RUSSIA'S REVOLUTIONARY UNDERGROUND:
THE CONSTRUCTION OF THE MOSCOW SUBWAY, 1931-35

DISSERTATION

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

By

William K. Wolf, B.A., M.A.

* * * * *

The Ohio State University

1994

Dissertation Committee:                           Approved by
Allan K. Wildman                                Adviser
Eve Levin                                      Department of History
John A. Rothney
VITA

July 23, 1958 . . . . . . Born - Chateauroux, France

1982 . . . . . . . . . . . . B.A., Ohio State University, Columbus, Ohio

1987 . . . . . . . . . . . . M.A., Ohio State University

FIELDS OF STUDY

Major Field: History
TABLE OF CONTENTS

VITA .............................................................. ii
INTRODUCTION ............................................... 1
CHAPTER I  The Moscow Subway Debate .................... 14
CHAPTER II Start of Construction and Its Problems ...... 54
CHAPTER III Komsomol Recruitment to Metrostroii ....... 117
CHAPTER IV Komsomoltsy and the "New Regime" .......... 170
CHAPTER V The Pursuit of Bolshevik Tempo and Its
            Consequences ......................................... 238
CHAPTER VI Frantic Finish and a Grand Opening .......... 298
CONCLUSION ..................................................... 352
POSTSCRIPT ...................................................... 358
BIBLIOGRAPHY .................................................. 371
INTRODUCTION

Beyond simply meeting the transport needs of Muscovites, the lavishly ornate Moscow subway served for more than half a century as a showcase of Soviet socialism. From its opening in 1935 the Moscow Metropolitan (or "Metro," as it is popularly known) by virtue of its beauty and comfort was proclaimed to be the "world's best subway," superior to the comparatively dismal subways of the capitalist West. Akin to underground palaces, the Metro's spacious stations are replete with marble-clad columns, electric light chandeliers, colorful tile mosaics and a multitude of other forms of lavish decoration. Highlighting the Metro's beauty and comfort, the Soviet government pointed to the Metro as tangible proof of socialism's commitment to the welfare of the masses. Moreover, Soviet citizens were encouraged to believe that as beautiful and comfortable as the Moscow Metro was, so too would their lives be once communism was achieved in the USSR. The Metro became, in effect, a Soviet icon.

Although the Metro is widely known for its beauty and efficiency, the story of its creation has remained obscure, clouded by base rumor and exaggerated praise. This
dissertation is meant to remedy this situation by providing a balanced historical portrait of this remarkable transportation system. I originally planned this study as a analysis of how and why the Metro was used to promote socialism, but in the course of my research I discovered to my surprise that the construction of the Metro's first line was a fascinating story in and of itself. In the end, I decided to shift my focus from why to how the Metro was built. Despite this shift in emphasis, the dissertation does contain a discussion of the protracted debate over whether or not to build a subway in Moscow, and it ends with a brief analysis of how the Metro was used to promote socialism. This dissertation does not, however, constitute a cultural history of the Moscow subway, nor does it deal in a comprehensive or sophisticated manner with the architecture or decorative art of the Metro.

The specific focus of this dissertation is the construction of the first line of the Metro (now known as the "Red Line") which was built between 1931 and 1935. For this reason, this work constitutes a case study in the Soviet industrialization process. Although in size and importance the Metro was similar to other giant projects such as Dneprostroy, the Stalingrad Tractor Factory, and Magnitostroii, the Metro was not typical of other stroiki in that it was built primarily without foreign expertise and machinery. Work on the Metro was started in late 1931, two
or more years later than most of the other stroiki, by which time the Soviet Union had exhausted its hard currency reserves through wholesale purchases of foreign technology. Dire financial straits, therefore, forced the Soviets to build the subway largely with their own resources, using their own wits.

Given the circumstances, the Soviets could have been forgiven for delaying the construction of the Metro. In 1931 labor and building materials in the USSR were in extremely short supply. Construction machinery was nearly impossible to obtain. Worst of all, Soviet expertise in subway construction was virtually non-existent. Despite their unpreparedness, however, the Soviets, on their own, set out to build a subway anyway. And as if this were not already challenge enough, the Soviets brashly resolved to make their Metro the best subway in the world and to build it in record time! Such ambitions were the height of audacity. In effect, the Soviets were putting into practice S.M. Kirov's boast, "Technically it may be impossible, but we will do it in a Bolshevik manner."¹

In essence, the construction of the Metro was much like the Soviet collectivization of agriculture: it was begun without the necessary groundwork being laid and was implemented at a whirlwind pace. Given their unpreparedness, one can argue that only the Stalinists would have undertaken to build a subway in Russia in 1931 and
ultimately have succeeded just a few short years later. In this sense I agree completely with the observations of S.A. Sokolin, one of the men who directed the Metro's construction:

Under different conditions, in a different country I think it would have been impossible to accomplish such a big job with people lacking expertise, with people unfamiliar with the work, with people who had never seen a subway. This could have been accomplished only by us.²

Whether or not it made sense to try to build a subway under these conditions, of course, is a different matter. In any event, the end result of the Soviets' engineering audacity was arguably the "world's best Metro," a wonder to behold even more than half a century after its completion. These dazzling results, however, were achieved at an appalling cost: fantastic sums of money spent, labor allocations on a Pharoanic scale, great destruction to buildings along the subway route, widespread injury and sickness among Metro workers, and a tremendous waste of effort due to an overly hasty work schedule.

In short, the whole affair reminds one of the Soviet struggle during the Second World War. Ultimately the Soviets achieved a brilliant victory, but at a staggering price. This dissertation explains how the Soviets, starting from scratch in 1931, managed to attain the great victory that the opening of the Metro in 1935 represented. It also details the costs.
Historiography of the Moscow Metro

In the English language there is no scholarly article or monograph devoted to the history of the Moscow Metro. This is not surprising given the paucity of historical studies on the giant construction projects of the Soviet industrialization period. Recent scholarship on this era has focused on labor, social, and cultural histories, rather than studies of how individual projects were conceived and then realized.\(^3\) The one notable exception to this rule in monograph form is a history of the Dniepr Dam project.\(^4\) In addition, a very few published articles exist on the stroiki as well.\(^5\) Also there is one unpublished dissertation focusing on an individual stroika.\(^6\)

The most detailed information in English on the history of the Moscow Metro can be found in popular biographies of the Soviet leaders Nikita Khrushchev and Lazar Kaganovich, both of whom were intimately involved in the construction of the first line of the subway. These biographies typically devote a chapter or less to the subject of the Metro, emphasizing negative aspects of the project such as the use of forced labor or the high incidence of fatalities in tunnelling accidents. Although there is some truth to such accounts, they are based primarily on rumor and innuendo, not verifiable sources. Such works are largely anti-Soviet
polemics, relics of the Cold War era when it was fashionable in the West to condemn all things Soviet.\textsuperscript{7}

In contrast to the English language materials, literature on the history of the Moscow Metro in the Russian language is abundant. Despite the great number of works in Russian on the Metro, however, very little of scholarly value has been written. For example, no critical history of Metrostroi exists in Russian. What predominates instead are popular histories of a highly laudatory nature, short on detail and documentation.\textsuperscript{8} The numerous memoir accounts are more interesting but no less marred by the effects of censorship.\textsuperscript{9} Only one ostensibly scholarly work on the history of Metrostroi exists and it, unfortunately, was published in 1953 when Soviet censorship was at its very height.\textsuperscript{10}

There is, however, a ray of light in this otherwise gloomy picture of Soviet literature concerning the Moscow Metro: the two-volume official history of the Metro published simultaneously with the subway’s opening in 1935.\textsuperscript{11} These books contain dozens of personal accounts of Metrostroi administrators, engineers, and shock workers regarding their experiences at the subway project. Apparently because of the great haste to get these volumes into print at the same time the subway opened, they were subject to a very relaxed standard of censorship. As a result, they are much more revealing than would have been
the case had they been "properly" censored. When read carefully, they provide valuable source material.

Despite the opportunity for independent scholarly research which has resulted after the fall of communism in Russia, thus far Russian historians have failed to write a balanced history of the Moscow subway. In 1987, however, a fictionalized account of Metrostroii in the 1930s appeared. Written by a Metrostroii veteran, the novel qualifies as historical fiction and provides important insights into the history of Metrostroii. But it is no substitute for scholarly historical analysis.

There is a substantial, but by no means exhaustive literature on the history of the subways of the world. Although this dissertation is informed by these works, it is not, in general, a comparative study of the Moscow Metro with other underground rail systems in existence by 1935. At those times, however, where I feel that it is appropriate to compare the Moscow Metro to other subways (as in the case of my discussion of the notion that the Moscow subway is the "world's best"), I have generally confined this comparison to the New York subway system alone. I have done this for the sake of simplification and because both New York and Moscow's subway system have legitimate claims to the title, "world's best."
Dissertation Summary

The first chapter discusses the span of thirty years from the first proposal for a Moscow subway to the decision to build the Metro in 1931. It concentrates on the period 1928 to 1931 when there was a fierce debate regarding the subway. Mass transportation gridlock led to the decision in 1928 to build a subway in Moscow. These plans, however, were scuttled due to popular opposition and machinations by the Stalinist faction of the Party leadership. Further dooming subway prospects in Moscow was the ascendance of so-called antiurbanists, utopian socialist city planners who called for the city's depopulation, even abandonment. Furthermore, the antiurbanists insisted that subways were inherently "anti-socialist" since they were crowded, uncomfortable, and based on the economic exploitation of the working class. Only in 1931 were the antiurbanists decisively defeated by the Stalinist leadership (which now enjoyed a monopoly of power in the USSR). The Stalinists not only rejected antiurbanism, they resolved to renovate Moscow with a monumental building program, the centerpiece of which was the Moscow subway. Sensitive to antiurbanist criticisms of subways, the Stalinists proposed to build a truly socialist subway, "the world's best Metro." Approval for the construction of the Metro was given in June 1931.
Chapter Two describes the first year and a half of construction, a period of characterized by futile digging and wasted effort. This deplorable situation resulted from the project's unrealistically fast timetable which did not allow for proper planning before construction began. Only making matters worse was the politicized atmosphere of technical conferences at Metrostroii and the frequent interference of Party officials in the details of construction. During this period the project switched from a shallow tunnel system which had proven extremely problematic, to a deep tunnel system which subsequently proved even more difficult to build. Only in the spring of 1933 did Metrostroii start making real progress: it finally adopted a workable plan of construction, a combination of deep and shallow tunnels; it solved the problem of boring vertical shafts through deep layers of quicksand in order to reach deep tunnelling depth; and it appointed a new deputy director who proved to be a real boon to the enterprise.

The third chapter describes the recruitment of Young Communists (komsomoltsy) to Metrostroii. Contrary to stereotypical portrayals, the komsomoltsy are shown to have been a highly diverse group. Most refused to volunteer to work on the subway project, and many others fled Metrostroii shortly after arriving there. Those who did stay often did so for personal rather than ideological reasons. All this contradicts the prevailing image of the komsomoltsy as
enthusiastic and unflinching idealists dedicated to the building of Soviet socialism. The story of how female komsomoltsy were recruited to Metrostroii and eventually became an integral part of the workforce, despite the prevailing atmosphere of male chauvinism there, is also outlined.

How the komsomoltsy contributed to the successful completion of the Metro is the subject of Chapter Four. The komsomoltsy did this in a number of ways. They helped increase labor productivity through a rationalization of the work process. They were generally willing to work overtime to ensure that the plan was fulfilled. They allowed themselves to be subject to 24-hour call and participation in emergency brigades. They took part in special assignments as, for example, an expedition to the Far North to collect lumber for Metrostroii. In addition to all this, they participated in cultural work among the Metrostroii workforce. The campaign against swearing, for example, is described in some detail.

The fifth chapter is devoted to the theme of tempo: specifically the fast pace at which work was meant to be conducted at Metrostroii. It first discusses why such a fast tempo was called for when comparable Soviet projects at the same time benefited by more relaxed schedules. Secondly, it explains that an accelerated work pace was obtained largely through the dramatic expansion of the Metrostroii work force,
as well as by employing ostensibly volunteer (subbotnik) labor on a massive scale. Finally, the unforeseen and negative consequences of working at such a breakneck pace are described. Not surprisingly, the quality of work suffered greatly as a result of the accelerated work schedule. Also, the damage to roads and buildings along the subway route is outlined, and the incidence of accidents involving injury and loss of life is covered in some detail.

The final chapter discusses the last stages of work at Metrostroy and emphasizes the hurried nature of that work. The crucial decoration of the Metro's stations is discussed, as is the remarkably resourceful manner in which the Soviets designed and built the escalators used in the Metro. Also described is the festive manner in which the Metro was opened to the public. Finally, the ideological significance of the Metro is discussed. Here it is shown that the Metro was used by the Soviet government to demonstrate the superiority of socialism over capitalism as well as to provide an inspirational glimpse of the socialist future.

Following a brief conclusion, a postscript chronicles some of the more important developments of the Moscow Metro after 1935. The discussion covers the entire sixty-year period to the present day and ends with speculation about the Metro's uncertain future in post-communist Russia.

2. Conversation with Comrade Sokolin, Director of Work, 2nd Distantsiia, 20 November 1934, TsGAOR SSSR, f. 7952, op. 7, d. 308, l. 113.


10. V.E. Poletaev, "Iz istorii stroitel'stva pervoi ocheredi Moskovskogo metropolitena," *Istoricheskie zapiski* 42 (1953), 19-44.


12. Sergei Antonov, "Vas’ka," *Iunost*, 1987, 3:5-45 and 4:68-87. This story was made into a movie of the same name.

CHAPTER I
The Moscow Subway Debate

Given the practical as well as ideological importance of the Moscow Metro in Soviet history, some may find it surprising that the decision to build a subway in Moscow was extremely controversial and reached only after years of hesitations and bitter dispute. In fact, the Moscow subway "debate" dragged on for nearly thirty years from 1902 to 1931, evenly straddling 1917, Russia's revolutionary divide. In the interim, the subway project experienced two false starts. In the pre-revolutionary period, just as the subway project started to receive serious consideration, World War One broke out, ending discussion of the project. After the Russian revolutions of 1917 and the subsequent Civil War, it was several years before the Soviet economy had recovered sufficiently for talk of building a Moscow subway to be revived. Then, in 1928, shortly after approval for a Moscow subway was given and start of construction was imminent, the project was suddenly postponed. The Moscow Metro remained in limbo for another three years before definitive approval for it was finally given in mid-1931.
Perhaps the most interesting (certainly the most intense) phase of the Moscow subway debate was precisely this three-year period from 1928 to 1931. This was a crucial time in Soviet history, when three noteworthy developments occurred simultaneously: the beginning of the great industrialization drive, Josef Stalin's consolidation of power, and the so-called Cultural Revolution, when radical socialists briefly enjoyed official Soviet favor as they never had before or since. All of these developments had a direct and important impact on the course of the subway debate. Of course, more mundane factors like the breakdown in public transport in Moscow by the late 1920s also played a significant role in the subway debate. But overall, political and ideological factors seem to have outweighed more practical considerations in the timing of the final approval of the Moscow subway project.

Ultimately, the subway debate was part of a larger urban planning controversy in Soviet Russia during the late 1920s and early 1930s—the question of how Moscow should be transformed to reflect the fact that it had become a "socialist city." Both opponents and advocates of the Moscow subway argued their positions based on what they felt was the proper way to build socialism in the urban context. In the final analysis, subway advocates prevailed, and their victory signalled the defeat of a more idealistic, perhaps even utopian branch of socialism within the USSR. Hence the
Irony of the Moscow subway: although built as a monument to the bright socialist future, in many ways the subway's very existence serves as a reminder of the defeat of socialist idealism in Soviet Russia.

The first proposal for a Moscow subway was made in 1902 by the Russian engineer P.I. Balinsky.¹ In his address to the Moscow city council, Balinsky appealed to his listeners' national pride by pointing out that of all the world's cities with a population over one million, only five did not have high-speed rail public transport systems. "As a patriot," he continued, "I have to say with sadness that these cities are St. Petersburg, Moscow, and three Chinese cities."² Balinsky went on to discuss in detail how Moscow would benefit by his privately-operated rail system, but ultimately the city council rejected his proposal. Soviet sources darkly note that Balinsky represented "American capital" and explain his failure in part by pointing to the objection of Russian Orthodox Church officials in Moscow. The latter, we are told, were convinced that subways were the work of the Antichrist and were horrified at the prospect of tunnels being dug underneath their churches. Clerical opposition, the story continues, helped sway the opinion of the city council against the project.³

The official city council account of Balinsky's proposal, however, makes no mention of objections based on
religious grounds. Instead, it indicates that Balinsky's project was rejected for a whole host of reasons: its projected route was said to include only highly-profitable lines, leaving less-profitable areas unserved by high-speed transport; it made no provision for the expansion of service as the city continued to grow; it could be expected to have a detrimental impact on the city's appearance; and finally, and most importantly, a subway for Moscow was deemed premature since an electric streetcar network was only just on the verge of being put into place (it began operation the following year), and this trolley system was projected to be adequate for the city's public transport needs.\textsuperscript{4}

Despite this setback, in 1912 talk of building a subway in Moscow was revived. In response to the city's growing congestion, an expert commission had advised the city council that a subway was needed. Unlike it had done a decade earlier, however, this time the council did not reject the subway proposal outright, suggesting instead that further study was needed. Indeed, 50,000 rubles were allocated for this purpose, indicating that the city council was beginning to take the notion of a Moscow subway seriously.\textsuperscript{5}

All discussion of subway construction, however, was postponed starting in 1914 when the First World War broke out. War in Russia, of course, led to revolution and revolution, in turn, was followed by civil war. By the time
the fighting finally ended in 1921, the newly socialist Soviet Russia had been thoroughly ravaged and its economy was in a state of collapse. In the meantime, Soviet cities had become depopulated due to widespread hunger and disease. Many city dwellers were former peasants who maintained ties to their native villages. Facing possible starvation in the cities, many chose to return to those villages since food was generally more plentiful there. Moscow, for example, lost nearly half its prewar population between 1918 and 1921. This depopulation, in turn, reduced congestion on Moscow's public transport system, virtually eliminating the need for a subway for the time being.

After 1921, however, the order of the day was to restore the wrecked Soviet Russian economy. This was done largely through the partial revival of capitalism. This "New Economic Policy" was so effective that by the late 1920s most of Russian industry and agriculture had been restored to pre-war production levels. In conjunction with this economic revival, people returned to the cities. Once again overcrowding became a problem on Moscow's public transport, and by late 1924 talk of building a subway in the city resumed. In January of the following year a subway planning department was created within the Moscow City Rail trust (MGZhD), the city's public transit agency. Serving as deputy director of the subway department was S.N. Rozanov, the nation's only subway expert. A Russian
engineer, Rozanov had emigrated to Paris in the wake of the 1917 revolution and for seven years was engaged there in subway construction. Although Rozanov's expertise was unquestioned, his bourgeois background and lack of membership in the Communist Party made him suspect in the eyes of Soviet authorities.

By 1926, two separate draft plans for a Moscow subway had been completed. The first, largely the fruit of Rozanov's labor, called for a system built entirely underground, with three lines radiating out from the city center. Like the Paris Metro, the system was to be built by tunnelling just a few feet below the surface of the city's streets. The second plan had been developed by the German construction firm Siemens Bau-Union, expressly hired by the Soviets for this purpose. The German plan was based on principles employed in the building of the Berlin subway, in particular, the "open-cut" method of tunnel construction: burrowing underground would be avoided altogether by digging deep trenches and then covering them once they had been concreted and roofed.

Despite the completion of these plans, preliminary approval for a Moscow subway did not come until late 1927. At the time no decision was made as to which of the two draft projects to adopt, but it was decided to build the subway sometime within the next five years. Apparently the Moscow City Council was ready to allow Siemens to build
the subway, but only if the German firm were prepared to offer favorable credit terms. Failing this, the council intended to build the subway in accordance with Rozanov's plan and it had tentatively created an all-Soviet joint-stock company to finance the enterprise.\textsuperscript{12}

Despite the fact that a year later still no decision had been made as to which of the two projects to adopt, a member of the Moscow City Council Presidium (the council's executive board) publicly announced that subway construction would begin the following spring (i.e., early 1929).\textsuperscript{13}

Rather than greeting this announcement with enthusiasm, however, many Muscovites publicly protested it. They expressed anger with the City Council for deciding to build the subway without first allowing public discussion of the issue and they argued that the 55 million rubles allocated to the subway project would be better spent elsewhere in the city, in particular, on desperately needed housing improvements. As inadequate as Moscow's public transport system was, Moscow's housing situation was arguably even worse. Not only was there a severe housing shortage in the city, existing structures were typically in a bad state of repair after more than a decade of socialist upkeep.\textsuperscript{14}

Furthermore, many lacked even the most basic amenities. 58 percent of all inhabited buildings in Moscow, for example, were without running water.\textsuperscript{15} The protesters asked if the construction of the subway could not be deferred a few years
until much-needed housing improvements could be made. And they wondered if it would not be less expensive in the short-run simply to improve the existing streetcar system rather than constructing a subway. Building a subway in Moscow in 1929, they argued, was as absurd as buying a silk top hat for a man without trousers.\textsuperscript{16}

Just how genuine and widespread such public opposition was remains an open question because it was reported solely by the Workers' and Peasants' Inspectorate (popularly known as Rabkrin), the Communist Party's watchdog agency. In fact Rabkrin not only publicized these complaints, it angrily demanded that the city council explain why it had failed to "consult with workers" on such an important issue. On the surface, it would appear that Rabkrin was simply championing the cause of ordinary citizens in the face of high-handed city council behavior. But one should also bear in mind that in 1928 Rabkrin was firmly in the hands of Stalin supporters and the agency was often used to discredit Party leaders who disagreed with Stalin's views.\textsuperscript{17} In 1928 Stalin and his allies were most active in their attacks on the so-called Right Opposition, headed by Nikolai Bukharin.\textsuperscript{18} The Right was particularly strong in the city of Moscow and it was precisely in November that the Stalinists managed to discredit and replace most of the leading Rightists within the Moscow City Party organization.\textsuperscript{19} Coming at precisely the same time, it seems
likely that Rabkrin's criticisms of the city council were an integral part of this power struggle.

Whatever the motive for Rabkrin's criticisms, it took the City Council Presidium nearly three weeks to respond and when it did, it was clearly on the defensive, engaging in damage control. The Presidium denied that any firm decision to build the subway had been taken, claiming that the project was only under consideration. Moreover, the Presidium maintained that it fully supported the idea of worker involvement in the subway question and it promised to consult fully with workers' committees before any final decisions were made.²⁰

This statement was clearly fraudulent. The Presidium made no attempt to explain the discrepancy between its earlier announcement of the impending start of subway construction and its subsequent denial that it had approved the subway project. Contributing to the Presidium's lack of credibility was its professed neutrality on the subway issue, contradicting the spirit of much of its public statement describing how badly Moscow needed a subway.²¹ Apparently the Presidium dropped its support for the subway because it lacked the stomach for a fight with Rabkrin. By backing down on the subway issue, Presidium members probably hoped to avoid the fate of the recently sacked Moscow Party leaders.
Surprisingly, Rabkrin's response was equivocal. On the one hand, it questioned the Presidium's contradictory statements. On the other hand, however, it declined to pursue the matter further, declaring its investigation closed. Rabkrin justified this by citing the Presidium's promise to allow worker discussion of the subway issue before any definite decision were taken. The upshot of the whole affair was that plans for a Moscow subway were indefinitely delayed. Although plans for a subway in Moscow continued to be worked on and discussed, the start of construction was always projected to be sometime in the distant future.

It is natural to wonder why Rabkrin did not choose to use the subway issue to completely discredit and replace the City Council. One can only speculate, but plausible explanations are not difficult to find. First of all, it may be that there was no need to replace City Council members as long as they were compliant to the wishes of the Stalinist leadership. Clearly, the chastened Council's renunciation of the subway project in December 1928 demonstrated such compliance. Secondly, the Stalinists themselves may not yet have wanted the Moscow Soviet purged of Rightists. In order to promote the idea that their leadership was reasonable and moderate, the Stalinists deliberately attacked only a limited number of opponents at a time. For example, at the height of attacks on Rightists
in the Moscow City Party organization in the fall of 1928, Stalin publicly maintained the fiction that there were no Rightists on the Politburo. This tactic both made Stalin appear less extreme and contributed to the atomization of the opposition. Finally, it may be that the Stalinists attached the greatest importance in this affair to the postponement of the subway project, rather than the replacement of City Council members. After all, the subway project required a huge financial investment, money that the Stalinists argued would be better spent on more essential items like the construction of new factories. With their stress on building up heavy industry, Stalinists naturally took a skeptical attitude toward investments in consumer industries or urban infrastructure, unlike Rightists who favored improvements in just these sectors.

But what of the role of public opinion in the postponement of subway construction? Even if Rabkrin were pursuing its own (Stalinist) political agenda in publicizing popular opposition to the subway, this does not necessarily mean that this opposition was any less real or widespread, especially given the legitimacy of the complaints of the subway protesters. Rather than fabricating opposition to the subway, it is likely that Rabkrin capitalized on genuine public dissatisfaction by channeling it in directions which suited its own needs. In this limited sense, public opinion
still mattered in 1928 with regard to the Moscow subway project.

Such manipulation of popular sentiment, in fact, is consistent with the general trend in the USSR at this time: the Stalin leadership’s mobilization of elements within society (especially workers, Young Communists, and radical socialist intellectuals) to discredit the Right Opposition and implement Stalinist policies. In pursuit of this end, a brief "Cultural Revolution" was unleashed from 1928 to 1931. This was a time when the most radical (at times even utopian) socialists enjoyed unprecedented favor in high Party circles. These extremist socialists exerted enormous influence even in the field of urban planning and eventually became intimately involved in the Moscow subway debate.²⁶

This occurred because the fate of the Moscow subway became entwined with plans for the socialist transformation of Moscow. While it is not surprising that socialist urban planners felt that cities under socialism should differ from their capitalist counterparts, it is remarkable that many of them came to the conclusion that big cities were by nature anti-socialist and thus should be abandoned or even destroyed. Such thinkers, or antiurbanists, rose to prominence during the Cultural Revolution and it was their vision of a deliberately depopulated Moscow which held sway in the Soviet capital.²⁷
One such Soviet antiurbanist, Moisei Ginzburg, the head of Gosplan's Section for Population Resettlement in the late 1920's, explained his dislike for big cities as follows:

When a man is sick, he is given medicine, but prevention is better than cure...When a city is in bad shape...noise, dust, lack of light, air, sun, etc...it is necessary to administer medicine: a summer cottage, a health resort, a vacation in a green city. This is the medicine...This dual system of poison and antidote is precisely the capitalist system of contradiction. It should be compared with the socialist system of prophylactics, a system requiring the destruction of the city...and the resettlement of mankind in a way that solves the problem of labor, rest, and culture as a single continuous process of socialist living.28

As radical as Ginzburg's ideas sound, however, they were similar to urban planning theories then being proposed in the West. In particular they resemble (and may even have been inspired by) the American Lewis Mumford's schemes to depopulate big cities and create clusters of medium-sized cities (20,000 to 30,000 people) in their place.29

Whatever the genesis of their ideas, the ranks of the antiurbanists were riven by divergent visions of the ideal socialist community. This disunity helps explain the inability of the antiurbanists to produce a plan for the socialist transformation of Moscow which was officially approved, much less implemented. Despite this failure, however, antiurbanist thinking did enjoy official support from 1928 to 1931 and during this period, the idea of building a subway in Moscow was even further discredited. After all, what was the purpose of building a subway in a
city which was soon to be consigned to the ashbin of history?

After 1928, then, when the antiurbanist influence in Soviet Russia became paramount, subway planners in Moscow faced two difficulties: first, the handicap of having popular opinion opposed to a subway because it was viewed as an unnecessary luxury the city could ill-afford; secondly, the absurdity of developing subway plans for a doomed city.

