benefited not only the individual, but also society.  

The thinking realist also contributed to society's prosperity by being a critical thinker. Being an analyzer and observer, the thinking realist tried to understand what went on around him. From that experience, he continually acquired new ideas and skills. Thus, through critical thinking, this individual became increasingly adept and knowledgeable, a process that, in turn, made him a more competent worker.
The realist's constant observation and analysis also contributed to society's well-being by making the critical thinker more responsible. The realist who observed and tested became an independent thinker. Knowing that analysis and criticism promoted growth, this independent thinker criticized not only his ideas, but also his actions. If he found that his actions were discordant, he experienced displeasure. Being an egoist, he desired not discord, but satisfaction. He had to experience pleasure. To do so, he had to be at peace with himself. Consequently, if he found that his actions were discordant, he immediately corrected them in order to end his own discontent and displeasure.

Pisarev's concept of the thinking realist's ethics is utilitarian in nature. According to utilitarians such as Jeremy Bentham and J. S. Mill, an action's consequences determine its rightness or wrongness. In other words, no action is inherently good or bad. It is good if it produces desirable results, and bad if its consequences are harmful.

Even though the nihilists read both Bentham and Mill, it is not sufficient simply to correlate the development of the thinking realist's ethics with these philosophers' ideas. To understand the nihilists' utilitarianism, it is necessary to place it in its social context. As will be seen in Chapter VI, the nihilists criticized Orthodox teachings, and rejected the church's absolutist moral code. They did not, however, reject ethics. Even though they rejected the church's teachings, they
developed an alternative ethical code—one compatible with their individualism and relativistic point of view.

In developing their ethics, the nihilists explained that the thinking realist became not only more responsible, but also more tolerant. While the thinking realist learned to make his own decisions and to value his own judgment, he learned that no other individual and no social institution could make decisions for him. He had to decide for himself what was best. Through this experience, the critical thinker learned that each individual had to be free to pursue his own goals and develop his own sense of self-respect. Every other individual needed just as much as he did to satisfy his individual needs.

According to the nihilists, observation and analysis—the thinking realist's means for ascertaining truth—set in motion a process that changed not only the individual, but also that individual's society. By providing the thinking realist with the means to achieve material growth, this method for ascertaining knowledge encouraged the independent thinker to act. As he searched for ways to improve his life, he saw that his own well-being was tied closely to the well-being of others. He saw, for example, that his life improved only when his environment became a harmonious, productive unit. Thus, when the thinking realist acted, he worked to improve not only his own life, but also the lives of others.
To improve his community, the thinking realist promoted those things that helped others to be as self-sufficient as he was. He saw, for example, that even though science could improve his life and the lives of others, it could only promote social change if people knew how to use it. Thus, the critical thinker promoted not only science, but also public education. 52

According to the nihilists, observation and analysis—the thought processes that thinking realists employed—were healthy not only for the individual, but also for society. When scientists, for example, employed these processes, they found errors in scientific thought. As they corrected these errors, they rejected useless concepts that could not contribute to a better understanding of nature, and developed ideas that by coming closer to the truth helped to make man's labor more productive. 53 When independent thinkers employed this thought process, they got rid of useless concepts that impeded society's growth. By constantly testing their beliefs, they found ideas that they could no longer support. Rejecting these, the critical thinker turned his attention to ideas not yet fully explored. As a result, he began building the new concepts that society needed to develop if it were to prosper. In Pisarev's often quoted words:

What can be smashed needs to be smashed; what survives the blow is fit to survive; what breaks into pieces is rubbish: in any case, strike out right and left, from this there will be and can be no harm. 54
To the nihilists, observation, analysis, and negation—the same process that scientists used—underlay both the individual's development, and society's. Through this process, society's members got rid of those obsolete institutions and ideas that had served them in the past, but that now impeded their efforts to build.

**Philosophy of Science**

The nihilists were realists, mechanists, and materialists. To the nihilists, knowledge based not on faith, but on observation and reason was the means by which the thinking realist penetrated nature's workings and determined her laws. By studying nature systematically, the realist saw that life was mechanistic: all things could be explained in mechanical and chemical terms. This in turn, led the realist to adopt a materialistic point of view: because all matter, both organic and inorganic, was physical in nature, no metaphysical being accounted for matter's life or movement.

These concepts were linked to the scientific disciplines that the nihilists studied. The disciplines that most interested nihilists were natural history, geology, chemistry, physiology, medicine, agriculture, and technology. The material that they reviewed in *Russkoe slovo* and *Knizhnyi vestnik* reveal that they were interested, for the most part, in new developments within these fields.
The topics from natural history that interested them, for example, were recently published studies on animal behavior, Lyell's *The Antiquity of Man* (1863), Darwin's *The Origin of Species* (1859), and the classification of plants and animals, a topic useful to scientists interested in evolution. The geological monographs that interested them were Lyell's geological studies and recent research on such phenomena as volcanoes and ice flows. The nihilists were particularly interested in organic chemistry and those studies from this area that were tied to a newly developing discipline, physiology. From within this discipline, they were most interested in recent research on digestion and respiration, the nervous system and the brain, and the relationship between electrical currents and the body's functions. From within the field of medicine, they were unusually interested in diet as a treatment for disease; recent research in the fields of pharmacology, dentistry, and ophthalmology; electrical treatment for paralysis; new treatments for cholera and syphilis; and recent studies on alcoholism. The agricultural monographs that most interested the nihilists were Liebig's works on plant physiology, soil depletion, and fertilization. From the field of technology, they were particularly interested in electrical energy, recent developments in industrial furnaces, improvements in the microscopes, the ophthalmoscope, and new developments in the field of transportation.
Most of this scientific material was linked in some way to two broad topics: evolution and physiology. Evolution was of special interest to several nihilists who engaged in scientific research. After becoming acquainted with Darwin's work through their studies at the universities of Heidelberg and Tübingen, two of the nihilists examined here, Aleksandr Kovalevskii and Nikolai Nozhin, became embryologists. Through the early 1860's, both studied simple forms of marine life looking for similarities in species' development, information that would help support Darwin's theory. Their research expanded on work that had been done by the Russian embryologist, Karl Ernst von Baer. A third nihilist, Vladimir Kovalevskii, began during the 1860's to study the formation of the horse. Through the next three decades, he searched for the fossils that were needed to reconstruct this animal's evolution.

Other nihilists who formed the core of St. Petersburg's nihilist circles helped promote evolution through their writings. In his essay "Razvitie chelovcheskogo tipa v geologicheskom otnoshenii" ("The Development of Man from a Geological Perspective"), Shelgunov promoted Lyell's The Antiquity of Man (1863), a work that was translated by Aleksandr Kovalevskii and published in Russia in 1864.

Pisarev popularized Darwin's The Origin of Species (1859) in his essay "Progress v mir zhivotnykh i rastenii" ("Progress in the World of Animals and Plants"). This essay, which was published in Russkoe slovo in 1864, was one of the first in Russia to discuss Darwinian
thought. Russian students apparently first became aware of Darwin's theory in 1860 when S. S. Kutorga, a professor of geology at St. Petersburg University, introduced it to his students. Two short articles on Darwin's writings appeared in 1861 and 1863. In 1864, S. A. Rachinskii, a professor at Moscow University, published the first Russian translation of Darwin's *The Origin of Species*. Pisarev's essay on Darwin, the first long descriptive essay in Russian, appeared soon after.

Even though evolution greatly interested nihilists, as a group they were even more interested in physiology. Unlike evolution, physiology solved material problems. New findings in agriculture and medicine, for example, grew out of research conducted by physiologists. Physiology, as a topic of interest, was also older than evolution. Young educated Russians began discussing physiologists' research in the 1850's. By the 1860's, this research was being widely discussed. Because Darwin's *The Origin of Species* was first published in 1859, young Russians were just beginning by the 1860's to discuss his theories. Evolution did not become a widely discussed topic until the 1870's.

The nihilists were particularly interested in research that was being conducted by such physiologists as Jacob Moleschott, a Dutchman; Justus von Liebig, Theodor Piderit, Karl Vogt, and Ludwig Büchner,
all Germans; Claude Bernard, a Frenchman; and Ivan Sechenov, a Russian.

These scientists all accepted concepts that only began to develop during the 1820's and 1830's. During the 1820's, scientists using inorganic substances synthesized the first organic compound, urea. A decade later, scientists with the aid of greatly improved microscopes, identified cells in animal tissue. Cells were already known to be part of plant life, but it was not known prior to this point that animal tissue was composed of similar structures. During these years scientists also located nerve tracts that led into and out of different areas of the brain. During the 1830's, they realized that the spinal cord was a channel for receiving and transmitting responses, and then by using more refined microscopes, they located nerve fibers.

To scientists, these findings indicated that life was governed by orderly chemical and mechanical processes. The body appeared to be controlled by the brain through a system of nerves. Animal tissue was composed of numerous cells nearly identical to plant cells. The cells in both functioned in similar ways; and the protoplasm they contained seemed to account for life in both. Scientists also discovered that an organic substance could be created by combining inorganic components. According to the prevailing view, organic substances contained a "vital force"—a special quality inherent in all living things. Because inorganic matter did not possess this special quality, organic
material theoretically could not be created from inorganic matter. When
scientists synthesized urea from inorganic substances, they demon-
strated clearly that life was both more systematic and more physical
than generally believed.

Working from these beginnings, Claude Bernard through the
1840's studied the physiological bases for both respiration and
digestion. He paid particular attention to the relationship between
carbon monoxide and asphyxiation; the organs that contributed to
digestion; and the chemistry of nutrition. Liebig through this same
period worked on similar problems. By analyzing man's nutritive needs,
he determined that protein was a basis for both maintenance and growth.
By studying plants' nutritive needs, he determined that plants to grow
needed inorganic chemicals rather than undecomposed organic matter.
From this research, he developed fertilizers and improved crop-
rotation techniques.

These scientific findings became well known to students
throughout both Western Europe and Russia through the writings of Vogt,
Büchner, and Moleschott. Vogt, a physician, physiologist, and
zoologist, published *Physiological Letters* (1844-1847), a work that was
reviewed by Pisarev in *Russkoe slovo* in 1861 and published in Russian
in 1867. Ludwig Büchner, a professor of medicine at the University of
Tübingen through the 1850's, covered some of this material in his
*Physiological Images* (1861), a work that was reviewed by Pisarev in
Russkoe slovo in 1862 and translated into Russian in 1866. Moleschott, a professor of physiology and anatomy first at the University of Heidelberg, then the University of Zurich (1856-1861), and finally the University of Turin, published several works: The Physiology of Food (1850), Physiology of Metabolism in Plants and Animals (1851), The Circuit of Life (1852), The Science of Food (1853), and Physiological Sketches (1861). Pisarev reviewed the last of these works in Russkoe slovo in 1861.

Physiologists' research on nutrition, digestion, and respiration was followed by research on the nervous system. During the 1850's, Piderit, a German physiologist, studied the brain, and in 1863 published his descriptions in The Brain and Its Activity, a work that was translated into Russian in 1866. After discovering the nerves that made the vocal cords function, Bernard, during the 1850's, discovered that certain nerve fibers caused arteries to contract, which, in turn, caused blood to flow. As a result of his work, it became clear that the nervous system functioned as a regulatory agent. Through a system of nerve fibers that connected the spinal cord with the body's separate parts, the brain controlled the body's life-giving mechanisms.

Work completed during the 1860's by the Russian physiologist, Ivan Sechenov, complemented Bernard's research on the nervous system. During these years, Sechenov, an instructor at the Medical-Surgical Academy, studied the relationship between external stimuli and the
body's responses. He published some of his findings in 1863 in a work entitled "Refleksy golovnogo mozga" ("Reflexes of the Brain"). In this treatise, Sechenov presented evidence that supported a new concept. In presenting his research, he argued that all of the body's actions, both the involuntary responses that governed such functions as circulation and digestion, and the voluntary responses that resulted in such activities as physical motion and mental thought, were linked to the body's nervous system. Even such abstract responses as learning and wishing had a mechanical basis. Environmental stimuli were perceived through sense organs and relayed to the brain through the nervous system; as these signals were received, the body responded.  

Many Russian scientists in addition to Sechenov interested the nihilists. In their writings, for example, they mentioned Karl von Baer, an embryologist; A. S. Famintsyn and F. V. Osviannikov, physiologists; A. N. Beketov, a botanist; Axel Gadolin, a crystallographer; A. G. Stoletov, a physicist; N. N. Zinin, A. M. Butlerov, and D. I. Mendeleev, chemists. Among the nihilists, however, Sechenov was especially influential.

Even though Sechenov was a generation older than most nihilists and not part of Pisarev's following, in the minds of many he was closely associated with nihilist circles. In Sechenov's own words, he was to many a "philosopher of nihilism." Because his research was closely linked to the nihilists' materialism, and they studied and defended his
work, this title was well deserved. To the nihilists, Sechenov was an innovative, constructive individualist. As witnessed by a passage from a letter written by Kovalevskaia, he was a person to be revered:

Sechenov's lectures begin tomorrow; thus, tomorrow at nine in the morning, my real life begins. You can imagine how fearfully and excitedly I await this moment, which to me is so important.59

While studying the several scientific disciplines that interested them, the nihilists developed a view of science that closely paralleled both their individualism and recent transitions in thought that occurred within the sciences themselves. The nihilists, for example, did not see themselves as passive types dominated by nature, but as interpreters of science and controllers of nature. And to the nihilists, science was not absolute, perfect, and deterministic, but so complex that it was indeterminate and ever changing.

When the nihilists discussed scientific research, they explained that nature was orderly. Her systems would function in the future in precisely the same way that they had functioned in the past. Thus, nature was constant, and in that sense, predictable.

Even though nature to the nihilists was constant, that should not be interpreted to mean that the nihilists were deterministic. When they emphasized that nature was mechanistic, they were not saying that man was a machine incapable of following an independent course. Rather, they were arguing that nature did not need God's interference to function. Nature's essence was material—not metaphysical. Why the nihilists
emphasized this point will become clear when the church’s interpretation of nature is discussed in Chapter VI.

The nihilists believed that nature was constant, but they did not interpret science as being constant. To the nihilists, science—which is not nature, but man’s descriptions of nature—was neither constant nor perfect. As Nozhin explained:

*it is impossible to embrace everything and there is no special area that is able to provide conclusive and complete answers: research does not end; absolute truth does not exist.*  

Nozhin elaborated by explaining that:

*in the biological sciences, along with many correct assumptions, there were many mistaken views . . . and internal and external contradictions.*

Such contradictions were undesirable, but they were also a necessary part of science's development. Scientific beliefs represented man's knowledge at a given moment in time. Contradictions represented an earlier state of knowledge, and were only contradictions now because scientists' knowledge had grown. As Pisarev explained, this was the natural course that ideas followed:

*A living idea, like a fresh flower in the rain, grows stronger and develops by withstanding the test of skepticism. Before the exorcism of sharp analysis only apparitions vanish; and material things show their real essence. . . . Each generation revises the previous generation's world-view; what seemed irrefutable yesterday is overturned today; absolute, eternal truths exist only for people who have no history. . . .*  

By focusing on science's incomplete and constantly changing nature, the nihilists created a view of science that was not like God's
laws or the perfect ideals that Hegelians believed existed. To the nihilists, science was not perfect, but only something that was becoming increasingly better. Science also did not exist apart from man in the way that religion and idealism did. Rather, it was man's creation and servant. The thinking realist, Pisarev emphasized:

never became a fanatic, a priest of science, never elevated it to an idol, never doomed his life to its service; continually maintaining a skeptical attitude toward science itself, he studied it not to obtain independent knowledge, but to busy his mind and to get from it something useful for himself and for others. 63

The nihilists' characterization of science as imperfect, unfinished, and evolving reflected a quality inherent in the scientific developments that they studied. The scientific findings that interested them were not ideas that quietly complemented and expanded a body of knowledge that was already well accepted by the scientific community and society. The type of science that the nihilists studied—works by Liebig, Büchner, Bernard, Lyell, and Darwin—proclaimed the destruction of widely held scientific and religious views.

As these scientists overturned old beliefs, they helped to create a view of the world similar to the nihilists' view of science. Before the concepts that were advanced by Lyell and Darwin became widely accepted, most scientists and the general educated public believed that the universe functioned much like a well made clock. The universe changed from day to day, but it followed a rhythmic, balanced, and repetitive course—a predictable course much like the seasons or the
moon's cycles. Lyell and Darwin altered this concept. To those who accepted their evidence, it appeared now that the universe followed a course that was not cyclic and balanced, but linear and indeterminate. As the universe changed, it did not follow a predictable course; rather, its past died and it moved on to something new and different, but also unknown.

Because scientists during the seventeenth and eighteenth centuries thought of the universe as a carefully balance machine—a finite and therefore knowable object—they tended to think that each scientific discovery brought them closer to the truth. To them, science disclosed nature's secrets. By the mid-nineteenth century, the universe was no longer a finite knowable object. Instead, it appeared to be enlarging, and also functioning in ways that were not completely predictable. These nineteenth-century scientists knew, for example, that there were more galaxies beyond man's own. The earth was far older than anyone had believed, and species through the course of many centuries changed. The fact that they changed was predictable, but the outcome was not. Because these scientific discoveries introduced so many new ideas, and raised so many more questions than they answered, scientists saw clearly how incomplete their knowledge was. Their findings were not closing in on the truth, but rather were revealing how infinite and complex the universe was.
A mathematical concept widely discussed in Western Europe during the 1860's helped to bring scientists to this conclusion. This concept was the non-Euclidean geometry that was developed by the Russian mathematician Nikolai Lobachevskii during the 1820's and 30's. By redefining space, Lobachevskii showed that Euclid's Fifth Postulate did not necessarily hold true. In Euclidean geometry, the Fifth Postulate states that if there is a line L and a point P not on line L, then only one line passes through P parallel to L. Lobachevskii showed that through a given point not on a given line, there was not one parallel line, there were many. Using this new postulate as a base, Lobachevskii showed that the sum of the angles of all triangles was less than 180°; the square of the hypotenuse of a right triangle was more than the sum of the square of the other two sides; and the circumference of a circle with a diameter of 1 was not equal to π, but greater than π. While Lobachevskii's new geometrical system appeared to contradict Euclid's, both were in fact, equally valid. Thus, Lobachevskii's contribution provided nineteenth-century mathematicians with two seemingly contradicting geometrical systems, both of which worked.

Progress

To the nihilists, progress was neither predetermined nor metaphysical. It was not a perfect and seemingly absolute concept that, like God's laws or Hegel's Dialectic of the Spirit, existed of its own
accord apart from man. It was not an all-knowing Diety who rewarded
believers, nor was it a force that slowly and inevitably altered man
until he reached his predestined state. Man was influenced by forces
that existed in nature, but these physical forces only made life
different, not necessarily better. Through these natural forces man
would not inevitably arrive in the Promised Land.