Ironically, while the antiurbanists plotted Moscow's demise, the city displayed remarkable vitality. In accordance with the Soviet industrialization drive, hundreds of factories and mills were being built, many of which were sited in or near the city of Moscow. Although living and working conditions at these construction sites were grim, they often compared favorably with conditions in the countryside. As a result, peasants flocked to Moscow in the hope of finding the better life that factory jobs promised. Antiurbanist plans notwithstanding, the population of Moscow grew at fantastic rates: from 2.0 million in 1926 to 2.8 million by 1931.30

Such astounding growth only put more pressure on Moscow's already overburdened streetcar system. Official statistics from mid-1929 place ridership on trams typically at 150% of recommended capacity, with an average of 10 personal injuries registered each day due to the overcrowding.31 Victims often had limbs severed when they
fell under the cars after slipping off running boards. Reports of the serious injury, even death, of tram riders became an everyday occurrence.\textsuperscript{32}

Overcrowding became so severe that the streetcars often could not be boarded. A contemporary wit remarked that he had seen a tramcar that he was certain was "full-up" because "when one man pushed his way onto the rear entry step, two people fell off the front exit platform."\textsuperscript{33} Not only were these overfull streetcars difficult to get into, they were often next to impossible to exit when the desired stop had been reached. Under the circumstances, many avoided the trams altogether, instead walking daily several miles to and from their workplaces. As a result, even sidewalks became hopelessly overcrowded downtown. Whether walking or riding, it was not uncommon for Muscovites to daily endure a four hour commute.\textsuperscript{34}

Well aware of these problems, those in charge of Moscow's tram system tried to compensate for the city's rising population—but to no effect. New cars were added to existing routes, but with Moscow's radial road grid, this only increased congestion at the "hub," or city center, where most routes converged. Paradoxically, while tramcar gridlock became an everyday occurrence downtown, away from the city center streets were virtually bereft of vehicular transportation.\textsuperscript{35} Private cabs (usually horse-drawn) and motorized taxis were a rarity since private operators had
largely been forced out of business through overtaxation and confiscation by the socialist government.\textsuperscript{36} Even buses were almost non-existent. Some pointed to the bus as the solution to Moscow's transport problem, and several times plans to acquire huge bus fleets for the city were announced. But such plans were never implemented. For example, in August 1929 plans to purchase 2000 Ford buses for Moscow were made public,\textsuperscript{37} but a year later it was reported that the city's bus fleet consisted of a mere 177 vehicles, with only 129 currently in use.\textsuperscript{38} Even keeping this small number running was a challenge since there had been 150 reported bus accidents the previous month.\textsuperscript{39} Apparently plans to purchase more buses abroad had been scrapped due to budget cuts and it was decided to wait until Soviet auto factories could more cheaply supply Moscow's transport needs. But these factories were only in the building stage and were destined to remain so for the next several years.\textsuperscript{40} In the meantime, the already outmoded streetcar remained the overburdened workhorse of Moscow's public transport system.

To deal with the city's worsening public transport crisis, the City Council in April 1930 appointed an expert commission. Heading the commission and giving it his name was Nikolai Bulganin, the Moscow City Council Chairman (a position roughly equivalent to mayor). Rejecting outright the notion that the city was in need of a subway, the
Bulganin Commission strictly adhered to the antiurbanist vision of Moscow and projected Moscow's center to atrophy. Ringing the future moribund Moscow would be a constellation of medium-sized satellite cities. These, the Commission foresaw, would be connected by a trestle-supported interurban rail system. Until this vision could be realized, however, all attention was to focus on improving Moscow's existing transport system by making the streetcar network operate more efficiently.  

Not only did such remedial efforts fail, however, by late 1930 Moscow's transport difficulties had become even worse. Once again Rabkin intervened, blaming the city tram system's "conservative" directors for the situation. While unheard of congestion plagued the city center, outlying areas of the city were served poorly or not at all by public transport. Commuters were arriving late for work on a massive scale, while accident and injury rates continued to soar. Rabkin ominously gave the tram trust leadership two months to return the system to smooth working order.  

When two months had passed, however, Moscow's public transport system not only had not improved, it had continued to deteriorate. In the first twenty days of December 1930 streetcars were involved in 600 accidents, compared to an average of 230 accidents per month in 1928 and 1929. On 15 December alone thirty cars were knocked out of service due to collisions. In response, in late December 1930 the
"opportunistic" leadership of the Moscow City Railroad Trust (MG ZhD) was fired and arrested for "wrecking," i.e., deliberate sabotage. Communists, often with working-class backgrounds, were appointed in place of bourgeois and non-Party directors.\textsuperscript{45} As one newspaper headline put it, the "tramcars of the workers' capital" were now "under proletarian control."\textsuperscript{46} Despite this infusion of worker consciousness into the tram trust, however, the overall public transport situation in Moscow did not improve in early 1931. The new management presided over the same traffic bottlenecks and overcrowded streetcars as had its predecessor.

Although the December 1930 MG ZhD shakeup was focused on improving Moscow's tramcar system, the subway planning department did not escape notice. Both its director and deputy director were arrested, accused of uselessly working on plans for a Moscow subway for a total of seven years, even after the idea of a subway had allegedly "lost its meaning and value." Anti-subway sentiment at this time was so strong that the MG ZhD ordered the subway planning department abolished.\textsuperscript{47} Recalling this time period, one former subway planner (a Communist who escaped arrest) noted that even mentioning the idea of a subway in Moscow at this time was "risky."\textsuperscript{48} By all appearances the Moscow subway project seemed dead and buried.
Reports of the subway's demise, however, proved greatly exaggerated. Like a bolt from the blue on 14 May 1931 an article appeared in Izvestiia, the Soviet government's official newspaper, infusing the subway project with a new spark of life. The article strongly argued for the immediate construction of a subway in Moscow. Those who privately supported the idea of a Moscow subway were both surprised and encouraged by the publication of this article. After all, if Izvestiia printed the piece, it meant that it enjoyed at least some support within the Soviet leadership. In a broader sense, the article's significance is that it reopened discussion of the Moscow subway project, prompting an intense press debate. Remarkably, only a month later the subway project was approved at the highest level within the Communist Party and construction was ordered to begin as soon as possible.

The debate itself, however, is interesting because it sheds light on the dynamics of urban planning within the Soviet context. Participants in the debate made their arguments on two levels: technical feasibility and conformity to socialist theory.

N. Osinskii, Deputy Director of Vesenkha (one of the USSR's chief economic planning agencies49), was the author of the ice-breaking article of mid-May 1931. Osinskii forcefully argued for an underground transportation system in Moscow to solve the city's chronic public transport
problems. He did this both by rejecting the antiurbanist vision of Moscow and by claiming that a Moscow subway would be cost effective.\textsuperscript{50}

By pointing out that Moscow's population was not declining but rapidly increasing and showing every indication that it would continue to grow, Osinskii argued that "objective events" were making antiurbanist plans for Moscow obsolete. Furthermore, he argued, allowing Moscow's population to continue to grow would be cheaper in the long-run than relocating people to the city's hinterlands, since additional housing could be much more cheaply constructed in Moscow by adding two or three stories to existing structures rather than building new apartments from the ground up in the countryside.

Osinskii then went on to argue against the idea that a Moscow subway was an unaffordable luxury in a city with more pressing needs—a "silk top hat for a man without trousers," as subway opponents put it. Rejecting the top hat analogy, Osinkii claimed the present situation in Moscow was more akin to someone "with a jacket and slacks, but without shoes,"\textsuperscript{51} since Muscovites were making do with their housing shortage but public transport in the city had virtually broken down. For three years opponents of the subway had argued that the tram system's problems could be corrected, but time had proven this assumption wrong. Furthermore, Osinskii reckoned, expenditures on streetcars were growing
so quickly that in three or four years the tram system would have an annual budget on par with the cost of building the first subway line. But why spend more money on a system that was already a proven failure? Better, Osinskii argued, to invest in a subway system and begin massively augmenting the city's insignificant bus fleet. Even labor productivity would increase with a subway and bus system since workers would no longer be arriving at work late and tired after struggling to ride the trams. In the long-run the initially expensive subway system would save money.\textsuperscript{52} Besides, Osinskii pointed out, tramcars were already disappearing from the centers of most Western cities, being replaced by more efficient buses and subways. Why continue to fund an obsolescent technology?\textsuperscript{53}

Even after the appearance of Osinsky's ice-breaking article, however, additional proponents of a subway were reluctant to come forward publicly. A few days later transport engineer I.E. Kattsen, a Communist and former Moscow subway planner, co-authored an article promoting the subway.\textsuperscript{54} Though he helped write the article, Kattsen cautiously refused to sign his name to it. With the arrest of the bourgeois subway planners still a fresh memory, Kattsen and his colleagues were afraid to make their support for the subway a matter of public record.\textsuperscript{55} Many subway-related articles appearing in the press in late May were equivocal, probably for this very reason.\textsuperscript{56}
This situation had changed by early June, however, when the debate became clear-cut and acrimonious. What seems to have changed the tenor of the debate so radically at this time was the publication of an article by the antiurbanist G. Puzis which so strongly attacked the idea of building a subway in Moscow that subway partisans may have felt compelled to respond. Helping to overcome any reservations about supporting the subway was an editorial preface to Puzis' article strongly condemning the author's views. This editorial was a clear signal that anti-subway sentiment was no longer supported in high government circles. Thus, it may be that the eventual outcome of the subway debate was already decided before Puzis' article appeared.

Nevertheless, his article, as well as the detailed refutation that followed it, are noteworthy in that they represent the clearest statements of the conflicting positions in the subway debate.

True to his antiurbanist orientation, Puzis maintained that the only truly socialist configuration for the future Moscow was a decentralized one. As for Moscow's continued population growth despite plans for the city to atrophy, Puzis explained this was due not to "objective factors" but rather to short-sighted and reversible political gamesmanship. The city's leaders were deliberately lobbying for the construction of new industry in Moscow in order to maximize Moscow's budgetary allocations from the central
government. New factories, in turn, attracted new residents. This process, Puzis argued, could, and should, be reversed.\textsuperscript{59}

Beyond arguing that a subway would not be needed in a decentralized Moscow, Puzis rejected the idea of building a subway on other grounds as well. In his view, a subway was both too expensive and ideologically undesirable, since as a form of public transport it had a "deeply anti-socialist character."\textsuperscript{60} He supported the latter claim by citing the crowded conditions on capitalist subways, as in New York City, where passengers were crammed into already overcrowded wagons by professional pushers, becoming, in effect, "human porridge."\textsuperscript{61} He also pointed out how tiresome subways were to their users, requiring long walks from the street to the dimly lit and poorly ventilated underground stations, often involving the navigation of several flights of stairs. This aspect of subway travel robbed people of valuable time and energy and was not at all consistent with socialist principles, Puzis claimed. Instead, it was an example of capitalist exploitation of the working-class, since workers were required to pay dearly for the privilege of transport under such inhumane conditions.

Moscow's transport difficulties, Puzis argued, would best be eliminated by replacing trolley cars with faster and more mobile buses. The experience of London, where in the last decade ridership on buses greatly outstripped that of
the city subway, was cited by Puzis as proof that subways had become an outmoded technology, relics of the nineteenth century. Buses, he argued, were the public transport mode of the future. Besides, buses were far cheaper than subways. Puzis rejected subway advocate estimates of a 150 million ruble cost for a 65 km subway system, claiming a more realistic estimate to be a billion rubles. Nor did he think the four to five year period for construction of the entire subway system realistic. But a bus factory could be built rather cheaply by comparison (for 50 or 60 million rubles), and could be turning out vehicles in two years' time. All things considered, Moscow should move to solve its transport problems without building a subway.

In a comprehensive and forceful manner Puzis had argued for the antiurbanist, anti-subway vision of Moscow. His arguments represented the prevailing wisdom of the last three years, but the political winds had already shifted and this once unassailable position came under swift and devastating attack. A sharp denunciation of Puzis's views was published three days after his article appeared. It was written by the head of the Moscow tram trust, the same Gende-Rote who two weeks earlier had contributed entirely non-committal views to the emerging subway debate. This time, however, Gende-Rote came out unambiguously in favor of a subway and he gave a point by point refutation of Puzis's anti-subway arguments.
The general tenor of Gende-Rote's criticism of Puzis was to portray the latter as a "wild" theorist of socialism, a practitioner of "hyper-schematism." The idea that the future socialist Moscow would be partially depopulated and largely devoid of industry Gende-Rote characterized as the "castration" of that city. Such a move would convert Moscow from the "powerful proletarian center" that it was today into a "bureaucratic appendage," a "city of institutions." This idea had an "undoubtedly harmful political orientation and should be decisively rejected," Gende-Rote concluded.64 How the antiurbanist vision of Moscow could have been "politically correct" for the last three years but now suddenly was blatantly heretical the author did not explain.

As for Puzis' claim that subways were obsolete, Gende-Rote took strong exception. He noted that about half of all public transport needs in both New York and Paris were met through subway travel, while London, with its declining subway use, was declared an aberration. Gende-Rote also dismissed the claim that subways had an inherently "anti-socialist character," with gloomy stations and overcrowded cars. He cited a description of the Berlin subway which showed it to be comfortable and efficient.65 As for the stuffy, stale air of the Paris underground, Gende-Rote pointed out that a similar problem could be avoided in Moscow's subway by constructing an adequate ventilation system, a technically simple matter. In general, the
defects in Western subway systems were the result of the capitalist system with its inherent flaws. Under socialism with its emphasis on the welfare of the masses, Gende-Rote maintained, such problems could and would be avoided.66

Finally, Gende-Rote rejected Puzis' argument that a subway would be too expensive and that buses would provide a cheaper and more efficient means of improving public transport in Moscow. First of all, Gende-Rote noted that if economy were of the utmost importance, an elevated high-speed rail system could be built, eliminating the need for expensive tunnelling. But he also argued that buses were not as cost-efficient as Puzis maintained. Although relatively inexpensive to build, buses had high operating costs, a factor Puzis neglected to mention. Moscow, furthermore, with its ancient cobblestone streets, was unsuited for high-speed bus traffic. Before buses could be used efficiently, Moscow's thoroughfares would need to be asphalted and this process was both technically difficult and very expensive.67 Once these factors were considered, the reputed economy of bus transport would be shown to be a myth.68

Such, then were the main arguments pro and con in the most intensive phase of the Moscow subway debate. In the end, of course, the pro-subway position prevailed. It was decided that with all its new industry, the further rapid growth of Moscow was inevitable, and without a subway system
the city's transport problems could not be solved.\textsuperscript{69} On 15 June 1931 the Central Committee gave the green light for a Moscow subway, declaring that preliminary work must be started immediately so that construction of the subway could begin in 1932.\textsuperscript{70} In the absence of documentary evidence, just how and why Stalin and the Politburo decided in favor of a subway may never be entirely clear. Nevertheless, a close scrutiny of the subway debate itself does provide some clues as to the motivations of the Soviet leadership in this regard. What then, were the salient features of the subway debate?

The subway debate was noteworthy for a number of reasons, beyond the simple fact that it ended with the decision to build a subway in Moscow. To begin with, the existence of the debate itself, in a public forum like a national newspaper, is remarkable. Such airings of differing opinions on important issues virtually disappeared from public discourse very quickly after 1931 when a strict censorship of the press was imposed.

The debate is also significant for what it did not contain: references to "consulting with workers" about the suitability of the subway project. Unlike the situation in 1928 when public opinion ostensibly played a role, by 1931 the importance of public approval for the subway had receded so far into the background that the idea was not even given lip service. That the Stalinist leadership could operate in
such an authoritarian manner by this time is probably explained by its nearly complete consolidation of political power by mid-1931.

One aspect of the subway debate which did receive considerable attention was the projected cost of the subway system. As has been shown, both sides used carefully cooked statistics to "prove" that their positions were more cost effective. With the benefit of hindsight, it is now clear that the anti-subway position painted a truer picture of just how expensive the subway would be to build. While Osinskii predicted the projected 65 km subway system would cost just 150 million rubles,\(^1\) Puzis scoffed at this figure and claimed a better estimate to be a billion rubles. In fact, the 12 km first line alone cost nearly 800 million rubles (Osinsky had estimated it would cost 80 million rubles), making even Puzis' high cost estimate too low.\(^2\) This "cost overrun" is even more dramatic when one realizes that back in 1928 the projected cost of the entire subway system was a mere 55 million rubles, and even that comparatively small sum was seen as a colossal extravagance.\(^3\) How important the price tag of the project was to Stalin and his cohorts is not clear. But given the very strict fiscal environment which prevailed in the USSR by 1931, one wonders if the project still would have been approved had the Soviet leadership known beforehand just how expensive it would prove to be.
The high cost of the Moscow subway also gives added credence to subway opponents' claims that Moscow's public transport crisis could have been more cheaply solved without a subway by simply augmenting surface transport, primarily by introducing more buses. Such a view was shared by many foreign experts as well. Some concluded at the time that Soviet leaders were willing to pay more for a subway because of the glamour it would bring to the Soviet capital. Supporting this idea is the existence by 1931 of other grandiose projects for Moscow, most notably the titanic Palace of Soviets, a skyscraper crowned with a 300 foot statue of Lenin. The plan for the socialist reconstruction of Moscow, finalized in 1935, was only an elaboration of such megalomaniacal thinking.

Surprisingly, given the important role in the Soviet Union's defense which the Moscow subway eventually acquired, military considerations do not seem to have played a significant role in the decision to build the subway. During the Second World War, the Metro served both as an air raid shelter for Moscow's civilian population and as a secure location for Stalin's military command post. This, of course, was possible only because the subway had been built with very deep tunnels, making it impervious to aerial bombardment. But the original plans for the Moscow subway approved in 1931 called for a shallow-tunnel system, one that would have been vulnerable to air raids. Only about a
year after the Metro project had been approved was the decision made to switch to a deep-tunnel system.

But this is not to assert that military considerations were completely absent in the subway debate. In fact, both Osinsky and Gende-Rote made claims that the defense of the nation would be improved if their respective plans were adopted. For example, Osinskii argued against plans to abandon or demolish Moscow by claiming that Moscow’s preservation would be a bonus in the event of foreign invasion, since it would facilitate the coordination of the USSR’s political and economic forces. Likewise, the antiurbanist Puzis discounted the military value of a subway, claiming that it would not protect people from poison gas released on the surface. Furthermore, he touted the military value of building a bus factory, reminding his readers how crucial the use of large numbers of taxi cabs as troop transports was in the defense of Paris in 1914. But for both Osinsky and Puzis, such military considerations were muted, clearly secondary to their main arguments. Some indication of the secondary importance attached to military concerns in the subway debate is shown in Gende-Rote’s failure to even raise the issue in his article. In sum, then, the military value the subway was to acquire during World War II and after was not foreseen in 1931.
In the final analysis, the defeat of subway opponents was part of the larger decline and fall of the antiurbanists and the end of the Cultural Revolution. The eclipse of the antiurbanists had already begun in May 1930 when the Central Committee first criticized antiurbanist views on socialism, characterizing them as "ill-founded, semi-fanatical and therefore extremely harmful." But official condemnation did not come until more than a year later, at the same June 1931 Central Committee plenum which approved the subway project. It was then that Lazar Kaganovich, leader of Moscow’s Communist Party organization and Stalin’s trusted lieutenant, delivered the fatal blow to the antiurbanists, defending the compatibility of big city life with socialism and characterizing disurbanization as "nonsense." Beyond simply no longer needing radical socialists as allies after defeating its chief political rivals, the Stalinist leadership by 1931 had other reasons for abandoning, even denouncing antiurbanist views. To begin with, such views were incompatible with Stalin’s program of crash industrialization which required tremendous investment in heavy industry, leaving only limited funding for improvements in living conditions. The far-reaching and extremely costly changes the antiurbanists advocated were no doubt increasingly inconvenient, probably even embarrassing to the Soviet leadership.
Secondly, for all their socialist credentials, Stalinist leaders were characterized by their low level of education and conservative, unsophisticated tastes. They had an instinctive dislike for the innovative and radical schemes proposed by antiurbanist intellectuals. Some indication of this is seen in the actual socialist reconstruction of Moscow, the plan of which was finalized in 1935. The chief element of this plan was to remake Moscow in a grandiose fashion, as befit the world's "proletarian capital." This was done chiefly through the limited construction of massive, visually impressive buildings and by the widening of boulevards. Needless to say, the lavishly ornate subway stations of the Metro fit well into this scheme. But architectural innovation was not the hallmark of this transformation, as the plodding and pedestrian skyscrapers that ring Moscow today clearly show. Nor was there any real improvement in the living conditions of Moscow's working-class population. The limited number of grandiose new apartments then built were assigned almost exclusively to the Soviet elite. Workers continued to live in overcrowded and dilapidated housing for decades to come.

Finally, although the antiurbanist opponents of the Moscow subway lost in their bid to prevent the city from building an underground rail system, in one aspect, at least, their influence proved decisive. Criticisms that
subways were of an inherently "anti-socialist character" influenced subway planners to ensure that the Moscow underground was profoundly superior to subways in the capitalist West. It led directly to the decision (as early as mid-1931) to build the "world's best Metro" in Moscow as proof of the Soviet government's commitment to the welfare of the laboring classes. While the subway was being built this idea gained momentum, and consequently designs for the subway's stations became more and more lavish. This transformation of a functional object into a monument to socialism fit well into the grandiose plan for the socialist transformation of Moscow. Soviet leaders, in effect, stood the traditional notion of the subway on its head, transforming it's "inherently anti-socialist character" into the symbol of the bright socialist future. Thus, although unable to prevent the construction of the subway they so strongly opposed, antirurbanist subway opponents unwittingly were responsible for the Moscow Metro's unique character. In this regard, it is fortuitous that subway construction did not begin in 1929 as originally planned. Had the subway been built then, it is likely that it would have been built by the Germans and the project would have been completed without any special ideological significance attached to it. Thus, the Soviet subway would have been similar to those in the West, and Moscow would have lost one of it most unique features.
Approving a subway, however, is easier than actually building one. This the Soviets learned the hard way and in a hurry once construction of the Moscow Metro began. For as the next chapter makes clear, the Soviets were incredibly unprepared to build any subway in 1931, much less the "world's best Metro."
1. Earlier, in 1898, Balinsky had proposed the construction of a subway in Saint Petersburg, an idea which was ultimately rejected (Pavel Primachenko, "Prigovorennoe metro: Sud'ba proekta nachala veka," Byloe, no. 7 [July 1993], 13).

2. Tsentral'nyi Gosudarstvennyi Arkhiv Oktiabr'skoi Revoliutsii SSSR (hereafter TsGAOR) [now known as "Gosudarstvennyi arkhiv Rossiiskoi Federatsii" or "GARF"], f. 7952, op. 7, d. 292, l. 269. In another account of this presentation Balinsky's words were a little different but the overall message was the same: the cities with a population of more than one million which lacked subways or similar transport systems numbered nine; one European city, in addition to Moscow and Saint Petersburg, along with six Asian cities (Tsentral'nyi Gosudarstvennyi Istoricheskii Arkhiv [hereafter TsGIA] [now known as "Rossiiskii gosudarstvennyi istoricheskii arkhiv" or "RGIA"], f. 274, op. 2, g. 500, l. 2).

3. See for example, N. Lopatin, Metro (Moscow: Detskoi literature, 1937), 10-15; K. Ryzhkov, Moskovskii Metropoliten (Moscow: Moskovskii rabochii, 1954), 14; I. Kattsen, Metro Moskvy (Moscow: Moskovskii rabochii, 1947), 13; and TsGAOR, f. 7952, op. 7, d. 292, l. 271.

4. TsGIA, f. 274, op. 2, d. 500, l. 14. In general terms, the slow development of urban transport in Russia before 1917 may be attributable to "inadequate municipal budgets, which were held down by state-imposed expenditures and by the resistance of the mercantilist town-elites to higher property taxes" (Daniel R. Brower, The Russian City Between Tradition and Modernity, 1850-1900 [Berkeley: University of California Press, 1990], 54).

5. TsGAOR, f. 7952, op. 7, d. 115, l. 66.


7. TsGAOR, f. 7952, op. 7, d. 292, l. 271.

8. Ibid. The first line of the Paris subway was opened in 1900 (Bobrick, Labyrinths of Iron, 152).

9. Ibid., l. 272.
10. Ibid., 1. 273.

11. The November 1927 Moscow Province Party Conference approved the idea of building a subway in Moscow (Pravda, 1 December 1928, 5).


13. Ibid.


15. Figures are for 1931.

16. Pravda, 10 November 1928, 6; and ibid., 24 November 1928, 7.


18. The "Right Opposition" was a group of Soviet leaders who opposed Stalin's policy of rapid industrialization and the forced collectivization of agriculture.


20. Pravda, 1 December 1928, 5.

21. Ibid.

22. Ibid.

23. This, for example, was the finding of the so-called Bulgannia Commission of April 1930 (see pp. 29-30).


25. Pravda, 10 November 1928, 7.

26. For more on the history of the Cultural Revolution, see Sheila Fitzpatrick, ed., Cultural Revolution in Russia, 1928-1931 (Bloomington: Indiana University Press,
1978).

27. For a discussion of Soviet "antiurbanists," see S. Frederick Starr, "Visionary Town Planning During the Cultural Revolution," in Fitzpatrick, Cultural Revolution in Russia, 207-40.


32. See for example Rabochaia Moskva in 1929: 3 February, 3; 12 February, 4; 23 February, 3; & 13 September, 5.


36. Monkhouse, 219. In 1929 the entire city of Moscow was served by only 130 cabs. Rabochaia Moskva, 25 August 1929, 5.

37. Ibid.


39. Ibid.

40. For an account of the painfully slow automobile production effort in the USSR at this time, see Kurt S. Schultz, "Building the 'Soviet Detroit': The Construction of the Nizhnii-Novgorod Automobile Factory, 1927-1932," Slavic Review 49 (Summer 1990):200-12.

41. TsGAOR, f. 7952, op.7, d. 314, l. 304.

43. Ibid., 27 December 1930, 2.

44. Ibid., 24 December 1930, 4.

45. Ibid., 27 December 1930, 2. A list of the arrested directors indicates they numbered nine individuals, representing various departments within the city transport trust (TsGAOR, f. 7952, op. 7, d. 116, l. 26).


47. The subway planning department was officially abolished on 31 December 1930 (TsGAOR, f. 7952, op. 7, d. 116, l. 1).

48. TsGAOR, f. 7952, op. 7, d. 314, l. 305.


50. Four years earlier Osinskii had been the most forceful (and ultimately successful) advocate of building a large-scale automobile industry in the USSR. See Schultz, "Building the 'Soviet Detroit'," 201-5.

51. Literally (from the Russian) "v pidzhake i briukakh, no bez sapog."

52. *Izvestiiia*, 14 May 1931, 2.

53. Ibid, 3.

54. The article in question, signed by Emil Tseitlin, appeared in the 23 May 1931 edition of *Izvestiiia* on page 2.

55. TsGAOR, f. 7952, op. 7, d. 314, ll. 305-6.

56. See for example the equivocal article written by the head of the Moscow Tram trust, Gende-Rote (*Izvestiiia*, 30 May 1931, 3).

57. Puzis was a member of the Russian Republic's economic planning agency, Gosplan.

58. *Izvestiiia*, 4 June 1931, 2.

59. *Ekonomicheskaia zhizn’*, 5 June 1931, 2. Incidentally, local leaders throughout the USSR were engaged in similar efforts to attract new factories to their areas,
just as US Congressmen today compete to win "pork-barrel"
projects for their districts.

60. Ibid., 6 June 1931, 2.

61. Ibid.

62. On both counts, Puzis's skepticism proved
prophetic: the twelve-kilometer first line alone cost about
800 million rubles. Furthermore, four years of construction
resulted in the completion not of the entire system, but
rather only the first line.

63. Ekonomicheskaia zhizn', 6 June 1931, 2 & 3.

64. Ibid., 9 June 1931, 2.

65. It is interesting to note that once construction
of the Moscow subway was underway, the Berlin subway was
denigrated in the Soviet press as ugly and gloomy. See, for
example, Komsomol'skaia pravda, 6 September 1933, 1.


67. In 1931 only 8 percent of Moscow's streets had
been paved (and apparently very poorly at that). The
remainder were either cobblestone or gravel at best.

68. Ekonomicheskaia zhizn', 11 June 1931, 2.

69. Such were the conclusions of the editors of
Ekonomicheskaia zhizn', 11 June 1931, 2.

70. P.N. Fedoseev and K.U. Chernenko, eds.,
Kommunisticheskaia Partiia Sovetskogo Soiuza v
rezolutsiiakh i resheniiakh s'ezdov, konferentsii i
plenumov TK (Moscow: Politicheskoi literatury, 1970), 4:553.

71. Izvestiia, 14 May 1931, 2.

72. Kosarev, A., ed. Istoriiia metro imeni L.M.
Kaganovich. Sbornik II: Kak my stroili metro (Moscow:
Istoriiia fabrik i zavodov, 1935), 147.

73. Pravda, 10 November 1928, 7.

critics often take this view as well. See for example
Edward Crankshaw, Khrushchev: A Career (New York: Viking
75. Ibid.