Even though the nihilists believed that no metaphysical or
physical force moved society along a predestined path toward a better
life, they nevertheless believed that progress existed. Its source was
not external to man; rather it lay within man himself. Through gradual,
constant changes much like the constant readjustments that changed
nature, man attained a better life. He did so not by concentrating on
abstract ideals or perfection, but by concentrating on the small, but
real achievements that worked not to make life perfect, but better. As
Pisarev explained:

There are not and never have been single, large-scale
phenomena in nature. The biggest results always develop
through the accumulative, successive action of millions of
small forces and causes, . . . We generally see the big
results and not the little causes, but the greatest service of
modern science is precisely that the best researchers have
fully grasped the non-existence of large-scale phenomena
and the comprehensive importance of the small ones. . . .
Individual reason, individual resourcefulness, diversity in
caracter and aptitude, a suitable education, a change in gener-
ations resulting in a change in customs, a social life evolving
through mistakes and deviations, the intelligent use of circum-
stances, the ability to take part through conscious rational
effort in the progress of its own species--that is what we
find. . . . Having read these pages, perhaps the reader is
convinced that progress really exists in the animal and
plant worlds. 64

In arguing that the individual was the source of progress, the
nihilists argued that the individual's ability to improve the quality of
his life was tied, in turn, to science and its growth. As Pisarev
explained:

Man's great, rich and powerful nature, which in its glorious infancy
accomplished such feats of mental heroism in conquering nature,
becomes exhausted and distorted by conditions that are no more
than a pitiful and ruinous deviation from the great cause of
productive and ever-expanding labor. We often hear eulogies
to the wonderful discoveries of our age. Of course, it is good
that these discoveries have been made, but that is nothing to
wonder about. Rather one should wonder that they were made so
late; that we know so little about nature; that agriculture, well-
known to men since the beginning of time, should have begun to
use the results of conscious experience only in recent years and
only in a few places in Europe. 65

Science . . . must be popularized, and popularized with great
ability. Without the slightest exaggeration, popularizing science
is the most important task of our century. 66

To be a moral man, it is necessary to be to some degree a thinking
man, and the ability to think is strengthened and developed only
when the individual succeeds in freeing himself from the oppres-
sion caused by material need. 67

In science, and in science alone, is the power which independent
of historical events can awaken public opinion and develop
thinking leaders of people's labor. 68

The nihilists argued that progress grew out of the many small
developments that individuals introduced. If the inherent randomness
of these developments could be directed, then progress would result.
Thus, the nihilists focused on reaching the individual and on putting
within his reach the scientific ideas and technological developments that improved the quality of life.

Like many other members of Russia's educated elite, nihilist writers became increasingly interested in the sciences during the 1850's and 60's. Recognizing science's problem-solving potential, they incorporated science into nihilist thought.

The nihilists, for example, described social change as a natural non-mystical process paralleling evolution in nature. They saw scientific knowledge and technology--prerequisites for modernizing agriculture and industry--as the means to improve the well-being of all members of society. Stressing the need for innovative thought, the nihilists created the thinking realist: an egoist, individualist, humanist, and socialist who espoused a rationalism based on the scientific method. To the nihilists, science was an evolving process that was under man's control, and not a metaphysical absolute that man was struggling to discover. The creative thinker, the source of scientific thought, was potentially the source of progress. Society's future was not predestined, but nevertheless individuals could improve the quality of life and control their destiny by making scientific knowledge and technological innovations available to all of society's members.
NOTES TO CHAPTER V

1. Previous works that treat nihilist thought have approached nihilism by focusing predominately on Pisarev's writings. Moreover, these works tend to emphasize the ideas that Pisarev most eloquently expressed—the thinking realist and aesthetics—and tend to overlook ideas relating to the sciences, which Pisarev often expressed in Aesopian language.

2. N. V. Sokolov, "Nishcheta Evropy," Ekonomicheskie voprosy i zhurnal'noe delo (S.-Peterburg, 1866), p. 3.

3. N. V. Shelgunov, "Razvitie chelovecheskogo tipe v geologicheskom otoshenii," Russkoe slovo, No. 3 (March), 1865, Otdel I, pp. 218-254. These same ideas were expressed by Pisarev in "Progress v mir zhivotnykh i rastenii," Sochineniia (1894), Vol. III, pp. 327-496. Pisarev's essay was first published in Russkoe slovo in 1864.


8. Even though the term because was used in the previous paragraphs to correlate the nihilists' interest in poverty with developments that were part of their lives, the reader is cautioned against interpreting this correlation deterministically. Nihilists did not become interested in Russia's poverty simply because they were trained in the sciences or saw wealth in Western Europe, and they did not first become interested in the sciences, and then secondly, automatically become interested in economic growth. The nihilists became interested in poverty because they were trained in the sciences, and they studied
the sciences because they were interested in their economic state. These interlinked processes developed together.

The intention in using the term because to correlate the nihilists' interest in poverty with their travels in Western Europe and their training in the sciences, is to draw attention to the relationships between social developments and an idea. The nihilists could have ignored Russia's economic state and focused on something entirely different. Yet they did not. They chose to view poverty as a major problem. Both the conditions that nihilists found when they traveled through Western Europe, and their training in the sciences helps to explain why they focused on this problem. Certain social developments that characterized the nihilists' lives were closely related to their ideas.


10 N. V. Sokolov, "Ekonomicheskie illuizii," Pt. 2, Russkoe slovo, No. 5 (May), 1865, p. 198.

11 Ibid., p. 196.


16 For examples see: Aleksandr Nikitenko, The Dairy of a Russian Censor, abridged, edited, and translated by Helen Saltz Jacobson (Amherst, Mass.: The University of Massachusetts Press, 1975), p. 310; Fyodor Dostoevsky, Notes From Underground and The


18 Ibid., pp. 511-512.

19 N. V. Sokolov, "Ekonomicheskie illiuzii," Pt. 2, Russkoe slovo, No. 5 (May), 1865, p. 197.


22 Ibid., pp. 530-532.


24 N. V. Sokolov, "Chego ne delat'?," Ekonomicheskie voprosy i zhurnal'noe delo (S.-Peterburg, 1866), p. 102. This same idea was also expressed by Shelgunov in "Domashnaia letopis'," Russkoe slovo, No. 5 (May), 1865, Otdel III, pp. 4-7.

25 N. V. Shelgunov, "Domashnaia letopis'," Russkoe slovo, No. 5 (May), 1865, Otdel III, p. 17.


27 Ibid., pp. 600-601.


30 Ibid., p. 597.

31 Ibid., pp. 604-605. This idea was also expressed by Shelgunov in "Domashnaia letopis'," Russkoe slovo, No. 5 (May), 1865, Otdel III, pp. 25-26.

A homeopathic dose is a therapeutic substance administered in minute quantities.


Ibid., p. 358.


Ibid., pp. 375-377.


47 N. V. Shelgunov, "Rabochie assotsiatsii," Pt. 2, Russkoe slovo, No. 11 (November), 1865, pp. 3-5.


50 Ibid., pp. 21-25.


52 Ibid., pp. 128-130.


55 N. V. Shelgunov, "Razvitie chelovecheskogo tipe v geologicheskom otnoshenii," Russkoe slovo, No. 3 (March), 1865, Otdel I, pp. 218-254.


CHAPTER VI

SCIENCE AS A PERCEIVED THREAT TO
EXISTING SOCIAL INSTITUTIONS

The preceding chapter showed that scientific knowledge, technology, the scientific method, and certain science-based concepts such as mechanism and materialism were central to nihilist thought. That, in turn, demonstrated that the nihilists' involvement with the sciences and the educated elite's growing interest in the sciences (the social developments discussed in Chapters III and IV) were closely linked with the emergence of nihilist thought.

The present chapter parallels Chapters II through V in time. However, it approaches the nihilist movement from a perspective that is different from the one developed in these previous chapters, which focused on the nihilists' ideas and the social developments that encouraged their growth. The present chapter contrasts the existing social system's distrust of science with the nihilists' more positive inclinations and focuses on science as a threat to the existing social system.
To examine the conflict that surrounded the nihilists and their ideas, this chapter contrasts the nihilists' views with the positions that were maintained by two of society's most powerful, yet conservative institutions: the Autocracy and the Orthodox Church. In discussing the positions that were perpetuated by these institutions, this chapter presents their attitudes toward the topics that were discussed in the previous chapter: social change, the economy, the individual, philosophy of science, and progress. By discussing the measures that were taken to repress nihilist writers and their ideas, this chapter also shows how the views that were maintained by the autocracy and the church were transformed into action, and as such, became an important part of the nihilists' social environment.

The conflict discussed in this chapter will be interrelated with the nihilists' background and ideas in Chapter VII. This concluding chapter demonstrates how the nihilists' interest and goals clashed with their society's to give rise to nihilism, a science-based social movement.

Young Russians who joined the nihilist movement, and Russia's decision-makers were both interested in achieving greater prosperity. Russia's policy-makers and the nihilists differed significantly, however, on the means that should be employed to achieve that goal. At the center of their differences lay the by-product of science and
technological change: modernization.

Believing that work was the source of wealth—the only source—the nihilists proposed to achieve greater prosperity by using scientific knowledge and technology to make work more efficient. To attain this goal, they proposed programs that would provide long-term benefits and at the same time reach those members of society who performed most of society's labor, peasants and workers. As they discussed Russia's needs, they also argued that Russia must not only develop programs that would reach her workers, she must also deemphasize agriculture and begin promoting industrial growth. Russia, the nihilists argued, had to begin producing for herself those technical procedures and products that improved the quality of life.

Unlike the nihilists, who were interested in programs that would solve present economic problems while also providing for future growth, the government's decision-makers were interested in programs that would satisfy Russia's immediate financial needs. The government defined wealth as products that could be sold. How efficiently these products were produced or how present programs might affect future growth was not as important as increasing production and selling those products abroad.

Increased trade was needed to solve financial problems that had arisen, in part, as a result of Russia's involvement in the Crimean War (1853-1856). During the war years, the government borrowed heavily
from state-owned banks throughout the country. When the war ended, officials attempted to reduce the government's debt by lowering the interest that it paid on these loans. Because people reacted by withdrawing their money from these banks, reducing the interest paid on these loans nearly bankrupted Russia's entire banking system. During the war years, the government also printed large quantities of paper money to finance its war effort. When the war ended, so many people converted this money into gold that the government by 1858 was forced to take the ruble off the gold standard.

To solve these financial problems Alexander, in 1860, dissolved the nearly bankrupt state-owned banks and replaced them with a single state bank, a move that centralized the control of the nation's money supply. As a further measure, he introduced mandatory budgeting procedures (1862), and in conjunction with this reform, appointed Mikhail Reutern Minister of Finance. Reutern promptly negotiated a series of foreign loans, some of which he used to underwrite the newly reorganized banking system and to pay the interest due on Russia's national debt.¹

Even though these foreign loans solved the government's immediate financial problems, they created a new one. Reutern had agreed to pay the interest on these loans not in rubles, but in gold. To meet this stipulation, the government had to take gold from its nearly exhausted supply and to sell in greater quantities those products that
West Europeans were willing to buy.

To raise the capital that was needed to pay for these foreign loans, the government turned not to industry, but to agriculture. Russia had several sizeable industries, the largest of which were textiles and metallurgy. Grain, however, was Russia's most important product and one that could be sold on the international market. Thus, to government officials the road that Russia must take was clear: she must sell grain, and she must by promoting greater agricultural production increase grain sales enough to cover the cost of Russia's foreign loans.

To implement this solution, the government developed programs that would immediately increase grain production and grain exports. It opened state lands to peasants and encouraged them to use this additional land to grow grain. Using some of the money that Reutern had been able to borrow abroad, the government also began constructing new railway lines. These lines, which were all built for the purpose of moving agricultural products, connected Russia's ports with Nizhnii-Novgorod, Kiev, Kursk, Kharkov, and Voronezh—all areas that produced a surplus of grain.

By opening new lands and building these new railway lines, the government achieved part of its objective. It increased grain exports enough to attain a favorable balance of trade. Grain sales never became great enough, however, to achieve a favorable balance of
payments, which included the cost of both imports and foreign loans.

Even though the government was able to attain a favorable balance of trade by encouraging the production and export of grain, this new emphasis on agriculture troubled the nihilists. To them, it appeared to be self-defeating. Peasants, they explained, were increasing their production of grain by cultivating a greater amount of land, and not by using more efficient methods. Thus, Russia was producing more grain, but the land itself was becoming increasingly less productive. If this continued, Sokolov argued, Russia would be poorer in the future than she was at present. 4

The nihilists' worries were well founded. During the 1860's Russia increased her grain production, but her yield per unit of land was the lowest in Europe at this particular time, 5 and it was no greater than it had been during the eighteenth century. 6 As the nihilists frequently pointed out in their essays, primitive agricultural methods were a major reason for this low production. In Russia, peasants still used the three-field system, a system in which one-third of the land remained fallow each year. Most peasants planted predominately one crop—grain; and many did not manure their fields. Some did not do so because they did not believe that manuring was useful; others did not do so because they did not have enough manure to fertilize their fields. The amount of manure available was inadequate because most peasants could not grow enough extra grain to feed the cattle and horses that
produced it. Because peasants had few of these animals, they also had an inadequate supply of dairy products, and too few horses to pull wagons and farm machines. 7

The inefficiency of these agricultural methods becomes clear if they are compared with the techniques that were being used throughout Great Britain and Northern Europe, techniques that the nihilists were well aware of. By the 1860's, farmers in these areas no longer grew predominately one crop, grain, and they no longer used the three-field system. Instead, they grew several crops, generally wheat, turnips, barley, and clover. Employing techniques developed, in part, by Liebig, they rotated these crops, using all of their land each year. By not leaving one-third of their land fallow, they were able to grow enough grain to feed cattle and horses, which, in turn, produced the manure needed to fertilize their fields.

By the 1860's farmers in Great Britain and Northern Europe were using selective breeding to produce draft animals strong enough to pull the reapers and heavy plows that had recently been developed. In certain areas, some were also using the chemical fertilizers that were now known to be effective as a result of Liebig's research.

In developing its economic program, the government took some steps to promote these new agricultural techniques. Some of the first public lectures given after Nicholas' death, for example, were government sponsored lectures on agricultural methods. To increase Russia's
production, however, required far more than the few steps that the
government took. As the nihilists pointed out, this knowledge had to
reach those who worked the land. Because the majority of Russia's
peasants were not only conservative, but also illiterate, massive public
education at the most elementary level was needed to achieve this goal.
The number of parish schools increased through this period, but they
reached few adults; and these schools were controlled by the clergy.
As will be seen in the following section, the Orthodox Church was not
receptive to many of the recent scientific developments that formed the
basis for new agricultural technology.

In criticizing the government's decision to export more grain,
the nihilists also criticized a program related to that decision--the
government's railway construction program. The new lines, the nihilists
argued, did not support industrial development. They did not, for
example, run to the textile center of Ivanovo or to iron producing areas
in the Urals, but ran instead to grain centers such as Nizhni-Novgorod
and Voronezh. Because these new lines encouraged the export of grain
they might, the nihilists reasoned, discourage the growth of local trades.
As Sokolov pointed out, once Great Britain built railway lines in India to
facilitate the export of food products and raw materials, producing these
goods became more profitable. As the profits in agriculture and mining
increased, more of the labor force began working in these areas, which
in turn caused local industry in India to decline. Drawing on this
example, Sokolov argued that the government's new railway lines might produce the same effect in Russia.

The government's railway construction program not only troubled the nihilists because it was tied to agricultural rather than industrial development, it also bothered them because it did not satisfy the peasants' most pressing needs. Peasants, the nihilists argued, needed a transportation network that helped them move their products from their villages to regional trade centers far more than they needed lines that moved their grain to ports. They needed surfaced roads and canals more than they needed railroads. Peasants also did not need more seasonal agricultural work, the kind of work increased grain sales provided; instead, they needed a factory system that would either supplement their agricultural work or provide them with permanent yearround jobs. As Sokolov explained:

Developing local manufacturing, processing raw materials at their source, improving agriculture, reducing taxes and land obligations, building good village roads, developing a local market near the city—that is what will free the simple worker, and not the railroad which only develops in him a desire to travel and entices him to the capital where he becomes impoverished and dissolute.

Again, the nihilists' position was well founded. In 1861, there were only 5,940 miles of surfaced highway in Russia—only twelve times the distance between St. Petersburg and Moscow. In 1860, only 339 of the many thousands of barges and boats that moved goods along Russia's inland waterways were steam powered. Thus, most products
that moved within Russia were transported by wagon over dirt roads, or moved on barges pulled by boatmen or by horses.

The nihilists' position on the need for massive local economic development was also well founded because the vast majority of peasants, even though they grew and sold more grain, were exceedingly poor through the 1860's. In 1861, Alexander freed all privately owned serfs, a group which represented fifty-three percent of Russia's peasantry. These emancipated serfs were given land, but it is estimated that a full three-quarters received a land allotment that was smaller than the minimum needed to provide their families with food and other necessities. Most peasants not only had too little land to work, most also did not work throughout the year. They planted in the spring and harvested in the fall, but had little to do through Russia's long winters. Many would have moved to Russia's industrial centers, but industry was not expanding fast enough to absorb them. The railway industry was developing, but even that industry did not provide peasants with suitable work because much of the material used to build these lines was not made in Russia; it was imported instead. Peasants were hired to lay the lines, but those hired received low wages, worked long hours, and lived in disease-ridden encampments.

In criticizing the government's railway construction program, the nihilists also criticized a related problem: Russia's imports. The government, the nihilists explained, was exporting grain in record
amounts to meet its short-term financial obligations. To achieve that goal, it was depleting the land, postponing local development and industrial growth. If the government used grain exports to create a basis for future economic growth as well as to solve its immediate financial problems, then these undesirable side effects could be tolerated. However, that was not the case. Russia's imports indicated clearly that Russia's grain was not being used to create a basis for future growth.

Russians, Shelgunov explained, exported basic meat and poultry products, products that could easily be consumed at home, and then imported food products that were not basic items, but luxuries—items such as dried mushrooms, mushrooms in butter, lemons, oranges, and pomegranates. Russians, Shelgunov explained, also imported large quantities of products that could be produced domestically, products such as furniture, clothing, candles, and wine. These imported items, he pointed out, were usually more elegant than their domestic counterparts, but Russia's own items were, in turn, unrefined only because Russians did not support their development.  

Russians, the nihilists complained, also did not import those scientific and technological products that were being used in Western Europe to generate greater wealth—products such as stronger farm animals, disease resistant seed, and machines. Instead of these products, which had already proven their worth in Western Europe,
Russians imported luxuries. A full one-third of Russia's imports, Shelgunov pointed out, were such luxury items as tea, coffee, cigars, and fruit.  

Import statistics prove that Shelgunov's criticisms were valid. From 1860 through 1864, the value of the tea, sugar, beverages, coffee, silk and silk products, tobacco, glass and crystal, watches and clocks, cheese, pepper, lace and women's apparel that Russia imported ranged from twenty-seven to thirty-eight percent of the total value of Russia's imports. Portions of some of these items were not luxuries. Some of the imported cheese, for example, would have been a basic variety imported for its food value rather than its delicate taste and some of the silk imported would have been used by textile manufacturers to print fabric. However, portions of other items not included in this list, items such as fruit and vegetables, and cotton and wool products, were luxuries and not basic items. Thus, clearly the luxuries that Russians imported during this five year period easily represented one-third of the total amount imported.