76. Izvestiia, 14 May 1931, 2.

77. Ekonomicheskaiia zhizn', 6 June 1931, 2 & 3.

78. Starr, 237.

79. Ibid., 238.


81. TsGAOR, f. 7952, op. 7, d. 314, l. 308. Another early declaration (January 1932) that the Moscow subway was to be the world's best can be found in Stroitel'stvo Moskvy 1 (1932):6-10.
Chapter II
Start of Construction and Its Problems

From the project's very inception, the Moscow subway was meant to be built in a hurry. This emphasis on speed remained strong, even dominant, throughout the construction of the subway's first line. But then this is hardly surprising since forced-pace construction was the hallmark of Soviet industrialization. Metrostroi's construction schedule, however, was ambitious even by the standards of the day. When the Central Committee approved a subway for Moscow in mid-June 1931, it called for preliminary work to start immediately so that construction of the Metro could begin in 1932.¹ Originally Metrostroi planners envisioned a six kilometer line to be built in two or three years. But this did not satisfy Lazar Kaganovich, the Party leader who oversaw the project. In characteristic Stalinist fashion he arbitrarily doubled the amount of work to be done in the same period of time.² In December 1931, when a complete timetable for the project was established, it called for an 11.5 km first line to be finished in just two years.³ To top it off, the entire subway system for Moscow, a network of 73.5 km of tunnels, was slated to be
complete by 1936. In other words, the Soviets audaciously planned to build in just five years what typically took decades to accomplish in the most advanced capitalist countries.

But such audacity proved costly. Because of the rush to start construction, work at Metrostroii began before adequate preparations had been made. As a result, fully the first eighteen months of work on the subway project were wasted in ineffective digging. Nevertheless, by mid-1933 Metrostroii had finally corrected some of its most serious problems and had begun to make progress, even if at a much slower rate than desired.

It would be hard to exaggerate just how unprepared the Soviets were in 1931 to build any subway, much less the world's best. Subway construction then was an area totally foreign to the Soviets. In the late 1960s Khrushchev recalled,

> When we started building the Moscow Metro, we had only the vaguest idea of what the job would entail. We were very unsophisticated. We thought of a subway as something almost supernatural. I think it's probably easier to contemplate space flights today than it was for us to contemplate the construction of the Moscow Metro in the early 1930s.

That Khrushchev, with his limited education, had trouble grasping what was involved in the building of a subway, is not very surprising. But Soviet engineers at Metrostroii were bewildered by their new assignment as well. Simply
put, the Soviets lacked the necessary technical expertise for subway construction. Subway experts were virtually nonexistent in the USSR in 1931, a fact not surprising given the absence of underground train systems in the country. There was, however, one native Russian engineer with considerable experience in subway construction. After emigrating to France in the wake of the 1917 Revolution, he worked for several years on the Paris Metro project. This Russian engineer might even have been the natural choice as director or assistant director of Metrostroi were it not for one inconvenient fact: he was serving a prison sentence after having been arrested for deliberate economic sabotage (вредительство). This distinguished engineer, S.N. Rozanov, was the same man who served as Deputy Director of Moscow's subway planning department beginning in 1924 and who was arrested in the Rabkrin-inspired shakeup of the Moscow tram trust of late 1930.6 Besides Rozanov, in the whole of the USSR there were perhaps two or three other Soviet engineers who had been briefly involved in subway construction abroad.7 Additionally, there were a handful who had merely seen subways while visiting the West. But that was the extent of Soviet expertise in this area.

Had the Moscow subway project been started earlier, say 1929 as originally planned, such a lack of native expertise would not have had dire consequences. After all, it was standard practice throughout most of the First Five Year
Plan era to import foreign technical advisers along with foreign technology and equipment. In fact, foreign experts helped supervise the construction of Soviet industry on a massive scale: the American Albert Kahn alone designed and help build more than five hundred industrial plants in the USSR. But starting in 1932 severe financial constraints made it impossible for the Soviets to continue paying foreign experts in gold. Henceforth, with few exceptions, foreign experts were offered only rubles for their services. Most refused to accept a currency which was worthless outside of Russia—indeed, it was of limited value even within the USSR given the general unavailability of food and other goods there—and the foreign technical advisers left the USSR in large numbers. As luck would have it, start of construction at Metrostroii coincided precisely with this change in policy. Because of these financial difficulties, then, the Soviets were forced to rely upon their own wits at Metrostroii. This fact, combined with the nearly complete absence of native expertise in subway construction, had catastrophic consequences.

In the absence of truly qualified candidates to direct Metrostroii, Pavel Pavlovich Rotert was selected in early August 1931. Rotert, a non-Party Russian of German ancestry, had an impressive record as a supervisor of giant construction projects—the Promyshlennyi dom (Industrial Building) in Kharkov, for example—but he had no experience
in or even inclination for subway construction. Consequently he was both surprised and disappointed to learn of his appointment to Metrostroi. He apparently was especially annoyed to have been torn away from his post as Deputy Chief Engineer at Dneprostroi, work that he loved and which was not yet complete. The most positive thing Rotert could say about his new post was that it represented a sign of "great trust" in him.

Rather than being taken aback by the enormity of the task that lay ahead of him in Moscow, Rotert's initial reaction to the subway project was to dismiss it as a minor undertaking. When briefed by his new staff that the total budget outlay for the first line was 50 million rubles, a sum relatively small compared to outlays at Dneprostroi, Rotert remarked, "Now really, you call this work?" In short, Rotert and his staff at Metrostroi not only lacked the necessary expertise for the subway project, they began their work without even realizing that they were in over their heads. This was a dangerous combination.

When he transferred to Metrostroi, Rotert brought with him several engineers with whom he had been working at Dneprostroi--experienced builders to be sure. None, however, were familiar with subway work. In general, Rotert's early staff was dominated by construction engineers with a sprinkling of railway engineers. Surprisingly, the staff was virtually bereft of engineers with mining
expertise. Apparently this was a deliberate decision on Rotert's part.\textsuperscript{12} In fact, instinctive antagonisms between construction and mining engineers were endemic to Metrostroi.\textsuperscript{13}

Rotert did, however, manage to find two Soviet engineers with brief experience working on the construction of the Berlin subway. Furthermore, he was able to have most of the engineers associated with the abolished subway department of the Moscow tram trust sent to Metrostroi.\textsuperscript{14} And in late 1931 Rotert lobbied to get Rozanov released from prison so that he could come to work at Metrostroi. Nikolai Bulganin, then Chairman of the Moscow City Soviet, interceded with the secret police (OGPU) on Rozanov's behalf. After receipt of Bulganin's petition the OGPU inexplicably failed to release Rozanov for at least two months, prompting Bulganin to write a second petition before the subway expert was finally freed.\textsuperscript{15}

In general, however, efforts at Metrostroi to recruit engineers were frustrated by the general shortage of qualified technical experts in the USSR. Although Metrostroi was declared a "shock project," giving it the highest priority in the allocation of supplies and personnel,\textsuperscript{16} it was only one of dozens of such shock projects in the Soviet Union. This diminished the value of Metrostroi's "priority" status. Eventually Metrostroi's leadership appealed to the Central Committee for help in
recruiting qualified technical personnel. Through the Central Committee's good offices many construction, railroad and various other engineers were brought to Metrostroi. For the most part, however, such recruits were chosen "too indiscriminately." Most proved unsuitable and in short order were either fired or quit of their own accord.\textsuperscript{17} In sum, Metrostroi's early technical staff was both underqualified and short-handed.\textsuperscript{18}

Compounding difficulties at Metrostroi was the lack of a plan of operation. True, two draft plans for a Moscow subway (one Soviet, one German) dating back to 1926 were still on file, but neither was suitable since the route of the first line had been changed by 1931.\textsuperscript{19} Besides, being draft plans, both were only preliminary in nature and not based on detailed geological information.\textsuperscript{20} As a result, when subway construction began in November 1931, Metrostroi did not have even a draft plan of the project. In December the Moscow Party organization ordered Metrostroi to complete a draft plan by 1 March 1932 and a more detailed "technical" plan was demanded by 1 April of the same year.\textsuperscript{21} These deadlines were unrealistic and were not met. Furthermore, as will shortly be described, by March 1932 subway construction ran into so many problems that work plans had to be drastically altered, rendering most of the preliminary planning work obsolete. As a result, Metrostroi's planning
department had to begin drawing up plans all over again at this time. In the meanwhile, construction work continued.

Another indication of the general unpreparedness of Metrostroï to begin subway construction in late 1931 was the project's lack of machinery and even the money to buy equipment for excavation work. When Rotert assumed the directorship of Metrostroï in mid-1931, he was under the impression that he would have a free hand to buy much-needed machinery abroad. For 1932 he requested six million dollars worth of imported machinery. In the end, however, he was permitted to spend only $100,000—one-sixtieth of the amount he asked for.22 Only making matters worse was the fact that much of the equipment ordered in 1932 proved unsuitable for use at Metrostroï. These wasted purchases are attributable largely to the inexperience of Rotert's staff. Just as in the area of foreign expertise, so too with the acquisition of foreign machinery did the Soviet government's depleted gold reserves by 1932 have a crippling effect on Metrostroï. As a result, most of the excavation work on the Metro's first line was done by hand—that is, with pick and shovel, not by air hammer or steam shovel as was the case in contemporary Western subway construction.23

Additionally, Metrostroï was poorly prepared to begin construction work in late 1931 because of its undersized work force. Recruiting workers was extremely difficult in a country with a severe labor shortage. The primary means of
obtaining workers was to lure them away from their present jobs with offers of better pay and living conditions. But this was extremely difficult because Metrostroii initially lacked housing facilities for its employees. As a result, recruiting targets in 1932, the first full year of construction, were consistently not met.\textsuperscript{24} For example, at the height of the construction season in August of that year, Metrostroii had a total of 4602 employees, compared to a planned workforce of 12,170.\textsuperscript{25} Thus, Metrostroii was operating at well below half the labor force it needed. Further complicating the labor picture was Metrostroii's astronomical labor turnover. In 1932 monthly turnover averaged 32 percent.\textsuperscript{26} Put another way, on the average, every worker at Metrostroii quit the project after just three months. Prime among the reasons for this high labor turnover, of course, was lack of housing.\textsuperscript{27}

As strange as it may seem to those unfamiliar with the Soviet system, it was incumbent upon Soviet employers to provide workers not only with jobs, but with meals and lodging as well. The absence of private housing combined with Moscow's extreme shortage of living space made it imperative that Metrostroii obtain quarters for its projected workforce of more than 10,000 and their families. Since it was nearly impossible to acquire existing housing stock in Moscow, Metrostroii was forced to build its own barracks and
apartments on the outskirts of the city where vacant land
could be found.

Despite focusing a great deal of time and personnel on
the issue, Metrostroii was only able to build housing slowly
and with great difficulty. First, obtaining lumber and
other construction materials was extremely difficult.
Nails, for example, were so scarce that used ones were
scavenged whenever possible.\textsuperscript{28} The amount of time lost in
searching for nails and then extracting and straightening
them must have been tremendous. But wood and nails were not
the only commodities that were \textit{deficitno}\--experienced
carpenters, too, were in short supply.\textsuperscript{29} As a result, it
was not uncommon for highly accomplished engineers to be
assigned the task of overseeing barracks construction--a
task for which they were often not qualified and one that
they found dull and demoralizing.\textsuperscript{30} Even housing the crews
who built barracks for Metrostroii was difficult. Initially,
some had to live as far away from Moscow as 60 km because
living space for them closer to the capital could not be
found.\textsuperscript{31}

So, as construction work began at Metrostroii, the
project suffered from formidable shortages in expertise,
equipment, funding, and workers. One area that Metrostroii
was not lacking in, however, was administrative supervision.
Officially Metrostroii was \textit{under the direct authority of the}
Presidium of the Moscow City Council (\textit{Mossovet}).\textsuperscript{32} In
addition to the Mossovet, the Moscow Party Organization (MK) also supervised Metrostroi. The head of the MK, Lazar M. Kaganovich, became a frequent and feared visitor to Metrostroi. His surprise inspections and harsh criticisms of sub-standard work earned him the nickname "Pervyi Prorab" ("chief superintendent") among subway workers.33 Kaganovich, in fact, was so closely identified with the subway project that when the subway opened in 1935 it was named for him: Moskovskii metropoliten imeni L.M. Kaganovicha (The Moscow Metropolitan named for L.M. Kaganovich).

Though less publicized at the time, Kaganovich's deputy at the MK, the young Nikita S. Khrushchev, also played a major role supervising Metrostroi. Khrushchev had come to Moscow in 1929 to study at the Industrial Academy and he played a major role in the ouster of Right Oppositionists from that institution. Impressed by Khrushchev's agressive support of the Stalinist faction, in 1931 Kaganovich appointed Khrushchev First Secretary of one of the city districts in Moscow (the Bauman raion).34 Shortly thereafter Kaganovich assigned Khrushchev to supervision of the Metro by virtue of the latter's extensive mining experience in the Donbas.35 By his own admission Khrushchev spent 80% of his time overseeing the subway project, including daily inspections of the work underground. It was Khrushchev's daily "progress reports" of work at Metrostroi
that kept the overburdened Kaganovich so well informed about the project.\textsuperscript{36} Undoubtedly Khrushchev’s ultimately successful association with the Metro played a big role in his meteoric rise in the ranks of the Soviet leadership.\textsuperscript{37}

As chairman of the Presidium of the Moscow City Council, Nikolai Bulganin also was charged with supervision of Metrostroi. Bulganin’s authority at Metrostroi, however, was limited by his inability to withstand the rigors of the tunnels: while underground he caught a bad cold and came down with a skin infection, ailments which rendered him unable to work for more than a month.\textsuperscript{38} This experience apparently dampened Bulganin’s enthusiasm for direct supervision of Metrostroi. Although Bulganin’s involvement with Metrostroi was still important administratively, in comparison with Kaganovich and Khrushchev, Bulganin’s role at the subway project was limited and clearly secondary.

The combined Moscow City Council and Moscow Party Organization supervision of Metrostroi may seem curious, but in fact was characteristic of Soviet administration: formally, a state agency (the Mossovet) was in charge of the operation but, in fact, behind the scenes a Party organization (the MK) exercised the most control of the situation. Issues of the highest importance at Metrostroi were always resolved in consultation with the MK. The Mossovet, on the other hand, was relegated to overseeing Metrostroi’s more mundane affairs. Additionally, when
especially thorny problems arose at the subway project they were often resolved in Politburo meetings under Josef Stalin's leadership. Stalin's attention to affairs at Metrostroi underscores the project's great importance to the Soviet leadership.

In a fiscal sense, Metrostroi was under the supervision of the Council of Labor and Defense (Sovet truda i oborony or STO). But here again a dual approach prevailed—fiscal allocations for the subway project came both from Moscow City Council funds as well as monies from the All-Union (federal) budget. In short, in an administrative and financial sense, Metrostroi was both a city and national project.

To return to the theme of Metrostroi's initial unpreparedness, at the time of the start of construction (November 1931) the question of just how the Moscow subway was to built was not yet decided. Although the 11.5 km route for the first subway line had been chosen by November 1931, the manner in which the subway tunnels were to be dug was still under discussion. Most at Metrostroi, including Rotert, favored open-cut excavation (also known as the Berlin method, since it was used to build the subway in the German capital). With open-cut excavation shallow tunnels were built by digging huge trenches and then covering and concreting them just below street level. The earlier Soviet plan developed by Rozanov, however, was based on closed
excavation (the so-called Paris method) which consisted of shallow tunnelling with no disruption of street surfaces. Rozanov had learned this method of tunnelling while in France and upon his release from prison advocated its adoption for the Moscow subway. Rotert and most of his engineers were more comfortable with the open-cut method since conceptually it was much simpler. Had the MK not stepped in, it seems clear that the first line would have been built entirely with the open-cut method. But the MK did intervene, ordering Metrostroi to try out closed excavation in a "test section" in order to determine the method's feasibility.

This was just one of many instances when Rotert's authority was overridden by the MK. Although nominally in charge of the project, Rotert's ability to direct Metrostroi was limited by close Party supervision. One can imagine how bothersome Rotert must have found this arrangement. Probably the MK was concerned that Rotert lacked the experience to decide in favor of the open-cut method for the entire line and to overrule the wishes of Rozanov, the Soviets' only true subway expert. So the decision was made at the start of construction to try both methods. Despite this decision, however, the Metrostroi leadership continued to favor open-cut construction over the closed-cut method.

Rozanov, by the way, occupied an important, but curious position at Metrostroi. On the one hand, he was universally
regarded as the foremost Soviet expert on subway construction and therefore his ideas carried a great deal of weight. Nearly everyone at the project deferred to his technical authority. At the same time, though, Rozanov was something of a pariah. He was both disliked and resented by many of his colleagues—kind references to Rozanov in the recollections of his co-workers are conspicuously absent. Although his technical credentials were above reproach, because he had been arrested for wrecking Rozanov was beneath contempt in a political sense. Further contributing to Rozanov's unpopularity was his condescending attitude toward his colleagues. Rozanov apparently did not hesitate to remind his fellow engineers that they had no real experience in subway construction and thus were in no position to question his judgements. For these reasons, Rozanov was the object of scorn and derision in Metrostroii's circle of technical experts. After his untimely death in 1934 at the height of construction at Metrostroii, Rozanov became a convenient scapegoat for technical problems at the project. By virtue of his ambivalent position at Metrostroii, then, Rozanov seems to fit the stereotype of the "bourgeois expert."

Anything but ambivalent was Metrostroii’s breakneck-paced construction timetable which prompted Rotert to begin work as soon as possible. Excavation at the subway project began at the test section on November 7, 1931, the
anniversary of the October Revolution. Mossovet Chairman Bulgarin was on hand for the opening ceremony, as was Kaganovich who dug the first spadeful of earth with a silver-plated shovel.

Despite this festive send-off, initial work at Metrostroï was entirely unmechanized and proceeded with just seven workers. Due to the extremely fast construction schedule Rotert was eager to break ground as quickly as possible, even if this meant digging before equipment or a sizable workforce could be gathered. Several weeks later, however, work at the test section was still conducted entirely by hand, a fact that Kaganovich discovered to his dismay on a surprise inspection. After viewing the primitive work methods he asked incredulously, "You expect to build the Soviet subway like this? It won't work."

This eye-opening visit to the test section prompted Kaganovich to intervene, contacting both the Commissariat of Heavy Industry and Gosplan. He demanded that construction machinery and supplies be sent to Metrostroï, and both agencies promised to comply. As a result, modest quantities of equipment soon began arriving at the subway project. Thus, one or two phone calls from Kaganovich, then the second-most powerful man in the USSR, accomplished what might have taken months for Metrostroï officials using normal channels. For all its drawbacks (surprise inspections, meddlesome and imperious interference, etc.)
Kaganovich’s patronage of Metrostroï also had definite advantages.

In the meanwhile, open-cut digging had begun on what is now known as Komsomol’skaia ploshchad’ (Young Communist Square) in December 1931. Although technically much simpler than the tunnelling occurring nearby at the test section, open-cut construction quickly transformed Komsomol’skaia ploshchad’ into an unsightly, muddy mess. The wooden plank fences used by Metrostroï to enclose work areas were shoddily built and ugly. Furthermore, excavated soil could not be hauled away in a timely fashion due to a shortage of trucks at the project. As a result, huge piles of dirt accumulated, making a mess of the entire area. Bounded by three major train stations, Komsomol’skaia ploshchad’ was one of the most congested areas in Moscow and the high visibility of the digging created public-relations difficulties for Metrostroï. Muscovites, including Kaganovich, began to curse the subway project for its unsightly fences and the mountains of mud it created.\(^5\)

By the spring of 1932 when excavation was scheduled to begin on a large scale, the bad reputation that Metrostroï earned for its slovenly work at Komsomol’skaya ploshchad’ made it difficult for subway engineers to find additional parcels of land for use as worksites. This was especially true near the city center. Officials controlling land and buildings near the projected subway route were almost
unanimous in their refusal to allow Metrostroi to dig on their property or to erect construction offices and warehouses. Instead of helping Metrostroi overcome such resistance, officials at the Mossovet, the project's sponsoring agency, only contributed to the problem, often denying Metrostroi permission to dig or to build in areas chosen by the project. For example, when a subway engineer requested permission to establish a work site on the periphery of the Lubianskaia ploshchad', a representative of the Mossovet declared that he would fight "to the last drop of blood" against Metrostroi's efforts to "ruin" the city center.

In response, frustrated subway engineers complained that they could not "build their mine shafts in the air," that plots of land were needed as bases for the digging. Some engineers turned to Khrushchev and the MK for help in their fight to acquire land, but even with such assistance it was not uncommon for them to struggle two months before obtaining permission for a worksite. Under the circumstances, it is not surprising that some engineers at Metrostroi resorted to underhanded methods. Claiming that he temporarily needed an area to conduct geologic tests, one subway engineer received permission relatively easily. Later he deviously made the acquisition permanent by digging a full-blown mine shaft and enclosing it with a fence--all without consulting the Mossovet. After the fact Rotert
approved this subterfuge, though probably more out of necessity than personal preference for such tactics. Metrostroi ultimately turned to the MK for help in obtaining worksites, but some of its difficulties were attributable to MK decrees themselves. To begin with, the MK ordered that subway excavation would "under no circumstances obstruct traffic" on Moscow's streets.\textsuperscript{60} Indeed, Kaganovich even went a step further by decreeing that the residents of Moscow should not in any way be inconvenienced by the project.\textsuperscript{61} This demand was unrealistic and it encouraged the Mossovet to assume the role of critic rather than patron of Metrostroi. Still, the ultimate blame for Metrostroi's troubles in this regard belongs to the subway project itself. Subway engineers frankly admitted that due to lack of skill their early work methods were shoddy ("nekul'turno") and "repulsive."\textsuperscript{62}

As described earlier, Metrostroi's excavation work began at the test section on Rusakovskaia ulitsa, and it was here that the project's first serious accident occurred as well. On 12 February 1932 a water main located in the ground above the tunnel suddenly broke, quickly flooding the tunnel itself.\textsuperscript{63} This accident not only brought excavation to a halt for several days, it also closed down a nearby mineral water factory.

The accident occurred as a direct result of the tunnelling operation. Because the excavation occurred in
waterlogged soil, pumps were used to remove excess water from the tunnel floor. But what Metrostroï engineers did not realize was that the pumped water contained a sandy sediment and so as the pumps eliminated the water, considerable amounts of earth around and above the tunnel were removed as well. It was this inadvertent removal of earth above the tunnel which led the soil there to settle. Unfortunately, when the soil shifted the water main fell with it, causing the pipe to break.64 This same settling of subsoil also damaged the nearby mineral water factory--it’s two-story front wall cracked from top to bottom.65

The accident in and of itself was not catastrophic--work at the mineral water factory and in the tunnel were resumed after a few days’ repair work. But the implications were ominous. For the first time, many at Metrostroï began to fear that construction of a shallow-based tunnel system would lead to serious and widespread damage to underground pipes and nearby buildings. It was precisely this fear--justified by subsequent events at Metrostroï--that led some to doubt the wisdom of a shallow-based subway system and to search for alternatives.

Reinforcing doubts about the efficacy of a shallow tunnel system were problems encountered in the open-cut construction areas. Excavation was greatly complicated by a layer of unforeseen quicksand. Moreover, traffic was impeded on streets where open-cut digging was employed,
adding to Moscow's mass transit difficulties. And here, too, water and sewage pipes were damaged by inexperienced diggers. Only in the course of construction did the Metrostroi leadership learn just how complex and chaotic Moscow's system of underground pipes and cables was. Records showing the location of buried electric cables, gas lines, and sewage and water pipes were often not available, making it difficult to avoid accidentally rupturing them. Many pipes were so decrepit that even if not damaged by digging they still needed replacing.

Hurried studies were undertaken to estimate the money and time necessary to repair damaged and worn out pipes and cables. The conclusions were sobering: replacement costs would be very high and the time required for the repair work would be extensive. Furthermore, it was not even clear that the already overtaxed Soviet industry was capable of supplying the huge amounts of steel and concrete needed to effect these repairs. For the first time the Metrostroi leadership began to realize just how disruptive subway construction would be to the residents of Moscow who lived near the subway route. Such residents could expect loss of electricity, gas, water, and sewer service during construction. And this, of course, would violate Kaganovich's decree that subway construction must proceed in a manner which would not inconvenience Muscovites.66
But apparently the likelihood of inconveniencing Muscovites was more worrisome to the NK than the leadership at Metrostroii. Despite all the problems associated with open-cut excavation and shallow-based tunnelling, the consensus at Metrostroii was to continue the project as originally planned. Of the entire technical staff at Metrostroii there was only one dissenting voice to this consensus: V.L. Makovskii, a 27 year-old engineer. In February 1932 Makovskii began to doubt the feasibility of open-cut excavation after a worksite encounter with Kaganovich. When Kaganovich asked Makovskii how he planned to deal with the problem of digging under existing streetcar lines and under houses lying on the projected route of the subway, Makovskii had to admit that he did not know. As a result, he began to search for a better method of excavation.\textsuperscript{67}

Thanks to his unusual ability to read English (German was the preferred second language of Russian engineers), Makovskii was able to read technical literature on the London and New York subways.\textsuperscript{68} Both systems contained deep tunnels, unlike the shallow-lying tunnels of Paris and Berlin. Makovskii quickly convinced himself that Metrostroii's difficulties could be resolved by switching from shallow to deep tunnels.\textsuperscript{69}

At this point Makovskii claimed to have approached Rotert with his idea to switch to deep tunnel excavation,
but the Metrostroi director allegedly was "categorically against" the notion. Only after this rejection, Makovskii asserted, did he take his scheme directly to the MK where it eventually ended up on Khrushchev's desk. In short order Khrushchev became a convert to deep tunnelling and Kaganovich as well was soon won over. Makovskii now had two very powerful patrons in his effort to change the method of excavation at Metrostroi, but virtually the entire technical staff at the project remained opposed to deep tunnelling.

Khrushchev's memoirs cast doubt on the idea that Makovskii first approached Rotert with his idea before appealing to the MK. Khrushchev reports that at his initial meeting with Makovskii, the latter pleaded with him not to inform Rotert of their conversation, explaining that Rotert was "very jealous and very strict. I've brought this idea to you without his permission," Makovskii continued. "It would have been fruitless for me to have spoken to him first. He's awfully opinionated, and he would have knocked my proposal down without even listening to me." Other testimony as well supports the idea that Makovskii did not approach Rotert before contacting Khrushchev.

Khrushchev apparently agreed that Rotert would not be open to a suggestion to convert to deep tunnelling. Without consulting the Metrostroi director, Khrushchev arranged for Makovskii's scheme to be published in the pages of Pravda, the Communist Party's national newspaper. It seems that by
so doing Khrushchev hoped to force a debate at Metrostroi regarding the method of tunnelling.

Makovskii's *Pravda* article appeared in early March 1932. In it, Makovskii strongly argued that switching to a deep tunnel system at Metrostroi would be advantageous for a number of reasons. First, he claimed, deep tunnels could be built faster in the stable layer of clay existing 15 to 30 meters below the surface. This would place the tunnels well below buried pipes and cables, eliminating the need to dig around or replace them, saving time and resources. Such a savings in time was a necessity, Makovskii argued, given Metrostroi's demanding work schedule. After all, the opening of the first line was slated for 1 January 1934, less than two years hence.

Secondly, Makovskii argued for deep tunnelling because it represented the latest word in subway construction. He noted that the British, who pioneered deep tunnel subways, switched to the system after experiencing problems similar to the ones Metrostroi now faced: damage to buildings and underground pipes and the obstruction of street traffic. Other advantages of deep tunnelling cited by Makovskii included a smaller workforce, the ability to work year round allowing a faster construction pace, as well as the elimination of the need to tear up asphalt recently laid on Moscow streets at the cost of several million rubles.73
The appeal of Makovskii's scheme to Party leaders like Khrushchev and Kaganovich is not difficult to understand. On the one hand Makovskii offered a way to build subway tunnels without disrupting the normal life of Moscow, something which seemed impossible using the open-cut or shallow tunnel methods with all their undesirable side effects. But Makovskii's solution also had appeal because it was steeped in the Bolshevik spirit. This was especially evident in the concluding paragraph of Makovskii's article:

Taking into consideration the decree of the June plenum of the Central Committee, the fulfillment of which demands a fast tempo [of construction], we should adopt a bold and decisive course for the implementation and use of the most advanced achievements of world tunnelling technique....