During these years Russia also imported few scientific and technological developments, the kinds of labor-saving devices that interested nihilists. In 1864, for example, Russia imported fourteen and a half million rubles worth of tea and over six million rubles worth of silk and silk products. That same year, she imported only seven million rubles worth of plants and seeds, one-third the value of the tea
and silk. Remarkably, for the year 1864 nothing is listed in the import tables under the heading entitled plows and agricultural tools. Thus, it can be concluded that Russians were not importing the steel plows and reapers that were greatly increasing agricultural production in both Western Europe and North America.

The government's emphasis on agricultural rather than industrial development, and the government's tolerance of Russia's import pattern, even though faced with near financial ruin, created two options for those educated Russians who believed that Russia should solve her immediate financial problems and build a basis for future economic growth by turning to science, technology, and industry. They could work through the government, and in doing so, struggle to change a government that had already decided to follow a course diametrically opposed to the one that they believed was best, or they could become vocal opponents.

By becoming the government's critics, they might, as the nihilists reasoned, be able to change Russia's course not by changing the government's policy-makers, but by reaching Russia's noble and educated elite. If they could change this group's views, they could possibly do more to alter Russia's course than they could ever do by working through a conservative political system. The nihilists chose to follow this course. Even though highly qualified to enter government service, they rejected that route and chose instead to try to reach Russia's educated
elite. As Pisarev explained:

we need to increase the number of thinking people within the educated segment of society. This is our sole objective. In this is the alpha and omega of social progress. . . .

The course of history has always been shaped by the quantity and quality of the intellectual power that exists within that segment of society which is not crushed by poverty or physical labor. 19

At the same time that the nihilists and the government differed on matters involving economic policy, the nihilists and their broader society—the educated and noble segment that supported the government’s decision-makers—interpreted science differently. The conflict that arose as a result of these differences revolved around two topics that greatly interested the nihilists: evolution and physiology.

As explained in the previous chapter, the nihilist writers by drawing on concepts presented in Lyell’s geological studies and Darwin’s natural history explained that society changed in much the same way that nature did. Through forces that were countless and nearly imperceptible both changed slowly and continually. Because both were affected by a combination of factors that was both new and as yet unknown, both, the nihilists explained, would follow courses they had not followed in the past. Thus, according to the nihilists, both nature and society proceeded along paths that were essentially indeterminate.

As the nihilists worked this Darwinian concept of change into their pattern of thought, they also used this concept to expand their
concept of time. They argued, for example, that both man and his earth were significantly older than generally believed. Citing fossil evidence and tools dated by anthropologists, they explained that man had existed for at least a hundred thousand years. By citing geological evidence, they also explained that the earth had existed for such a long period of time that its age could not be accurately measured. Its age was so immense that man's life was "only a moment in the geological life of the earth."  

As the nihilists explained that both man's history and the earth's history were significantly longer than generally believed, they explained that man through the course of time had changed physically. By using evidence provided by natural historians and paleontologists to trace man's progression, they also linked man's development to the development of other animal species. Man, they argued, was "only an improved ape, and therefore also an animal."  

These interpretations, which were based on material that Lyell and Darwin provided, alarmed the conservative and moderate segment of Russian society. Those who could not accept these ideas were troubled first by the fact that these conclusions contradicted Orthodox teachings. As the church carefully pointed out, man's physical appearance and mental abilities were the same now as when he had been created by God. According to the church, man and the earth were also not as old
as nihilists believed. "To determine the antiquity of man, we need only turn to the Bible. This unique source . . . limits man's age to no more than seven thousand years from the present." Thus, man was not, as the nihilists and some scientists argued, a metamorphasized species at least a hundred thousand years old.

While contradictions between the nihilists' statements and Biblical teachings troubled the church and its supporters, which included Russia's decision-makers, these conservative critics were even more disturbed by the manner in which the scientific evidence that the nihilists used to support their ideas mis-directed thought. Because the nihilists argued that the earth changed gradually and constantly through chemical and physical means, they ignored a factor that according to the church was an equally important source of change--God's miracles. Because nihilists argued that plants and animals, including man, had not always existed in their present form, but had all once been part of the sea and had gradually evolved into their present state, these radicals destroyed the notion of creation. And by building a concept of change based only on natural forces, they made the world appear to be functioning without purpose. To these nihilists, the church explained, the world's growth was no longer controlled by a beneficent Being; instead, it was the result of independent and seemingly indeterminate physical forces. It was growth based "on blind chance." Consequently, these nihilists, because they focused only on life's physical forces,
The stripped nature of its ideal, spiritual content and negated the existence of a Living God.

The controversy that evolution provoked was significant, but it did not match the controversy that surrounded the nihilists' interest in physiology. Because this topic was widely discussed by young Russians and because it treated such topics as God's beneficent influence and man's soul, physiology generated far more controversy than evolution did.

As explained in the previous chapter, the nihilists were interested in research that was being done by such physiologists as Bernard, Liebig, Piderit, Vogt, Büchner, Moleschott, and Sechenov, all of whom were materialists. These scientists argued that living things were governed by processes that were as regular and orderly as the laws of physics. These life-giving processes were both chemical and mechanical, and therefore could be understood by analyzing a specific part, such as a stomach or a lung, and looking for cause and effect relationships.

To a modernist, there is nothing unusual in believing that both voluntary and involuntary responses are regulated by the nervous system, or that organic matter's life-giving processes have chemical and mechanical bases that are as predictable as the laws that govern inorganic matter. If viewed, however, from the perspective of a nineteenth-century education—not the nihilists' education which was atypical, but
the education received by those who did not study recent scientific research—these new scientific concepts were both unorthodox and dangerous. Two ideas that grew out of scientists' physiological findings were particularly disturbing. First, these scientists insisted that living things should be thought of as physical rather than metaphysical entities; and secondly, these scientists ventured into the realm of voluntary responses, and through such responses, into the realm of cognition, volition, conscience, and soul.

In both Western Europe and Russia, the educated populace and the scientific community—not unorthodox scientists, such as Bernard or Sechenov, but those who accepted standard scientific concepts—believed that all forms of life, both plant and animal, contained a "vital force." Man's soul was the equivalent of this force in man. The "vital force" was the source of life, and as such, distinguished organic matter from inorganic. It made the atoms that formed all living material function in an orderly manner, and served as the underlying agent that provided the stimulus needed to keep all life-giving processes functioning. This force also gave life its purpose. Because it contained a design arranged by God, this agent kept life moving toward a desirable end. In man, the "vital force" supplied additional qualities. It underlay both his conscience and cognition, and it was the source of his free will, the agent that made man a conscious and supremely unique being.
The scientists that interested the nihilists either ignored this "vital force" when they studied living matter or denied its existence. Bernard and Sechenov, for example, both assumed as they studied digestion, respiration, and the nervous system that these biological processes functioned in ways that were as deterministic as the physical processes that characterized the non-biological world. Thus, when they studied these life-giving processes, they did not look for spiritual causes—the "vital force" that guided life. Instead, they looked only for material causes—the chemical and mechanical changes that described a system's behavior.

While these scientists ignored vitalistic theories, others, such as Buchner and Moleschott, openly attacked the vitalistic view. In a controversial treatise Force and Matter (Kraft und Stoff), a work published in 1855, Buchner argued that matter: the physical material that was acted upon; and force: that hard to define essence that generated life, thought, and motion were not separate, divisible entities as most scientists and the educated populace believed. Instead, they were two ways of describing one and the same thing. Force was physical material in motion; matter was this same material viewed in an artificial, motionless state. Force and matter, the two essences that people used to describe physical and biological material were inseparable. One did not exist without the other. One also existed because of the other. As Büchner explained:
"Force is not an impelling God, not an essence separate from the material substratum of things. A force not united to matter, but floating freely above it, is an idle conception. Nitrogen, carbon, hydrogen, oxygen, sulphur, and phosphorus, possess their inherent qualities from eternity"—Moleschott.

"No force can arise from nothing."—Liebig.

These words of known naturalists may serve as an introduction... to remind us of one of the most simple and most pregnant, but, even on that account, least known and acknowledged truths. No force without matter—no matter without force!... separated, they become empty abstractions. Imagine matter without force, and the minute particles of which a body consists, without that system of mutual attraction and repulsion which holds them together, and gives form and shape to the body;...

What are the philosophical consequences of this simple and natural truth?... The world, or matter with its properties, which we term forces, must have existed from eternity, and must last forever—in one word, the world cannot have been created.... That the world is not governed as is frequently expressed, but that the changes and motions of matter obey a necessity inherent in it, which admits of no exception, cannot be denied by any person who is but superficially acquainted with the natural sciences.... The motion of matter obeys only those laws which are inherently active; and their manifestations are nothing but the product of the various and manifold accidental or necessary combinations of material movement. At no time and nowhere, even in the most distant space reached by our telescope, could a single fact be established, forming an exception to this law, which would render the assumption of a force external and independent of matter necessary.31

To the educated public, the view that Büchner espoused was tolerable as long as it applied only to inorganic matter or to organic matter's involuntary responses such as respiration and digestion. Büchner and scientists such as Bernard and Sechenov did not, however, apply this view to only these areas. They extended it to all areas, including both man's mind and his voluntary responses such as choosing,
learning, and wishing. By doing this, these scientists crossed into an area that the educated public believed was the church's domain.

According to the prevailing view, the two realms that Büchner believed were inseparable—force and matter—were, in fact separate. Theologians and philosophers studied force, particularly if it involved such matters as consciousness, volition, and cognition. Scientists studied matter, both organic and inorganic, and in doing so, were not to cross that fine line that separated a being's physical components from the metaphysical essence that permeated those components.

During the mid-nineteenth century, this separation or dualism was accepted throughout most of Western Europe. In Germany, for example, scientists, particularly those who taught at universities, were not to deal with questions involving life, volition, and cognition, matters that most believed were not part of the physical world. The treatment accorded those scientists who disagreed demonstrates the strength of this particular view. Büchner lost his position at the University of Tübingen after publishing Force and Matter in 1855. Moleschott was forced to leave his post at the University of Heidelberg in 1854 because of the views he espoused. He found refuge at a school well known at this time for its liberal positions, the University of Zurich. 32

In Russia, the educated populace also tended to believe that man's ability to think, feel, and choose should not be treated as
physiological processes. Most, in fact, were genuinely disturbed by
the prospect. Treating man as a physical phenomenon resulted, they
believed, in the loss of man's unique qualities—his feelings and soul.
That, in turn, resulted in the degeneration of man. Explanations
provided by the Orthodox Church, a body that directed some of the
strongest opposition against those who studied the body's physiological
processes, explain how scientists' new treatment of man resulted in
man's degeneration.

According to spokesmen for the church, scientists such as Vogt,
Büchner, Moleschott, Bernard, and Sechenov reduced man to physical
laws. These scientists not only argued that the body's life-giving
processes were mechanistic, they described life as physicists described
physical phenomena. These physiologists argued, for example, that the
body was composed of atoms that were as mechanical as the atoms that
formed inert material. They talked about a physical-biological hier-
archy that began with minerals, proceeded to the earth's geological
structures, to plants, and then animals. By arguing that each level in
this hierarchy contained components found in lower levels, these
scientists incorrectly linked organic material with inorganic matter.

In treating man as a physical phenomenon, the church explained,
these scientists instead of correlating nature's laws with God's truths
opposed the physical to the metaphysical, and in doing so, excluded
the latter. By excluding metaphysical forces, they disregarded life's
"vital force" that essential quality given to all living things by God. Disregarding this force, in turn, caused them to negate man's soul. These scientists, the church explained, emphasized that they found no independent substance in the human body that could rightfully be called a soul: "What they call a soul is nothing more than a function of the body." 34

By treating man as a physical process and focusing only on nature's laws, these scientists, according to the church, not only negated man's soul, they also destroyed man's free will. In their depictions of man, these scientists equated man with a machine. His body contained internal, physical mechanisms that regulated its processes, and in doing so, responded involuntarily to external stimuli. Thus, it appeared that man was incapable of acting of his own accord. He did not choose one course over another; instead, he acted as his body dictated. These scientists replaced:

a creative, reasonable, and independent force with soulless and unconscious universal laws that generate an amazingly orderly arrangement according to some unseen need that makes much less sense than the idea of a free, creative force. 35

Because these scientists concentrated only on man's natural processes, and by doing so, negated both man's free will and its source—man's soul, their position, according to the church, led inevitably to the final negation, the negation of God. These researchers no longer saw that "nature was God's revelation." 36 Thus, to these
scientists and their followers, "God as a spiritual, inner being, and as Creator and Governor of the Universe, does not exist." \(^{37}\)

To the church, these scientists' views by negating God resulted finally in the degradation of man. Their emphasis on man's materialistic or physical bases "leads to the deification of man, which leads, in turn, to a great interest in the lowest creatures." \(^{38}\) And:

\[
\text{little by little, this view leads to the negation of all moral freedom, and an absolute and indisputable fatalism; and with this, the formation of modern materialism is complete.} \quad \text{\(^{39}\) }
\]

During the 1860's this belief that recent scientific research was inherently degenerative extended well beyond the church. This view was accepted, for example, by Aleksandr Nikitenko, a moderate government censor:

\[
\text{How coarsely these naturalist fellows treat the human soul, considering it part and parcel of the human flesh. They stare at it coldly through their microscopes, plunge their scalpels into it, and are disinterested in anything the microscopes or the scalpels cannot divulge. Naturally, they believe only their own feelings. But is everything that is knowable available to them alone? Isn't there, my dear Horatio, something else in nature that even our wise men do not dream of, something that is concealed so deeply or contains elements that neither our feelings nor our instruments can reach? In that case, how can I, in good conscience, become a materialist? Why does materialism have a greater right to our trust in what concerns the most vital part of man than does idealism? Both of them are ignorant in this sphere. But at least our spiritual interests are harmonious with idealism, without which man would be no more than a beast, a scoundrel, and the most pathetic creature.} \quad \text{\(^{40}\) }
\]

Feodor Dostoevskii, a writer popular among conservatives, also accepted and carefully promoted this same view. The narrator in his Notes from Underground (1864) serves as an example:
you say, science itself will teach man (though to my mind that is a luxury) that he does not really have either caprice or will of his own and that he has never had it, and that he himself is something like a piano key or an organ stop, and that, moreover, laws of nature exist in this world, so that everything he does is not done by his will at all, but is done by itself, according to laws of nature. Consequently we have only to discover these laws of nature, and man will no longer be responsible for his actions and life will become exceedingly easy for him. All human actions will then, of course, be tabulated according to these laws, mathe¬matically like tables of logarithms up to 108,000, and entered in a table; . . .

What do you think, gentlemen, hadn't we better kick over all that rationalism at one blow, scatter it to the winds, just to send these logarithms to the devil, and to let us live once more according to our own foolish will! 41

Even though the nihilists' critics believed that scientists who attempted to understand the physical processes that controlled man's body negated man’s soul, free will, and sense of social responsibility, the nihilists did not interpret scientists' physiological research in this way. By rejecting vitalistic theories, the nihilists negated the traditional concept of man's soul, but they were neither deterministic, nor immoral.

The nihilists, for example, studied man's biological processes, but they did not think of man as merely a machine. Quite the opposite was, in fact, the case. The nihilists, it will be remembered, created the thinking realist--an egoist, socialist, and humanist who was so free thinking that he recognized "no authority above or outside himself." 42 Metaphysical forces did not govern the thinking realist's thoughts and actions, but he had free will nevertheless.
Moreover, the nihilists promoted systematic thinking, but in doing so, they did not argue that the individual had no feelings. As Pisarev explained:

Healthy people must not split their being; everything that attracts their attention must be examined in different ways; the impression that something elicits from one's spontaneous feelings is just as important as the impression that emerges from one's analytical mind. If discord exists between our feelings' demands and our mind's judgment, then this discord must be eliminated: the mind and feelings must be reconciled, but not by silencing one or the other, . . .43

Finally, to the nihilists science did not dominate man; instead, it liberated man. Scientific knowledge helped to free man from physical labor and material need, which, in turn, helped to create a more independent individual. Science, Pisarev explained, also altered man's concept of himself: "The man who begins to feel himself to be a master of nature is not able to remain slave to another man."44

The discord that the nihilists' interest in physiology and evolution generated was augmented by the discord generated by their interest in the material benefits that the applied sciences created. According to the nihilists, if man wished to promote progress he had to concentrate on achieving material growth. Without greater material wealth, man's life would not change. To the church, this view of progress was one-sided. By focusing on material wealth, the church explained, nihilists ignored a more important source of progress—man's spiritual growth.45
According to the church, the nihilists' emphasis on material wealth not only ignored the real source of progress—religion—it also was coupled with two dangerous trends. First, this stress on material wealth "led directly to socialism and communism." Secondly, this emphasis on wealth caused those who wished to promote material growth to focus their attention on workers. Because nihilists not only believed that science must reach society's workers, but also accepted values that led through science to socialism and communism, the nihilists' materialism threatened to turn the masses away from traditional religious values. Thus, science, which to the nihilists was the means for achieving greater material wealth, to the church, threatened to demoralize not only the individual, but to destroy society as well.

The church and those conservatives and moderates who accepted the church's teachings feared the changes that nihilists represented. By negating conventional concepts of God and man's soul, their scientific research weakened orthodox teachings and undermined Russia's entire ideological system, which during the nineteenth century was grounded in religion. Being interested in productivity and labor, the nihilists promoted industrialization, public education, and democratization. All of these concepts portended massive social change.

Even though conservatives and moderates criticized nihilist thought because they feared the social consequences that were associated with it, these traditionalists' response also reflected their view
of science itself. To them, traditional, vitalistic theories were logical. Living matter had to possess a "vital force," otherwise it could not live. Those who argued that life could possibly exist without such a force were illogical. Thus, to traditionalists, physiologists' recent research was unacceptable, irrespective of its social consequences.

During the 1860's, conservatives' reactions to the nihilists' interest in recent scientific discoveries amounted to far more than criticism. The government supported and strengthened the conservative position by censoring, observing, arresting, imprisoning, and exiling individuals who promoted these new science-based ideas.

The censorship greatly restricted the nihilists' discussions of mechanism and materialism. In Khristianskoe chtenie (Christian Reading), a monthly review published by the St. Petersburg Ecclesiastical Academy, materialism was frequently discussed. Essays on such topics as man's soul, science's effect on religion, man's similarity to other creatures, and the extent to which physical processes contributed to man's existence appear in nearly every issue. In the nihilists' essays, the term materialism appears, but a workable definition of this term does not. The topics that Khristianskoe chtenie discussed are not discussed at length anywhere in the nihilists' writings. If, in fact, one wishes to define materialism and to understand society's reaction to it, Khristianskoe chtenie is a far more informative source than Russkoe slovo.
Describing the censorship's effect on nihilists' writings is difficult, but it is possible to sense the effect by examining their essays on aesthetics. The nihilists used aesthetics to help present their materialistic views.