But if Makovskii's brainstorm was music to the ears of the MK, it was a sour note at best to the Metrostroii leadership. One highly-placed engineer, Kh.M. Shmidt, the director of Metrostroii's Engineering Technical Section (ITS), described the unexpected appearance of Makovskii's article as having the effect of "an explosion, a bomb" on him and his colleagues. Shmidt was especially upset because Makovskii did not consult with Rotert or the ITS before going public with the deep-tunnelling scheme. Speculating on Makovskii's motives, Shmidt accused the latter of not sharing his idea with others earlier in order to ensure himself full credit for his proposal. According to Shmidt, Makovskii was an egotist who "wanted to discover America."
Regardless of his motives, Makovskii’s undiplomatic move apparently offended the entire technical staff at Metrostroi and hardened opposition to the idea of deep tunnelling. The result was unanimous opposition to Makovskii’s proposal among the subway project’s leadership— with the sole exception of Rozanov.\textsuperscript{75}

But however much they opposed Makovskii’s methods and ideas, Shmidt and his colleagues realized that they could not simply ignore Makovskii’s article— it had after all, been printed in Pravda, implying support high in the Party leadership. And so the ITS decided that it would respond to the article with a written statement of its own. Despite his opposition to deep tunnelling, however, ITS director Shmidt "felt intuitively" that he could not categorically reject Makovskii’s proposal. Apparently not wishing to expose himself to political risk, Shmidt declined to write the response himself, giving the task instead to the hapless Rozanov. The latter no doubt had developed keen political instincts of his own as a result of his earlier arrest. Not surprisingly, the response which Rozanov crafted was so ambiguous that it was impossible to determine whether it endorsed or rejected Makovskii’s suggestion. After chiding Rozanov for his "unprincipled" behavior, Shmidt dropped the idea of drafting a response to Makovskii.\textsuperscript{76}

Metrostroi’s reluctance to publish an article denouncing deep tunnelling, however, by no means implied
lack of opposition to it. As mentioned earlier, with the exception of Rozanov the Metrostroï technical staff was unanimous in its support of open-cut excavation—and remained so after the publication of Makovskyi's article.77 There were several reasons for this stubborn opposition to deep tunneling at Metrostroï.

First and foremost, the project's engineers simply felt it beyond their capability to build properly a deep tunnel system.78 The dramatic accident at the mineral water factory the previous month only confirmed fears that any tunnelling, shallow or deep, would lead to disaster.79 And despite all the problems attendant with open-cut construction, Metrostroï engineers were confident that they could overcome them. After all, from a purely technical point of view the problems associated with open-cut digging were simple.80 Apparently Metrostroï engineers preferred the devil they knew to the one they did not. That such a mood prevailed is hardly surprising given the fact that most engineers at Metrostroï were construction or railroad specialists, and thus had no mining or tunnelling experience of any kind. The only exceptions to this general lack of tunnelling experience at Metrostroï were Rozanov, who was familiar with shallow tunnelling and, not surprisingly, Makovskyi, who was a railroad tunnel engineer.

Another factor contributing to the popularity of open-cut construction at Metrostroï was the method's German
roots. As mentioned earlier, the open-cut method was employed in the construction of the Berlin subway. This is significant because the educational and professional ties of Soviet engineers with Germany were stronger than with any other Western country. The Russian and early Soviet technical educational system was based on the German model and it was common for Russian and Soviet engineers to study and work in Germany. As a result, Russian engineers were accustomed to looking to Germany for ideas and equipment.\textsuperscript{81} Siemens Bau Union, the German construction firm, had an especially close relationship with Russia extending well back into the pre-revolutionary period. Siemens, the reader may recall, was the same firm which drew up plans for a subway in Moscow back in the late 1920s. Despite some modifications, the plan of operation at Metrostroi in 1932 was based largely on the original Siemens plan which called for open-cut excavation. Because of their education and professional training most of the Metrostroi leadership was quite comfortable with the German-based open-cut method and was loath to switch to another mode of construction.\textsuperscript{82}

Furthermore, deep tunnelling was resisted because many prominent engineers at Metrostroi felt that a deep-based subway would inconvenience passengers, since the latter would have to travel a great distance from the surface to reach the underground trains. This argument carried great weight because of the Party’s pledge to build a subway which
emphasized the comfort of its passengers. When Makovskii countered with the observation that in London escalators quickly and easily moved passengers in and out of subway stations far below the surface, his colleagues simply did not believe him. Escalators were non-existent in the USSR and few engineers at Metrostroï had ever used or even seen one. Out of stubborn ignorance many of Metrostroï’s leading engineers convinced themselves that escalators were awkward for passengers to use and perhaps even dangerous to boot. Moreover, some argued that even if escalators were the panacea Makovskii claimed, Soviet industry was incapable of producing them. And, given Metrostroï’s limited hard-currency budget, purchasing them abroad was out of the question. Thus, for some, the deep tunnel system’s reliance on escalators alone was deemed sufficient reason to reject it.83

Escalators are so common today that fear of them now seems ludicrous. But in the Soviet Union of 1932, they were exotic devices, virtually the stuff of science fiction. And in defense of these engineers it should be pointed out that their seemingly irrational disdain for escalators quickly evaporated once they had the opportunity to see escalators in use. Such, for example, was the experience of the Metrostroï engineers who travelled to London the following year to inspect the British subway. But however unfounded
these objections proved to be in retrospect, in 1932 they were real and quite serious.⁸⁴

In the course of a technical meeting Rotert himself clearly enunciated yet another objection to deep tunnelling. Recalling his experience at Dneprostroji, Rotert maintained that the dam was completed on schedule precisely because its builders had resisted the temptation to depart from the original construction plans—despite the fact that a "hundred" new designs were developed for the dam after start of construction, some even superior to the original design. Applying this lesson to Metrostroji, Rotert warned

Technology moves forward with such giant steps [and] human thought progresses so quickly, that if at any given stage of our project we start trying to keep up with the latest technological progress...we will never be able to finish building, but will find ourselves only [constantly] reorganizing.⁸⁵

Concluding his remarks, Rotert defiantly declared that he would not allow the adoption of the deep tunnel plan since it would mean disrupting work at Metrostroji. And to allow work to come to a stop, Rotert asserted, was the equivalent of "wrecking" (vreditel'stvo).⁸⁶

Such an emotionally charged statement serves to illustrate the tense atmosphere which prevailed at the spate of technical meetings held after the appearance of Makovskii’s article. The use of invective seems to have been commonplace: Rotert at a meeting before the MK was said to have thunderously denounced deep tunnelling and a
professor who advocated it, referring to the latter as a "grave-digger," at which point the Metrostroii director finally was called to order.\textsuperscript{87} At another meeting Khrushchev described Rotert as "scowling at Makovskii like a crocodile at a rabbit," and claimed Rotert could not refrain from "spewing contempt" on Makovskii, calling him an "irresponsible young whippersnapper."\textsuperscript{88} Despite having powerful patrons, Makovskii admitted he felt "isolated" at Metrostroii and was "greatly unnerved" by such "attacks", not only from Rotert, but from the entire ITS.\textsuperscript{89} Kaganovich, too, contributed to the lack of civility, at one point calling a high-ranking engineer a coward for refusing to support deep tunnelling. Soon thereafter the engineer left the project for Volgostroii.\textsuperscript{90}

This is precisely the type of troubled atmosphere that one would expect in confrontations between grizzled "bourgeois experts" like Rotert and young "red specialists" like Makovskii. Even a careful reading of Khrushchev's memoir, in fact, convinces one that this was the classic confrontation that Kendall Bailes elsewhere so well described.\textsuperscript{91} Khrushchev referred to Makovskii as a "young engineer," "sharp and handsome," and "one of our Socialist era's new generation of specialists." In reference to Rotert, Khrushchev employed derogatory terms like "old and fat" and "stubborn."\textsuperscript{92} A closer examination of Makovskii and Rotert's biographies, however, reveals that neither fit
any convenient stereotypes. Despite receiving his technical education at Soviet institutions, Makovskii was not only not a Communist Party member, he had never even been a komsomolets! Thus he hardly can be referred to as a "red specialist." And although Rotert also was not a Communist, his "bourgeois" credentials were less than impeccable: as a young engineer in 1917 he was the chairman of the council of workers’ deputies for Russia’s southern railroads and was instrumental in opposing the Kornilov putsch. For his opposition to Kornilov, Rotert was imprisoned by the Whites during the Civil War. He was later freed by the Red Army. Thus, both men seem to fall somewhere between the two polar extremes of "bourgeois expert" and "red specialist."

On the other hand, it is true that Rotert had received his technical education in Russia before the Revolution, while Makovskii was the product of Soviet training. As such the two men did represent two different generations of engineers in the USSR and such differences should not be minimized.

Nevertheless, it is interesting that these two men, neither of whom was a Communist, had in common a savvy opportunism in their use of Bolshevik terminology to defend their positions. Witness Rotert’s branding of those favoring deep tunnelling as "wreckers" and Makovskii’s use of Bolshevik phraseology to argue for his scheme. Judging
the men based on their rhetoric, one again sees a blurring of traditionally emphasized differences.

Further blurring the traditional view of a sharp division between bourgeois experts and Communist technical specialists is the fact that the Communist contingent of engineers at Metrostroi unanimously supported Rotert in his opposition to deep tunnelling. This occurred despite the fact that the MK clearly supported Makovskii's scheme. The only chink in the solidarity of the Communists at Metrostroi in this regard was ITS director Shmidt's refusal to directly criticize Makovskii at technical meetings. Shmidt justified his inaction by claiming that he did not want to be seen as "suppressing initiative." But even he by no means supported Makovskii.95

The disagreement over the need to convert to deep tunnelling shows well the conflicting priorities of Moscow Party leaders on the one hand, and the directors of Metrostroi on the other. For Kaganovich and Khrushchev, political considerations took priority at Metrostroi. They made it clear that they did not care how the subway was built so long as "the life of the city and street traffic were disrupted to the least extent possible."96 It was primarily for this reason that they grew disenchanted with open-cutting and were attracted to deep tunneling. In contrast, technical considerations received the highest priority in the eyes of the Metrostroi leadership: it sought
to build the subway in the simplest and most technically feasible manner. And, if need be, it was willing to temporarily sacrifice the comfort of Muscovites to achieve this. With such different priorities, the two sides found themselves at an impasse, despite repeated attempts to reach some sort of consensus.

Although Makovskii remained isolated at Metrostroï in this debate, his newspaper article soon paid dividends in the form of outside support. Within days of the article's publication, letters of support for deep tunnelling poured in, mostly written by engineers in research institutes as well as local professors with expertise in tunnelling.97

Also helping to change the "correlation of forces" in favor of deep tunnelling was Khrushchev's decision to recruit mining engineers to Metrostroï. Having considerable mining experience in his youth, Khrushchev came to the conclusion that it was wrong to debate deep tunnelling without having the input of mining experts. Once on the staff at Metrostroï, the newly arrived mining engineers almost to a man advocated the deep tunnelling method.98 Although still outnumbered, Makovskii eventually gained a significant minority of support within Metrostroï for his proposal.

Despite this change, Metrostroï director Rotert remained adamant in his opposition to deep tunnelling. Repeated meetings with Khrushchev and Kaganovich in March
and April did not weaken Rotert's attachment to the open-cut method. After a meeting of the Central Committee where Rotert again refused to budge on this issue, Khrushchev noted that Kaganovich became embarrassed because the stalemate meant the matter would have to be settled in the Politburo. Kaganovich allegedly dreaded this scenario because of the possibility that Stalin might support Rotert instead of him.99

Kaganovich's fears proved unjustified. In a meeting apparently held on 23 May 1932, Stalin decided in favor of conversion to deep tunnelling at Metrostrooi, despite Rotert's pleas to the contrary.100 If Khrushchev's account is accurate, a major factor pushing Stalin toward the deep tunnel option was the civil defense value of subway stations deep underground.101 It seems unlikely, though, that this military factor was the deciding one. Stalin probably supported deep tunnelling primarily for the same reason Kaganovich and Khrushchev did--it seemed the best way to avoid making a shambles of Moscow during the subway's construction and to ensure that the project would be completed on time.

In fact, the advocates of deep tunnelling skillfully represented the method as the panacea for all that ailed Metrostrooi and it is probably for this reason more than any other than Stalin ruled in favor of the method. For example, Makovskii and others promised that deep tunnelling
would allow excavation to occur without any damage to the streets or buildings above and would in no way require streets to be closed to traffic.\textsuperscript{102} They predicted that deep tunnelling would be faster and cheaper than the open-cut method.\textsuperscript{103} And they even claimed that deep tunnelling would be easier. The nearer to the surface one dug, they maintained, the harder excavation was because the ground there was waterlogged, causing frequent cave-ins and damage to adjacent buildings. Deep below, however, was said to be a thick layer of dry Jurassic clay which allowed for easy, trouble-free excavation. One could even dig there in a white dress shirt and tie without getting dirty, they boasted.\textsuperscript{104} In fact, all of these claims were proven wrong by subsequent events, but with deep tunnelling being portrayed in such a favorable light, it was hard for the Soviet leadership to resist approving it.

Party enthusiasm for deep tunnelling was so great that the plan was not only approved, Stalin ordered that it be adopted wholesale and without reservation. Metrostroi was ordered to switch to this method immediately and to apply it along the entire projected route of the subway.\textsuperscript{105} In retrospect, this turned out to be a tremendous mistake. Contrary to expectation, deep tunnelling initially proved to be even more difficult than open-cut excavation. It's adoption was so problematic that it literally brought all
progress at Metrostroii to a halt for the rest of the year and well into 1933, a period of nine or ten months.

Deep tunnelling initially was a disaster because most attempts to dig down to the tunnelling depth 20 or 30 meters below the surface failed miserably. Work on most of these vertical bores came to a grinding halt after only a few meters' digging because of flooded pits or quicksand which defied efforts to contain it. The heavy wooden timbers used to line the shafts broke like matchsticks under the tremendous pressure of the quicksand.106

Moreover, in the few cases where vertical shafts were successfully dug to the required depth, the much-touted layer of Jurassic clay proved to be extremely difficult to work in. To begin with, it was often not dry as promised, but waterlogged. It, too, threatened diggers with flooding and cave-ins. Secondly, even when dry it proved unstable: upon contact with air it softened, acquiring the consistency of "sour cream" and thus was difficult to shore-up properly.107 As if these problems were not enough, mere contact with the clay caused the outbreak of a serious rash on the skin of tunnelers.108 But worst of all was the fact that the thick, even layer of Jurassic clay which Makovskii had claimed underlay the entire subway route simply did not exist. Not only was the stratum of clay uneven, reducing its suitability for an underground train which required a fairly level track, it was in many areas far too thin to
contain an entire subway tunnel. Thus the fundamental assumption upon which Makovskii had based his deep tunnelling scheme, a thick, dry and even layer of stable clay, upon closer examination proved to be a mirage.\textsuperscript{109}

At this point it is fair to ask how is was that Makovskii could have persuaded the Soviet leadership to adopt a plan based on such a faulty assumption. Why was it that Metrostroii did not already know that Makovskii’s layer of Jurassic clay was a fiction? Simply put, Metrostroii had neither the time nor the expertise to verify Makovskii’s geologic assumptions. Prior to the adoption of deep tunnelling, a draft project of the scheme was ordered by the MK--but Metrostroii was given only seven days to complete this work. Such a short period of time was insufficient to properly draw up plans, much less to conduct test bores of the subsoil along the route--a task which had not been completed by this time. Thus, the draft plan of deep tunnelling upon which the Politburo based its decision was hurriedly thrown together and was not based on precise geological information. Rather, it was founded on Makovskii’s hunches and wishful thinking.\textsuperscript{110}

But even if more time had been allowed for detailed geological testing of the subway route, it is not clear that this would have helped matters much. The sad fact is that Metrostroii’s "hydro-geologic department" was headed by an irrigation engineer, a certain Iudonich, who knew nothing
about geologic testing for tunnel construction. Once again Metrostroi's absence of qualified technical personnel was to have disastrous consequences for the project. Although Iudonich and his assistants did obtain geologic samples along the subway route, they were unable to properly analyze them. Out of desperation, Iudonich invited a group of academic geologists as consultants. But their suggestions were so diverse and contradictory that they only created more confusion. During one meeting, as the academics disputed each other, a Metrostroi colleague of Iudonich passed the him a slip of paper upon which he had scribbled a quote from Heinrich Heine: "66 Professoren--Vaterland, du bist verloren!"  

So when the decision was made to convert to deep tunnelling, the geologic test bores were too few to give an adequate picture of subsurface conditions. But even as time went on and more bores were made, Metrostroi's staff was unable to properly analyze them. The effect of this on excavation was disastrous. Work plans required constant redrafting as new (and not necessarily accurate) geologic data came in. Even before the switch to deep tunnelling, Metrostroi's drafting department was unable to deliver work plans on schedule. Now the problem only became worse. Draftsmen worked night and day producing plans which became worthless even before they were completed because of the constant changes.  

Engineer Shmidt noted only half
jokingly that the quantity of paper used by the drafting department could be measured in kilometers, giving rise to the witticism that at the subway project there was a "kilometroproekt" and a "millimetrostrooi." Without plans or even accurate geologic information engineers at the worksites complained that they were digging "in the dark," giving rise to an "extremely dangerous" situation that could lead to "all kinds of unforeseen consequences." In late 1932 another engineer complained that the drafting department's work was so slow that an absurd situation was developing—long after the subway was finished the project's draftsmen would apparently still be at work.

The lack of progress at Metrostroii in 1932, however, was not entirely due to the absence of proper plans or subsoil data. Also to blame was the project's shortage of mining engineers, despite the fact that Metrostroii after 1932 became, essentially, a mining operation. Simply put, the construction and railroad engineers who dominated Metrostroii's technical staff had no idea how to dig tunnels. Nor did they receive useful advice from above. They were simply left to their own devices, to learn on the job. Each began work independently. As one prominent Metrostroii engineer complained, "the army is wandering at the front wherever it pleases," without orders or direction. The result was chaos. Even two years later, as work at Metrostroii was coming to a successful conclusion, one
engineer noted that it was difficult for him talk about this early period (1932) even in a "friendly, unofficial conversation." He noted that Metrostroi's mine shafts were built with the "most primitive, antediluvian methods." At one shaft, it took fourteen months just to dig down to the proper tunnelling depth. Other shafts were closed because of floodings or cave-ins. After months of failed efforts people did not know how to proceed so they simply "sat at the shafts and cried."¹¹⁸

But these critical observations are not meant to belittle the determined efforts of many to overcome these problems. At shaft 10 on the Okhotnyi riad, for example, diggers struggled in waist-deep water because Metrostroi's underpowered pumps were no match for the water. It is difficult today for the reader to understand the extent of the sacrifice of these workers, many of whom lacked waterproof boots and clothes. Their problems were only exacerbated by the fact that Metrostroi had no clothes dryers--and since many of the workers had no spare clothing, even after their workdays ended they were forced to remain in their soaked garments. On top of this, workers' rations were exceptionally meager even by Soviet standards--1932 was, after all, a year of famine in the Soviet Union. Despite these problems, workers toiled on, day after day.

Not surprisingly, A.O. Bobrov, director of shaft ten,
described the performance of his workers at this time as "utterly heroic."  

But even heroic efforts could not overcome the vexing difficulties at Metrostroi. At the end of the year a Metrostroi Communist Party secretary (partkom) characterized the results of excavation work at Metrostroi in 1932 as "deplorable" and warned that the project would not be completed on time if major changes were not made.  

Another partkom noted that Metrostroi was only "marching in place," and grimly reported that "the class enemy is using our difficulties and shortcomings to bolster its own propaganda efforts--to claim that we have undertaken a task that is beyond our capabilities."  

Production statistics bear out such thinking. During all of 1932 Metrostroi excavated only .6 percent of the total amount of tunnel necessary to complete the first line. Concrete poured to line tunnels amounted to about .2 percent of the total needed to finish.  

At this rate, about 250 years would be required to complete the project. Such a deplorable state of affairs obviously called for major changes at Metrostroi, but the nature or direction of such changes was anything but clear. 

Helping clarify what changes were needed were consultations with subway specialists from Germany, France, and Great Britain. Held in the summer of 1932 in Moscow, the MK had authorized these consultations the previous
December for the purpose of helping Metrostroi develop a sound plan of construction.\textsuperscript{123} By the time the foreigners arrived, the decision to convert to deep tunnelling had already been made. Consequently, officials at Metrostroi were especially eager to query the visiting subway experts about the feasibility of deep tunnelling.

Virtually all published Soviet accounts which mention these consultations with foreign experts dismiss them as a waste of time. The visiting subway specialists are routinely portrayed as mercenary capitalists "acting solely on the expectation of further participation in the construction of the Moscow Metropolitan and on obtaining orders for the supply of equipment from those firms which the foreign specialists represented."\textsuperscript{124} Furthermore, the recommendations of the foreign specialists regarding the proper method of subway construction in Moscow are discounted entirely, since each delegation supposedly simply advocated the "use of methods with which they were familiar without taking into consideration the [unique geologic] conditions in Moscow."\textsuperscript{125} By contrast, the findings of the Soviet commission of experts (also charged in mid-1932 with developing a revised plan for construction at Metrostroi) are said to have been "well-grounded, well thought-out, and concrete."\textsuperscript{126} The final plan of construction approved for Metrostroi in early 1933, the Soviet version continues, represented an entirely "original method of construction"
and was developed by Soviet engineers and technicians "without foreign help."\textsuperscript{127}

This denigration of the foreign consultants is consistent with the Soviet claim that the Moscow subway was built by Soviet engineers and workers "without foreign help." But it is also a gross distortion of the truth. Unpublished accounts make it clear that Metrostroi greatly benefited from the advice of the foreign delegations of mid-1932. Rotert himself is on record publicly praising the assistance of the foreign specialists.\textsuperscript{128}

Furthermore, the allegedly mercenary attitude of the foreign delegations is understandable when one realizes that the Soviets encouraged such an attitude and used it to their benefit. As previously mentioned, starting in 1932 the USSR's lack of hard currency reserves made it very difficult for the Soviet Union to purchase Western expertise and technology outright. In response, Metrostroi developed a new strategy to effect technology transfers. To begin with, Western technical experts were lured to Moscow with vague assurances of future orders of subway equipment. Once in Moscow, engineers from Metrostroi milked the foreign experts of all the free information and advice they could manage. Whenever the Westerners suggested that the Soviets sign contracts for purchases of their machinery, the Soviets employed stalling tactics. They assured the foreigners that they most certainly would order their equipment--only not
today, but rather sometime in the near future.\textsuperscript{129} Such tactics worked, apparently, because many if not most of the foreign experts were convinced that the Soviets were not capable of building or outfitting the Moscow subway by themselves. The German firm, Siemens Bau-Union, for example, was so sure of its ability to sell to the Soviets that it gave them without cost a subway car. The Germans apparently expected the Soviets to be so impressed with the car that they would order dozens of them.\textsuperscript{130} Instead, the Soviets dismantled and studied the gift in order to learn how to manufacture their own subway cars—something that would have been much more difficult without this free "sample." Thus the Soviets were able to obtain through subterfuge information and even equipment that they simply could not afford to buy directly. In essence they "out-traded" their capitalist counterparts.\textsuperscript{131}

Of the three foreign delegations which visited Metrostroi in mid-1931, the French were apparently the most helpful. One prominent Metrostroi engineer was especially effusive in his praise of the French for their "valuable advice, practical instructions, and technical counsel."\textsuperscript{132} Less popular at Metrostroi was the British delegation which, a Soviet engineer complained, "questioned us more that it allowed us to question them."\textsuperscript{133} Such behavior led some in Moscow to suspect that the British were spying on the Soviets.\textsuperscript{134} Still, even the talks with the British were
useful since they enabled engineers at Metrostroii to obtain detailed information about London's deep tunnel subway system. Only as a result of conversations with the British were many at Metrostroii persuaded that a deep tunnel system was both feasible and desirable. British engineers, for example, finally convinced Metrostroii personnel that even children and the elderly could use escalators comfortably and without mishap. They also persuaded the skeptical Soviets that the deep-lying subway stations in London were well ventilated, claiming that the quality of air there was in many ways superior to the shallow systems in Berlin and Paris.135

Archival sources on the Soviet commission of experts do not paint as flattering a picture as published accounts. Shmidt, who was particularly outspoken about his work at Metrostroii, accused the Soviet commission of being unprincipled. The Soviet commission, he claimed, was unduly influenced by "the mood of the organs of leadership, of Kaganovich," which favored deep tunnel construction. Given Kaganovich's power and intimidating method of conducting "technical meetings," this development is hardly surprising. Not all of the members of the Soviet commission were grovelers, however. Shmidt recalled with admiration one commission member, a miner by the name of Kagan, who had the sand to defend open-cut digging despite the criticism he received from Kaganovich for this.136
It was not until the fall of 1932 that the findings of the four expert commissions were collected and discussed in detail by the leadership of Metrostroii and the MK. Because of the serious problems encountered in deep tunnelling, by November a second round of debates began concerning the proper method of construction at Metrostroii. Once again technical meetings were repeatedly held, often with Kaganovich chairing the proceedings. As in the spring, professors and other technical experts from within the Soviet Union were invited to these discussions.\textsuperscript{137} The end result was the adoption of the so-called "combined method" of construction. In some areas of the projected subway route, especially underneath the narrow Miasnitskaia ulitsa (later Kirovskaja), deep tunnelling was to be maintained. But further away from the city center where the streets were broader, a return to open-cut digging was ordered. The reasoning was as follows: on the wide boulevards such as Sokolnichnaia, open-cut digging could be effected without stopping streetcar traffic. Also, in these outlying areas the maze of underground pipes and cables was not so thick, and thus was easier to dig around or to replace.

Kaganovich apparently came around to the idea of combined-method construction in late January 1933,\textsuperscript{138} but the new scheme was not officially approved by the Central Committee until 20 March 1933.\textsuperscript{139} It was also at this later date that the deadline for completion of the first subway
line was extended: from 1 January 1934 to 1 December 1934. This extension was necessary and no doubt appreciated at Metrostroi. But considering the fact that very little progress had been made at the subway project in 1932, even meeting the revised deadline would require superhuman efforts and this fact was not lost on the Metrostroi leadership.

Other Central Committee-mandated revisions at Metrostroi at this time include increased budget allocations for 1933. This is hardly surprising given the fact that Metrostroi was meeting its planning targets in only one category: the expenditure of funds. Here Metrostroi not only met targets, it overfulfilled them. And so the original figure of 80 million rubles allocated to Metrostroi for 1933 was increased to 130 million. Interestingly, the extra money was siphoned off funds assigned to the construction of the Moscow-Volga canal. But even this revised budget did not suffice to keep up with the furious pace of spending at Metrostroi and by late 1933 an additional 15 million rubles was assigned to the project. This time the extra money came from the Moscow housing fund—an ironic development when one remembers that in 1928 the construction of the Moscow subway had been blocked in part due to fears that the subway would be built at the expense of new housing in Moscow.
There was yet another indication that the Soviet leadership by March 1933 was prepared to dig even deeper in its pockets to support Metrostroi. "For the improvement of the quality of the technical leadership" at the subway project, the Central Committee also decreed the hiring of "seven prominent foreign specialists for permanent work at Metrostroi." At the same time Metrostroi was authorized to send ten of its engineers abroad to study subway construction. Both of these measures called not only for high monetary expenditures, but the spending of precious valiuta or hard currency. After almost a year and a half of mistakes and little progress at Metrostroi, the Soviet leadership apparently came to the reluctant conclusion that Soviet engineers were not capable of building the Moscow subway without more foreign assistance.\textsuperscript{143}

Deciding on a finalized plan of operation was a major step forward for Metrostroi. But it was only one of a series of advances at the subway project by the spring of 1933. Other positive developments at this time were the adoption of caisson excavation, the appointment of E.T. Abakumov as deputy director of Metrostroi, and the recruitment of thousands of komsomoltsy (Young Communists). All of these moves helped put work at Metrostroi on a proper footing. After nearly a year and a half of "marching in
place," the subway project began by the spring of 1933 to make real progress.

The use of caisson excavation was a true turning point at Metrostroii. It enabled vertical shafts to be sunk down through the deep layers of quicksand to depths of 20 or 30 meters. Finishing these vertical shafts, of course, was vital, because the fundamental job of digging the horizontal subway tunnels could not begin until workers reached the tunnels' projected depth. At shafts where workers had been ineffectively digging more than a year, with the aid of caissons the projected depths were reached in just two or three months.

Used in bridge construction, a caisson is a compressed air chamber (similar to a diving bell) which is closed on all sides but the bottom. By increasing the air pressure inside the caisson, digging in very wet ground, even quicksand, becomes possible. The high air pressure inside the caisson pushes away all water, rendering even quicksand dry and easy to dig. Thus, with the aid of a caisson, workers could dig down into the wettest soil without fear of flooding or cave-ins.