When the nihilists discussed aesthetics, they criticized it unmercifully. Through their essays, particularly Pisarev's "Destruction of Aesthetics" and "The Realists," they promoted such messages as "no art for art's sake" and "shoemaking is more valuable than art." Incorporating these ideas into their lives, the nihilists expressed great disdain for all forms of art: music, poetry, art, and dance. As explained by Zaitsev's sister, Zaitseva:

I cannot reject art and poetry because they are fact, and I am not able to reject facts. But I do not attach to art and poetry the significance that I admittedly attach to other things.

The nihilists criticized aesthetics, in part, because it conflicted with their desire to be analytic. As Komarova explained:

after graduating from the institute, I decided first of all to study mathematics in order to cool down my imagination, and then with the help of chemistry, physics, histology, anatomy, and physiology to make clear to me the origin of life, to proceed then to the serious study of history.

The position on art that the nihilists maintained became so extreme that it provoked heated discussions among members of St. Petersburg's radical circles. Radicals such as Antonovich and Zhukovskii, who viewed art as a commendable undertaking, accused the nihilists of carrying their constructive negation too far. By
criticizing art, they explained, these iconoclasts were negating a form of expression that was both necessary and useful.  

Even though the nihilists criticized the arts and criticized them more vehemently than any other topic that they discussed, they did not, as their critics argued, do so to negate or destroy aesthetics. If a poet, Pisarev explained, was a sensitive individual capable of feeling and depicting life, and able to understand and comment on those things that prevented or promoted social development and individual growth, then his work would be instructive and influential. Pisarev also believed that people should participate in the arts. He stated clearly that if an individual derived personal pleasure from the arts, then that individual should certainly continue to enjoy their benefits.

Nihilist writers also used literature and literary criticism--forms of art--to convey their message. To describe the thinking realist's egoism and empiricism, they analyzed Bazarov. To develop the thinking realist's collectivism, they described the communal lifestyle that was developed by Vera Pavlovna, Lopukhov, and Kirsanov. Obviously, aesthetics was not a form of expression that the nihilists wished to destroy.

The nihilists believed that art could be useful and they themselves used it; yet they criticized art so unmercifully that even other radicals accused them of wishing to destroy it. Reasons for this inconsistency become clear if the nihilists' view of aesthetics is viewed in
light of the nihilists' desire to promote a science oriented world-view.

The nihilists hoped to weaken idealism and mysticism, and at the same time promote realism, mechanism, and materialism, the modern ideas based on reason that served as the thinking realist's tools. In Western Europe, those who wished to achieve this objective usually did so directly. They discussed the merits of realism, the scientific evidence that supported mechanism, and the logic that underlay materialism, and at the same time, they openly criticized the greatest upholder of idealistic thought—the church. For the nihilists, these direct routes were not open. In Russia, journalists could not criticize the church and its views, and they could not discuss the philosophical questions underlying materialistic thought.

Through their essays, nihilists could describe some of the scientific evidence that supported mechanistic theories. They could, for example, discuss the manner in which the chemicals found in food promoted growth and sustained life; they could describe the recent findings in anatomy and physiology that helped man to understand the processes underlying life; and they could review discoveries in pathology that helped to explain the mechanical and chemical bases for disease and death.

Radicals could describe recent scientific findings, but they could not relate them to philosophical thought. Aleksandr Nikitenko, a moderate government censor, clearly expressed this prohibition. In
discussing an essay on food, he wrote:

If this were a popularization of scientific ideas or a statement of principles, I would not say a word against it, no matter how ticklish the issues discussed might be. But this article is nothing more than a proclamation to people of limited intelligence and knowledge, which tells them that man's belly determines how he lives, thinks and functions in this world; that the social system must be revised in terms of this belly and its desires. . . . After reading the article carefully, I was convinced that this was one of many such wretched little pieces appearing in the Contemporary and the Russian Word which counted on the immaturity and ignorance of its readers, particularly the younger generation, and tried to acquire popularity among young people by preaching eccentric and red ideas. . . . I expressed this in my memorandum and pointed out that the government had no right to ignore such writings which have a deep impact on morality, especially in our country, where learning and public opinion are still so poorly developed that we cannot stand up against false and pernicious teachings and neutralize their influence. The Council not only agreed with my conclusion, but decreed that my memorandum be forwarded to both the St. Petersburg and Moscow Censorship Committees as a guideline.

The nihilists' essays on science clearly reflect the government's position. The nihilists believed, for example, that no spiritual force—either good or evil—underlay physical motion or thought. As Kovalevskaia stated: "There were reflexes, but there was no soul." Even though the nihilists believed that no spiritual force underlay physical motion and thought, they never expressed this belief in their essays on science. Pisarev, for example, described the mechanical and chemical processes that governed life in two articles on human anatomy and physiology. He implied in these articles that such life-giving processes as respiration and circulation did not need a spiritual being to work, but in these essays he never directly challenged God's
role. His strongest challenge was a veiled statement in which he asked his readers if they would not dare now "to express the slightest doubt in the blessings of Providence"—express the slightest doubt in God's power to sustain and guide man's life.

In a third article on science, Pisarev in describing scientists' research on the human brain, discussed advances in the field of mental illness. In doing so, he referred to the "generally health-giving Pennsylvanian institutions for the insane," a reference to doctors in the Philadelphia area who believed, unlike most of their contemporaries, that mental illness could be traced to physiological rather than metaphysical causes. Because such physical disorders as epilepsy and mercury poisoning were classified at this time as forms of insanity, these doctors' materialistic approach to mental illness was "health-giving." It was also, however, controversial. The general public in Russia, Western Europe, and North America approached insanity through idealism rather than materialism: they looked for a spiritualistic source rather than a materialistic one. They believed, for example, that the mentally ill did not have physical disorders; they were possessed by the devil instead. By indicating in his article that an opposing view existed, Pisarev helped to promote the materialists' position. In his article, however, he never openly attacked the idealists' interpretation of mental disorders by carrying his discussion into the realm of theology.
The nihilists could not promote realism and materialism by analyzing scientists' research, and they could not undermine idealism by criticizing religion. They were able, however, to attain both objectives through an indirect route—-aesthetics. Censors allowed radicals to criticize this topic, even to criticize it vehemently. Consequently, it was a suitable topic to discuss if one wished to make a point. Aesthetics was also like religion in one important respect: both were based on faith and intuition. When one accepted religious truths, for example, one simply believed. When one decided that one liked an artistic endeavor, that decision could be based on intuition and no more. To like art, for example, it was not necessary to have a reason; one could simply like what one saw. Because intuition—a form of idealism—is a part of art, the nihilists were able to substitute art for religion and idealism, contrast art with science, and by doing so, successfully point out idealism's weaknesses and realism's strengths.

The nihilists frequently did precisely this when they criticized art. The following passage written by Pisarev presents an example.

The references to aesthetics that appear in this passage are nonsensical if aesthetics is taken to mean art, but replace the word aesthetics with religion or idealism, and this passage becomes coherent and clear:

Aesthetics [religion] and realism are irreconcilably hostile toward each other, and realism must radically destroy aesthetics [religion], which at present is poisoning and making nonsense out of all aspects of our scientific activity, from the highest level of scientific research to the most ordinary relations between man and
women. I will try to show the reader that aesthetics [religion] is the firmest element of intellectual stagnation and the most reliable enemy of rational progress.

The triteness of all aesthetic [religious] statements consists in the fact that they are based not on reflection, but on inspiration, a result of what is called the voice of instinct or feeling. . . .

. . . If in this clash, sober intellect conquers, we shall move forward to a healthier, that is to say a more socially useful view of things. If aesthetical feelings conquer, we will take a step backwards toward the realm of routine, intellectual debility, harm, and darkness.

Aesthetics [religion], unaccountability, routine, habit—these are all equivalent concepts. Realism, consciousness, analysis, criticism, and intellectual progress—these are also equivalent concepts diametrically opposed to the first. The more freedom we give to our unexplainable instincts and the stronger our aesthetical feelings become, the more passive become our relationships with conditions of life that surround us, and the more completely and irrevocably is our intellectual independence swallowed up and enslaved by the senseless influences of our environment. 59

The censorship supported traditional views not only by controlling the nihilists' discussion of science, but also by periodically suspending the nihilists' primary publication, Russkoe slovo. Following several months of student demonstrations and fires in St. Petersburg, which the government attributed to students, the censorship closed Russkoe slovo for a half year in 1862. This was the same year that radical students made Pisarev their spokesman. In December 1865, the St. Petersburg Censorship Committee warned Russkoe slovo for presenting unacceptable ideas in recently published essays. In January 1866, the censorship issued a second warning, and in February after issuing a third warning, it suspended Russkoe slovo's publication for five months. 60 After Karakozov attempted, in April of 1866, to assassinate
Alexander II, the censorship closed Russkoe slovo permanently.

Even though terrorist activities provoked Russkoe slovo's closing, the government regulated this journal not because nihilists were active in terrorist circles, but because the ideas they expressed were unacceptable. As explained in Chapter II, young Russians who joined nihilist circles during the 1860's were not interested in removing political leaders. They criticized Bakunin for believing that such action was useful, and were themselves criticized by Karakozov's followers—a group that supported Karakozov's assassination attempt--for not actively promoting political change.

Throughout the 1860's, the police also controlled nihilists through surveillance, arrest, imprisonment, and exile. Its efforts to regulate this group reached to the heart of nihilist circles. From the five leading nihilist spokesmen, for example, three were either imprisoned or exiled. Pisarev was imprisoned in 1862 for criticizing the autocracy in "Shedo-Ferotti," an essay that he intended to publish and distribute illegally. The government released Pisarev after his four-year prison sentence ended in 1866.

Shelgunov was arrested in 1862 for masterminding an escape for his friend Mikhailov, who had been exiled to Siberia. Shelgunov was arrested again in 1863 for being connected with both Mikhailov and Chernyshevskii, and in 1864 was exiled to the province of Vologodsk, northeast of Moscow.
Sokolov was tried in 1867 for publishing *Otshchapentsy* (The Renegades), a work that contained biographical sketches of people who had changed the course of society's development. Sokolov's list included the Apostles, Christians from Rome, Reformationists, French Revolutionaries, the Chartists, Fourier, and Proudhon. In 1868, after serving a year and a half prison sentence, Sokolov was exiled to the town of Mezen on the White Sea north of Arkhangelsk.

The remaining two nihilist spokesmen—Nozhin and Zaitsev—were neither imprisoned, nor exiled. The police, however, placed both under surveillance in 1865, the point at which the names of a number of nihilists appeared on police lists.

From among the other fifteen nihilists studied here, four were either imprisoned or exiled and five others were either arrested or placed under surveillance. Thus, from the group examined in this study, fourteen found themselves under some form of police control. (This group's arrest record appears in Table 11, Appendix B, page 294.)

The government not only attempted to regulate those who used new scientific research to support their ideas, it also attempted to control scientists who engaged in the type of scientific research that the government found objectionable. Sechenov serves as an example. In 1863, he requested permission to publish his essay "Reflexes of the Brain" in the radical journal *Sovremennik*. The Censorship Comittee allowed Sechenov to publish this essay, but insisted that he publish it
in a scientific journal, and not in Sovremennik, a journal popular among Russian youth. Three years later, Sechenov republished this controversial research as a monograph. At this point, the Censorship Committee brought him to trial for publishing this treatise on the body's nervous system. The government's position during his trial reveals why:

... By rejecting free will and the immortality of the soul, this materialistic theory does not agree with a Christian point of view or with legal opinion; it destroys the idea of good and evil and the moral responsibilities of man, and finally, the notion of liability for a crime; therefore, it leads positively to a corruption of morals.63

In summary, Russia's decision-makers during the 1860's viewed social change as a sporadic, short-term solution designed to meet society's immediate needs. The government's economic policies, for example, were designed to provide the capital needed to pay the interest on Russia's national debt. During these years, the church interpreted many recent scientific findings, particularly those developed by physiologists, as a threat to religion, and therefore, as a threat to society as a whole. To both the church and the autocracy, the nihilists' individualism threatened to destroy established ideas and institutions. Thus, to traditionalists progress was a matter of pursuing existing policy and defending their society against threats imposed by radicals.
NOTES TO CHAPTER VI


4 N. V. Sokolov, "Chego ne delat'?," Ekonomicheskie voprosy i zhurnal'noe delo (S.-Peterburg, 1866), pp. 107-108. This essay was first published in Russkoe slovo in 1863.

5 Jerome Blum, Lord and Peasant in Russia From the Ninth to the Nineteenth Century (New York: Atheneum, 1968), p. 332.

6 Ibid., p. 330.

7 Ibid., p. 338.

8 N. V. Sokolov, "Chego ne delat'?," Ekonomicheskie voprosy i zhurnal'noe delo (1866), p. 112.


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11. Ibid., p. 271.


13. Ibid., p. 742.


15. N. V. Shelgunov, "Domashnaia letopis'," Russkoe slovo, Otdel III, No. 5 (May), 1865, pp. 7-14.

16. Ibid.


18. Ibid.


21. Ibid., p. 220.

I. Troitskii, "Nauchnye genealogii sovremennogo estestvoznania i preimushchestvenno teorii Darvina," Pt. 1, Khristianskoe chtenie, No. 10 (October), 1865, pp. 419-420.

Khristianskoe chtenie, a monthly journal, was published by the St. Petersburg Ecclesiastical Academy.

I. K-skii, "Vopros o drevnosti chelovecheskogo roda, protiv vozrazhenii sovremennoi geologii," Pravoslavnoe obozrenie, No. 2 (February), 1866, p. 96.

Pravoslavnoe obozrenie was a liberal religious journal published in Moscow by Father N. A. Sergeevskii.


Ibid.


35 I. Osinin, "Neskol'ko slov ob otnoshenii estestvennykh nauk k Vere, po povodu pojavleniiia 'Estestvennyi Istorii Agassitsa,'" Khristianskoе chtenie, No. 4 (April), 1862, p. 533.

36 "Slova na molevstvii predotkrytiem s'ezda russkih estestvoispytateloi v Moskve 20 avgusta 1869 g.," Pravoslavnoе obozrenie, No. 9 (September), 1869, p. 237. See also: I. Osinin, "Neskol'ko slov ob otnoshenii estestvennykh nauk k Vere, po povodu pojavleniiia 'Estestvennyi Istorii Agassitsa,'" p. 533; I. Troitskii, "Nauchnye genealogii sovremennogo estestvoznaniiia i preimushchestvenno teoriia Darvina." Pt. 1, p. 410.


39 I. Osinin, "Neskol'ko slov ob otnoshenii estestvennykh nauk k Vera, po povodu pojavleniiia 'Estestvennyi Istorii Agassitsa,'" p. 534.


45 "Angliiskiia vozzeniia na progress XIX veka," Khristianskoe chtenie, No. 9 (September), 1863, p. 135.


51 [A. A. Komarova], Odna iz mnogikh, p. 24.

52 For an example see: M. A. Antonovich, "Lherealisty (po povody 'Russkogo slova')," Literaturno-kriticheskie stat'i (1961), pp. 243-236.


54 Ibid., p. 121.


56 S. V. Kovalevskaiia, Vospominaniia i pis'ma (Moskva: Akademiia nauk SSSR, 1951), p. 84.


60 The essays that disturbed the St. Petersburg Censorship Committee are listed in Knizhnyi vestnik, No. 23, Vol. 6 (December 30, 1865), p. 495; No. 1, Vol. 7 (January 15, 1866), p. 21; No. 4, Vol. 7 (February 28, 1866), p. 102.

61 L. I. Mechnikov, "M. A. Bakunin v Italii v 1864 godu (Iz vospominani L. I. Mechnikova)," Istoricheskii vestnik, No. 3 (March), 1897, Vol. 67, pp. 818-819.


CHAPTER VII

NIHILISM: A RADICAL SOCIAL MOVEMENT
GROUNDING IN SCIENCE

As a group, the nihilists were young and privileged. In 1862, for example, most from the group examined in this study were between the ages of eighteen and twenty-three. Most came from the nobility and those who did not were privileged in other ways. Most attended Russia's universities or professional schools, and several also studied and traveled in Western Europe. Many of the men, even though they attended schools designed to staff the military and civil service, avoided careers in these traditional areas; and many of the women defied society's mores by studying and pursuing careers in their respective disciplines. Nearly all were part of Russia's active student environment during the 1850's and 60's, and there they came into contact with a topic that interested nearly all of these nihilists—the sciences.

Each of these sociological traits helps to explain the emergence and growth of the nihilist movement. The nihilists' youth, for example, provided their movement with internal momentum. People in their late...
teens and early twenties tend to evaluate themselves and their society. They tend to search for their own identities and try to improve their lives.

Being privileged, the nihilists attended Russia's best schools. Many attended the universities; others attended such schools as the Aleksandrov Lyceum, the Mikhailov Artillery Academy, the School of Jurisprudence, the Institute of Mining, and the Institute of the Corps of Civil Engineers. All of these schools staffed Russia's military and civil service. The nihilists were able, however, to shun careers in these traditional areas and pursue an independent course. The women who joined nihilists circles also pursued an individualistic life-style. Ignoring society's prohibitions on travel and higher education, they studied under professors, such as Sechenov, who allowed them to attend their classes, and they pursued degrees at universities in Western Europe. Among the nihilists, they found the financial and moral support that they needed to pursue their individual goals.

Being well educated, the nihilists spent their formative years at residential schools. Consequently, they grew up with their peers, rather than with their parents where traditional values might have been more effectively instilled. Through their education, the nihilists came into contact with recent developments and concepts. The topics that interested them were unlike those studied by their intellectual predecessors. While the nihilists, for example, studied a type of science
that was both mechanistic and materialistic, their intellectual predecessors usually studied the humanities. Chernyshevskii, for example, was a seminary student who studied history, languages, and literature at St. Petersburg University. Dobroliubov, also a seminary student, studied at the Petersburg Pedagogical Institute. Those who studied the sciences did so during an era when science was metaphysically oriented. Bakunin, for example, studied at the Artillery Academy, and Herzen majored in the natural sciences at Moscow University. However, both attended these schools during the 1820's, a decade during which vitalistic theories dominated scientific thought. The scientific research that would lead to mechanistic and materialistic interpretations of natural phenomena was embryonic during this decade.

The nihilists were actively involved in the sciences. Among the group examined here, nearly all studied the sciences either formally or informally. Many translated and published scientific works, and those who wrote for Russkoe slovo and Knizhnyi vestnik promoted the sciences through their essays.

Many of the nihilists also studied or traveled in Western Europe. There they came into contact with the most advanced scientific developments and experienced a standard of living very different from their own. While Russian peasants, for example, were depleting their soil, tilling their fields by hand, and being rewarded for their labors by famine; farmers in Northern Europe were growing more food per acre,
breeding horses that were capable of pulling the new steel plows and mechanical reapers, and enjoying a diet that included meat and dairy products.