Although the largely futile attempts to dig vertical shafts began in May 1932, a full eight months passed before Metrostroii approved the use of caisson excavation. Given the great success digging with caissons enjoyed, it is natural to wonder why the devices were not tried earlier at
the subway project. Engineer Bobrov, who had extensive experience in bridge construction before he came to Metrostroii, recommended the use of caissons in mid-1932. But, Bobrov claims, Professor Rozanov opposed the idea and so the initiative was stifled. Once again Rozanov is shown to have been a veritable "subway gremlin" at Metrostroii. Why Rozanov did not approve this idea Bobrov did not explain.\textsuperscript{144}

Months later, another experienced bridge builder at Metrostroii, engineer P.P. Kucherenko, also suggested the use of caissons to aid the now long-stalled digging of the vertical shafts. By this time the Metrostroii leadership was receptive to the idea, but skeptical that caissons could be obtained anywhere in the equipment-poor USSR.\textsuperscript{145} Kucherenko replied that by chance he knew of several caissons that had recently been used in bridge construction in Belorussia and which were now lying idle since the bridges had been completed. He claimed that he could procure the caissons if Metrostroii were to give him the authority to travel there and purchase them. At the end of 1932 Metrostroii dispatched Kucherenko to Minsk and he soon located four unemployed caissons. But when he sent a telegram to Metrostroii asking that it wire him money to purchase this equipment, the reply was slow in coming. Kucherenko was not well known at Metrostroii and some there apparently had second thoughts about his reliability. Some were afraid that Kucherenko
would disappear once he obtained the cash he requested. For two weeks the Metrostroii leadership debated whether or not to send the money, finally deciding to take a chance on Kucherenko. This faith, however weak, proved justified and in early 1933 Kucherenko was back in Moscow with the excavating equipment.\textsuperscript{146}

The results Kucherenko achieved with his caissons were nothing less than spectacular. At one vertical shaft on Miasnitskaia ulitsa excavation earlier had averaged six centimeters a day. With the aid of a caisson, the average jumped to a meter and a half a day.\textsuperscript{147} The previously impenetrable quicksand had been conquered. Even with caissons, however, vertical excavation took time, and it was not until the summer of 1933 that all the vertical shafts had been completed.\textsuperscript{148} But at least by then Metrostroii was finally in position to begin excavation of the deep, horizontal tunnels through which the subway trains one day would pass. This represented a giant step forward.

Roughly coinciding with the advent of caisson excavation at Metrostroii was the appointment in early April 1933 of E.T. Abakumov as Deputy Director of the project. Although only 38, Abakumov was a mining engineer with considerable experience and standing, including supervision of coal mining in the entire Donbass. What he brought to Metrostroii was not only his much needed mining expertise, but a "can-do" attitude and willingness to work overtime as
well. In contrast to the office-bound Rotert, Abakumov was a conspicuous presence at Metrostroi, constantly inspecting work and suggesting improvements. Furthermore, he was not afraid to get his hands dirty: soon after his arrival he helped install a sump-pump and a mine-shaft lift after he discovered that no one at a worksite knew how to do these things properly.¹⁴⁹

This type of energetic, results-oriented personality is just what the Metrostroi leadership needed—especially from the MK's point of view. Not surprisingly, Khrushchev was partly responsible for Abakumov's appointment. The two had been friends since 1912 when both worked in the same mine in the Donbass and Khrushchev briefly worked as Abakumov's deputy after the Civil War. Indeed, Abakumov's practical nature and strong work ethic was very much in the style of Khrushchev and the two men enjoyed a good working relationship at Metrostroi.¹⁵⁰

Another factor which no doubt made Abakumov appealing to Khrushchev and the MK was his long-term membership in the Communist Party. Abakumov not only fought for the Red Army during the Civil War, he had joined the Party in 1918.¹⁵¹ Thus, unlike Rotert who was not a Communist, Abakumov's Party affiliation helped him to better understand the political aspects of work at Metrostroi, chief among these being the need to complete the project by the date set by the MK.
Further spurring Abakumov's enthusiasm for work was the fact that his appointment as Deputy Director at Metrostroii coincided with his sacking as director of coal mining operations in the Donbas. On 8 April 1933, the same day he was transferred to the subway project, Abakumov was unceremoniously removed from his Donbas post for "underestimating the value of mechanization."\textsuperscript{152} Having gained his position of director of the Donbass as a result of the mass arrests which occurred during the Shakhty affair some 5 years earlier, Abakumov did not take his firing lightly. Indeed, he later confessed that it gave him quite a scare.\textsuperscript{153} Abakumov no doubt realized that his appointment to Metrostroii was an opportunity to redeem himself in the eyes of the Party leadership. This fact, it is safe to assume, prodded Abakumov to work to the very best of his ability.

Once on the job at Metrostroii, Abakumov helped the project in two important ways. First, his mining expertise, combined with his high visibility and willingness to offer practical advice at the worksite, gave engineers the confidence that they could indeed build the subway. Before Abakumov's arrival, such confidence was noticeably lacking, something hardly surprising given the fact that most of the engineers at Metrostroii were engaged in a project completely unknown to them, and one which they often found bewildering.\textsuperscript{154}
Just as important as the practical advice and leadership Abakumov provided was his decision to import large numbers of highly qualified mining engineers to the subway project. Although this decision only heightened existing antagonisms between mining and construction engineers at Metrostroi, the presence of experienced mining engineers at the deep tunnelling sections of the Metro was a real boon to the project. Despite their lack of experience in subway construction, these men knew how to dig tunnels and their presence at Metrostroi went a long way toward putting that project on a proper footing.¹⁵⁵

In short, then, by mid-1933, work at Metrostroi was finally getting off to a good start after nearly a year and a half of frenetic but ultimately bungled activity. Yet to be described in this connection, however, is the arrival at Metrostroi of thousands of Young Communist workers. As the next two chapters will illustrate, the presence of such fresh-faced and enthusiastic tunnelers also proved to be highly beneficial to the subway project.
1. KPSS v resoliutsiiakh, 4:552.


3. Rossiiskoi Tsentr Khraneniia i Izucheniiia Dokumentov Noveishii Istorii (hereafter RTsKhIDNI) [previously known as the Tsentral'nyi partinyi arkhiv], f. 17, op. 20, d. 293, l. 8.


7. TsGAOR, f. 7952, op. 7, d. 298, l. 191.


10. TsGAOR, f. 7952, op. 7, d. 293, ll. 118-19.

11. Literally, "Nu, razve eto rabota?" TsGAOR, f. 7958, op. 7, d. 314, l. 309.

12. Ibid., d. 300, ll. 132-33.

13. Ibid., d. 300, l. 137.

14. Ibid., d. 138, l. 18; & d. 293, l. 120.

15. Ibid., d. 116, l. 25; & d. 323, l. 173.


17. TsGAOR, f. 7952, op. 7, d. 323, l. 170.

18. See for example engineer Makovskii's complaints in
this regard (Ibid., d. 305, l. 169).

19. Ibid., d. 323, l. 170; & d. 302, l. 169.

20. Ibid., d. 323, l. 171.

21. RTsKhIDNI, f. 17, op. 20, d. 293, l. 8.

22. TsGAOR, f. 7952, op. 7, d. 319, l. 65.


24. TsGAOR, f. 7952, op. 7, d. 161, l. 141.

25. Ibid., d. 163, l. 43.


27. Tsentral'nyi gosudarstvennyi arkhiv oktiabr'skoi revoliutsii i sotsialisticheskogo stroitel'stva goroda Moskvy [hereafter TsGAORgM], f. R-665, op. 1, d. 65, l. 10.

28. Dni i gody, 84.

29. TsGAOR, f. 7952, op. 7, d. 161, l. 141.

30. See for example the cases of the engineers P.P. Kucherenko, a bridge-building specialist (TsGAOR, f. 7952, op. 7, d. 290, li. 193-94) and Kh.M. Shmidt (Dni i gody, 83-4).

31. TsGAOR, f. 7952, op. 7, d. 292, l. 221.


36. Khrushchev Remembers, 65, 68.

37. For Khrushchev's role in supervising the Metro, see Crankshaw, Khrushchev, especially Chapter Eight, "We Have a Beautiful Metro," 84-95.


39. TsGAOR, f. 7952, op. 7, d. 138, l. 52.


41. TsGAOR, f. 7952, op. 7, d. 298, l. 198.

42. Ibid., d. 298, l. 198.

43. Ibid.

44. Ibid., d. 300, l. 138.

45. Ibid., d. 323, ll. 173-74.

46. Ibid., d. 323, l. 163.

47. See for example TsGAOR, f. 7952, op. 7, d. 300, l. 139.

48. Dni i gody, 28.

49. TsGAOR, f. 7952, op. 7, d. 298, l. 198.

50. Ibid., d. 314, l. 315.

51. Ibid., d. 309, l. 188.

52. Ibid., d. 323, l. 208.

53. Ibid.

54. Ibid., d. 294, l. 257; & d. 323, ll. 165-66.

55. Ibid., d. 293, l. 51.

56. Ibid., d. 294, l. 253.

57. Ibid., d. 299, l. 191.

58. Ibid., d. 293, l. 51.
59. Ibid., d. 299, l. 191.
60. RTsKhIDNI, f. 17, op. 20, d. 293, l. 8.
61. TsGAOR, f. 7952, op. 7, d. 323, l. 156.
62. Ibid., d. 323, ll. 156 & 166; & d. 294, l. 257.
63. Kovalev, Metro, 15.
64. TsGAOR, f. 7952, op. 7, d. 451, l. 126.
66. TsGAOR, f. 7952, op. 7, d. 298, l. 199.
67. Ibid., d. 292, l. 6.
68. Ibid., d. 323, l. 177.
69. Ibid., d. 292, ll. 2-8.
70. Ibid., d. 305, l. 173.
72. See, for example, engineer Shmidt’s assertions (TsGAOR, f. 7952, op. 7, d. 323, ll. 162-163).
73. Pravda, 1 March 1932, 3.
74. Ibid.
75. TsGAOR, f. 7952, op. 7, d. 323, l. 162.
76. Ibid., d. 323, l. 163.
77. Ibid., d. 314, l. 318.
78. Ibid., d. 323, l. 160.
79. Ibid., d. 323, l. 175.
80. Ibid., d. 314, l. 320.
82. TsGAOR, f. 7952, op. 7, d. 323, l. 175.
83. Ibid., d. 314, ll. 320, 326, & 327.
84. Ibid.

85. This quote is not based on a transcript of Rotert’s speech, but rather on Shmidt’s first-hand recollection of Rotert’s words (TsGAOR, f. 7952, op. 7, d. 323, l. 164).

86. Ibid.

87. Ibid., d. 314, l. 320.

88. Khrushchev Remembers, 69, 70.

89. TsGAOR, f. 7952, op. 7, d. 305, ll. 173-74.

90. The engineer in question was Oskolkov, Rotert’s Deputy for the Technical Section (TsGAOR, f. 7952, op. 7, d. 323, l. 160).


92. Khrushchev Remembers, 69, 70.

93. TsGAOR, f. 7952, op. 7, d. 305, ll. 168, 186.

94. Dni i gody, 66.

95. TsGAOR, f. 7952, op. 7, d. 323, l. 164.

96. Ibid., d. 298, l. 200.

97. Ibid., d. 305, l. 174.

98. Ibid., d. 323, l. 165.

99. Khrushchev Remembers, 70.

100. RTsKhIDNI, f. 17, op. 20, d. 293, l. 223.

101. Khrushchev Remembers, 70.

102. TsGAOR, f. 7952, op. 7, d. 323, l. 169.

103. Ibid., d. 323, l. 161.

104. Ibid., d. 290, ll. 72-73.

105. By decree of the Council of Peoples’ Commissars
(Sovnarkom), 25 May, 1932 (TsGAOR, f. 7952, op. 7, d. 139, l. 7).

106. Metrostroi 5-6 (1933): 5.

107. TsGAOR, f. 7952, op. 7, d. 323, l. 162.

108. Ibid., d. 451, l. 128.


110. Ibid., d. 298, l. 201.

111. The English translation is, "66 professors--Fatherland, you are lost!" (TsGAOR, f. 7952, op. 7, d. 298, l. 330).

112. TsGAORgM, f. R-665, op. 1, d. 24, l. 3.

113. TsGAOR, f. 7952, op. 7, d. 323, l. 171. Even a year later the situation had not improved. For the complaint of an American subway engineer that Metrostroi’s drafting department was engaged in prodigious amounts of "dead work," see Moscow Daily News, 27 May 1933, 3.

114. TsGAORgM, f. R-665, op. 1, d. 24, l. 20.

115. Ibid., l. 15.

116. TsGAOR, f. 7952, op. 7, d. 307, l. 78.

117. TsGAORgM, f. R-665, op. 1, d. 24, l. 4.

118. TsGAOR, f. 7952, op. 7, d. 314, l. 104.

119. Ibid., d. 299, l. 129.

120. Ibid., d. 161, l. 291.

121. Ibid.


123. RTsKhIDNI, f. 17, op. 20, d. 293, l. 8.

125. Ibid.
126. Ibid.
127. Ibid., 23.
128. See, for example, the text of his speech to Metrostroi shock workers on 1 January 1933 (TsGAORgM, f. R-665, op. 1, d. 65, ll. 7-8).
129. TsGAOR, f. 7952, op. 7, d. 314, l. 324.
130. Ibid.
131. The best example of this at Metrostroi was the manner in which the Soviets built escalators for the Metro. See pages XX.
132. The engineer in question is Kattsen (TsGAOR, f. 7952, op. 7, d. 314, l. 323). For similar praise, see Kak my stroili Metro, 160.
133. TsGAOR, f. 7952, op. 7, d. 314, l. 322.
134. Ibid.
135. TsGAOR, f. 7952, op. 7, d. 323, l. 175.
136. Ibid., d. 323, l. 162.
137. Ibid., d. 314, l. 325.
139. RTsKhIKNI, f. 17, op. 3, d. 918, l. 56. The text of the Central Committee resolution was first published in Pravda on April 7, 1933. It also appeared in Metrostroj 3 (1933):4.
141. RTsKhIDNI, f. 17, op. 3, d. 918, l. 56.
142. Ibid., d. 935, l. 10.
144. TsGAOR, f. 7952, op. 7, d. 288, l. 216.
145. A. Kosarev, ed. Istoriiia metro Moskvy. Sbornik I: Rasskazy stroitelei metro (Moscow: Istoriiia Fabrik i
Zavodov, 1935) [hereafter Rasskazy stroitelei metro], 14.

146. TsGAOR, f. 7952, op. 7, d. 290, ll. 154b-154v.

147. Vecherniaia Moskva, 5 May 1933, 3.

148. Ibid., and Vecherniaia Moskva, 7 June 1933, 2; TsGAOR, f. 7952, op. 7, d. 290, l. 211.

149. TsGAOR, f. 7952, op. 7, d. 390, ll. 140-141; Dni i gody, 81.


153. TsGAOR, f. 7952, op. 7, d. 314, l. 329.

154. Ibid., d. 292, ll. 164-65.

155. Ibid., d. 314, l. 329.
Chapter III
Komsomol Recruitment to Metrostroi

By early 1933, as the Moscow subway project entered its second year of construction, a whole host of formidable problems threatened to delay the opening of the first line. How some of these difficulties were overcome has already been described. But still unresolved was perhaps the most serious of all problems confronting Metrostroi: a severe labor shortage. Although Metrostroi had managed to more than double the size of its workforce from levels of the previous year, it still was grievously undermanned. Of a desired workforce of 18,000, Metrostroi employees numbered only 10,000.¹ In the absence of proper mechanization at the subway project, augmenting this workforce was imperative, but extremely difficult in a country where unemployment had been eliminated. Just as in 1932 Metrostroi’s severe housing shortage made worker recruitment even more difficult. Even with its undersized workforce Metrostroi in 1933 was able to provide housing for only half of its workers.²

How, then, the labor force could be dramatically increased became a decisive question for the Metrostroi
leadership in 1933. One of the solutions devised was to transfer large numbers of Moscow's Communist Youth League (Komsomol) members to Metrostroi. At first glance this may seem a surprising choice: most Moscow Communist Youth League members (komsomoltsy) were not only unskilled in tunnelling work, they were not even accustomed to hard physical labor. Indeed, veteran tunneler and even much of the leadership at Metrostroi took a skeptical if not outright hostile attitude toward the idea of bringing large numbers of komsomoltsy to the project.

On the other hand, by 1933 the practice of turning to the Komsomol for emergency recruitments had become a venerable tradition in Soviet history. During the Civil War 50,000 to 60,000 komsomoltsy were called up to serve in the Red Army and grain requisition detachments. Then, beginning in 1929, Komsomoltsy were mobilized by the tens of thousands to such far-flung construction sites as Dneprostroy, the Stalingrad Tractor Plant, and Uralmashstroi. Between 1928 and 1931 alone some 350,000 Young Communists were sent to various sectors of Soviet construction.

The advantages of Komsomol recruits were several. To begin with, komsomoltsy were relatively easy to recruit: some were willing to volunteer for remote or difficult work, while others could be drafted or "mobilized" to the same projects by the Komsomol organization. Despite their lack
of skills, komsomoltsy often approached their jobs with youthful exuberance and energy, quickly mastering their new tasks. Furthermore, komsomoltsy were often willing to work overtime and to solve problems that others could not be bothered with—like fixing dormitory showers or seeing to it that workplace cafeterias were run better. Given such attributes, it is not surprising that the komsomoltsy are often portrayed as key supporters of Soviet power—a group without whose backing Soviet industrialization and collectivization could never have been implemented.6

Metrostroi's desperate housing situation made Moscow komsomoltsy even more attractive as potential recruits. Owing to their youth, many of the city's Young Communist League members still lived with their parents or older siblings. Because of this, Metrostroi's inability to provide them living space was less problematic and presumably would not lead to the high rates of labor turnover common among ordinary workers.7 Thus, the advantages of Komsomol labor at Metrostroi seemed to outweigh, or at least mitigate, the drawbacks.

The introduction of komsomoltsy to Metrostroi proceeded in a piecemeal fashion. Until early 1933, only about one or two percent of the several hundred komsomoltsy already working at Metrostroi were engaged in underground work.8 Apparently on Moscow Party chief Lazar Kaganovich's initiative, komsomoltsy were ordered to take over a shaft (a
tunnelling section) and convert it into a model operation. The idea was for the komsomoltsy to provide an example of shock work (udarniches'tvo) and socialist competition (sotssorevnovaniia) which would encourage other workers to be more productive.\(^9\) By April the Komsomol shaft (located on the square in front of the Bolshoi Theatre) was consistently overfulfilling its monthly tunnelling plan.\(^10\) Unfortunately the Komsomol example was not infectious. Well into 1933 the overwhelming majority of Metrostroi shafts continued to fail to meet production schedules, placing the timely completion of the project in doubt.

Once the success of the Komsomol-staffed shaft became apparent, however, efforts to recruit more komsomoltsy to Metrostroi began in earnest. In April 1933 the Moscow committee of the Komsomol announced a levy of one thousand new Komsomol workers for Metrostroi.\(^11\) A second levy followed in late July, this time with the goal of sending two thousand additional komsomoltsy to the subway construction project.\(^12\) Only about half that number were successfully recruited, but many of the komsomoltsy performed well in the shafts. In response, Kaganovich soon named the Moscow Komsomol as the official sponsor of Metrostroi. As its first act of sponsorship, Kaganovich suggested that the Moscow Komsomol organize a third levy of its members for work at Metrostroi and he ambitiously set the size of the levy at ten thousand recruits.
The mobilization of the "10,000-ers" took two months instead of the scheduled thirty days and produced disappointing results: instead of 10,000, only 7223 komsomoltsy were officially registered in the recruitment drive. Of these, a mere 5860 actually reported to work at Metrostroi.13 But even this figure is misleading since many komsomoltsy who began work at Metrostroi soon fled the worksite. Records of this attrition are incomplete but indicate that, depending on the shaft, 10 to 50% of the newly arrived komsomoltsy quickly abandoned Metrostroi. Most shafts probably experienced an attrition rate of about 30%, making the overall mobilization of the 10,000-ers significantly less than half of the target.14

Overall, the results of the three Komsomol mobilizations were mixed. On the one hand, recruitment targets were not met: less than half of the planned thirteen thousand workers were transferred to work on the Metro. Despite this clear failure, however, the Komsomol levies brought a much-needed core of highly-motivated and energetic workers to the project and in this sense, the levies were a success. Many of the recruited komsomoltsy went on to become Metrostroi's most productive workers and brigade leaders, playing a key role in the successful completion of the first line of the Moscow subway in 1935. But the recruitment campaigns themselves are worth discussing in detail for they serve as a case study in labor recruitment
in the Soviet industrialization era. They provide insight into the difficulties in mobilizing labor and they reveal a great deal about the Soviet government's ability to rally support for the implementation of its policies. What follows is a description of the mobilization of the 10,000-ers to Metrostroi. This particular levy was chosen because it was the project's largest and the best documented.

The implementation of the Moscow Komsomol mobilization to Metrostroi was the responsibility of the Moscow Komsomol organization itself. The city committee allocated recruiting quotas to each of the district (raion) committees, while the latter, in turn, assigned quotas for each factory and enterprise in their respective jurisdictions. Primary responsibility for supplying recruits fell on Komsomol cell secretaries in the factories, with officials from the Komsomol district committees overseeing the process.

At first, not all komsomoltsy were eligible for work at Metrostroi: only shock workers (udarniki) with at least three years work experience and two or more years membership in the Komsomol were accepted. These strict requirements, however, were soon discarded after it became evident that not enough komsomoltsy were willing to volunteer for Metro work. For this reason the potential pool of Metrostroi recruits was extended to all komsomoltsy, and there were
even cases of non-Party workers being accepted in the mobilization drive.17 Nor were the physical requirements very rigorous. For example, one volunteer who suffered from tuberculosis noted to his surprise that he had no difficulty passing his physical exam.18 Apparently the Metrostroii leadership felt it was in no position to be choosy when it came to hiring.

To aid in the recruiting process, articles in the Komsomol newspaper (Komsomol'skaia pravda) extolled the virtues of work at Metrostroii. Komsomoltsy recruited to Metrostroii as recently as three months earlier were reported to be earning salaries in the range of 300 to 350 rubles—roughly twice the average workers' wage.19 Komsomolets Babenko, for example, reported that he earned 400 rubles a month. Furthermore, he added, his dormitory was "clean" and "warm," while "the food at the shaft is also good." On top of all this, Babenko bragged that since coming to Metrostroii he had acquired a brand-new suit, coat, and boots, and recently had been given a pass to a health resort.20 Other Komsomol testimonials emphasized the importance of the subway project itself, for example calling it "a huge construction project" which was being watched "by the entire world."21

The overall effectiveness of this promotional campaign was limited, however, since many, perhaps even most, komsomoltsy seem not to have read the newspaper, the result
of virtual illiteracy or lack of time or interest. It is surprising that some komsomoltsy claim not to have even heard of the subway project until after their mobilization to Metrostroi--this despite the fact that they lived in Moscow where work on the highly visible project had been underway for a year and a half.²²

In addition to newspaper publicity, mass meetings were held in factories to promote the subway recruitment drive. Typically the factory's komsomoltsy were assembled to hear a lecture by a subway worker or engineer. After an upbeat description of the tunnelling work and a brief explanation of the overall importance of the subway project, the lecturer usually closed with a call for volunteers to work at Metrostroi. In most cases very few stepped forward.²³

Reasons for the largely negative response to the mobilization call were several. To begin with, there was a widespread conviction among komsomoltsy that tunnel work was extremely dangerous, with frequent cave-ins and floodings and high numbers of fatalities. Many believed that assignment to work at Metrostroi was tantamount to a death sentence.²⁴ In fact, work at Metrostroi was dangerous. Injuries and work-related illness (especially rheumatism) were common.²⁵ But fatalities seem to have been relatively rare, probably not much higher than rates at above-ground construction sites.²⁶ What made work at Metrostroi seem more dangerous than it actually was, apparently, was the
Moscow rumor mill. Cave-ins and other accidents in the tunnels usually could not be kept from the public since they often caused highly visible surface damage as well. But since it was Soviet policy not to give press coverage to such accidents, Muscovites were left to speculate about their nature and consequences. This being the case, it is not surprising that the Moscow rumor mill typically greatly inflated the seriousness of each accident.

V.E. Bel’skyi, a Party secretary working full-time at Metrostroi, described an example of this which occurred while the mobilization of the 10,000-ers was underway. One day a trestle used to load excavated soil into tramcars collapsed because it was overloaded. The collapse occurred in full view of the public because the trestle was located outside the shaft fence, and it created a terrific noise which sounded like an explosion. Not surprisingly, a big crowd gathered at the accident scene before the police managed to cordon it off. Within a couple of hours Khrushchev and Bulganin arrived to investigate. All this gave the impression that a very serious accident had occurred. Four workers had indeed been injured, but they suffered only bruises and/or broken bones and all were eventually able to return to work at Metrostroi. But the incident created a "panic" among Muscovites who soon began spreading unfounded rumors: some claimed that 300 workers were buried alive in a tunnel cave-in and that first-aid
personnel worked for days just pulling bodies out of the shaft. Bel’skyi reported overhearing this tall tale while riding a streetcar and claims he gave its source a severe dressing down.27

But to return to the recruitment drive and its lack of volunteers, fear was not the only factor which cooled Komsomol ardor for underground work at Metrostroii. Subway work was notoriously hard: it was physically demanding, even exhausting work which daunted all but the most highly motivated.28 Furthermore, manual labor, in general, seems to have had little appeal for most komsomoltsy whose sights apparently were set on higher prestige "white collar" jobs. The prospect of hard work in mud and cold water in cramped tunnels deep underground was not attractive to many, even less so to those who already had skills or who were relatively well-educated.29 In short, many komsomoltsy felt subway work to be "beneath them," and they believed that only "uncultured" people, like crude peasants (volosatiki) and convicts, worked at Metrostroii.30 Such convictions were only reinforced by parents who wanted to see their children improve their station in life, and thus did not approve of their children working as manual laborers at Metrostroii.31

A further complication was the fact that work at Metrostroii was conducted around the clock. This meant that attendance at night school was impossible, since workers typically rotated between day and night shifts. This too
discouraged many komsomoltsy from volunteering for Metrostroï, since night school was seen by many as the vehicle for upward mobility in Soviet society.\textsuperscript{32} The combination of all these factors, then, helped ensure that Komsomol volunteers for Metrostroï were few.

Given the lack of volunteers, many Komsomol cell secretaries began "drafting" recruits to Metrostroï: that is, they simply began ordering the transfer of their cell members until they had met their quotas. Those who objected were often told that their Komsomol oaths required them to do all that the Communist Youth League asked. Their refusal to go to Metrostroï would mean their expulsion from the Komsomol. This argument persuaded some of the hesitant, but others simply surrendered their Komsomol membership cards, preferring expulsion to subway tunnel work.\textsuperscript{33}

In the face of such determined opposition to the mobilization, Komsomol cell secretaries in the factories responded differently. Some simply gave up trying to find recruits, considering it a waste of time.\textsuperscript{34} Others developed ingenious stratagems to meet their quotas. One of the most successful ploys seems to have been for the cell secretary to volunteer \textit{himself} for the subway: this act often prompted others in the cell to volunteer as well, and in some cases entire cells signed up for Metrostroï in manic "follow-the-leader" fashion.\textsuperscript{35} Another tack was to play on the potential recruit's pride and vanity. Recruits were
told they were being sent to Metrostroï because they were among their factory's best workers. One factory shock worker successfully recruited to the subway was told by her cell secretary that if she were to work as hard at Metrostroï as she had already worked at her factory, she would soon become famous throughout the Soviet Union due to the publicity the subway project enjoyed.³⁶

Some cell secretaries developed even more devious strategies to meet their quotas. One, at a transformer factory, tricked a group of ten komsomoltsy into reporting for work at Metrostroï by telling them they were being temporarily transferred to a "molding shop." When the ten arrived at the address given them, they were shocked to discover it was one of the subway's mine shafts. Angered, they later confronted their cell secretary and demanded to know why he had lied to them. The red-faced secretary admitted that he was afraid that if he had told the komsomoltsy their true destination they never would have agreed to go.³⁷ Another cell secretary managed to obtain at least one recruit by creating sympathy for himself. He complained to a fellow komsomolets that he would probably be fired for failure to meet his quota of recruits. Apparently because he felt sorry for his secretary, the komsomolets agreed to be mobilized on the spot.³⁸

Reluctant recruits were not the only obstacle Komsomol officials had to overcome in their efforts to implement the
Metrostroï mobilization. Opposition surfaced as well in the form of factory managers who refused to sanction the departure of their young workers to the subway project. In a time of universal labor shortages, factory managers simply could not afford to lose workers—even relatively unskilled ones—to Metrostroï.