The nihilists' participation in the sciences reflected changes that occurred within the nihilists' social environment during their formative years. In the years preceding the emergence of nihilist thought, Russia's educated elite—both the general reading public and the university community—became increasingly interested in the sciences. Radical spokesmen promoted materialism, a science-oriented philosophy; and the government under both Nicholas I and Alexander II promoted the growth of science. Both regimes encouraged its development by instituting curricular changes within Russia's elite technical schools, gymnasiums, and universities, the schools that future nihilists were attending.

Between 1840 and 1860, the basic sciences themselves developed rapidly. Because of the developments that occurred within physiology, scientists began to interpret the processes that governed both man's body and nature as mechanistic. This led an increasing number of scientists to reject vitalistic theories and adopt a materialistic view: no metaphysical being accounted for man's motion or thought.

Significant changes also occurred during these years within the applied sciences. Liebig developed chemical fertilizers and improved crop rotation techniques. By developing an efficient furnace that
increased the quantity of steel produced, Bessemer greatly reduced the cost of implements such as the steel plow and mechanical reaper. Scientists developed a safe anesthesia as well as new antiseptic solutions. The latter not only made surgery safer, but also controlled the spread of disease.

These scientific developments coupled with students' growing interest in these disciplines provided the nihilist movement with an essential ingredient. To become popular, ideas have to have a following. Scientists' increasing ability to solve material problems generated an interest in scientific disciplines. As this interest developed among students, Pisarev's following emerged. Students who became increasingly interested in the sciences through the late 1850's turned to Pisarev for leadership in 1862 and made nihilist thought a widely accepted ideology. It is this group that transformed nihilist thought into a social movement.

Examining their ideas reveals that the nihilists' participation in the sciences was closely tied to the nihilist movement. The nihilist spokesmen worked recent scientific findings into each of the main ideas that formed their radical pattern of thought.

The nihilists, for example, developed a view of social change that paralleled their view of change in nature. Change, the nihilists explained, governed man's life as well as nature, and both changed slowly through a similar process. In nature, a species evolved into
one that was better able to cope with its environment. Those that could not adjust became extinct. In society, institutions and beliefs, like species, gradually evolved into new institutions and new beliefs that were better able to satisfy man's needs. Those that no longer served a useful purpose were negated. Like species, if they could not adapt, they eventually became extinct.

In developing their ideas, the nihilists focused on Russia's poverty and on ways to solve that problem. To achieve greater economic wealth, the nihilists turned to science and technology. Both, they explained, could be used to increase man's productivity. New findings in physiology improved man's health, which helped in turn to make him a better worker. Scientific research increased agricultural production, and technological developments reduced the amount of time that workers expended on necessary tasks.

In promoting science, the nihilists emphasized that Russia needed not only to improve her agricultural production, but also to industrialize. To become prosperous, the nihilists explained, Russia had to become more efficient by developing her own scientific and technological skills and by producing for herself the goods that she needed.

To solve Russia's economic problems, the nihilists focused much of their attention on producing goods more efficiently. Life, they explained, would improve only if greater material wealth could be
produced. Even though the nihilists focused on this issue, they also considered a related problem: distributing goods more equitably. To become more prosperous, the nihilists explained, Russia had to combine scientific progress with massive social change. For science to generate greater wealth, scientific knowledge had to reach workers. For them to use science successfully, they needed to be able to understand it and to profit from its benefits. To achieve these objectives, the nihilists explained, society had to promote public education and encourage local economic development by promoting projects that would reach peasant villages.

The nihilists also emphasized the need for a free labor force and artels. Freeing labor, the nihilists explained, would encourage individuals to seek the knowledge that they needed to improve their lives. Artels created by workers would generate capital and provide the protection and support that workers needed.

Even though the nihilists argued that the key to economic prosperity was scientific knowledge and technology, they also believed that to achieve prosperity, society needed individuals who possessed values and traits compatible with both science and social change. Society needed critical thinkers who were egoists, collectivists, and realists.

In developing these character traits the nihilists correlated them with examples from nature, interrelated them with the scientific method, and linked them to society's need for productivity. The nihilists
explained that thinking realists, like scientists, needed to test their beliefs and get rid of all outmoded concepts. Thinking realists also needed to be egoists and collectivists. Satisfying one's individual needs promoted independent, innovative thought, and banding together allowed one to create a work environment that suited individual needs.

The nihilists were not only realists, but also mechanists and materialists. To the nihilists, knowledge based not on faith, but on observation and reason was the means by which the thinking realist penetrated nature's workings. By studying nature systematically, the realist saw that life was mechanistic; all things could be explained in mechanical and chemical terms. This, in turn, led the realist to adopt a materialistic point of view: because all matter, both organic and inorganic, was physical in nature, no metaphysical being accounted for matter's life or movement.

These ideas were closely related to the physiology and evolutionary theories that so attracted the nihilists. While scientists such as Lyell and Darwin interpreted change as gradual, constant, and natural, and by doing so, removed metaphysical forces from nature's development, physiologists studied processes such as respiration, circulation, and digestion. They studied the brain and the nervous system and located the nerve fibers that caused the vocal cords to vibrate and arteries to contract. Physiologists also began to see that the nervous system regulated not only the body's involuntary responses
such as circulation and digestion, but also the voluntary responses that resulted in such activities as physical motion and mental thought. As a result of this research, scientists who worked in these areas began to argue that man was a materialistic being—his body functioned naturally through processes that were mechanistic in nature; they did not depend on a vitalistic force or a Providential Being.

Even though the nihilists believed that nature was constant and orderly, and in that sense predictable, they saw themselves not as passive types dominated by nature, but as interpreters of science and controllers of nature. To the nihilists, science was not absolute, perfect, and deterministic; rather, it was an imperfect and unfinished process that, much like nature, was constantly evolving.

Like the nihilists' materialism, their characterization of science as unfinished and evolving reflected the scientific developments that they studied. To the scientists who dominated the nineteenth century, man's universe no longer appeared to be cyclic and balanced, but linear and indeterminate. As the universe changed, it did not follow a predictable course; rather, its past died and it moved on to something new and different, but also unknown. To these scientists, the universe no longer appeared to be a finite, knowable object, but appeared instead to be enlarging, and also functioning in ways that were not completely predictable. Lobachevskii's non-Euclidean geometry supported this
changing world-view by demonstrating that two seemingly divergent views could both be correct.

To the nihilists, progress, like science, was also neither pre-determined nor metaphysical. It was not a perfect and seemingly absolute concept that, like God's laws or Hegel's Dialectic of the Spirit, existed of its own accord apart from man. It was not an all-knowing Deity who rewarded believers, nor was it a force that slowly inevitably guided man to his predestined state. The source of progress was not external to man; rather it lay within man himself. Through gradual, constant changes much like the constant readjustments that changed nature, man attained a better life. He did so not by concentrating on abstract ideals or perfection, but by concentrating on the small, but real achievements that worked not to make life perfect, but better.

Through the 1860's, the nihilists' broader society, particularly its two most powerful institutions--the Russian Autocracy and the Orthodox Church, interpreted the nihilists' concepts and actions as a threat to society's existing social institutions. Achieving greater prosperity was a goal both for young Russians who joined the nihilist movement and for Russia's decision-makers. These two groups, however, differed significantly on the means that should be employed to achieve that goal.
While the nihilists, for example, proposed comprehensive, long-term solutions to Russia's economic problems, and in doing so, defined social change as an evolutionary, non-mystical process paralleling change in nature, the government developed sporadic, short-term solutions that were designed to solve Russia's immediate problems, but at great long-term expense. The nihilists focused on the need for both agricultural and industrial development. They repeatedly emphasized the material benefits that science offered society, and outlined programs that needed to be developed for those benefits to be realized. The government, on the other hand, developed policies that focused not on domestic development, but on foreign exchange. Faced with near financial ruin and pressing debts, the government concentrated on neither agricultural nor industrial growth, but on moving grain to ports.

While the nihilists developed a materialistic orientation—a philosophical orientation compatible with scientists' recent findings—and interpreted science as an evolving process under man's control, and not as an unfolding absolute truth, the church interpreted these ideas as a threat to religion. These naturalistic theories, the church argued, negated the existence of God and rejected the existence of man's soul, the force that underlay man's conscience and cognition and made man a conscious and supremely unique being. Because recent physiological research negated these essential elements, this research threatened not only to demoralize the individual, but to destroy society as well.
To the nihilists, individualism was a source of new ideas. Because the individual who freely satisfied his own inclinations ignored society's restrictions, his mind was naturally more open to unconventional, untried ideas. To the autocracy and the church, the nihilists' individualism was not a source of innovative thought, but rather served to corrupt society's beliefs and to negate established institutions.

While the nihilists defined progress as a process that could be successfully implemented by making scientific knowledge available to all members of society, the autocracy and the church defined progress as pursuing existing policy and defending it against radicals' attacks. To accomplish this goal, the government censored nihilists writers and eventually closed their leading journal. To regulate them, the government also placed nihilists under surveillance, and arrested, imprisoned, and exiled their spokesmen.

The hostile social and intellectual environment that surrounded the nihilists contributed to the emergence and growth of the nihilist movement. While a growing number of students saw new scientific developments as useful and developed a world-view that was compatible with the scientific principles that interested them, the government and the church viewed the concepts that the nihilists developed and the programs that they promoted as socially destructive. To counteract this very real threat, the government restricted young Russians' ability to discuss science and related views. This in turn, forced young Russians
who saw science as a solution to Russia's problems to promote both science and materialism, to promote their own well-being by defending individualism, and to seek protection and support by developing a communal life-style. The government's repression made science, individualism, and socialism three highly necessary, perfectly compatible ideals.

In developing their ideas, the nihilists responded not only to environmental pressures, but also to individual intellectual needs. As a group, the nihilists were highly intelligent. Pisarev, for example, graduated from the university with honors. Kovalevskaia and both Aleksandr and Vladimir Kovalevskii became internationally known scientists. Suslova became the first woman doctor to practice medicine in Russia. Nozhin and Vedernikov were both described by their contemporaries as promising young scientists. Mikhailovskii and Tkachev both became articulate radical spokesmen after Pisarev's death.

All of these individuals were curious, sensitive, and eager. They wanted to know how nature functioned, and they sought answers to that question. Seeing that science could solve material problems, they attempted to share that information. Even though society placed obstacles in their path, they persisted nevertheless.

Being trained in the sciences, the nihilists developed ideas that the rest of their society did not share. Viewed from this perspective, the nihilists were superfluous. To the nihilists themselves, however,
they were not superfluous, but separate and different. Their outmoded society promoted values that were incompatible with their own, but the nihilists, nevertheless, knew how to think and to act, and to promote the social change that they desired.

The nihilists saw science as a force that could improve the quality of life. Because the government did not promote science to their satisfaction, they set about promoting it themselves. Feeling society's pressures, they created a sub-culture where they were free to develop their ideas. The world-view that emerged was consistent. The nihilists criticized and rejected their society's beliefs, but they replaced them with alternatives that focused on the individual. The nihilists, for example, created an ethical system and a view of progress that revolved around the creative thinker. Thus, to the nihilists, they were not superfluous; rather, their society was oppressive and archaic, and in time would change.

The emergence and growth of the nihilist movement was inextricably linked to science-related developments that occurred within the nihilists' society. Because recent scientific developments offered real solutions to Russia's economic problems, young Russians became increasingly interested in studying science and technology. Thus, a group within society that was eager to use science to achieve social change emerged. Even though the government was also becoming increasingly interested in science's material benefits, the nihilists'
broader society—the Autocracy and the Church—interpreted the materialism and massive social change that the nihilists developed along with their interest in the sciences as a very real threat. Preferring to preserve as much of the old order as possible, the government censored and monitored nihilist spokesmen. These regulations succeeded in pushing young Russians who were eager to profit from science's benefits to the left. Their society's restrictions coupled with their own interests and goals forced young Russians to become vocal social critics and equally vocal proponents of science, individualism, and socialism, ideas that if merged would help science to thrive. Young Russians' eagerness to use science to benefit society, and their society's inability to accept the social and intellectual changes that were necessary if science was to stimulate economic growth worked together to create nihilism: a social movement grounded in science.
Nihilism began to dissipate in 1866; by 1870 radicals no longer called themselves nihilists, but referred to themselves as populists instead. This transition began when Dmitrii Karakozov attempted on April 4, 1866 to assassinate Alexander II. Following this attempt on Alexander's life, the government closed Russkoe slovo and Sovremennik and arrested St. Petersburg's leading radicals. Sokolov, Zaitsev, Blagosvetlov, Tkachev, Kurochkin, and Mikhailovskii were all caught up in this sweep. Pisarev, Shelgunov, and Nozhin were not included because Pisarev was already in prison, Shelgunov was in exile, and Nozhin had died the evening before Karakozov's assassination attempt.

Because none of the nihilists who were arrested could be implicated in Karakozov's assassination plot, the government eventually released them. By arresting and detaining this group, however, the government succeeded in weakening the nihilist literary core. Before releasing Blagosvetlov, the government passed a decree that prevented him from reopening Russkoe slovo. He organized a new journal Delo (Cause), but internal discord and arrests prevented him from regrouping.
his former staff of writers. Shelgunov and Tkachev joined Delo, but the others did not. Sokolov was unable to join because the government arrested him in 1866 for publishing Otshchepentsy (Renegades). Pisarev and Zaitsev both refused to join Blagosvetlov's staff, in part, because of a controversy involving the censorship that occurred just before the government closed Russkoe slovo.

After emigrating to Western Europe in 1868, Zaitsev contributed on a limited basis to both Delo and Nekrasov's new journal Otechestvennye zapiski (Annals of the Fatherland), but he never attained the popularity that he enjoyed during the 1860's. After financial difficulties forced Knizhnyi vestnik to close in 1867, Kurochkin wrote for both Delo and Otechestvennye zapiski. Mikhailovskii also wrote for both journals, until 1869 when he became a full-time writer for Otechestvennye zapiski. Through this journal he became a leading spokesman for the populist movement, the radical ideology that dominated the 1870's. Pisarev also eventually joined Nekrasov's staff, but because Pisarev drowned in 1868 while swimming in the Baltic, his voice was soon silent.

The arrest that occurred in 1866 and Pisarev's untimely death in 1868 echoed the events that in 1862 led to Pisarev's emergence as a leading radical spokesman. Dobroliubov's death in 1861 and Chernyshevskii's arrest in 1862 created a vacuum that Pisarev filled. Pisarev's death, Nozhin's death, Sokolov's arrest, and Zaitsev's emigration created a similar vacuum that was soon filled by new
spokesmen, in particular Mikhailovskii, who reshaped radical thought, just as Pisarev had in 1862.

From the remaining nihilists, Zaitseva emigrated to Geneva. Vedernikov and Ballod remained in exile after their arrests in the early 1860's. Pavlenkov was exiled in 1868 after delivering a castigating speech at Pisarev's funeral.

Aleksandr and Vladimir Kovalevskii, Kovalevskaia, and Suslova all pursued careers in the sciences and became internationally known. Aleksandr Kovalevskii, an embryologist, taught at the universities of Kazan, Kiev, Odessa, and St. Petersburg. Vladimir Kovalevskii, who taught at Moscow University, did research in paleontology. Kovalevskaia became a professor of mathematics at the University of Stockholm. Suslova became the first woman to practice medicine in Russia.

After Karakozov's assassination attempt, Komarova gradually adopted a more traditional life-style. She left the commune to which she belonged and soon married. Searching for greater emotional fulfillment, she eventually entered a convent.

In the early 1870's, Rusanov and Timofeev joined the Movement to the People, and thus these individuals spanned both the nihilist and populist movements. They were very young when they became Pisarev's followers as gymnasium students in the late 1860's; consequently, they were still young and active when the populist movement emerged.
Even though a transition in radical thought occurred after the government closed *Russkoe slovo*, the attributes that characterized the nihilist movement did not disappear. After the government imprisoned and exiled leading nihilists, and Pisarev, the most influential member of this group, died, young Russians turned to Mikhailovskii, Petr Lavrov, and Afanasii Shchapov for leadership. These new spokesmen emphasized concepts, such as the educated elite's debt to the people, which nihilists had not emphasized, but nevertheless, continuity existed between the nihilist movement and the populist movement that followed.

Both, for example, were social movements. Like Pisarev's nihilism, Mikhailovskii's populism was well received. The ideas that these two radicals expressed were not ideas that never reached beyond their creators' minds. Rather, they were ideas that a segment of society accepted. The nihilism of the 1860's and the populism of the 1870's both possessed a social base. Their followings, in fact, came from the same segment of society--Russia's educated youth.

The populist spokesmen who emerged after the 1860's shared many of the same ideas that the nihilist writers so carefully developed. Mikhailovskii and Lavrov, for example, promoted both science and individualism. Lavrov, who was trained in both the natural sciences and mathematics, promoted a materialistic, anthropocentric philosophical view. Like the nihilists who preceded him, he rejected metaphysical forces and interpreted both nature and man's social development as
natural processes.

Intellectual historians have not examined the relationship between Mikhailovskii's populist views and science, but his continuing interest in the sciences is apparent. The essays that he wrote during the 1870's included: "Teoriia Darvina i teleologiia" ("Darwin's Theory and Teleology") (1870), "Teoriia Darvina i liberalizm" ("Darwin's Theory and Liberalism") (1871), "Zametki o darvinizme" ("Notes on Darwinism") (1871), "Estestvennyi khod veshchei" ("The Natural Course of Things") (1873), "O demokratizme estestvennykh nauk" ("On the Natural Science's Democratism") (1875).

The "subjective" individualism that Mikhailovskii and Lavrov both developed during the 1870's was also similar in many ways to concepts that the nihilists expressed. In developing their concept of the individual, Mikhailovskii and Lavrov argued that the individual made subjective decisions. The individual's thought patterns, they explained, did not reflect an absolute or perfect ideal, but instead developed in different ways all of which suited the individual's present needs. Pisarev and his colleagues, who during the 1860's included Mikhailovskii, emphasized precisely this same point. Society, they argued, should not impose its allegedly perfect beliefs and absolute standards upon the individual; instead, each thinking realist should establish his own beliefs and standards.
The populist writers who dominated the 1870's developed a concept that was not part of nihilist thought. While the nihilists, for example, attempted to awaken the educated elite and to change their thinking, the populists encouraged young Russians to use their knowledge to change the peasant's life. Unlike the nihilists, populists encouraged young Russians "to go to the people." A statement made by Rusanov demonstrates this transition in radical thought:

At one time we were captivated by Pisarev, who talked to us about the great value of the natural sciences for developing a "thinking realist." We all prepared ourselves to become such thinking realists who wish to live in the name of their own "developed egoism," over-throwing all authorities and making a completely free and happy life both for themselves and for their compatriots. Then suddenly we were told that the world did not revolve around the natural sciences . . . that there were other important questions such as history, social progress, and finally the narod—the starving, tormented masses, the working people who support civilization's entire structure and who make it possible for us to spend our time studying frogs and all the other sciences. Finally, we were told about our unpaid debt to the narod—to the great toiling masses.

You cannot imagine the new ideas and new feelings that welled up in our souls! How ashamed we were for our wretched bourgeois plans for happy personal lives! To hell with "rational egoism" and "thinking realism" and to hell with all of the frogs and other scientific things that caused us to forget about the narod! Henceforth, our lives needed to be devoted entirely to the masses. . . .

Even though Rusanov appears in this passage to have discarded the nihilists' egoism and realism, his statement represents not so much a rejection of nihilist thought as an expansion upon the nihilists' goals. Pisarev wrote to motivate Russia's educated elite. His goal was to encourage young Russians to question their society's traditional beliefs.
and social patterns and to develop the skills and knowledge that were needed to modernize their society. Mikhailovskii and Lavrov took the next logical step. They encouraged the young Russians who grew up reading Pisarev's essays to begin applying their newly acquired knowledge.

Rusanov's interest in science and his sensitivity to the people's needs indicates that Pisarev, Mikhailovskii, and Lavrov were successful. Rusanov became a thinking realist, an independent individual who both analyzed and criticized, and who also valued the sciences. Rusanov eventually studied medicine in order to use that knowledge "to pay his debt to the narod." ²

Many young Russians who read Pisarev's essays during the 1860's not only developed an interest in the sciences, but also continued to pursue that interest through careers. S. A. Vengerov, editor of Kritiko-biograficheskii slovar' russkikh pisatelei i uchenykh (Critical Biographical Dictionary of Russian Writers and Scholars) (1889) found, for example, while compiling information for this dictionary that many scientists who studied during or immediately after the 1860's pursued a career in the sciences because they had been influenced by Pisarev. ³ One of those influenced was the physiologist I. P. Pavlov:

Influenced by the writings of the 60's, especially Pisarev's, we became interested in the natural sciences, and as a result, many of us—I among them—decided to study the natural sciences at the university. ⁴
After the 1860's, students who studied the sciences continued to be influential within St. Petersburg's radical circles. Brower noted, for example, that "In the group of Petersburg radicals whom I studied . . . , the university led in numbers until the 1870's, when it was eclipsed by the Medical-Surgical Academy and the Technological Institute." Brower does not analyze the relationship between students' interest in the sciences and their radicalism, but his data seem to indicate that students who studied the applied sciences after the 1860's were just as eager to use their knowledge to benefit society as their nihilist predecessors were.

During the 1860's, the nihilists' ideas--their interest in science and their thinking realist--were unacceptable to conservative Russian society. The nihilists, however, were not inaccurate in their judgment. To prosper, Russia needed to modernize her agriculture and to industrialize. She needed to concentrate not on increasing her grain exports, but on creating a comprehensive plan that would result in massive, local economic growth.

Russian society eventually followed this course. After the famine of 1891, which was induced, in part, by increasing grain exports, the government's new Minister of Finance, Sergei Witte, took steps to modernize Russian agriculture and stimulate commercial and industrial growth. Petr Stolypin's agrarian reforms, introduced after the 1905 Revolution, furthered this modernization process. Following the
devastation that accompanied World War I and the Civil War that followed, the Soviets introduced rapid and widespread change. This eventually produced a level of commercial and industrial growth equivalent to that which had been evolving gradually in both Western Europe and North America beginning with the Scientific Revolution of the seventeenth century and continuing through the Industrial Revolution that followed. The young Russians who became nihilists during the 1860's were radical and impetuous, but also insightful and futuristic.
NOTES TO CHAPTER VIII


APPENDIX A

BIOGRAPHIES OF THE TWENTY NIHILISTS
EXAMINED IN THIS STUDY

This appendix contains short biographies of the twenty nihilists who were studied as a group in the body of this dissertation. These biographies are presented here to demonstrate that these individuals were nihilists during the 1860's.

To ascertain the names of these individuals, this study first determined who contributed to the two nihilist publications, Russkoe slovo and Knizhnyi vestnik, and in doing so, formed the core of the nihilist movement. This group included: Dmitrii Pisarev, Nikolai Sokolov, Varfolomei Zaitsev, Nikolai Shelgunov, Petr Tkachev, Grigorii Blagosvetlov, Nikolai Kurochkin, Nikolai Nozhin, and Nikolai Mikhailovskii.

Through these writers' memoirs, plus other source material, this study was able to ascertain the names of other nihilists who did not write, but who were part of St. Petersburg's nihilist circles. These nihilists included: Petr Ballod, Florenti Pavlenkov, Vladimir Kovalevskii, Sof'ia Kovalevskaya, Aleksandr Kovalevskii, Ivan Vedernikov, Varvara
Zaitseva, Nadezhda Suslova, and Aleksandra Komarova. Two others who
considered themselves to be Pisarev's followers, but who were not part
of St. Petersburg's nihilist circles were also located: Nikolai Rusanov,
and M. Timofeev.

Because the term nihilist is sometimes defined as all radicals
active during the 1860's, several well-known radicals who were active
during the years that Pisarev wrote, but who were not Pisarev's
colleagues or followers, are often called nihilists. These radicals
include: N. Dobroliubov, N. Chernyshevskii, and M. Antonovich,
three literary critics who wrote for Sovremennik; A. Shchapov, a
federalist and populist; and I. Khudiakov, leader of a group that became
involved in 1866 in an attempt to assassinate Alexander II. Because
these radicals expressed ideas that were different from the concepts
that Pisarev and his colleagues developed, they were not included in
the group examined in this study. The differences between their views
and the nihilists' are discussed in Chapter II.

As explained in Chapter I, nihilist has developed several
meanings. Consequently, no individual was included in the group
examined here solely because he was referred to as a nihilist in a
memoir or labeled a nihilist in a police report. Individuals were
included only if material other than the label nihilist existed that showed
that the individual in question was a nihilist as the term is defined in
this study. If they were writers, their essays were used as proof of
affiliation. If they were not writers, other material was used to show that they affiliated with nihilist circles or considered themselves to be Pisarev's followers.

Corroborative information was found for twenty nihilists, and thus, these twenty form the group examined in this study:

D. I. Pisarev          F. F. Pavlenkov
N. V. Sokolov          V. O. Kovalevskii
V. A. Zaitsev          S. V. Kovalevskai
N. V. Shelgunov         A. O. Kovalevskii
P. N. Tkachev           I. V. Vedernikov
G. E. Blagosvetlov      V. A. Zaitseva
N. S. Kurochkin         N. P. Suslova
N. D. Nozhin            A. A. Komarova
N. K. Mikhailovskii     N. S. Rusanov
P. D. Ballod            M. A. Timofeev
Dmitrii Ivanovich PISAREV (1840-1868)

Pisarev, the most well-known of the nihilists, was a member of Russia's provincial nobility. He spent his early childhood on his family's estate in the province of Orël, southwest of Moscow, and like many members of the provincial nobility, received his early education at home. At age eleven, he enrolled in the Third St. Petersburg Gimnazila. In 1856, he entered St. Petersburg University as a student in the Faculty of History, Languages, and Literature.

In the winter of 1858, his third year at the university, Pisarev began writing for the women's journal Rassvet (Dawn), and about this time, began to take an interest in contemporary issues. He was particularly interested in issues that were being raised by radical students active at the university, but he was not, apparently, part of any of the university's radical student groups, and he did not take part in the student disruptions that began in 1859.

After experiencing a mental breakdown in the spring of 1860, Pisarev left the university and St. Petersburg to recuperate. He returned in the fall, re-enrolled in the university, and graduated the following spring. In the fall of 1860, he also began writing for the journal Russkoe slovo. After graduation, he became a full-time member of this journal's staff, and continued writing for Russkoe slovo until it was forced to close in 1866.
In 1862, when Pisarev was just becoming popular, he was arrested for writing "Shedo-Ferroti," an essay that was to have been published and distributed illegally. For writing this essay, he spent over four years in the Peter and Paul Fortress in St. Petersburg—July 1862 to November 1866. Throughout most of this time, Pisarev was allowed to write for *Russkoe slovo*, and during these years, wrote his best articles. In these articles he dealt with a great variety of topics, but his most notable contribution to nihilism during these years was his concept of the individual—the thinking realist.

When Pisarev's prison term ended in 1866, he found the situation in St. Petersburg greatly changed. *Russkoe slovo* was closed, and many of its writers had been arrested in the wake of Karakozov's attempt in April 1866 to assassinate the tsar. Blagosvetlov, *Russkoe slovo*'s editor, was starting a new journal, *Delo* (*Cause*), but Pisarev and several other members of Blagosvetlov's old staff refused to join in this venture because of a disagreement they had had with him earlier over a censorship problem. A year after his release, Pisarev began writing for *Otechestvennye zapiski* (*Annals of the Fatherland*), edited now by N. Nekrasov. In the summer of 1868, less than a year after he again became associated with one of St. Petersburg's radical journals, Pisarev drowned while swimming in the Baltic Sea.
Nikolai Vasil'evich SOKOLOV (1835-1889)

Very little is known about Sokolov's social origin, other than the fact that he was a member of the Russian nobility. He came from a family with a long tradition of military service, but it is not known if his family was counted among the landed or the service nobility.

Sokolov was educated at the Brest-Litovsk Military School, and in 1851, entered military service. From 1855 to 1857, he studied at the General Staff Academy in St. Petersburg. In 1858 he served in the Caucasus, and in 1859 was sent to Siberia as a member of the General Staff Corps. While there, he traveled to Peking with a group of Russian diplomats headed by Count N. P. Ignat'iev, a group that was continuing negotiations on the delineation of the Russo-Chinese border along the Amur River.

In 1860, Sokolov traveled to Western Europe. While there, he established contact with Alexander Herzen and provided him with material on Siberia and on Russians in exile there, material that Herzen used in his journal Kolokol (Bell). Later, Sokolov returned to London and worked for a brief time as Herzen's personal secretary. In 1863, before the Polish Uprising, Sokolov resigned his military commission at the rank of lieutenant colonel, and moved to Dresden, where he wrote and published Die Soziale Revolution, an essay for German workers. In 1865, he moved to Paris where he was introduced to Proudhon. As a result of this introduction, he translated Proudhon's Du Principe de l'Art
et de sa Destination Sociale (Iskusstvo, ego osnovaniia i obshchestvennoe znachenie), a work that was published in Russia later that year by N. Kurochkin, editor of Knizhnyi vestnik.

Through the first half of the 1860's, Sokolov also wrote for Russkoe slovo. Usually he wrote about economics, and usually he concentrated on Russia's economic backwardness and the problems of industrial development. His essays on these topics made him a key nihilist figure, one of the five most responsible for developing nihilist thought.

Sokolov returned to St. Petersburg in the summer of 1865. In the spring of 1866, he was arrested in connection with the Karakozov affair, but released four months later. During 1866, Sokolov wrote, and with help from Zaitsev, published a monograph entitled Otshchepentsy (Renegades). The government arrested Sokolov, and destroyed all copies of this book before he could distribute it. According to Sokolov, this book contained biographical sketches of individuals who had tried at various points in history to change the course of society's development. It included the Apostles, Christians from Rome, prominent figures from the Reformation, individuals from the French Revolution, the Chartists, Fourier, and Proudhon. According to censorship officials, this work distorted Christian beliefs, propagated socialist principles, correlated Christianity with socialism, advocated the annihilation of governmental power, and preached revolution by encouraging people to disobey.
In 1867, after being tried and found guilty of violating the censorship code, Sokolov was sentenced to one year and four months in prison. In 1868, after serving this sentence, he was sent to the town of Mezen on the White Sea, north of Arkhangelsk, and placed under surveillance. In 1871, he was allowed to move to Krasnyi Iar in the province of Astrakhan. He escaped from there in 1872, and in 1873 appeared in Zurich where he joined Bakunin's circle of Russian radicals. Sokolov remained in Europe until he died in 1889.

Varfolomei Aleksandrovich ZAITSEV (1842-1882)

Zaitsev, the son of a government bureaucrat who attained the rank of "personal" nobility, received his early education at home. In 1858, he enrolled in St. Petersburg University as a student in the Faculty of Law, but later transferred to the Faculty of Medicine at Moscow University. In 1862, he left school to support his mother and sister, and at that time, began to write for Russkoe slovo. Later, he also wrote for Knizhnyi vestnik.

As a member of Russkoe slovo's staff, Zaitsev was responsible for the journal's bibliographical section. He developed that section into an effective vehicle for disseminating social and political views, and through it, contributed to the literary controversy that developed during these years between Russkoe slovo and Sovremennik. His
caustic commentaries made him an influential critic, as important to Russkoe slovo as Pisarev. Zaitsev and Pisarev together, explains Shelgunov, were a unit. There was no significant difference in their ideas, except that "Pisarev was a propagandist, Zaitsev a fighter."

Pisarev laid down the framework for an idea, and then Zaitsev supplied the details. Pisarev worked through literary criticism and "was more forceful," but Zaitsev, working through book reviews, struck with "close, small, and frequent blows."^2

While Zaitsev wrote for Russkoe slovo, he was watched by the police, but unlike many other major figures, he never became involved in a situation that led to his imprisonment or exile. He was placed under surveillance in 1865, and in April 1866, he was arrested in connection with the Karakozov affair, but was released in August. In 1868, he received permission to go abroad for rest and medical treatment. While in Europe he contributed on a limited basis to both Delo and Otechestvennye zapiski, and also maintained contact with Bakunin's group of Russian exiles. Zaitsev continued to live in Europe until his death in 1882.

Nikolai Vasil'evich SHELGUNOV (1824-1891)

Shelgunov was the son of a mid-level government bureaucrat. At age four, he was sent to study at the Aleksandrov Military School, and at age nine, was transferred to the Institute of Forestry in St.
Petersburg to be educated for a service career in that special branch. He graduated from there in 1841, entered the Forestry Corps, and two years later, after completing an officer's training course and receiving the rank of second lieutenant, began working in the area of forestry management. In 1856, Shelgunov was sent to Europe to study forestry methods being used in Prussia. He returned to Europe two years later to study forestry management in Prussia, Austria, France, Belgium, and Sweden. He returned to Russia in 1859 to take a teaching post at the Institute of Forestry.

Shelgunov became involved with radical groups in St. Petersburg in the late 1850's. In 1861, he and a close friend, Mikhail Mikhailov, wrote two radical proclamations, "K molodomu pokoleniiu" ("To the Young Generation") and "K soldatam" ("To the Soldiers"). Mikhailov was arrested and sentenced to several years of forced labor and exile in Siberia for his role in the publication of these two proclamations. Shelgunov was not linked immediately to these radical pamphlets, but because he was involved with radical groups in St. Petersburg, he was transferred to Astrakhan. To avoid being transferred, Shelgunov resigned his commission and retired at the rank of colonel.

Following his resignation, Shelgunov and his wife traveled to Siberia to help Mikhailov escape. For attempting to free Mikhailov, both Shelgunov and his wife were arrested and sent to Irkutsk. In 1863, Shelgunov was arrested again, this time for his close ties with
Chernyshevskii, and for his part in writing the proclamations that
Mikhailov had been tried for earlier. Shelgunov was returned to St.
Petersburg, tried, and found guilty, and in 1864 was deprived of his
pension and his right to wear his service uniform, and sent to the
province of Vologodsk, northeast of Moscow, where he was placed under
strict police surveillance. These surveillance measures were not
dropped until 1876, and he was not allowed freedom of movement until
1877.

Shelgunov, who began writing for Russkoe slovo in 1859, wrote
for that journal until it closed in 1866. Later, when Blagosvetlov,
editor of Russkoe slovo, started a new journal Delo, he joined Delo's
staff. He remained with that journal until Blagosvetlov's death in 1880.

While Shelgunov was associated with Russkoe slovo, he wrote
a large number of articles on a great variety of topics. Unlike other
nihilist writers, who were interested in literary criticism, Shelgunov
was interested in history and current issues. He dealt, for example,
with such topics as the development of European civilization, current
socio-economic questions, and the role of education, particularly the
manner in which education influenced the individual. These essays,
his memoirs, which are exceptional, and his individualistic life-style
make Shelgunov one of the most interesting writers from this group.
Tkachev, whose family owned an estate in the province of Pskov, southwest of St. Petersburg, was a member of Russia's provincial nobility. He received his early education at the Second Petersburg Gimnaziia, and in 1861, entered St. Petersburg University as a student in the Faculty of Law. Because Tkachev participated in student demonstrations at the university in the fall of that year, he was arrested and expelled. However, he was allowed to take his exams, and consequently, graduated with a degree in law in 1868.

Tkachev was arrested a second time in 1862, along with Pisarev and Ballod, for being involved in the illegal publication of pamphlets and proclamations. For his participation, he was sentenced to three months in prison, a term he served in 1864. He was arrested a third time in 1865, this time for taking part in a demonstration directed against an anti-nihilist theater production. He was arrested a fourth time in 1866 as a part of the general sweep that followed Karakozov's attempt to assassinate the tsar, and was arrested again in 1869 for taking part in another student demonstration.

For his part in this demonstration, he was sentenced to one year and four months in prison to be followed by exile in Siberia. After he was released from prison, he was permitted to go to his family estate in Pskov, instead of to Siberia. He was exiled to that province and placed under police surveillance in 1873. Later that year, Tkachev and his
wife escaped to Europe, and eventually became involved with P. L. Lavrov in Zurich. Tkachev worked for a short time with Lavrov on his journal *Vpered* (*Forward*), but because he did not agree with Lavrov on questions of revolutionary tactics, Tkachev organized his own journal *Nabat* (*Tocsin*). He published *Nabat* irregularly from 1875 to 1881, and remained in Europe, separate from both Lavrov and Bakunin, until his death in 1885.

Although Tkachev is most well-known for his journal *Nabat*, and for the revolutionary theories that he developed there, he also wrote for both *Russkoe slovo* and *Delo*. He began writing for *Russkoe slovo* in 1865, and continued with that journal until it was forced to close in 1866. In addition to several articles that he contributed, Tkachev headed the book review section. He took this section over for Zaitsev late in 1865, and continued following the patterns his predecessor had established. In his book reviews, he argued, for example, that the individual's philosophy should be based on science because it engendered a realistic attitude, the only attitude that solved real problems. As Tkachev explained:

> science relates to facts critically; it does not take one step without analysis and verification; and slowly moving forward, always proceeds from the known to the unknown.  

In his book reviews, Tkachev discussed physiologists' recent contributions to the field of psychology. He argued, as did Nozhin, that scientists should not develop scientific knowledge for the sake of
science alone, but should develop knowledge that could be used to benefit mankind. Like Shelgunov, Tkachev expressed an interest in statistics and used statistical data to show how Russia's economic development compared with Western Europe's.

Grigorii Evlamnievich BLAGOSVETLOV (1824-1880)

Blagosvetlov, the son of a priest, received his early education at the Saratov Seminary. He graduated from there in 1844, enrolled in the Medical-Surgical Academy in St. Petersburg, and later transferred to St. Petersburg University. He graduated from the university with a degree in law in 1851, taught for a short time, became involved in journalism, and then left Russia to travel abroad. He lived in Europe from 1856 to 1860, and while there came into contact with Alexander Herzen. He tutored Herzen's children for a short time, and according to reports compiled by agents of the Third Section, provided Herzen with information that was used in Herzen's journal *Kolokol*.