As a result, many directors obstructed the mobilization in their factories. Some engaged in passive opposition, seeing to it that their least valuable workers were mobilized. Some, for example, sent underage (younger than 15) and draft-age workers on the eve of their call-up to service in the Soviet military to Metrostroï. More commonly, however, factory managers chose to actively oppose the Komsomol levy in a variety of ways. First, they denied city and district Komsomol representatives access to shop floors in their factories, effectively stopping promotional work for the levy. Secondly, they refused to sanction the transfer of their komsomoltsy to work on the subway. One director even promised to arrest any who left for Metrostroï. As a last resort, factory directors withheld the final paychecks of komsomoltsy who departed for the subway project without their permission. Given the hand-to-mouth existence of most young Soviet factory workers in the early 1930s, the hardship of losing a paycheck is difficult to exaggerate.
The Moscow Komsomol retaliated for this factory manager opposition by publishing the names of those who sabotaged the mobilization. Furthermore, it reminded these directors that the subway levy was begun at the initiative of Lazar Kaganovich and had the blessing of the Moscow City Party Committee. Apparently it was thought that the public embarrassment resulting from such negative publicity would force uncooperative factory directors to relent.

Nothing of the kind occurred. The factory directors proved obstinate in their opposition to the levy and in the process, the relative impotence of the Komsomol organization was revealed. Simply put, those who obstructed the levy acted with impunity. For example, when a certain factory director recently denounced in the Komsomol newspaper was later confronted by Komsomol authorities, he replied, "Be satisfied with the fact that you printed my picture in the 'Komsomolka.' As for people, I will not be giving you any." In another incident, a workshop foreman enforced his factory's prohibition of the levy by confiscating the Metrostroi propuski (passes) of three of his workers who had volunteered for subway work. To their protests he replied, "I won't permit anarchy on the shop-floor! I don't care if I am called before the Moscow Committee of the Party!" Furthermore, he called the shop-floor Komsomol secretary a molokosos ("young pup" is perhaps an appropriate translation) and refused to discuss the matter with him.
Naturally the Komsomol appealed to the Party for support in this dispute, but in vain. The Moscow Party's newspaper, Rabochaia Moskva, did not even bother to report the incidents of obstruction in the Komsomol levy, much less condemn them.\textsuperscript{48} To add insult to injury, Party secretaries at the factories often supported and sometimes even initiated efforts to block the subway mobilization. For example, the Party secretary at the factory Geofiziki, after becoming infuriated at the news that thirty of his workers had already been registered for the Komsomol levy, called the factory director and Komsomol secretary to his office for a meeting. Without allowing the Komsomol representative to speak, the Party secretary verbally assaulted him, accusing him of driving workers away from the factory, and characterizing his actions as "disorganization" and "hooliganism." He then declared the shop-floor "off-limits" to the Komsomol secretary and warned him that he would not allow any komsomoltsy to be released from the factory, stating emphatically, "Nothing will be allowed to corrupt workers and disrupt the plan!" When the Komsomol secretary began to protest, the Party secretary refused to listen to him and in an even louder voice told him to get the hell out of his office.\textsuperscript{49}

In the face of such determined opposition (not to mention affronts to their dignity), it is not surprising that factory and district Komsomol authorities weakened in
their resolve to carry the levy through to its conclusion. Getting the requisite number of komsomoltsy to sign up for the levy was difficult enough—but seeing to it that the recruits were released from their factories and actually reported to work at Metrostroii proved next to impossible. Some Komsomol district representatives even engaged in open mutiny against the Moscow Komsomol city committee, which insisted that the levy be successfully completed. For example, after repeated complaints from above that his district had not fulfilled its quota of recruits, one Komsomol raikom secretary defiantly stated, "We will not give you a single person more." When a factory Komsomol secretary was similarly upbraided, he replied, "The enterprise director will not release any komsomoltsy. Come here and get the recruits yourself." Finally, in late October the Moscow committee of the Komsomol relented. Although work on the levy was never officially reported to have been stopped, all press references to the levy ceased after 22 October, at which point less than half the target of 10,000 recruits had been attained.

Officially, the failure of the levy was blamed on factory director obstruction and low-level Komsomol officials who did not "sufficiently energetically" deal with this problem. But this explanation ignores the more fundamental reluctance of many komsomoltsy to volunteer for the Metro or even to agree to be sent there. And it
unfairly deflects blame from the Moscow Party organization. It was Moscow Party chief Kaganovich, after all, who had arbitrarily set the recruiting target at the very high figure of ten thousand, acting true to the Stalinist fiction that "there are no fortresses which Bolsheviks cannot storm." But having given the Moscow Komsomol the responsibility to accomplish a Herculean task, Kaganovich did not give the Komsomol the authority necessary to carry it out. Once factory directors began their open resistance to the levy, only the support of the Moscow Party organization would have enabled the Komsomol to bring the levy to anything approaching a successful conclusion. By deliberately withholding such support the Party tacitly admitted that the recruitment target was too high. In the meantime, the Moscow Komsomol was left holding the half-empty bag, forced to blame itself for the levy's failure.

Such, then, is the overall picture of how a Komsomol mobilization to Metrostroi was implemented. Now this same mobilization will be viewed from a different perspective by examining the motives and attitudes of those komsomoltsy who went to Metrostroi, whether voluntarily or at the insistence of others. In the process, some light will be shed on the nature of the social support enjoyed by the Soviet government in the early 1930s. The analysis will begin with those who volunteered.
What, exactly, was it that motivated komsomoltsy in 1933 to volunteer to work at Metrostroi? Published Soviet sources, of course, stress the willingness, even eagerness of komsomoltsy to take part in the building of socialism, especially the great Soviet construction projects like Metrostroi. Komsomoltsy are portrayed as dedicated Young Communists who were not daunted by the dangers or difficulties they knew were waiting for them in the subway tunnels. This glorification of the Komsomol contribution to Metrostroi in Soviet sources is so pronounced that one could easily overlook the fact that komsomoltsy represented a minority of the subway project's workforce.

Even Western histories often mirror this idealized picture of the komsomoltsy. Isabel Tirado notes that in the Civil War period, "the Komsomol gave itself selflessly and wholeheartedly to the service of the Revolution, identifying its own fate with the outcome of the war." Along the same lines Hiroaki Kuromiya quotes Ilya Ehrenburg, who claimed the word 'enthusiasm,' like many others, has been devalued by inflation, yet there is no other word to fit the days of the First Five Year Plan; it was enthusiasm pure and simple that inspired the young people to daily and unspectacular feats.

Describing the same time period, Richard Stites writes: "Youth, propelled by exuberant idealism, rushed to the great construction sites in order to forge a new world."

But how accurate are these idealized portrayals? Of course, there were "true believers" among the Komsomol
volunteers to Metrostroi. These were people ready to endure any hardship for the sake of building socialism, to sacrifice for the sake of the common good. But such firm ideological devotion was only one of many reasons why komsomoltsy volunteered for Metrostroi. Unpublished interviews with Komsomol shock workers (udarniki) at Metrostroi reveal that many of them decided to volunteer for subway work for purely personal reasons, like boredom with their present jobs or their desire not to be separated from their best friends who had volunteered for Metrostroi. And, in some cases, komsomoltsy appear to have volunteered for Metrostroi on a whim, likely not even themselves understanding why they made such an important decision.\(^5\)\(^9\) In other words, those komsomoltsy who volunteered for Metrostroi did so for a variety of reasons, not always simply out of Soviet patriotism or dedication to communism.

Now these varying motivations will be examined in greater detail, beginning with those who cited a belief in socialism as their prime motivation for volunteering. Effremova, an 18 year-old mobile librarian, was attracted to Metrostroi because she had been inspired by Soviet literature extolling the USSR’s new construction projects. She volunteered for Metrostroi because she wanted to "build, chop and dig" herself, "to walk through the (subway) tunnels," and to "touch with her own hands the tunnel walls."\(^6\)\(^0\) Another komsomolets, A.I. Katamadze, was
similarly inspired by socialist literature. He read a brochure describing how a 15 year-old boy (Sasha Kosyrev) had lied about his age in order to enlist in the Red Army during the Civil War. This story made such an impression on him that he resolved to volunteer himself to "fight" for socialism. Here are his own words, very much steeped in the spirit of 1930s Soviet propaganda:

I thought how Sasha Kosyrev, still wet behind the ears, fought at the front—but where was I to fight now? And then I told myself—to the front! To the front of construction! On our native Soviet soil the enemy had been defeated, but the sluggishness and backwardness of our land had not yet been overcome."\(^61\)

Such reading-inspired socialist fervor, however, seems to have been the exception, not the rule. In fact, most of the komsomoltsy who ended up at Metrostroi appear not to have been the book-reading type. Quite frequently they were recent arrivals from the village, often only semi-literate at best, and thus, less likely to have been inspired by socialist literature. Those better educated, for the most part, shunned the low-prestige digging required at Metrostroi, apparently setting their sights on white-collar jobs more in line with their education.\(^62\) And, as previously discussed, this tendency was strongly reinforced by parents who wanted their children to avoid manual labor in favor of more prestigious technical and office work. In short, many with even a modest education seem to have viewed
the manual labor required at Metrostroii with disdain, considering such work beneath them.

On the other hand, there were komsomoltsy who found their current jobs so dull that they jumped at the opportunity to volunteer for subway work. Again, they were, for the most part, undereducated village-types recently arrived in Moscow. Such was the case for a certain Lesheva, a twenty year-old textile mill worker in 1933. She gladly volunteered for Metrostroii, she explained, because she was "drawn to the land," a legacy of her peasant roots. As for Metrostroii’s significance in the context of building socialism, she had not the slightest notion.63 Gorskaia, a milk store cashier, also volunteered for Metrostroii because she thought the work there would be more interesting than her present job. That her father was a North Caucasus miner and she had some knowledge of mining herself only strengthened her resolve to volunteer.64 Another such volunteer was Alaskina, who gave up her position at a childrens’ day-care center.65

Others volunteered for Metrostroii primarily because they did not want to be separated from friends being sent there. This type of loyalty was often extended to an entire group, such as a brigade, rather than just a single individual. One brigade leader, also a Komsomol cell secretary, was initially unable to recruit any Komsomol volunteers for Metrostroii from his factory. But when he
volunteered for the subway himself, the entire Komsomol contingent of his brigade (eight in all) agreed to be transferred to Metrostroï.\textsuperscript{66} In such cases, personal loyalties seem to have outweighed ideological attachments.\textsuperscript{67}

Finally, there were Komsomol volunteers to Metrostroï who seem to have volunteered in a whimsical or capricious fashion, sometimes not even themselves understanding their motivations for doing so. Such, apparently, was the case for a certain Bachkov, who confessed that even after a full week's work at Metrostroï he had no idea what the project was all about.\textsuperscript{68} Komsomolets Zdorovikhin seems to have volunteered on the spur of the moment and with little thought to the implications. In the midst of one of the Komsomol levies to Metrostroï, Zdorovikhin's cell secretary complained that he would probably soon be fired for not meeting his recruitment quota. Immediately upon hearing this, Zdorovikhin gallantly offered to allow himself to be mobilized.\textsuperscript{69} Then there is the case of komsomolka Adaskina. She admitted that when she first heard about the Metro project she never believed it could be completed—since she thought the necessary technical expertise for subway construction was lacking in the USSR. Yet she was so intrigued by the idea of digging tunnels under the streets of Moscow that she decided to go to Metrostroï "simply out of curiosity."\textsuperscript{70}
And so it seems that ideology was not the only, or even the main reason that komsomoltsy volunteered for Metrostroi. More often than not, purely personal reasons were cited by volunteers and, in some cases, no clearly articulated reason at all was present. What one sees here is a whole spectrum of motivations, not simply narrowly political ones.

So much for the volunteers. What of those "drafted" to Metrostroi? How did they react to their unsolicited recruitment? Some went cheerfully and without misgivings simply because the Komsomol asked it of them. Komsomolka Zavrolina admitted that she had no idea what the Metro was when she was asked to transfer there from her factory. "I simply went gladly to the Metro. In general, no matter where I would have been sent I wouldn't have been afraid to go, especially by order of the Komsomol."71 Others balked at their new assignments. This was especially true of komsomoltsy with skills and substantial education.72 In some cases, this led to their expulsion from the Communist Youth League, but often they suffered no penalty for non-compliance with Komsomol dictates. Apparently the enforcement of Komsomol discipline was arbitrary. A third group went hesitantly, despite misgivings, because it feared Komsomol expulsion more than the water and the darkness of the tunnels at Metrostroi. Or, perhaps, as a point of honor, as in the case of the battery factory worker Ordova.
When her Komsomol cell secretary asked her if she were going to Metrostroï, she replied that she would discuss it with her parents. The secretary then reminded her that when she took her Komsomol oath she promised to do all that the League asked of her. Ordova had to agree that this was true. As she was later questioned by the Metrostroï mobilization committee she reported that she was in the best of spirits and health, all the while shaking uncontrollably from the fear of what lay ahead for her.\textsuperscript{73} Thus, those who went to the subway project, whether voluntarily or because ordered to, did so for a broad variety of reasons. Enthusiasm for building socialism did exist, but apparently in only a minority of the komsomoltsy.

Getting komsomoltsy to Metrostroï, it turns out, was only half the battle. Seeing to it that they stayed once they got there proved just as difficult as recruiting them in the first place. Soon after their arrival, many komsomoltsy fled Metrostroï never to return.\textsuperscript{74} There were a multitude of reasons for this.

To begin with, inadequate preparations were made for the new recruits' reception at the subway project. It was not uncommon for the newcomers to have to wait several days or even a week or more to get work assignments, meal tickets, and barracks space.\textsuperscript{75} This meant that many temporarily experienced a hungry, homeless destitution, and
as a result, large numbers of recruits fled Metrostroii—often returning to their former jobs.\textsuperscript{76}

Furthermore, working conditions in the tunnels were often so bad that some ran away immediately after their first shift underground. The tunnels inspired fear and dread in most newcomers: some were so afraid that they initially refused to go underground—they had to be persuaded that it was safe.\textsuperscript{77} First descents underground often provoked terror, as one komsomolets confessed, describing how he was lowered in a large bucket to a depth of 150 feet.\textsuperscript{78} But what waited for him in the tunnel itself was no less forbidding: the tunnels were damp, poorly ventilated (often the oxygen levels were so low that matches would not light), and muddy, in many cases with standing water (up to waist-deep).\textsuperscript{79} It was common for newcomers to constantly steal glances at the tunnel ceiling as they worked, wondering if it was going to fall down on them.\textsuperscript{80}

Nor did the actual work in the tunnels have much to recommend it. The work was back-breaking, especially to raw youths unaccustomed to manual labor. Novice komsomoltsy usually emerged from their shifts dead-tired and sore, sometimes so stiff the next day that they could not report to work.\textsuperscript{81} Typically it took the newcomers from a week to a month to adjust to their new regimen. Many had neither the patience nor the energy to do so and ran away.\textsuperscript{82}
Only making matters worse were the strained relations between veteran tunnelers and the novice komsomoltsy. The former viewed the newcomers with disdain, considering them unqualified for underground work. This lack of respect was often mutual. Dedicated komsomoltsy thought the experienced tunnelers lazy (since they took smoking breaks every hour or so) and accused them of having a mercenary attitude toward their work (since they were unwilling to work overtime without compensation). Thus the irony emerges: because of their commitment to Soviet-style socialism, komsomoltsy took a deprecating attitude toward the Metrostroi proletariat. Although sharp verbal exchanges between the two groups were common, the veterans often simply ignored the komsomoltsy, forcing them to learn their dangerous and complicated new trade by observation alone.

On top of all this, tools and work clothes were in short supply. It was not uncommon for newcomers to work in their street-clothes until waterproof coveralls could be obtained for them. This was a tremendous hardship in a day when most komsomoltsy had few, if any, changes of clothes and laundry facilities were virtually non-existent. Furthermore, even when workclothes were available, they were often in poor condition. For example, workboots issued in the shafts were typically torn and thus not waterproof, rendering their value marginal in the wet tunnels.
Other factors causing Komsomol flight from Metrostroi include widespread thievery in the barracks, and cold weather. Especially in the open cut (shallow tunnel) sections, Komsomol desertions rose significantly when cold autumn rains made work even more difficult. With the onset of winter, frostbite was not uncommon, driving some back to relatively cozy factories.

It is hard to estimate the overall desertion rate of komsomoltsy from Metrostroi. Depending upon the work station, rates of attrition of komsomoltsy after their first few days on the job ranged from near zero to well over fifty percent. Based on the incomplete records available, an informed estimate is that deserters amounted to about thirty percent of the total. But this figure does not include those who fled the worksite after a month or more on the job—so the actual desertion rate was even higher. In general, labor turnover rates for komsomoltsy at Metrostroi are not available. One can reasonably assume that such rates were lower than labor turnover rates among non-Party workers, but if the experience of other giant construction projects is taken into account, then high rates of turnover even among the komsomoltsy are to be expected.

Facilitating the desertion of some komsomoltsy was the disorganization of shaft Komsomol organizations which often were not able to quickly register newly arrived members. Although formally required to surrender their Komsomol
membership card upon reporting to Metrostroï, many of the newly arrived recruits deliberately held on to their cards. This enabled them to size up conditions at Metrostroï for a few days and, if they decided the work was not to their liking, it was easier for them "to leave with their cards in their pockets." For these "street-smart" recruits, fleeing Metrostroï did not necessarily mean their expulsion from the Komsomol.  

Under the circumstances, it is not difficult to understand why large numbers of komsomoltsy fled Metrostroï. Why others remained despite the terrible conditions is perhaps harder to comprehend. Volunteers, not surprisingly, had lower rates of attrition than those mobilized. But both groups faced the same bad working conditions at Metrostroï. Many who went on to become model workers at Metrostroï admitted that they thought very seriously about quitting during their first few days or weeks on the job. What kept them from fleeing as so many of their colleagues did?

To begin with, many enjoyed the authority and prestige they gained at Metrostroï. This is especially true of unskilled teenage komsomoltsy who went on to become brigade leaders. They often gloried in their new-found authority, finding themselves in positions of workplace leadership for the first time in their lives. For many teenage komsomoltsy, work at Metrostroï marked their passage into
adulthood and they took pride in the fact that they were capable of assuming the work and responsibility of grown-ups.96

Others tolerated the exceptionally hard work at Metrostroii primarily because they believed in the importance of the project. One komsomolka, whose primary task was to haul sand into the tunnels so that it could be used to make concrete, admitted that she would never have consented to such back-breaking work on an ordinary construction project. But she took pride in the fact that she was helping to build the Soviet Union’s first subway. And she added that she was looking forward to the Metro’s completion so it could be demonstrated to foreigners what Soviet workers and engineers were capable of.97 Another 17 year-old komsomolka believed in the project so much that she literally devoted all her waking hours to it, no longer even participating in family activities. She developed a strong sense of belonging to Metrostroii, becoming, apparently, closer to her brigade members than her own family.98

Furthermore, as bad as conditions were at Metrostroii, for some they nevertheless represented an improvement. For example, after becoming ill and then being struck in the head by a fellow worker’s pick, one komsomolka admitted she did not leave Metrostroii only because her previous factory job was even worse.99 In this regard it should be stressed that the expectations of the komsomoltsy were not always
very high--many of them grew up knowing great poverty and personal tragedy (even by Russian standards), and thus were accustomed to hardship. This was especially true of recent arrivals from the villages. Their generation, after all, was the one whose earliest memories were from the tragic Civil War era. It was not uncommon for these komsomoltsy to have lost one or both parents in the fighting, disease, and famine of those years. Their poverty, in many cases, was profound. One komsomolka at Metrostroi reported being so poor as a child that for years she could not leave her village hut since she had no clothes decent enough to be seen in public in. Many who came from this kind of background simply took Metrostroi's adverse conditions in stride.  

Another factor that seems to have helped many to overcome their desire to flee Metrostroi was peer pressure to stay. This could take the form of gentle encouragement or harsh rebukes, the latter apparently being more common. Of course, such pressure did not always help. For example, a komsomolka reported chiding a fellow worker who was crying insconsolably for having been sent to the subway project ("Kak tebe ne stydno, ty plachesh'", etc.). He fled anyway. Sometimes when the mood of newly arrived workers became especially "rotten," Komsomol secretaries collected their flock in ad hoc meetings and gave them pep talks stressing the importance of staying on the job.
And occasionally even non-Party veteran workers took it upon themselves to try to persuade reluctant Komsomol recruits to stay. Those who did flee were often heckled by fellow komsomoltsy and were branded as "deserters." In rare cases pangs of conscience so aroused sufficed to bring the runaway komsomolets back to Metrostroi.

Yet another factor which enabled newly recruited komsomoltsy to stick it out at Metrostroi was simple pride. Along with their aching backs, many komsomoltsy reported bruised egos in their first days at work. For the young men, this was usually the result of taunts by the older professional miners. For example, one komsomolet, new on the job, reported being ridiculed by a veteran miner for carrying a light burden as he was hauling timbering material. "You call that a load?" he was asked. The older miner then turned to other veteran miners and complained that the komsomoltsy worked like boys, but were paid like men. The komsomolets, taken aback by such ridicule, resolved then and there to "work like a man."

As important as the aspect of pride was for male komsomoltsy, it appears to have been an even greater factor in prompting female komsomoltsy not to quit their jobs at Metrostroi and to work to their utmost in order to prove their detractors wrong. But the story of women komsomoltsy at Metrostroi is such an remarkable one, it might be
beneficial to digress and describe how women came to the project in the first place.

Although in the final analysis about a third of the komsomoltsy recruited in the levy of the 10,000-ers were female, initially the levy’s organizers had no intention of recruiting women.\textsuperscript{108} The use of green Komsomol boys at Metrostroii was already a controversial idea with the Metrostroii leadership—no serious thought was given to introducing young women to the subway project’s virtually all-male domain. The reason was simple: women were thought incapable of the hard physical labor required in the tunnels.\textsuperscript{109} Not only did the Soviet mining industry lack any tradition of employing women in underground work,\textsuperscript{110} Russian miners generally considered the presence of women in or even near mining shafts to be bad luck.\textsuperscript{111} That so many Komsomol women ended up being sent to Metrostroii was unanticipated, either by the Moscow committee of the Komsomol or by authorities at Metrostroii itself.\textsuperscript{112}

What brought Komsomol women to Metrostroii was desperation. As the mobilization bogged down due to lack of volunteers and factory director obstruction, district Komsomol authorities began searching for new ways to obtain recruits. In the Sokolniki district, for example, there were a total of sixteen thousand komsomoltsy. But only about half of them were men, and thus potentially eligible for Metrostroii. Further reducing the pool of eligible
Komsomol recruits was a prohibition on recruiting railroad workers (rail transportation was a sector of the economy considered so vital and in such desperate need of improvement that its workers were exempt from mobilizations). In the Sokolniki district with its four major railroad terminals, railworkers constituted a large portion of the district’s male komsomoltsy. Thus, in order to expand the pool of potential Komsomol recruits to Metrostroi, district Komsomol authorities eventually considered the idea of including women in the mobilization. The idea quickly became popular with Komsomol recruiters—after all, their prime concern was to meet their recruiting targets, not to worry about the problems that female labor at Metrostroi might create. After some discussion, the Sokolniki district Komsomol decided to approve the idea and eventually it was adopted city-wide.\textsuperscript{113}

The decision to recruit female labor was met by "stubborn resistance" on the part of the Metrostroi leadership, however. Only after the Moscow Party Committee applied great pressure on them did the project’s directors relent, agreeing to the \textit{limited} use of female labor in auxiliary work on the surface (for example as operators of above-ground machinery like electric lifts and air compressors).\textsuperscript{114} But women were still deemed unfit to work in the tunnels. In the face of a severe labor shortage, the subway project’s directors apparently reasoned that
introducing female laborers on the surface would free up men for the more important work underground. Furthermore, in order to overcome resistance on the part of shaft directors and engineers to the use of female labor, Metrostroï's leadership decreed that each shaft would have to accept a minimum of fifteen percent women in the ranks of its Komsomol recruits.115

But decrees alone do not change attitudes. One shaft chief expressed a representative view when he admitted that he and his staff were "horrified" when their first contingent of fifty Komsomol women arrived at his office.116 In general, female komsomoltsy reporting to work at Metrostroï were greeted by veteran workers in an even ruder fashion than that accorded their male counterparts. In some cases, shaft personnel rejected women recruits outright and told them to return to their factories.117 On the other hand, there were rare instances where female 10,000-ers were greeted warmly and allowed to work in the tunnels from the very start--this occurred primarily in those shafts where komsomoltsy from the earlier levies had already risen to leadership positions.118 Typically, however, the reaction was a skeptical and grudging acceptance.119 Like it or not, shaft officials were required to accept the female recruits. Those who refused to do so were upbraided by Party and Komsomol officials.120 Furthermore, women who had specific
grievances about their treatment could always appeal to the
shaft's Party secretary for assistance.

Despite such support from the Komsomol and the Party, however, women had to fight their own battles to gain real acceptance at Metrostroii. What this meant in practice was that the female komsomoltsy had to prove themselves in the eyes of their critics—to demonstrate that they were capable workers, despite their gender. Most often this had to be done on an individual level, and such struggles for acceptance were repeated ad nauseum throughout the dozens of different work sites associated with the subway project.

Further complicating the situation was the fact that many of these women were not content to be relegated to secondary status at Metrostroii. While those assigned to operate machinery located on the surface were often satisfied with their position, most of the female newcomers were given more menial tasks like hauling water or washing gravel so that it could be used to make concrete. These women often felt great resentment at being assigned such unglamorous auxiliary work, which seemed insignificant compared to the tunnelling which was occurring beneath them. Such resentments were only compounded by the frequent ridicule to which women were subjected by their male co-workers. For example, one newly arrived female 10,000-er was given the task of sweeping her shaft's handcart railpaths clear of debris. As her foreman handed
her a broom and bucket he sarcastically remarked, "Here are your weapons of production." Very often, women felt such work to be undignified and demanded to be given more important jobs, sometimes even asking to be allowed to work underground where the "real" work was being performed. Such requests were often met by laughter on the part of male foremen who considered the notion of women working underground ridiculous.

Men had basically two reasons for opposing women working in the tunnels. First it went against tradition—it was simply inconceivable to most men that women could perform well in mining work. Such thinking was especially common among veteran miners. But even male komsomoltsy often opposed women working underground. Their objection was based more on practical concerns than tradition: since women were generally weaker than men, the inclusion of women in brigade work could be expected to lower that brigade's overall production, in turn lowering each brigade member's wages. In short, women co-workers were seen as an economic liability, an important consideration for workers whose wages were already at or near the subsistence level.

Despite such preconceived notions of their proper role, many Komsomol women at Metrostroii found wielding brooms instead of air hammers intolerable. Both individually and collectively, many of them began to demand to be allowed to work in the shafts, especially in the tunnelling
operations. Due to their stubborn insistence many were eventually allowed a chance to work in the tunnels. Foremen typically thought that women would quickly see the futility of trying to do excavation work and would be glad to return to the surface. And women encountered the ridicule of male co-workers once they arrived in the tunnels. Often the men would break into laughter upon first seeing women underground and condescendingly ask questions like, "What do you girls think you are doing here?"

To the surprise of their male foremen and co-workers, however, many of the women proved to be efficient and highly-productive in their underground work. Clearly the fact that they felt they had to prove their worth contributed to the female 10,000-ers will to succeed. A example of such behavior is the case of K.V. Nikitina, an eighteen year-old 10,000-er. After becoming dissatisfied with auxiliary work on the surface, Nikitina and her female co-workers appealed to their worksite's Party secretary for permission to work in the tunnels. The latter eventually complied and the group was soon hauling heavy boards in an open-cut tunnel section. But rather than being grateful for this new task, Nikitina reports initially being outraged by it. She felt it was unfair that she was required to haul boards which were so heavy that women could barely move them. When she complained to the foreman, he suggested that four women carry each board, instead of working two to a
board as was the case with the men. The women adopted this system and it worked well—until, that is, Nikitina and her female co-workers began to dwell on the thought that the fellows were able to haul the boards in groups of two, but they (the women) could not. Although Nikitina does not say so, it is likely that the men, through teasing, prompted such thinking. In any event, the women decided that they too would start working with just two women to a board.