Blagosvetlov returned to Russia in 1860 to become editor of *Russkoe slovo*. At that time, he also became part of St. Petersburg's radical circles. In 1861 he joined *Zemlia i volia* (Land and Freedom), a secret organization organized after emancipation to promote further change in rural Russia. In 1862, he became a member of that organization's Central Committee, and that year, was placed under police surveillance.
When Blagosvetlov became editor of Russkoe slovo in 1860, he transformed that journal from a politically moderate publication into a radical one. He changed the format by de-emphasizing literature and placing greater emphasis on literary criticism and contemporary developments, and he made important changes in his staff. He dropped many of the journal's older writers and replaced them with new writers who were generally younger and more radical. These new writers were Pisarev, Sokolov, and Zaitsev. Pisarev began writing for the journal late in 1860, and became a full-time member of the staff in 1861. Sokolov joined the staff in 1862, and Zaitsev started to write full-time in 1863. Shelgunov, the only nihilist writer who contributed to the journal before Blagosvetlov became editor, became a full-time writer in 1863.

As editor of Russkoe slovo, Blagosvetlov brought the nihilist writers together. He also wrote for the journal. He was responsible for the sub-section "Politika" ("Politics") when this section on contemporary foreign developments was first introduced, and through most of 1863 and 1864 was responsible for the sub-section "Domashnaia letopis'" ("Household Chronicle"), a section on internal developments. He contributed several major articles on West European developments, and wrote a number of articles that were part of the dispute that divided Russkoe slovo and Sovremennik during these years.
In April 1866, Blagosvetlov was arrested in connection with the Karakozov affair. He was released in June, but because most of his writers had been arrested and Russkoe slovo had been forced by the government to cease publication, he was not able to regroup his writers and revive his journal. Later Blagosvetlov organized Delo, a radical journal that he edited until his death in 1880.

Nikolai Stepanovich KUROCHKIN (1830-1884)

Kurochkin was the son of a government bureaucrat who in the 1820's advanced to a rank that made him a member of the hereditary nobility. Kurochkin received his early education at the Third St. Petersburg Gimnaziia, and then attended the Medical-Surgical Academy in St. Petersburg. During the Crimean War, he served as a medical doctor in a military hospital on the Crimean front. Following the war, he worked as a doctor on a Russian ship, and in that capacity, traveled to Europe, Africa, and Asia.

Kurochkin became involved in journalism in 1859 when he attempted to start the Sankt Peterburgskaja meditsinskaia gazeta (St. Petersburg Medical Newspaper). In 1861, he worked for Iskra (Spark), and from 1861 to 1862, he wrote for Illiustratsii (Illustrations). During these years, Kurochkin became part of St. Petersburg's radical circles. In 1861 he joined Zemlia i volia, and in 1862, was placed under surveillance by the police. In 1864, Kurochkin again traveled to Europe,
where he met Nozhin. A year later, Kurochkin hired Nozhin to write for *Knizhnyi vestnik*.

Kurochkin became editor of *Knizhnyi vestnik* early in 1865, after the journal was bought by his brother Vladimir. Under Kurochkin's control, this bi-monthly review of books developed into a nihilist publication. He hired a staff of four to work with him on the journal: Zaitsev, Nozhin, Mikhailovskii, and Stoikovich, a librarian from one of St. Petersburg's public libraries. These four, plus Kurochkin, were this journal's primary contributors.

Kurochkin's journal was a bibliographical journal, and as such more limited than *Russkoe slovo*, but it reflected the positions that *Russkoe slovo* had developed. It concentrated heavily on material from the sciences, and it attempted to deal with the effect that science was having, and was capable of having on society. It also endorsed the nihilist concept of the thinking realist, a concept Nozhin called the "whole personality," and it supported the nihilists' position on art. Kurochkin contributed to the nihilists' discussion of art in 1865 by editing and publishing in Russian Proudhon's *Iskusstvo, ego osnovaniia i obshchestvennoe znachenie* (Du Principe de l'Art et de sa Destination Sociale), a work translated by Sokolov.

In May 1866, Kurochkin was arrested in connection with the Karakozov affair. Kurochkin knew Khudiakov, and he may have known about Karakozov's plot to assassinate the tsar, but despite its efforts,
the government was not able to link Kurochkin with Karakozov, and it released him in August and placed him under surveillance. Kurochkin continued after his release to publish Knizhnyi vestnik, but that journal was forced because of financial difficulties to close in 1867. Following its closing, Kurochkin wrote for both Delo and Otechestvennye zapiski. He was eventually hired by Mikhailovskii to work full-time on Otechestvennye zapiski's book review section. He worked with Mikhailovskii on that section from 1868 to 1871.

Nikolai Dmitrievich NOZHIN (1841-1866)

Nozhin, a member of the provincial nobility, came from the province of Chernigov, northeast of Kiev. He received his early education at home, and in 1854 was sent to study at the Aleksandrov Lyceum in St. Petersburg. In 1861, he left Russia to study biology at the universities of Heidelberg and Tübingen, and in 1864, spent several months in Florence researching marine life.

After returning to St. Petersburg in 1864, he became part of that city's nihilist circles, and through those circles became involved in a new nihilist publication Knizhnyi vestnik. A year later he became well-known for a major series of essays on the role of science in society, which he published in Knizhnyi vestnik. That same year he was placed under police surveillance for displaying what the police believed were extreme nihilistic attitudes.
Most of Nozhin's activities at this time seem to have centered around his scientific research and his work for *Knizhnyi vestnik*, but he also spent time with I. A. Khudiakov and his group of revolutionary activists. Nozhin died the evening before Karakozov's attempt to assassinate the tsar. As explained in Chapter II, his death may have been linked to what he knew about that group and Karakozov's plans.

Nikolai Konstantinovich MIKHAILOVSKII (1842-1904)

Mikhailovskii was a member of the provincial nobility. Because financial difficulties forced his father to sell his property in the 1840's, his family did not own an estate. Mikhailovskii grew up in Kostroma, a town in the Volga River northeast of Moscow. He studied initially at the Kostroma Gimnazija. After his father's death, Mikhailovskii transferred to the Institute of Mining in St. Petersburg. He completed his course work there in 1861, but because he was involved in student demonstrations that year, and helped to put together a petition requesting that the student body at the Institute of Mining be allowed to organize and participate in the administration of student affairs, Mikhailovskii was expelled just before graduation. This prevented him from entering St. Petersburg University in the fall of 1861, as he had planned.

Mikhailovskii became involved in journalism in 1860 when he, like Pisarev, began to write for the women's journal *Rassvet*. From 1863 to 1864, he was part of a bookbinding artel, and in 1865 he was
hired by Nikolai Kurochkin to write for Knizhnyi vestnik. Mikhailovskii was arrested in 1866 as part of the general arrests that followed the Karakozov assassination attempt. After he was released, he continued to write for Knizhnyi vestnik until it was forced by financial difficulties to close in 1867.

Mikhailovskii's work for Knizhnyi vestnik brought him into the center of St. Petersburg's nihilist literary circle. He came to know both Zaitsev and Sokolov, and in 1865 he shared an apartment with Nozhin. In the year before Nozhin's death he became one of Nozhin's close friends. He says in his memoirs:

I cannot adequately estimate the benefit that I got from Nozhin's ideas, . . . Nozhin gave me only a push in a certain direction, but that was forceful, decisive, and beneficial . . .

According to Mikhailovskii, Nozhin's ideas were a key factor in his essay "Chto takoe progress?" ("What Is Progress?")

9 an essay that he began to write in 1867 and published in 1869. This essay presented the nihilists' concept of progress. It emphasized the nihilists' interest in the individual and the importance of science, and it tied science to sociology. Mikhailovskii argued in this essay, a long review of Herbert Spencer's writings, that progress was dependent upon a number of recognizable factors. It was based, in part, on a nihilist negation—an individual's rejection of accepted social patterns. It was, in part, a biological function, a process through which each organism developed by becoming biologically more complex. And because it was
tied to the individual's ability to become a self-sufficient and independent agent, a free force, it was dependent upon the individual himself. After Knizhnyi vestnik closed in 1867, Mikhailovskii continued to write for literary journals. He worked for a short time with Blagosvetlov on his new journal Delo, and in 1868 began writing for Nekrasov's newly reorganized journal Otechestvenye zapiski. In the summer of 1869, he became a full-time member of Nekrasov's staff, responsible for the journal's book review section. Through the essays that he published in this section, Mikhailovskii became a spokesman for the populist movement, the movement with which he is usually associated.

Petr Davydovich BALLOD (1839-1918)

Ballod, a Latvian, was the son of a Russian Orthodox priest. Before his father became an Orthodox priest, he was the minister of a peasant-based, Bohemian protestant sect, which converted to Orthodoxy to gain protection from Latvia's Prussian barony. Because of this conversion, Ballod received his early education at the Orthodox Seminary in Riga. In 1856, he enrolled in the Medical-Surgical Academy in St. Petersburg, and in 1858 transferred to St. Petersburg University to study the natural sciences.

While a student at the university, Ballod became involved in a number of publishing ventures. He edited a student journal on the
natural sciences, helped translate a three volume German textbook on human anatomy, and operated an underground press, which he used to publish essays and proclamations for different radical groups in St. Petersburg.

Ballod was arrested in the summer of 1862 after Pisarev's essay "Shedo-Ferroti" was found among Ballod's papers. Pisarev was tried and sent to prison for writing this essay. Ballod was tried at the same time for operating an illegal press and for writing "Predosterezhenie" ("Warning"), an essay similar in tone to Pisarev's. For his part in these activities, Ballod was sentenced to fifteen years at hard labor to be followed by permanent exile in Siberia. This sentence was reduced by half before he left St. Petersburg, and was later decreased again. His actual term of hard labor ran from 1864 to 1865, but he remained in prison until 1871.

After his release from prison, Ballod worked for a gold mining company in Siberia, and eventually managed that company's operations. He lived in Siberia until 1908 when he was allowed to return to St. Petersburg. After living in the capital for five years, he returned to Siberia and lived there until his death in 1918.

Because Ballod was arrested in 1862 and then sent to Siberia, his association with nihilists in St. Petersburg was brief, but he was, it seems, a nihilist throughout most of his adult life. This information comes from Lev G. Deich, a populist from the 1870's who lived with
Ballod's family in Siberia in 1899.

According to Deich, Ballod was a nihilist from the 1860's. Referring to Ballod, Deich wrote in his notes:

His socialism—Pisarevian; toward the peasants—no idealization, but responsive and sympathetic. Closer to Pisarev.

His attitude toward Pisarev—a little disdainful. Ballod identified with Pisarev's realism, but took it farther. While Pisarev wrote the phrase about "the hungry and naked," Ballod made that phrase part of his everyday life.12

Because he was not interested in conspiratorial tactics or in Bakunin's anarchism, Ballod was not a revolutionary activist. Like Pisarev, he believed that change would be achieved by developing industry, science, and technology.13

While living in Siberia, Deich heard numerous stories that linked Ballod with Rakhmetov, a character from Chernyshevskii's novel What Is To Be Done? Many apparently believed that Ballod was a prototype for this character. According to Deich, this association was based on Ballod's incredible strength, size, and endurance, and on the fact that Ballod, like Rakhmetov, did not smoke, drink, or play cards.14

Florenti Feodorovich PAVLENKOV (1839-1900)

Pavlenkov, a member of Russia's provincial nobility, was one of the few from this group of nihilists to receive a military education. He studied at the Aleksandrov Military School and the First Petersburg Military School, and in 1859, after being commissioned a first lieutenant, studied at the Mikhailov Artillery Academy, one of Russia's best
technological schools. After completing his studies there in 1862, he served in the Guards' Mounted Artillery.

Pavlenkov resigned his commission in 1866 to open a bookstore and pursue a career in publishing. It was at this point that he became part of St. Petersburg's nihilist circles. Being one of Pisarev's close friends, he decided to publish a ten part edition of Pisarev's collected works. His decision to do so reveals his admiration for Pisarev's ideas. While other nihilists argued that this publishing venture would not be a profitable one, because these volumes would not sell during the period of strong government reaction that followed Karakozov's attempt to assassinate the tsar, Pavlenkov responded by saying that Pisarev's essays were being published for idealistic reasons. Pisarev, explained Pavlenkov, "related more critically, more notably, and more objectively to every social ulcer and to all of society's suffering than Dobroliubov did." Thus, Pisarev's essays would be published whether they made a profit or not.

Pavlenkov's publishing career was short-lived. In June 1868, he was brought to trial by the St. Petersburg Censorship Committee for publishing two essays that were part of the second volume of his edition of Pisarev's works. Pavlenkov was found innocent of violating the censorship code at this time, but he was arrested again in 1868, this time for delivering a speech at Pisarev's funeral and for collecting money to establish a memorial fund. For this, he was prohibited from
engaging in any type of publishing activity and exiled to Jaransk, near the Urals. He was not allowed to return to St. Petersburg and publishing until 1877.

Vladimir Onufrievich KOVALEVSKII (1842-1883)

Kovalevskii was a member of Russia's Polish nobility. His father was a mid-ranking government bureaucrat, but his mother was a member of Russia's landed nobility. When she died in 1855, Vladimir and his brother, Aleksandr, acquired her property, an estate in the province of Vitebsk, northeast of Minsk. Kovalevskii received his early education at a private boarding school in St. Petersburg, and at age twelve entered the School of Jurisprudence. Kovalevskii graduated from that school in 1861, and immediately left for Europe. There he met Herzen, and like Blagosvetlov, worked for a short time as a tutor for Herzen's children.

After returning to St. Petersburg in 1863, Kovalevskii became involved in nihilist circles and became active in both publishing and journalism. In 1864, Kovalevskii and Zaitsev organized a publishing company to publish and promote works on the sciences. This company published many works that became reading material for nihilists through the 1860's. Later Kovalevskii, along with Zaitsev, Ia. G. Zhukovskii, A. F. Golovachev, V. V. Iakovev, and A. S. Golitsin, published a bi-monthly newspaper entitled Narodnaia letopis' (The People's Chronicle).
This paper closed soon after it was organized, but Kovalevskii's publishing company functioned for more than a decade.

In 1868, Kovalevskii married Sof'ia Korvin-Krukovskaia, and a few months later, left Russia with his wife to study in Europe. He studied geology and paleontology at the University of Jena, and received a doctoral degree from that university in 1872. Two years later, he returned to Russia to complete work for a master's degree in minerology and geology, a degree he received from St. Petersburg University in 1874. By completing this second degree, a degree which was generally equivalent to a European doctorate, Kovalevskii became qualified to accept a position as professor at a Russian university. He accepted such a position at Moscow University in 1881.

Sof'ia Vasil'evna KOVALEVSKAIA (1850-1891)
née Korvin-Krukovskaia

Kovalevskaia was a member of the provincial nobility. Her father, who served in the army at the rank of lieutenant general, owned an estate in the Minsk area. Kovalevskaia received her early education from a private tutor, who provided her with an unusually broad education because she not only became fluent in several foreign languages, she also developed an absorbing interest in the sciences. In a letter written while living in Switzerland in 1867, she stated that she had "zealously studied natural history all winter," and had recently bought
a microscope and was using it to study animal tissue and plant cells. In a letter written a year later to Vladimir Kovalevskii, she explained that she was studying both chemistry and mathematics, and in a later letter, explained that she was translating Darwin.

Kovalevskaia first came into contact with nihilism during the mid-1860's while she was living on her family estate. There she knew a young student, the son of the parish priest, who was a friend of the family and a frequent visitor. This student, someone she does not name, was majoring in the natural sciences at St. Petersburg University. The first time he came home for vacation, he was, explained Kovalevskaia, a different person, someone her father called a nihilist. Kovalevskaia says that she was also aware at this time of attitudes that were developing among women. There were, she says, many young women who wanted to go to St. Petersburg to study. Because they could not attend the university, they went abroad to study or went to St. Petersburg "to the nihilists."

Kovalevskaia became part of this circle when she went to St. Petersburg in 1868 to continue her studies. The university was closed to women by this time, so she studied independently with I. M. Sechenov, a professor of physiology.

After working with Sechenov for a short time, Kovalevskaia decided to study in Europe, and if possible, complete work for a university degree. Because her parents refused to allow her to go, she
arranged a "fictitious" marriage with the nihilist, Vladimir Kovalevskii. They married in the fall of 1868 and went together to Europe in 1869.

Once in Europe, Kovalevskaia studied at the University of Gottingen. She graduated with a doctoral degree in mathematics in 1874, returned to Russia for a short time, but left Russia again because she could not find suitable employment. She eventually found a teaching position at the University of Stockholm, and in 1883 was named professor there. In 1888, she was awarded the Prix Borodin by the French Academy for her work in mathematics, and in 1890 was elected a member of the Russian Academy of Sciences.

Kovalevskaia's association with nihilism centered in the 1860's around her desire to study. She continued, however, to think of herself as a nihilist throughout most of her life. She was known, for example, as a materialist when she lived in Stockholm. Kovalevskaia described herself as a nihilist, a skeptic, in a letter written in 1883, and in 1884 she wrote a novel entitled Nihilistka (Nihilist), which she published in Geneva in 1892, and attempted to publish in Russia. The Censorship Committee refused to allow this novel to be published because, according to the Committee, it was too sympathetic toward attitudes prevalent during the 1860's.
Aleksandr Onufrievich KOVALEVSKII (1840-1901)

Aleksandr Kovalevskii was a member of Russia's Polish nobility. He, along with his brother, owned an estate in the province of Vitebsk. At age sixteen, Aleksandr entered the Institute of the Corps of Civil Engineers in St. Petersburg. He was educated there until 1859, when he entered St. Petersburg University to study the natural sciences. After studying for a year at the university, Kovalevskii left Russia to study biology at the universities of Heidelberg and Tubingen. He returned to St. Petersburg University, and graduated in 1862. In 1864, Kovalevskii returned to Europe to do research in the field of embryology. He did some of this research in Italy, and while there worked closely with Nozhin. Kovalevskii returned to St. Petersburg University in 1865 to complete work for a master's degree in zoology. Between the years 1868 and 1893, he served as professor of zoology at the universities of Kazan, Kiev, Odessa, and St. Petersburg, and in 1890 was elected a member of the Russian Academy of Sciences.

Kovalevskii, who according to Sof'ia Kovalevskaia was a "strong nihilist," was a member of St. Petersburg's nihilist circles through the 1860's. He did not become involved in journalism or publishing, but he spent much of his time with nihilists who were active in this area, and shared their attitudes and life-style. Kovalevskii, for example, had a civil marriage agreement with a woman whom he later married. At that time, his brother, Vladimir, in offering his
congratulations wrote:

so all of us nihilists are entering into legal unions even though we are opposed to them; circumstances and considerations always force it, and in this case society's pressure is so strong that we are unable to surmount it, and thus we accept a church ceremony.  