Here's how Nikitina describes what follows:

For several days my arms and legs hurt terribly. When I would arrive home [after work] I ached all over. But when I was asked at home, "How do you feel, is the work hard for you?" I would proudly answer, "No, no problem." [.Net, nichego]. But in fact it was very hard for me. I worked two days like this; when I got up the following morning, I ached all over, I was not able to return to work.128

But Nikitina was able to obtain a two-day pass to recoup her strength and thereafter returned to Metrostroii where she eventually became a model (shock) worker.129

The interesting thing about the extraordinary performance of many Komsomol women at Metrostroii is that it seems to have been mostly the result of the constant taunting they received from their male co-workers. Rather than being discouraged by such ridicule, very often it only made the women more determined than ever to work harder and to show their male counterparts that they could work as well as any man. Of the women shock workers at Metrostroii who left accounts of their experience there, the vast majority
cited harassment and ridicule by men as the major factor in their resolve to become model workers--to "prove that we work no worse than the fellows," as one komsomolka put it.¹³⁰

Thus, the kind of grit and determination which Nikitina displayed on the job was replicated on a massive scale by the female komsomoltsy at Metrostroï and this led to the widespread acceptance of female labor in the shafts. Eventually, all-women brigades were formed and some of these were among the most productive of the entire project. As a result, the stigma against female labor at Metrostroï had been decisively broken.¹³¹

It would be a mistake, however, to portray the role of Komsomol women at Metrostroï in an entirely rosy light. Just as in the case of the men, for every komsomolka who "proved herself" at Metrostroï, there seem to have been other Komsomol women who unceremoniously fled the worksite. In fact, anecdotal evidence indicates that desertion rates among women were even higher than for the men.¹³² But this is not surprising since the physically demanding work at Metrostroï was even more difficult for women, on the whole, than for the men. Many women did not see subway work as a challenge but simply as hard, unpleasant work that had been forced on them. Nikitina reports that many of the recently mobilized women in her brigade were "complainers," all the time remarking how "it was better at the factory and the
work was easier." Her efforts to convince them to stay at Metrostroi were in vain. Many of them left the project, "because for them the work was hard." As Gail Lapidus has noted, in the Soviet context, by the 1930s "sexual equality ultimately came to mean an equal liability to mobilization." Clearly many of the female komsomoltsy did not welcome such equal treatment. As a result, they fled the project.

Furthermore, the heroism of the dedicated female komsomoltsy at Metrostroi carried a high price. Accidents and injury were especially chronic among women workers. It was not uncommon for the best women workers (like Nikitina) to simply ruin their health by trying to meet production goals and not be outdone by male co-workers. One experienced engineer at Metrostroi summed this up well when he observed that the project's women "work with great enthusiasm, but then they are becoming cripples" in the process.

But let us return to the question, "What kept some women komsomoltsy from fleeing Metrostroi as so many of their colleagues did?" The evidence indicates that a key factor in the decision of female komsomoltsy not to flee Metrostroi was personal pride, specifically, their determination to show the men that they were capable workers.
In general, it appears that for both men and women, personal factors (like self-esteem or simply self-interest) took precedence over political and ideological loyalties in enabling komsomoltsy to stay on the job at the subway project. This is not to say that the allegiance of komsomoltsy to Soviet power was weak or unimportant. Rather it is simply to point out that Komsomol devotion to socialism was only one of a multitude of factors which helps explain the behavior of komsomoltsy at Metrostroi.

What emerges from this study of Komsomol mobilization to the subway project is a three dimensional portrait of the komsomoltsy as a diverse group, with all the virtues and vices of ordinary human beings. The bravery and heroism of many komsomoltsy at Metrostroi is counterbalanced by others' refusal to volunteer for the project or their "desertion" from the Metro after having been assigned to work there. In the ranks of the komsomoltsy there were cowards as well as heroes, opportunists as well as true believers in Soviet socialism. In general, the komsomoltsy seem to have acted according to their own needs and interests, as do people anywhere. That this was the case should not be surprising given the fact that the Komsomol, unlike the Communist Party, was a mass organization with a large membership. Thus, the stereotypical portrayal of komsomoltsy as unflinching servants of Soviet power which so often appears
not only in Soviet publications, but in Western scholarly literature as well, is clearly too simplistic and is in need of revision.

Having made this point, however, it needs to be stressed that the recruitment of komsomolsy to Metrostroii was a winnowing out process in which many of the less energetic, less idealistic, or even less courageous komsomolsy were eliminated. The komsomolsy who had the grit and determination to tough it out at Metrostroii represented the "cream" of that organization. Thus, despite the fact that the absolute numbers of komsomolsy recruited to Metrostroii were disappointingly low, the quality of the komsomolsy who remained at the subway project was relatively high. This Darwinesque process of natural selection by which only the "fittest" Young Communists were able to endure the rigors of recruitment helps to explain the remarkable performance of the komsomolsy at Metrostroii once they had adjusted to the work there. The komsomolsy, in fact, went on to play a major role in the building of the subway, as the next chapter will illustrate.

2. Ibid.

3. The Komsomol was a mass organization of youths aged 14 to 23. Its purpose was twofold: to help spread the influence of the Party and government among the general population and to provide a training ground for future Communists.


7. TsGAOR, f. 7952, op. 7, d. 300, l. 197.


12. Ibid., 21 July 1933, 1.

13. TsGAORgM, f. R-665, op. 1, d. 110, l. 1.

14. The percentages of attrition are based on the fragmentary data available—about half of Metrostroi shafts reported such figures (TsGAORgM, f. R-665, op. 1, d. 110, l. 1). Metrostroi's disappointing efforts to recruit
komsomoltsy appear as a stupendous success when compared to similar efforts at Magnitostroi: of the hundreds of komsomoltsy from Moscow mobilized to the distant steel plant site, only twenty actually reported for work there (Stephen Kotkin, "Peopling Magnitostroi: The Politics of Demography," Rosenberg and Siegelbaum, eds., Social Dimensions of Soviet Industrialization, 65). The recruitment of komsomoltsy to the Stalingrad Tractor Plant in early 1931 was only marginally more successful: of the 12,500 mobilized, only 2,262 did not flee soon after arriving (Kuromiya, Stalin's Industrial Revolution, 208).

15. In the Western historical literature, only Lynne Viola describes in detail the mobilization of Communists and komsomoltsy during the Soviet industrialization period. In her Best Sons of the Fatherland, she devotes an entire chapter to the recruitment of the 25,000-ers, an overwhelmingly successful mobilization campaign. Coming as it did, however, at the beginning of the First Five Year Plan era, this mobilization was hardly typical of the Soviet experience during the industrialization period. See Lynne Viola, The Best Sons of the Fatherland: Workers in the Vanguard of Soviet Collectivization (New York: Oxford University Press, 1987), 36-73.


17. TsGAOR, f. 7952, op. 7, d. 297, l. 247.

18. Ibid., d. 447, l. 36.


21. "Idu uchit’sia!" ibid. For similar promotions and testimonials in support of the recruitment drive, see Komsomol’skaia pravda (1933): 29 August, 1; 2 September, 3; 8 September, 4; 11 September, 4; and 14 September, 2.

22. See, for example, TsGAOR, f. 7952, op. 7, d. 304, l. 41; & d. 267, l. 20. For an exception, that is, a Komsomolka who became interested in volunteering for Metrostroi after reading about it in the newspaper, see ibid., d. 289, l. 231.

23. Rasskazy stroitelei metro, 25; TsGAOR, f. 7952, op. 7, d. 296, l. 226; d. 297, l. 247; d. 306, l. 35; d. 322, l. 230; & d. 447, l. 42.
24. Ibid., d. 307, l. 14; d. 317, l. 26; d. 320, l. 81; & d. 447, l. 36.

25. Ibid., d. 296, l. 227-28; d. 300, l. 160; d. 301, l. 18; d. 301, l. 138a; & d. 305, l. 6-7.

26. This conclusion is based on archival materials (primarily TsGAOR) describing fatal accidents at Metrostroi. Although fatalities did occasionally occur, in no reported cases did they exceed two or three per incident. Thus, there is no available record of catastrophic loss of life at Metrostroi. Nevertheless, this conclusion must remain tentative since it is possible that all records of major disasters at Metrostroi have been purged from the archives or placed in a fond not accessible to researchers.

27. TsGAOR, f. 7952, op. 7, d. 341, l. 145-46. For additional examples of such rumor-mongering, see ibid., d. 292, l. 73; and d. 304, l. 51.

28. Ibid., d. 267, l. 28; & d. 317, l. 26.

29. Ibid., d. 267, l. 27; & d. 316, l. 338.

30. TsGAOR, f. 7952, op. 7, d. 307, l. 24.

31. For examples of komsomoltsy who went to Metrostroi against the wishes of their parents, see TsGAOR, f. 7952, op. 7, d. 289, l. 202; d. 292, l. 249-50; & d. 296, l. 226.

32. For an example of this, see TsGAOR, f. 7952, op. 7, d. 292, l. 27.

33. Ibid., d. 317, l. 426-27.

34. Ibid., d. 344, l. 55.

35. See, for example, Komsomol’skaia pravda, 17 September 1933, 2; & TsGAOR, f. 7952, op. 7, d. 447, l. 42.

36. TsGAOR, f. 7952, op. 7, d. 267, l. 3.

37. TsGAOR, f. 7952, op. 7, d. 302, l. 158.

38. TsGAOR, f. 7952, op. 7, d. 289, l. 214.


40. Ibid., 17 September 1933, 2. Among the komsomoltsy sent to Magnitostroi in 1930 were both children and young men ready to be called to the army (Stephen
Kotkin, "Peopling Magnitostroi," 65). Apparently the generally hostile attitude on the part of factory managers toward recruitment drives became a fixture of Soviet life. In Il'ya Erenburg's early 1950s novel, Ottepel', the idea of sending good workers from the factory to aid a short-handed collective farm at planting time is dismissed out of hand. When the list of workers to be sent to the kolkhoz was finally written, it was headed by a notorious drunkard (Il'ya Erenburg, Ottepel' [Moscow: Sovetskii pisatel', 1956], 102).

41. Komsomol'skaia pravda, 23 September 1933, 2 and ibid., 3 October 1933, 2.

42. Komsomol'skaia pravda, 23 September 1933, 2; TsGAOR, f. 7952, op. 7, d. 298, l. 92.

43. Komsomol'skaia pravda, 3 October 1933, 2 and ibid., 22 October 1933, 5.

44. Ibid., 14 September 1933, 2.

45. Ibid., 23 September 1933, 2.

46. This statement is reminiscent of the famous quote by the assistant director of the Red October Factory in Leningrad: "I'd rather be tried in court for [pardon]ing stones than for underfulfillment of the plan." Quoted in Kuromiya, Stalin's Industrial Revolution, 211.

47. Komsomol'skaia pravda, 22 October 1933, 5. The use of the term molokosos is revealing—it indicates the deprecating attitude taken by many of the older managers and Party secretaries toward the komsomoltsy, who by virtue of their youth were considered "green" and "wet behind the ears."

48. This, despite the fact that the paper was one of three which "sponsored" Metrostroy and thus was committed to detailed (virtually daily) coverage of events related to the subway project.

49. Literally, "Poshel von iz kabineta!" Komsomol'skaia pravda, 3 October 1933, 2.

50. Ibid., 22 October 1933, 5.

51. Ibid. For another example of a Komsomol cell secretary with a "demobilized" attitude, see TsGAOR, f. 7952, op. 7, d. 344, l. 55.
52. Vecherniaia Moskva, 16 October 1933, 1.

53. It is interesting to note that in late 1929 in Moscow, the recruitment of the 25,000-ers also ran into the stiff opposition by trade union leaders and factory officials there. Only the direct intervention of the Party (in the form of plenipotentiaries sent to oversee recruitment) saved the day. See Viola, Best Sons of the Fatherland, 52.

54. For a letter to the editor from one such idealistic Komsomol volunteer to Metrostroi, see Udarnik Metrostroia, 17 September 1933, 3.

55. For more on the numerical composition of the komsomoltsy in the Metrostroi workforce, see Chapter Four, pages xx.

56. Tirado, Young Guard!, 84.

57. Quoted in Kuromiya, Stalin's Industrial Revolution, 316.

58. Richard Stites, Russian Popular Culture: Entertainment and Society Since 1900 (New York: Cambridge University Press, 1992), 64. For the sake of completeness it should be pointed out that there is at least one Western historical study which does not portray the komsomoltsy in such an idealized fashion: Peter Kenez's The Birth of the Propaganda State: Soviet Methods of Mass Mobilization, 1917-1929 (New York: Cambridge University Press, 1985). See especially Chapter 8: "The Komsomols in the 1920s," 167-90.

59. These conclusions are based on the archival sources cited below. The interviews referred to were part of a project to produce the official history of Metrostroi (which bore fruit in the form of the two-volume Istoriia metro Moskvy [Moscow: Istoriia fabrik i zavodov, 1935]). Some of these interviews did eventually appear in print, but only in heavily edited form.

60. TsGAOR, f. 7952, op.7, d. 289, l. 51.

61. Ibid., d. 290, l. 51.

62. For the case of an educated komsomolets who was sent to Metrostroi against his objections, see TsGAOR, f. 7952, op. 7, d. 267, l. 27 (this particular fellow was eventually expelled from the Komsomol for his poor work at Metrostroi).
63. Ibid., d. 304, l. 41.
64. Ibid., d. 344, l. 55.
65. Ibid., d. 267, l. 45.
66. Ibid., d. 447, l. 42.
67. For a similar case, see Komsomol'skaia pravda, 17 September 1933, 2.
68. TsGAOR, f. 7952, op. 7, d. 302, l. 162.
69. Ibid., d. 289, l. 214.
70. Ibid., d. 288, l. 18.
71. Ibid., d. 267, l. 20.
72. TsGAOR, f. 7952, op. 7, d. 267, l. 26.
73. Ibid., d. 292, l. 317. For similar cases, see ibid, d. 301, l. 147; & d. 317, 11. 426-27.
74. Udarnik Metrostroia, 9 September 1933, 1; TsGAOR, f. 7952, op. 7, d. 320, l. 81; & d. 316, l. 298. At the notorious shaft 15 alone, 300 komsomoltsy quit soon after arriving. TsGAOR, f. 7952, op. 7, d. 301, l. 135.
75. Udarnik Metrostroia, 9 September 1933, 3; Komsomol'skaia pravda, 8 September 1933, 4.
76. Udarnik Metrostroia, 9 September 1933, 1; TsGAOR, f. 7952, op. 7, d. 318, l. 284.
77. TsGAOR, f. 7952, op. 7, d. 342, l. 14.
78. TsGAOR, f. 7952, op. 7, d. 267, l. 9. For a similar account, see ibid., d. 302, l. 163.
79. Ibid., d. 291, l. 168; & d. 267, l. 11.
80. Rasskazy stroitelei metro, 51; TsGAOR, f. 7952, op. 7, d. 307, l. 8.
81. TsGAOR, f. 7952, op. 7, d. 317, l. 28; & d. 292, l. 27.
82. Ibid., d. 317, l. 29.
83. Rasskazy stroitelei metro, 123; TsGAOR, f. 7952,
op. 7. d. 306, l. 76; & d. 301, l. 60.

84. Such generational conflicts were common in the early Soviet industrialization era as youth, especially the Komsomol, took the lead in introducing new work methods, particularly shock work and socialist competition. William J. Chase, *Workers, Society, and the Soviet State: Labor and Life in Moscow, 1918-1929* (Urbana: University of Illinois Press, 1987), 301.

85. *Udarnik Metrostroia*, 9 September 1933, 3, and 10 September 1933, 1.

86. *Komsomol'skaia pravda*, 15 September 1933, 2; TsGAOR, f. 7952, op. 7, d. 289, l. 231; & d. 307, l. 8.

87. TsGAOR, f. 7952, op. 7, d. 307, l. 1.


89. TsGAOR, f. 7952, op. 7, d. 292, l. 27; d. 294, l. 237; & d. 344, l. 50. One komsomolets mobilized in the summer of 1933 noted that his group of 20 recruits melted away to just 5 members after the onset of winter (TsGAOR, f. 7952, op. 7, d. 295, l. 141).

90. Ibid., d. 311, l. 53. This rate of attrition should be compared to the 46% desertion rate of a national campaign to recruit 15,000 komsomoltsy to work in the mines and the factories of the Donets Basin during the First Five Year Plan. See Fisher, *Pattern for Soviet Youth*, 162.

91. For example, at Magnitostroi, of the 11,000 komsomoltsy there at the beginning of 1933, only 5400 remained a year later (Stephen Kotkin, "Peopling Magnitostroi," 84).

92. Some Party members recruited to Metrostroii adopted the same strategy (Conversation with Comrade Belyi, Partkom Secretary for Shaft 36-37, TsGAOR, f. 7952, op. 7, d. 341, l. 220).

93. TsGAOR, f. 7952, op. 7, d. 299, l. 100.

94. Ibid., d. 288, l. 18; & d. 301, l. 135.

95. Ibid., d. 290, l. 51; & d. 316, l. 299.

96. Ibid., d. 316, l. 298.

97. TsGAOR, f. 7952, op. 7, d. 301, l. 153. For a
similar experience, see ibid., d. 289, l. 233.

98. Ibid., l. 299.

99. TsGAOR, f. 7952, op. 7, d. 304, l. 31.

100. Ibid., d. 322, l. 231.

101. Ibid., op. 7, d. 344, l. 58.

102. Translation from the Russian: "You should be ashamed of yourself, you're crying." TsGAOR, f. 7952, op. 7, d. 344, l. 58.

103. TsGAOR, f. 7952, op. 7, d. 267, l. 11; d. 276, l. 11; & d. 304, l. 31.

104. Ibid., d. 293, l. 4.

105. Ibid., d. 318, l. 288.

106. For examples of this, see Rasskazy stroitelei metro, 124; TsGAOR, f. 7952, op. 7, d. 301, l. 60; & d. 306, l. 76.

107. TsGAOR, f. 7952, op. 7, d. 291, l. 168.

108. Udarnik Metrostroia, 21 September 1933, 2. It should be pointed out, however, that there were isolated cases of women working at Metrostroii even prior to the mobilization of the 10,000-ers. Most were Komsomol recruits from the previous two mobilizations.

109 For specific instances of this, see Udarnik Metrostroia, 21 September 1933, 2; Rasskazy stroitelei metro, 99 & 116; TsGAOR, f. 7952, op. 7, d. 288, l. 18.

110. Udarnik Metrostroia, 25 September 1933, 2.

111. Udarnik Metrostroia, 25 September 1933, 2.

112. Despite the novelty of female labor at Metrostroii in 1933, the widespread introduction of Soviet women in the industrial workplace had begun a full three years earlier, the result of the universal labor shortage created by the First Five Year Plan. Between 1930 and 1932 the number of women employed in Soviet industry doubled from three to six million. During the Second Five Year Plan era the trend continued as another 3,350,000 women entered the industrial workforce raising the proportion of women in industry from 27.4% in 1928 to 34% by 1937 [Gail Lapidus, Women in Soviet
Society: Equality, Development, and Social Change (Berkeley: University of California Press, 1978), 99]. Furthermore, as early as the end of 1931 the use of women at Soviet construction projects began to be a common practice. The proportion of female labor reached as high as 25% at some projects [Stroitel'stvo Moskvy 4 (1932):32].

113. TsGAOR, f. 7952, op. 7, d. 304, l. 53. For an alternate (and undocumented) view of how the use of female labor was initiated at Metrostroi, see Kim Chernin, In My Mother's House (New Haven: Ticknor and Fields, 1983), 134-35. The author's mother was an American Communist living in Moscow in 1933 and she claims that female komsomoltsy publicly demonstrated to win the right to work at Metrostroi.

114. Komsomol'skaia pravda, 29 August 1933, 1. Soviet women who operated machinery had the reputation by 1933 of being, on the whole, more careful and attentive than their male counterparts [Fannina W. Halle, Women in Soviet Russia (London: Routledge, 1933), 323].

115. TsGAOR, f. 7952, op. 7, d. 341, l. 157.

116. Ibid., d. 295, l. 38. For a similar reaction, see Udarnik Metrostroia, 21 September 1933, 2.

117. TsGAOR, f. 7952, op. 7, d. 298, l. 301.

118. Rasskazy stroitelei metro, 106; TsGAOR, f. 7952, op. 7, d. 318, l. 306.

119. See, for example, the reception of E.M. Knosallo, in Rasskazy stroitelei metro, 99.

120. Udarnik Metrostroia, 21 September 1933, 2; TsGAOR, f. 7952, op. 7, d. 288, l. 18; & d. 298, l. 301.

121. Rasskazy stroitelei metro, 116; TsGAOR, f. 7952, op. 7, d. 292, l. 318.

122. TsGAOR, f. 7952, op. 7, d. 296, l. 226.

123. Udarnik Metrostroia, 21 September 1933, 2. For a similar story, see Reznichenko, Dni i gody Metrostroia, 33.

124. TsGAOR, f. 7952, op. 7, d. 267, l. 57.

125. Ibid., d. 267, 11. 3-4; d. 289, l. 202; d. 292, l. 318; & d. 317, l. 28.
126. Ibid., d. 292, l. 318; & d. 317, l. 30.

127. For the testimonials of male engineers and foremen who reported that women workers in the tunnels were equal to and sometimes even superior to their male counterparts, see Rasskazy stroitelei metro, 25, 104, and 116; and TsGAOR, f. 7952, op. 7, d. 267, l. 50; d. 295, l. 38; d. 296, l. 44; d. 299, l. 122; & d. 300, l. 195-196.

128. TsGAOR, f. 7952, op. 7, d. 317, l. 28.

129. Ibid.

130. TsGAOR, f. 7952, op. 7, d. 294, l. 236. For examples of other female komsomoltsy with similar feelings, see ibid., d. 267, l. 57; d. 289, l. 203; d. 289, 11. 232-33; d. 291, l. 8; & d. 317, 11. 29-30.

131. For a similar account of newly arrived women earning the respect of their male co-workers at the Leningrad Tractor Works in 1928, see Halle, Women in Soviet Russia, 324-25.

132. TsGAOR, f. 7952, op. 7, d. 306, l. 15; d. 317, l. 29; d. 320, l. 89; & d. 344, l. 50.

133. Ibid., d. 317, l. 29.

134. Lapidus, Women in Soviet Society, 337. In her description of the "new Soviet woman" which had emerged by the late 1920s, Barbara Clements notes that the idea of women as "equal citizen and worker" was clearly limited in practice: "Her individual emancipation always had to be limited by a clear definition of her responsibilities, she always had to serve ends greater than her own welfare. As they came to be defined, in the twenties and thirties, the ends were traditional--the preservation of an established authority--and modern--industrialization. The responsibilities were traditional--preservation of the family--and modern--participation in work outside the domestic sphere (Barbara E. Clements, "The Birth of the New Soviet Woman," Abbott Gleason, et al., eds., Bolshevik Culture [Bloomington: Indiana University Press, 1985], 233).

135. For example, komsomolka Ordoya notes that of the 15 Komsomol women in her brigade, all but 4 quit Metrostroil (TsGAOR, f. 7952, op. 7, d. 306, l. 15).

136. See, for example, TsGAGR, f. 7952, op. 7, d. 291, l. 210; d. 294, l. 298; d. 302, l. 141; d. 309, l. 171; & d. 320, l. 84.
137. For examples of this, see ibid., d. 304, l. 50; & d. 316, ll. 300-3.

138. Ibid., d. 308, l. 90. For a veteran miner who expressed a nearly identical opinion, see ibid., d. 296, l. 44.
Chapter IV

The Komsomoltsy & the "New Regime" at Metrostroi

Despite the difficulty of their mobilization, the arrival of the komsomoltsy to Metrostroi in late 1933 was a real boon to the project. The Young Communists lacked experience but, on the whole, they brought with them energy, enthusiasm, and a strong desire to meet production targets. Soon after becoming acclimated at Metrostroi they set about reordering work there, establishing, in effect, a "new regime." Although the achievements of the komsomoltsy at Metrostroi were often limited by factors beyond their control, this chapter will show that the komsomoltsy nevertheless played a prominent role in the successful completion of the subway project.

The Moscow komsomoltsy have occupied such a conspicuous place in the published histories of Metrostroi that one might get the impression that they made up a majority of the workers at the subway project. But this was far from the case. Precise statistics regarding Komsomol membership at Metrostroi have not been published. This circumspection appears to have been deliberate, perhaps the result of embarrassment over the disappointing Komsomol mobilizations
to Metrostroi. One rare published estimate from late 1934
puts the figure at 20,000 komsomoltsy. But the rounded
nature of this figure indicates imprecision and the number
is probably inflated, apparently based on recruitment
targets rather results.¹ A reasonable guess of the actual
number of komsomoltsy at Metrostroi in late 1934 ten or
twelve thousand out of a total workforce of 74,000. Along
with these komsomoltsy were about 2500 Communists at
Metrostroi in late 1934².

The remaining 60,000 or so non-Party workers represent
Metrostroi’s "silent majority" because, for the most part,
their input was not sought when the official histories of
the project were written. As a result, their voices have
been lost, despite the fact that they did the bulk of the
work at Metrostroi. Before discussing the laudable
achievements of the komsomoltsy at Metrostroi, it is only
fitting that Metrostroi’s unsung builders are briefly
described.

Metro workers were overwhelmingly young, the average
age being twenty-three. Fully 60,000 members of the
workforce were said to be "youths" (molodezhi), which
presumably means under the age of thirty.³ In terms of
social background, the largest single group of Metrostroi
workers were peasants recently arrived in Moscow. Some had
been recruited from their collective farms, while others
came to Moscow on their own initiative and ended up working
for the subway project by chance. Many were not permanent workers but rather sezonniki, or seasonal laborers, who returned to their villages at times of planting, haying, and reaping. The bulk of these peasants were Eastern Slavs, coming mainly from the Moscow region, Belorussia, the Ukraine, and the Middle Volga region.

Non-Slavic nationalities were represented in the Metrostroii workforce as well, however. For example, about 1800 Tatars were at the project by mid-1934. Even more numerous were Bashkir peasants—around 2600 at the end of 1934 as construction was drawing to a close. The Bashkirs, a Muslim people living in the Urals region east of Kazan, came to Metrostroii starting in April 1933 as a result of a "socialist agreement" between the subway project and the Kaltasinskii region of the Bashkir ASSR. In exchange for supplying Metrostroii with 10 to 15 recruits from each of its collective farms (in addition to foodstuffs, hay, and timber), Metrostroii helped collectivize the Kaltasinskii region. What this meant in practical terms was that Metrostroii provided the Bashkirs with extra labor at planting and harvesttime, in addition to supplying clothing, medicines, industrial goods and other services, including help installing telephone lines.

Lest the reader conclude that labor recruiting contracts between stroiki and collective farms were an efficient way for Soviet industry to obtain labor, however,
it should be pointed out that the apparently mutually
beneficial deal Metrostroi had with Bashkirda was not
typical. Most such "socialist agreements" failed to attract
recruits to industry in adequate numbers. This was as true
for Metrostroi as it was for Soviet industry in general.9

Other nationalities represented at Metrostroi included
Chuvash, Mordvins, and Kazakhs.10 The latter were nomads
who initially were ill-suited to life in the Soviet
metropolis. Subway personnel were aghast that the
"uncultured" Kazakhs shoved their unwanted beds and tables
into a corner in the dormitory, and then ate and slept on
the floor. Some Russian workers even refused to share
dormitories with the Kazakhs because the latter allegedly
refused to bathe. This problem was dealt with by giving the
Kazakhs exclusive use of half a dormitory.11 Only
contributing to Russian dismay with the Kazakhs was the
latters' habit of bringing their families along with them to
work each day. While the Kazakh men labored in the open-cut
excavations, their wives and children reclined nearby.12

Even more inconspicuous than the non-Party peasants at
Metrostroi were past and present forced laborers. This
group, however, is not mentioned in published histories of
the Metro and even archival sources do not specify how large
a group they were. It is known, however, that Metrostroi
did use convict labor, apparently mainly people arrested for
"wrecking" (i.e., economic sabotage). Most of them were
petty criminals who had been sentenced to serve their terms of punishment at their workplaces, but instead were requisitioned by Metrostroï. A few hundred such people were employed at Metrostroï's gravel quarry which, not coincidentally, was managed by a Chekist.\textsuperscript{13} Joining these "wreckers" were forced laborers from the notorious Belomor (White Sea) Canal which had been completed in mid-1933. As a reward for their participation in the canal construction project many Belomor forced laborers were freed and some ended up at Metrostroï where they were said to have worked "not badly."\textsuperscript{14} Their "free" status notwithstanding, one wonders how much choice the Belomor workers had in coming to Metrostroï.\textsuperscript{15}

Another group within the "silent majority" at Metrostroï were 2000 undocumented workers who were uncovered and fired as a result of employee screening in early 1934. This group consisted of former criminals, kulaks, and others who had fled their place of exile, all of whom had come to work at Metrostroï by concealing their past.\textsuperscript{16} Although such people were officially branded "class enemies" and often were accused of deliberate economic sabotage, many in fact were dedicated workers. In this regard, it should be noted that the main character in the only fictionalized account of Metrostroï is the daughter of a kulak who fled her Siberian exile and found her way to Moscow. Though a model worker, she lived in constant fear that her "counter-
revolutionary" past would be revealed. Of course this is only a work of fiction, but it is clearly fiction based on real-life experiences. Indeed, archival documents show that a Metrostroikomsomolka who was the secretary of her shaft's Young Communist League organization was expelled from the Komsomol for hiding the fact that her father was a Ukrainian "kulak." When a candidate member of the Party stood up for her, he was expelled from the Party and fired. The sad fate of the large group of social outcasts at Metrostroii stands in sharp contrast to the privileged status enjoyed by Party members and komsomoltsy there.