Ivan Vasil'evich VEDERNIKOV (no dates available)

Vedernikov was a member of the provincial nobility. In the early 1860's, after graduating from Moscow University, he moved to St. Petersburg to study under the Russian chemist, D. I. Mendeleev. In 1864, Vedernikov and his civil or common law wife, Elena Vasil'evna Gololobova, also a member of the nobility, organized a commune in St. Petersburg. They lived as part of this commune until Vedernikov was caught up in the sweep that followed Karakozov's assassination attempt. Little is known about Vedernikov's activities during his years in St. Petersburg, except that he was arrested in April 1866 for associating with Khudiakov and for "nihilistic propaganda" relating to a free school run by A. K. Evropeus. Vedernikov was part of Khudiakov's circle of friends and Karakozov was connected with Khudiakov, but Vedernikov was not, apparently, a part of Khudiakov's group of revolutionaries, and he did not know Karakozov at all. Vedernikov's ties were close enough, however, for him to be arrested after Karakozov's assassination attempt. He was freed in July and placed under police surveillance, and in 1867 was sent to his native province, Riazan, southeast of Moscow, for an undesignated period of time.
In the 1870's, S. Ia. Elpat'evskii, a medical doctor and populist who worked in the province of Riazan, met Vedernikov and his wife while they were living in Skopin. According to Elpat'evskii, Vedernikov was a representative figure from the 1860's:

He was close to Pisarev and often told me about him, but his views were not settled and in this respect belonged to the circles that grouped around Khudiakov and Nozhin, circles to which the young Mikhailovskii was also closely tied.  

Vedernikov was particularly interested in chemistry and, says Elpat'evskii, would talk at night about the new theories that were being developed in that field, and about the manner in which chemistry and physics augmented each other:

He talked with warm enthusiasm about the things that chemistry would do for mankind in the future, even in the area of solutions to social problems.  

Varvara Aleksandrovna ZAITSEVA (no dates available)

Like her brother, Zaitsev, Zaitseva was a nihilist through the 1860's. Very little else, however, is known about her. She was the daughter of a government bureaucrat who was a member of the "personal" nobility. Nothing is known about her education. She was connected with Zemlia i volia in the early 1860's, and she was tried in 1864 for activities related to that organization, but found innocent. In 1865, she was placed under surveillance by the St. Petersburg police.

Zaitseva's affiliation with nihilist circles is described in a memoir left by Ekaterina Zhukovskaia, wife of Iu. Zhukovskii, a writer.
for *Sovremennik*. According to Zhukovskaia, Zaitseva was a "progressive individual," a "nihilist." The first time Zhukovskaia met Zaitseva, they discussed nihilism, in particular, nihilists' attitudes toward art. Zaitseva did not, explains Zhukovskaia, reject art because art was a fact and one could not reject a fact. She did not, however, look upon art and poetry as others did, because art was not, according to Zaitseva, important in itself. It was only a means to arouse feelings and ideas, and to direct people toward a positive goal. In and of itself, it was not significant.  

Like other nihilist women, Zaitseva had to deal with some of the problems that plagued radical women during the 1860's. After living as part of the St. Petersburg's nihilist circles for several years, her father decided that she should return home. To retain her independence, she turned to the "fictitious" marriage. She married a Prince Golitsyn, and then left Russia for Europe, where she married a medical doctor, Pavl Ivanovich Iakobii.

**Nadezhda Prokof'evna SUSLOVA (1843-1918)**

Suslova, the daughter of a wealthy peasant who owned a factory in the Ivanovo district, an area northeast of Moscow known for the production of textiles, studied at private boarding schools in Moscow and St. Petersburg. In the early 1860's, she was a member of *Zemlia i volia*. In 1865, she was placed under surveillance by the police for
her ties to nihilism. According to Aleksandra Komarova, who knew Suslova well before she left Russia to study in Europe, Suslova thought of herself as a Bazarov type, and her circle of friends was a "gimnaziia nihilizma," a training ground for nihilists. 33

Throughout the 1860's, Suslova was also a student of the sciences. In 1861, she was allowed to attend lectures at the Medical-Surgical Academy. In 1864, the year educational authorities decided to bar women from formal study at all institutions of higher learning, Suslova left St. Petersburg to study medicine at the University of Zurich. She graduated with a doctorate in medicine in 1867.

When Suslova made it clear that she intended to return to Russia, the question arose as to whether or not she should be allowed to practice medicine. According to her critics, a woman did not have the stamina and the mental ability to perform competently in a highly skilled professional area. 34 After much debate, during which Suslova was defended by Blagosvetlov's new journal Delo, her critics' arguments were rejected, and she was allowed to take her qualifying exams and complete her internship. After specializing in obstetrics and gynecology, she became the first woman to be allowed to practice medicine in Russia.

Aleksandra Andreevna KOMAROVA (1842- ? )

Komarova was the daughter of a government bureaucrat, a member of the raznochintsy. She was educated at a boarding school in St.
Petersburg, and soon after graduation became a nihilist. She was part of Suslova's nihilist circle, and like Suslova, decided to enter the Medical-Surgical Academy. While she was preparing to do so, she became involved with a group of Polish students, and in 1863, the year of the Polish Uprising, was arrested, but not prosecuted. In 1865, she was placed under surveillance for her affiliation with nihilism, and in 1866, after Karakozov's assassination attempt, she was arrested because she was a member of Vedernikov's commune and through that commune knew Khudiakov.

By 1866, she had begun to reject her nihilist philosophy and life-style. Her arrest at that time finally led her to abandon nihilism and adopt a more conservative way of thinking. Later she wrote an autobiographical novel, *Odna iz mnogikh. Iz zapisok nigilistki* (One of Many. From the Notes of a Nihilist) (1881), in which she described the thinking that led her to become a nihilist, and the feelings that eventually forced her to reject her nihilistic ideals and radical life-style. This novel, which describes both the 1860's and the development of an individual nihilist, presents an individual response to a popular radical pattern of thought.

Nikolai Sergeevich RUSANOV (1859-1939)

Rusanov came from an old, well-established family that engaged in trade in the area of Orël, southwest of Moscow. Members of this
family were also involved in paper processing and in railway development, although according to Rusanov, his immediate family was not part of this more affluent branch. At age ten, Rusanov entered the Orél Gimnaziia. There he came into contact with nihilism, which came to Orél by way of students returning to that area from St. Petersburg.

During his first years at the gimnaziia, Rusanov considered himself to be a nihilist. He and his friends read illegal and legal works by Vogt, Moleschott, Buckle, Büchner, and Feuerbach; and he says:

we were captivated by Pisarev, who talked to us about the great value of the natural sciences for developing a "thinking realist." We all prepared ourselves to become such thinking realists who wish to live in the name of their own "developed egoism," over-throwing all authorities and making a completely free and happy life. . . .35

After graduating from the Orél Gimnaziia, Rusanov enrolled in the Medical-Surgical Academy. During the 1870's, he was an active populist.

M. A. TIMOFEEV (1854- ? )

Timofeev was a student at the Kursk Gimnaziia in the late 1860's, and while there, was part of a radical circle. The members of this group, says Timofeev, were all "realists, atheists, in those days--the 'nihilists' of the Bazarov type."36 In 1876, Timofeev enrolled as a student in the Faculty of Physical and Mathematical Sciences at St. Petersburg University. After becoming a revolutionary activist, he was arrested and exiled to the province of Kursk, south of Moscow, where his family owned an estate.
NOTES TO APPENDIX A

"K delu N. V. Sokolova" (Redaktsiiia) and "Zashchititel'naia rech' N. V. Sokolova na sude" in Materialy dlia istorii revoliutsionnogo dvizheniia v Rossii v 60-kh gg. Vtoroe prilozhenie k sbornikam "Gosudarstvennyia prestupleniia v Rossii" izdaiushchimsia pod redaktsiei B. Bazilevskogo (Paris, 1905), pp. 196-197 and pp. 197-204.


Ibid., pp. 6-7.

Ibid., pp. 24-25.


L. I. Mechnikov, "M. A. Bakunin v Italii v 1864 godu (Iz vospominanii L. I. Mechnikova)," Istoricheski vestnik, No. 3 (March), 1897, Vol. 67, pp. 818-819.


Ibid., pp. 43-44.


Ballod's essay "Predosterezhenie" is reproduced in P. I. Valeskaln, Revoliutsionnyi demokrat Petr Davydovich Ballod (Riga, 1957), pp. 59-61.


18 Ibid., p. 206.

19 Ibid., p. 208.

20 Ibid., p. 84.

21 Ibid., pp. 83-84.

22 Ibid., p. 391.

23 Ibid., p. 265.

24 Ibid., p. 535.

25 Ibid., p. 233.


30. Ibid., p. 59.


34. *Delo,* No. 1 (January), 1868, pp. 79-82 from the section entitled "Vnutrennee ovozrenie," Also see: *Sankt Peterburgskie vedomosti,* No. 226, August 17, 1867.


APPENDIX B

SOCIOLOGICAL DATA

Tables 4 through 11 were compiled from information presented in Appendix A.

TABLE 4
YEAR OF BIRTH

1824 (2) . . . G. Blagosvetlov, N. Shelgunov
1830 (1) . . . N. Korochkin
1835 (1) . . . N. Sokolov
1839 (2) . . . P. Ballod, F. Pavlenkov
1840 (2) . . . A. Kovalevskii, D. Pisarev
1841 (1) . . . N. Nozhin
1842 (4) . . . A. Komarova, V. Kovalevskii, N. Mikhailovskii, V. Zaitsev
1843 (1) . . . N. Suslova
1844 (1) . . . P. Tkachev
* (2) . . . I. Vedernikov, V. Zaitseva
1850 (1) . . . S. Kovalevskaja
1854 (1) . . . M. Timofeev
1859 (1) . . . N. Rusanov

*These nihilists' birth dates are not known, but as both were in their twenties during the 1860's, both were born during the 1840's.
TABLE 5

SOCIAL ORIGIN

Social origin is based upon father's rank, or mother's rank if an individual became a member of the hereditary nobility through his or her mother's family.

Nobility (13)

Hereditary (11)


service nobility (1) . . . . N. Kurochkin

type unknown (1) . . . . N. Sokolov

Non-hereditary (2)

"personal" nobility (2) . . . V. Zaitsev, V. Zaitseva

Non-Nobility (6)

Priest (2) . . . . . . P. Ballod, G. Blagosvetlov
Bureaucrat (2) . . . . A. Komarova, N. Shelgunov
Merchant (1) . . . . N. Rusanov
Peasant (1) . . . . N. Suslova

Origin Unknown (1) . . M. Timofeev (probably provincial nobility)
TABLE 6

OCCUPATIONS THESE INDIVIDUALS ENGAGED IN
DURING THE 1860'S

Because this table represents a period of ten years, many nihilists appear under more than one heading. Pisarev, for example, was both a student and a writer during these years.

Military officer means those who held a military commission during the 1860's. Student means those who attended any kind of school during this decade. The schools they attended are listed in Table 8.

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Names</th>
</tr>
</thead>
<tbody>
<tr>
<td>Publisher (3)</td>
<td>P. Ballod, V. Kovalevskii, F. Pavlenkov</td>
</tr>
<tr>
<td>University professor (1)</td>
<td>A. Kovalevskii</td>
</tr>
<tr>
<td>Military officer (3)</td>
<td>F. Pavlenkov, N. Shelgunov, N. Sokolov</td>
</tr>
<tr>
<td>Physician (1)</td>
<td>N. Kurochkin</td>
</tr>
<tr>
<td>Government official (1)</td>
<td>V. Kovalevskii</td>
</tr>
<tr>
<td>None known (1)</td>
<td>V. Zeitseva</td>
</tr>
</tbody>
</table>
TABLE 7
GENDER

Women (4) . . . . A. Komarova, S. Kovalevskaia, N. Suslova, V. Zaitseva

## TABLE 8

**EDUCATION CATEGORIZED ACCORDING TO THE MOST ADVANCED SCHOOL ATTENDED**

Nihilists' education is categorized according to the most advanced school or schools each individual attended during or before the 1860's. If an individual attended more than one school, he or she is listed under both. What is known of each individual's early education is included in the biographies in Appendix A.

Universities and professional schools (16)

- **Moscow University** (2) . . . I. Vedernikov, V. Zaitsev
- **West European universities** (5) . . . S. Kovalevskaia, A. Kovalevski, V. Kovalevski, N. Nozhin, N. Suslova
- **Aleksandrov Lyceum** (1) . . . N. Nozhin
- **School of Jurisprudence** (1) . . . V. Kovalevski
- **Medical-Surgical Academy** (4) . . . P. Ballo, G. Blagosvetlov, N. Kurochkin, N. Suslova
- **Institute of Mining** (1) . . . N. Mikhailovski
- **Institute of Forestry** (1) . . . N. Shelgunov
- **Institute of the Corps of Civil Engineers** (1) . . . A. Kovalevski
- **Mikhailov Artillery Academy** (1) . . . F. Pavlenkov
- **General Staff Academy** (1) . . . N. Sokolov

Secondary schools (3)

- **Girls' boarding school** (1) . . . A. Komarova
- **Gimnazija** (2) . . . M. Timofeev, N. Rusanov

Unknown (1) . . . V. Zaitseva
TABLE 9

EDUCATION CATEGORIZED ACCORDING TO AREAS OF SPECIALIZATION

Nihilists' education received during or before the 1860's is categorized according to areas of specialization. If an individual had advanced training in more than one area, he or she is listed under both.

**Sciences (13)**
- natural sciences (1) ... P. Ballod
- biology (2) ... A. Kovalevskii, N. Nozhin
- chemistry (1) ... I. Vedernikov
- geology (1) ... V. Kovalevskii
- mathematics (1) ... S. Kovalevskaia
- forestry (1) ... N. Shelgunov
- mining (1) ... N. Mikhailovskii
- engineering (2) ... A. Kovalevskii, F. Pavlenkov
- medicine (5) ... P. Ballod, G. Blagovestlov, N. Kurochkin, N. Suslova, V. Zaitsev

**Law (4)** ... G. Blagovestlov, V. Kovalevskii, P. Tkachev, V. Zaitsev

**Languages and Literature (1)** ... D. Pisarev

**Officer's Training (2)** ... F. Pavlenkov, N. Sokolov

**Girls' Boarding School (1)** ... A. Komarova (Komarova intended to study medicine)

**Gimnaziia (2)** ... M. Timofeev, N. Rusanov (During the 1870's Timofeev studied the physical and mathematical sciences at St. Petersburg University; Rusanov studied medicine at the Medical-Surgical Academy)

**Unknown (1)** ... V. Zaitseva
### TABLE 10

**CONTACT WITH WESTERN EUROPE**

This list contains the nihilists who had contact with Western Europe through either travel or education during the 1860's.

- **Education (6)**: S. Kovalevskaia, A. Kovalevskii, V. Kovalevskii, N. Nozhin, N. Shelgunov, N. Suslova

- **Travel (3)**: G. Blagovetlov, N. Kurochkin, N. Sokolov
### TABLE 11

**THE NIHILISTS' SURVEILLANCE AND ARREST RECORD THROUGH THE 1860'S**

From the twenty nihilists, fourteen found themselves under some form of police control.

- **Under surveillance (6)**: A. Komarova, N. Nozhin, P. Tkachev, I. Vedernikov, V. Zaitsev, V. Zaitseva

- **Arrested (9)**: G. Blagosvetlov, A. Komarova, N. Kurochkin, N. Mikhailovskii, P. Tkachev, N. Shelgunov, N. Sokolov, V. Zaitsev, V. Zaitseva

- **Imprisoned (3)**: D. Pisarev (1862-1866), N. Sokolov (1867-1868), P. Tkachev

- **Exiled (6)**: P. Ballod (1862-1908), F. Pavlenkov (1866-1877), N. Shelgunov (1864-1877), N. Sokolov (1866-escaped 1872), P. Tkachev (1873-escaped 1873), I. Vedernikov (1867-? )
APPENDIX C

THE INTERRELATIONSHIPS DISCUSSED IN CHAPTERS III THROUGH VII DIAGRAMMED
III. A SOCIAL ANALYSIS OF PISAREVIAN NIHILISTS

A SOCIAL ANALYSIS OF PISAREVIAN NIHILISTS

APPENDIX A

BIOGRAPHIES TO CORROBORATE PISAREVIAN NIHILIST AFFILIATION TO PLACE NIHILISM IN ITS SOCIAL CONTEXT

THE NIHILISTS' SOCIAL BACKGROUNDS - TO DETERMINE WHICH FACTORS RELATE TO BECOMING NIHILISTS NOT ALL PEOPLE GIVEN THE APPEAL "NIHILIST * WERE INCLUDED ONLY THOSE FOR WHOM CORROBORATIVE INFORMATION HAS CLEARLY MET THE CRITERIA FOR BEING PISAREVIAN NIHILISTS TO OBTAIN THE RETIRED CORROBORATIVE INFORMATION, BIOGRAPHIES WERE STUDIED. THESE BIOGRAPHIES ARE CONTAINED IN APPENDIX A. THE SOCIOLOGICAL DATA TABULATED IN APPENDIX B GREW OUT OF THIS EXAMINATION.

APPENDIX B

SPECIFIC SOCIAL FACTORS HERE FOUND TO BE CORROBORATIVE WITH PISAREVIAN NIHILISM

SOCIAL FACTORS FOUND PRIOR TO CONTACT WITH WESTERN EUROPE AND RELATED TO THE NIHILIST'S ENVIRONMENT CHANGED PRIOR TO 1862; MANY OF THESE CHANGES REVOLVED AROUND SCIENCE. SEVERAL RELATED DEVELOPMENTS PARALLELLED THE GROWTH OF THIS INTEREST.
IV THE GROWING INTEREST IN SCIENCE
WITHIN THE NIHILISTS' SOCIAL MILIEU

The nihilists' environment changed prior to 1862, many of the changes revolved around science. During the period prior to 1862, the educated elite became more interested in the sciences. Being in this environment, early nihilists also became interested in the sciences. This growing interest characterized the student population.

Several related developments paralleled the growth of this interest. Radical spokesmen promoted materialism. The government promoted science. Science itself grew during this period.

During their formative years, nihilists experienced an environment in which the government promoted science, radicals promoted materialism, and the educated elite became more interested in the sciences. Science itself was developing rapidly, and students showed an increasing interest in these developments. These formed a social basis for the development of their ideas.

V NIHILISTS' USE OF SCIENCE

VI SCIENCE AS A PE

VII NIHILISM: A
VII NIHILISM: A RADICAL SOCIAL MOVEMENT GROUNDED IN SCIENCE
BIBLIOGRAPHY
This bibliography is divided into six sections: The 1860's, Nihilism, Nihilists (Biographical Material), Science, Sociology of Knowledge, and Bibliographical Material.

The 1860's


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**Grigori Evlamnievich BLAGOSVETLOV**


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Sof'ia Vasil'evna KOVALEVSKAIA, née Korvin-Krukovskaya


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Aleksandr Onufrievich KOVALEVSKII


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Vladimir Onufrievich KOVALEVSKII


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