Rounding out the Metrostroii workforce were cement workers from Dneprstroii, tunnelers from Georgia, coal miners from the Donbass and the Urals, in addition to several thousand non-Party Moscow factory workers recruited in early 1934 through the trade union system. Finally, there were approximately 200 foreign workers at Metrostroii, including 11 subway engineers from New York City recruited in late 1933. Europeans of various nationalities, many of whom had mining experience in Canada or the United States, also found their way to Metrostroii. Many of the foreign workers seem to have had sympathy for Soviet socialism, but others came to Moscow primarily to escape the depressed economies of Western Europe and North America. Thus, although the focus of this chapter will be on the contribution of the komsomoltsy to Metrostroii, it should be
borne in mind that the komsomoltsy were only one element of Metrostroi's diverse labor force.

As the previous chapter pointed out, komsomoltsy were brought to Metrostroi by the thousands in 1933. They were recruited not only to help ease Metrostroi's labor shortage, but also to set an example of productive labor (especially shock work and socialist competition) that could be emulated by the rest of the labor force. In practical terms this meant that skinny Komsomol boys and girls had the task of showing burly veteran miners how to dig tunnels properly—despite the fact that they not only lacked mining experience, some even "did not know how to hold a shovel." This Komsomol patronage of Metrostroi represented a curious mixture of altruism and arrogance. It was the kind of help for which veteran workers understandably were not always grateful.

Antagonism between veteran workers and the newly arrived komsomoltsy developed quickly. Older workers often received the newcomers "with animosity," taking a "very critical" attitude toward the komsomoltsy and ridiculing them for their youth and inexperience. The youngsters, in turn, disliked what they perceived to be slack work habits among the veterans, in particular their practice of taking hourly smoking breaks, their allegedly mercenary attitude toward work, and their occasional drinking on the job.
This mutual dislike was unfortunate because the newcomers were routinely apprenticed to the veterans in order to learn their new work. For example, after being informed by a technician that his timbering work was sloppy, one newly arrived komsomolets appealed to a nearby veteran miner for advice on how to do a better job. The latter, without speaking, waved him away. Apparently such incidents were common.

In caisson work, the veterans did worse than simply ignoring the komsomoltsy—they subjected them to merciless hazing. Taking advantage of the youngsters' ignorance they concocted horror stories about the hazards of caisson work. They told the komsomoltsy, for example, that if they were not careful the air pressure would break their eardrums, burst their eyeballs, or even cause them to "die before their time." The veterans' favorite gag was to claim that caisson work rendered men sexually impotent. This so demoralized the komsomoltsy that special lectures had to be arranged to convince them that it was not true.

Despite such impediments to training, within six weeks or so after their arrival most newcomers had acquired the rudiments of the tunnelling trade and all-Komsomol brigades were formed. At first the brigades were headed by non-Party older workers, but soon the practice of promoting komsomoltsy to leadership of the workcrews began. This was especially true in early 1934 when the size of the workforce
at Metrostroi was dramatically expanded. This promotion of komsomoltsy to positions of workplace leadership was a type of "affirmative action" program which corresponded to the general Stalinist strategy of placing ideologically reliable people in positions of responsibility as soon as their technical qualifications allowed. Given the fact that political considerations were as important as technical ones in the Soviet workplace, it was a policy which made sense.\(^{32}\)

Such promotions at Metrostroi, not surprisingly, were resented by the veteran workers. At one shaft (9-9b) the komsomoltsy were promoted so rapidly and on such a large scale that the shaft's entire contingent of veteran miners decided to leave Metrostroi. The shaft chief only managed to prevent the miners' departure by offering them a bonus for staying.\(^{33}\)

The rapid promotion of komsomoltsy at shaft 9-9b led to a serious conflict between the shaft chief (N.A. Ermolaev) and Party secretary (M.I. Ol'khovich) there. It was Ol'khovich who arranged the hasty promotion of komsomoltsy at shaft 9-9b, much to the dismay of Ermolaev, who favored the miners with whom he had worked earlier in the Urals. Ol'khovich believed his primary responsibility was "to place Communists and komsomoltsy in all of the responsible positions" in the shaft and he was alarmed when he first arrived at shaft 9-9b because there was only one Communist working in the tunnels.\(^{34}\) Ermolaev, on the other hand, saw
Ol'khovich as a man who carried out his job in a purely "political" manner, not understanding people from a "production" point of view. He complained that Ol'khovich usurped his authority at the shaft. Eventually Ermolaev decided he could not work with Ol'khovich and told the Metrostroil leadership that he would quit if the Party secretary were not fired.35 After the dust had settled, Ol'khovich had been transferred to another shaft and the principle "one man management" was upheld.

But even if the rapid promotion of komsomoltsy to brigade leaders caused resentment on the part of older, more experienced workers, it was a strategy which served Metrostroil well in the long run. With the doubling of the Metrostroil workforce in 1934 (described in Chapter Five, pp. xx), the veteran miners were simply too few to adequately train and supervise all the newcomers. Inexperience notwithstanding, the large numbers of newly promoted komsomoltsy helped greatly to alleviate this shortage of cadre workers. After the huge influx of new workers in early 1934 even Shaft Chief Ermolaev found himself supporting the promotion of komsomoltsy to leadership positions. There simply was no alternative.36

Moreover, the komsomoltsy often made up for their inexperience by their dedication to their work. Whereas veteran workers, in general, were "interested only in their wages," and "if there was money to be earned they would go
anywhere," the komsomoltsy arrived "less with an interest for personal gain as with a general interest toward the Metro." Unlike their non-Party co-workers, many komsomoltsy seem to have developed a kind of civic consciousness at Metrostroi, i.e., a feeling of personal responsibility toward the success of the project. V. Polezhaev, a komsomolets who later rose to become director of Metrostroi, noted that the work at Metrostroi was extremely hard, especially at first. What kept him and his fellow komsomoltsy from quitting, he claimed, was the belief that "regardless of our youth and inexperience we did not have the right to lag behind everyone else. We knew very well that part of the huge project rested on our shoulders, and if we gave up, then this would have delayed everyone." Most Soviet sources on Metrostroi contain portrayals of komsomoltsy as enthusiastic and dedicated to raising productivity while older workers are stereotyped as mercenary and sluggish. Such hackneyed characterizations tend to strain the credulity of the skeptical reader. In fact, there were many older workers who had exemplary records at Metrostroi, and testimony regarding the presence of lazy komsomoltsy at the subway project is not lacking. Nevertheless, there is a degree of truth to this generalization: komsomoltsy do seem to have been more committed, on the whole, to their work than veteran or other
non-Party workers. The reasons for this commitment are not far to seek. The standard of living of the average worker fell dramatically during the 1930s. Workers who were not komsomoltsy or Party members were not likely to willingly sacrifice for the building of Soviet socialism, something they may not have believed in. Their response to the terrible working and living conditions which prevailed in the 1930s was often to protest—not openly in the form of strikes which were now outlawed, but rather silently through high labor turnover or "the refusal of zeal" on the job.  

The situation was fundamentally different for the komsomoltsy at Metrostroi. Being young and almost always without families of their own to worry about, low wages, lack of adequate housing, and frequent overtime were less of a problem. Besides, as shown in the previous chapter, komsomoltsy recruited to Metrostroi who lacked the stomach for the hard work there fled the subway project. Those who remained tended to be more energetic and idealistic. And for those lacking these virtues, the Communist Youth League provided an incentive: labor enthusiasm was a requirement for membership in the Komsomol. As one Metrostroi komsomolets put it when asked if he liked his job, "Of course! A komsomol’s first duty is to like any job the Party gives him..." Simply put, no komsomolets could remain a member in good standing in the Komsomol unless he or she was willing to work overtime, to attend political
meetings, to participate in subbotniks, etc. Thus, those komsomoltsy who lacked a genuine "civic consciousness" toward the subway project were nevertheless required to demonstrate one by their actions.

It is this last aspect of Komsomol membership which deserves stressing since it is often neglected in the literature. The latter emphasizes Komsomol enthusiasm. Such enthusiasm undoubtedly existed. But just as important and largely overlooked is Komsomol discipline. In this respect the Komsomol was akin to a military organization since members were required to carry out orders whether or not they agreed with them. Furthermore, komsomoltsy, like military personnel, could be ordered to work anytime, anywhere. When enthusiasm flagged, discipline was imposed to pick up the slack. With this background in mind, then, some of the specific ways in which the komsomoltsy were able to aid the subway project will now be described.

Komsomol devotion to the subway project was expressed in a number of ways. First and foremost, the komsomoltsy worked hard to fulfill the plan (i.e., to meet their production targets), doing "all that was necessary, regardless of the time it took or the conditions in which they worked." To achieve this end, the komsomoltsy took part in shock work and socialist competition on a massive scale. Additionally, the komsomoltsy participated in
"extra-curricular" activities like technical and political education, cultural work among common workers, and participation in emergency brigades.

The manner in which komsomoltsy achieved greater productivity were several. To begin with, the best Komsomol workers were often appointed to the position of brigade leader. Those who could not produce results were fired and others were given a chance to prove themselves. Just as in time of war when talent is rewarded by rapid promotion, so too at Metrostroii did the hardest working and most successful komsomoltsy rise quickly through the ranks. Female komsomoltsy, however, may not have benefited equally in this rapid promotion. Although many women did rise to the rank of brigadier, one komsomolka complained that the group of women she belonged to worked just as hard as the Komsomol men, "but for some reason the fellows here are given a higher rank but we are not."44

Those promoted, however, were not always grateful for their advancement. Nor was the process entirely voluntary. One komsomolets reported not feeling "sufficiently prepared" to assume the role of brigade leader when first offered it. After hesitating to accept the post, however, he was told that his refusal would result in his expulsion from the Young Communist League. He took the responsibility and went on to become a model brigadier.45 Another komsomolets was appointed to the post of brigadier and told (apparently by
his shaft's Party secretary) that if his brigade were not
outproducing all the other brigades at his shaft in a
month's time, he would be "thrown out" of the Komsomol.46

Within brigades headed by komsomoltsy, tight discipline
was maintained by the brigadier in a number of ways.
Slackers were often roundly criticized by the brigadier in
the five or ten minute meetings held after the end of each
shift. The idea was to use public embarrassment as a
stimulus to better work. A female brigade leader recalled
how she dressed down a loafer who spent much of his time
only pretending to work: "You worked badly today. The
casing work took you an hour and a half. This must not
happen again."47 Another brigadier reported that after he
had "indicated the shortcomings" of his brigade at such a
meeting and made it clear that "it was necessary to put an
end to them," his brigade "began to pull together."48 Shaft
newspapers, largely written by komsomoltsy, supplemented
such efforts by publishing information about those with lax
work habits. Shaft 9-9bis's Tunnel v srok, for example,
regularly published a list of all tardy workers, noting even
how many minutes each was late.49

Of course public rebukes did not always suffice to
induce slackers to work properly. Brigadiers had a number
of other options to bring errant workers back in line. They
could issue formal reprimands, or threaten to reduce the
worker's rank (razriad),50 which meant the worker's wages
would be lowered as well. If this failed to achieve the desired result, then the brigadier could simply expel the worker from his brigade—a measure which apparently was frequently taken. Occasionally the mere threat of expulsion from a brigade was enough to bring an errant worker back in line, especially if the brigade was a productive one which received high wages. Komsomol brigadier Lushnik recalled that such a threat worked in the case of one of his all-Komsomol brigade members who, though a good worker, "often drank." After the komsomolets showed up for work drunk one evening and "undermined the whole brigade," Lushnik gave him an ultimatum. "If you do not give up drinking," Lushnik warned, "I will throw you out of the brigade." The fellow gave his word to stop drinking and became a model worker.

Komsomoltsy who were not brigadiers could take action to improve productivity as well. Komsomolka E.I. Stepanova noted that in her "lax" brigade there was "not a single komsomolet, nor a single Party member" and that all its members were "hooligans." When she tried to instill discipline and organization in the brigade, her colleagues wanted to expel her from the group. Stepanova says she was especially unpopular because she reported fellow brigade members who slept instead of working during night shifts (apparently this was a widespread problem at Metrostroi). Eventually Stepanova appealed to her shaft's Komsomol
secretary for support. The latter managed to have three of the brigade’s worst members assigned to individual work, effectively isolating their disorganizing influence from the rest of the group. Also helping was the appointment of a new brigadier, Botuzov, a veteran metal worker who was a hard worker. Botuzov helped Stepanova improve discipline in the brigade. "Hooliganism" disappeared from the brigade and eventually Stepanova was able to talk several of its members into joining the Komsomol. Before long the group became a model brigade.54

Stepanova’s example is instructive not only because it demonstrates how a single member of the Komsomol could achieve workplace improvements, but it needs to be emphasized that she did not act alone: she had help both from the Komsomol organization and from the veteran non-Party brigadier. As bad as relations between komsomoltsy and veterans were in general, there were cases where the two groups worked hand-in-hand to improve productivity at Metrostroi.

Similarly, in her position as her shaft’s trade union organizer (proforz), komsomolka Ibragimova noted how she dealt with "loafers":

Our fellows work well, but we do have some loafers, too. Every day I check to see who was late, who came, who did not come. If there is a case of tardiness, I organize a meeting the very same day and we discuss it. Those who are ten or fifteen minutes late we deprive of their shock worker status. We submit our list of absentees and late-comers to the shaft committee. If
they know that the person in question was absent without a good reason, he is fired.\textsuperscript{55}

Of course, such efforts to impose discipline had their limits. Members of the Komsomol were much easier to bring back into line than non-Party brigade members. And firing troublesome workers did not always eliminate the problem since they often simply went to work at a different section of the subway project, despite work papers which expressly forbade them from doing so. A typical example is the case of one "shirker, drunk and hooligan Kiselev" who was fired "with dishonor" at shaft 7. Kiselev, after falsifying his work documents, soon regained employment at Metrostroi just a few hundred yards from shaft 7 on the fifth distanziia.\textsuperscript{56} The frequent rehiring of recently dismissed workers, of course, is attributable to Metrostroi's chronic labor shortage. Thus, it was very difficult to throw out "drunks and slackers" at Metrostroi—most often they were simply recycled from one brigade to another. And, as in the case of the komsomolka Danilova who was fired for "systematic absences from work," firings were sometimes overturned by the shaft's "conflict commission." Danilova was permitted to continue working at her shaft, despite having been expelled from the Komsomol as well as fired for her frequent missed work days and her habit of "hooliganizing and disorganizing work."\textsuperscript{57} In sum, lax hiring practices by the shaft leadership clearly limited the gains in productivity
achieved by the komsomoltsy with their rigid enforcement of labor discipline.

Another limiting factor in the improvements brought about by the komsomoltsy at Metrostroj is that increased workers’ productivity seemed to depend on close supervision by the brigadier. One Komsomol brigadier noted that the productivity of his heretofore outstanding brigade declined precipitously after he became ill and was sent to a sanatorium to recover.\textsuperscript{58} Another brigadier-komsomolets had a similar experience. After stepping on a nail, his foot became infected causing him to miss work for five days. In his brief absence, his "fellows' ardor cooled off a bit, they lost heart" and his brigade "greatly fell behind" as result.\textsuperscript{59} This suggests that improved productivity was achieved not so much by inculcating better work habits, but rather through the brigadier's authoritarian leadership. Once that direction was removed, traditionally slack work habits reasserted themselves.

It is probably useful at this time to point out to the American reader that the average Russian’s work ethic in the 1930s differed greatly from that of his American counterpart of the same period. Unlike American culture which stresses the idea that hard work is a virtue that will accrue benefits to all that practice it, Russian society seems to have suffered from a lack of a strong work ethic. One might assume that this was a legacy of the centuries of serfdom
with its lack of economic opportunity, combined with the Russian nobility's traditional disdain for manual labor and involvement in business affairs. Or perhaps Max Weber was correct to connect the historical development of the work ethic with the rise of Calvinism, a Christian denomination which never developed a following in Russia. Whatever the reason, Russians earned a reputation as dreamers, not "doers." Lenin even characterized the Russian worker as "lazy" and set out to change this attitude.

The Soviet leadership from Lenin to Stalin stressed the importance of adopting American technique in order to build socialism in Russia. This idea was especially prominent during the very early phase of Soviet industrialization in the late 1920s and early 1930s and the komsomolsy, with their practical, business-like approach to work, served as agents of this change. Ultimately, however, this effort at cultural engineering failed even before the First Five Year Plan was finished. In effect, the "can-do" komsomolsy were swamped in a sea of popular attitudes antithetical to disciplined industrial labor. Some in Russia, for example, scornfully referred to the komsomolsy as "Soviet Americans."

An example of how those at Metrostroi who sought to increase productivity had to grapple with popular attitudes which were antithetical to hard work is as follows: a newly mobilized Party member to Metrostroi noted that peasant
laborers there were not happy to have shock workers like him brought to the project. "Where are you hurrying to," they asked me, "the slower you go, the farther you will end up."63 Here peasants were citing an old Russian saying which expresses the popular wisdom that working fast or hard will not be rewarded. In fact, while Russian popular sayings which extol the virtues of hard work are scarce, one can find numerous examples of sayings which emphasize the opposite: "Work is not a wolf, it won't run off into the forest"; "Work loves fools"; "Everyone is afraid of patience and labor"; etc.64 Such popular attitudes placed limits on the ability of the Komsomoltsy to set an "infectious example" of proper work habits at Metrostroi.

In describing how the komsomoltsy at Metrostroi achieved greater productivity at Metrostroi, the use of disciplinary measures has been emphasized. But other means were employed as well. For example, much of the success of the Komsomoltsy was due to their skills in reorganizing work. In contrast to the veteran workers, komsomoltsy often spent much of their energy on the job devising ways to improve work efficiency. In fact for many, finding ways to fulfill the plan was a challenge willingly embraced. Komsomolets Kholod, for example, reorganized work in his shaft by eliminating unneeded workers. Normally, he claimed, six or seven people worked together in a "link"
(zveno) at the tunnel face. But the cramped conditions allowed for only two or three to dig, while the others simply watched and waited their turn. Upon being promoted to link leader Kholod reduced the number of people in his link to three and managed to outproduce links with twice as many members. Needless to say, in order to achieve this increase in productivity Kholod had to overcome the objections of his immediate superiors.65

Another komsomolets, L. Aronov, also managed to increase productivity in his brigade. Disappointed that his workers were not as productive as those in a brigade composed of experienced manual laborers, Aronov took to studying veterans as they worked. He noticed that their shovels were of a superior design, one that did not require as much bending as his brigade’s implements. So he ordered his group’s shovels to be similarly modified and soon his workers were outproducing the veterans. Even more importantly, Aronov saw to it that the details of the shovel modification were widely disseminated through the subway project’s newspaper, Udarnik Metrostroia, and soon other brigades were able to enjoy similar increases in productivity.66

One of the most common methods of improving efficiency was simply getting the entire brigade to show up for work fifteen minutes or a half an hour before work was scheduled to begin. This time was then used by the brigadier to
briefly describe to each of his workers what he expected of them that day.\textsuperscript{67} Once the shift officially began, then, all could immediately begin work. Another advantage of workers reporting to the shaft before the shift began was that it gave them time to locate their tools, which often had been carelessly abandoned in the muck of the tunnels by workers from the previous shift. In this way no time was lost searching for hard-to-find tools during the shift.\textsuperscript{68}

As serious as many komsomoltsy were about increasing labor productivity, it would seem that fulfillment of the plan was achieved in large measure by the willingness of komsomoltsy to work overtime. This often meant working on holidays and rest days, as well as working two or more shifts in a row on regular workdays to ensure production targets were met.\textsuperscript{69} Although overtime work was technically illegal, sanctions against it were not imposed at Metrostroi. Indeed, it was quietly encouraged. Non-Party workers often resented the komsomoltsy's willingness to work extra shifts because it resulted in a lower wages for brigades which did not engage in overtime. A brigade of foreign workers, for example, complained that another brigade which had the reputation of being the best at the subway project achieved its supremacy by overtime work. Furthermore, the brigade was charged with receiving "the choicest instruments and best work conditions."\textsuperscript{70} Just as in the later Stakhanovite movement, it is clear that at
Metrostroi there was not a level playing field in the competition for production.

Whether through "fair" methods or not, the komsomoltsy demonstrated a dedication to fulfilling the plan which was unusual at Metrostroi. A veteran engineer noted that the arrival of the komsomoltsy at Metrostroi was "extremely beneficial" in the sense that the newcomers "demanded from us instructions about the plan, the plan targets, they demanded explanations, etc." In other words, the komsomoltsy were unusual at Metrostroi in that they took the official construction schedules seriously. Rather than being skeptical of and hostile toward the breakneck-paced construction tempo, many komsomoltsy embraced the plan, willingly accepting the challenge of fulfilling it. Perhaps this was because they were too young and inexperienced to know that the official timetables were unrealistically fast.

Whether from ignorance or dedication--or perhaps both--many of the komsomoltsy struggled to meet construction targets. One way they did this was through the publication of shaft newspapers in which personal blame was assigned each time the plan was not fulfilled. Often this was done in an irreverent, hooligan-like fashion. And no one was exempt from such public denunciations. At shaft 9-9bis the komsomoltsy audaciously hung a sign on the shaft chief's office door which declared the chief "guilty of unpreparedness in the means of supplying cement" for the
shaft. Whether this action led to an improved flow of cement to the worksite is not clear—the source only indicates that the shaft chief became "very angry" upon seeing the sign. Later the same group of komsomoltsy took their denunciations all the way to the highest levels, blaming the Metrostroi leadership for failing to supply them with an electric transformer they had been promised. When they confronted Deputy Director Abakumov with a placard denouncing his management, Abakumov too became angry and slammed his fist on his desk. His anger, however, was directed not at the komsomoltsy, but rather at the manager of Metrostroi's electric power supply. Abakumov called the latter to his office and by the next day shaft 9-9bis had the transformer it needed.72

Another tactic adopted by the komsomoltsy to ensure fulfillment of the plan was to refuse to be idle—even when ordered to stop working. A good example of this occurred at the Kazan railroad bridge on Rusakovskaia Street. This was the site of Metrostroi's earliest digging, the so-called "test section." As mentioned earlier, Metrostroi's first major accident occurred at this segment of the subway route—the flooding of the tunnel and the subsequent damage to the nearby mineral water factory. In September 1933, a year and a half later, this section was still giving Metrostroi engineers headaches. The problem this time was the difficulty of digging the subway tunnel underneath the
Kazan railway bridge. The bridge was of vital importance because it carried the only track connecting Moscow’s newly-built automated bakery (Pishchekombinata im. Mikoiana) with the wheat-growing regions of the USSR to the south and east. If traffic were stopped on the bridge, Moscow’s bread supply would dwindle precipitously and hunger in the city could result (an indication of just how tenuous Moscow’s food supply was at the time). For this reason it was not possible to stop train traffic across the bridge as Metrostroii workers tunneled underneath it.73

Naturally, tunnelling under these circumstances was especially difficult. The vibrations caused by a train passing overhead made the normally hazardous excavation even more dangerous. Given Metrostroii’s poor record of cave-ins and other tunnelling accidents (see Chapter Five, pp. xxx), there was no guarantee that tunnelling under the bridge could be accomplished safely. Furthermore, at the only other point on the subway route intersected by a railroad bridge (the Kursk railroad crossing just south of Komsomol’skaia Square) the results were not encouraging. Train traffic on the Kursk railroad bridge also could not be halted during the tunnelling beneath it. As a result of such digging the railroad bridge settled dramatically--up to six inches a day. Although the bridge ultimately remained intact, during excavation it was far from clear that this would be the case. Needless to say, this made for a very
tense work atmosphere. Unable to bear the strain, one of the men in charge of the tunnelling under the Kursk bridge eventually went berserk, obsessed by the fear that the bridge would collapse as a train crossed it. Only after three months in a psychiatric ward did the man regain his wits. Upon release he is reported to have said, "Ah, the bridge is intact, they won't arrest me now."

With such problems at the Kursk railroad bridge it is not surprising that the decision was made in September 1933 to halt tunnelling under the Kazan railway bridge until Metrostroil could devise a plan for safe excavation there. The komsomoltsy at shaft 29, however, were not content simply to wait until they received the new plans. Instead, they took the initiative and went to Metrostroil's planning department to make inquiries. Inexplicably, the Kazan bridge plans had been completed several days earlier, but had not yet been delivered to the worksite.

But this did not resolve the situation. Another obstacle to resuming work was an order from the Kazan railroad administration prohibiting tunnelling under its bridge—the rail authorities feared the excavation would lead to the bridge's collapse. Again the komsomoltsy, on their own initiative, began negotiations with railway personnel. After protracted talks a compromise was reached. It was decided that tunnelling could resume on a specified date on the condition that all trains crossed the bridge at
low speeds, thereby reducing vibrations in the ground below. Even so, in their haste to get back to work, the komsomoltsy resumed tunnelling a full day prior to the date agreed to by the railroad.\textsuperscript{77} Thus, by taking matters into their own hands, the komsomoltsy managed to dramatically shorten a construction delay at Metrostroii.

The Metrostroii komsomoltsy displayed the same type of initiative when it came to work stoppages due to shortages of construction material. One Komsomol brigadier explained how his brigade dealt with a shortage of lumber which threatened to stop their excavation work:

In our brigade, without the shaft chief's knowledge, the following situation arose: before we went underground, we fetched ourselves boards and logs. That's how much we had taken a liking to our work! The fellows arrived a couple of hours before the shift started, rummaged around the courtyards and the other shafts, and before the shift started made it back to the worksite with their lumber. One time there was the following incident: I was carrying a staircase back from the Aleksandrovnskii Park, I got caught and was taken to the police. The police captain burst into laughter and let me go in peace.\textsuperscript{78}

Another such Komsomol scrounger, a metal worker named Davydkin, kept his worksite supplied with spare machine parts by stealing them from equipment at other Metrostroii work areas. Eventually he was caught disassembling a concrete mixer. For his "overzealousness" he was expelled from the Komsomol, but suffered no other penalty. Later, through good work, he regained admission to the Communist Youth League.\textsuperscript{79}
Such scavenging for scarce materials was a common feature of the Soviet industrialization period and was by no means limited to the komsomoltsy. But the kind of dedication to one's work that arriving two hours before it officially began required was apparently most in evidence among the Young Communists. As admirable as such dedication is, one can only wonder how much it helped Metrostrooi for its employees to steal scarce machine parts and supplies from one another. Even if one work station managed to fulfill its plan through theft from a second worksite, then this very theft only made it more unlikely that the second worksite could fulfill its plan. In this sense, such Komsomol zeal at Metrostrooi was not necessarily beneficial to the project as a whole and it demonstrates the fundamentally irrational nature of the subway’s construction. Furthermore, even enterprising scavengers could not compensate for the chronic shortages of construction materials which plagued Metrostrooi and led to enormous amounts of lost time. Some komsomoltsy reported that it was not uncommon for their six-hour work shifts to be reduced to just three and a half or four hours as a result.80

Unlike the doubtful benefits of scavenging, the predilection of komsomoltsy for technical training (tekhucheba) was an unmitigated boon for Metrostrooi. Since its inception, the subway project was plagued by the
technical illiteracy of its workforce. An American subway engineer working at Metrostroi complained in mid-1933 that in the tunnels one could see "hundreds of men literally groping, not understanding what they are about."

Furthermore, he charged, "little is being done to teach the workers to grasp the complex nature of their work."\textsuperscript{81}

Of course the Metrostroi leadership was aware of this problem and had taken action to remedy it. It decreed the establishment of technical courses in the basics of tunnel excavation, concreting and other subjects. But until late 1933, such courses were not realized in practice. There are several reasons for this. To begin with, classes were to be held after work when many workers were too tired to attend them. Secondly, Metrostroi engineers were given the task of organizing the courses and teaching them in their spare time—something they had precious little of. Thirdly, the technical courses were voluntary and few workers or engineers showed any interest in them. This being the case, technical instruction was conveniently forgotten and all attention was given to meeting production targets.

All this changed with the massive arrival of komsomoltsy at Metrostroi in the fall of 1933. Large numbers of komsomoltsy began demanding the establishment of technical courses and soon the once languishing training program became a going concern. By the end of 1934, over
twenty thousand workers were reported to have participated in technical courses of one form or another at Metrostroi.\textsuperscript{82}

It would hardly be surprising if these figures were inflated and it is to be expected that academic standards at these informal technical courses were relatively low—such, after all, was the case for Soviet technical training in general in the early 1930s. Nevertheless, the presence of a massive technical education at Metrostroi was beneficial to the project as a whole. To begin with, technical training at Metrostroi enabled komsomoltsy to gain the expertise needed to be promoted to brigade leaders and other responsible positions.\textsuperscript{83} This was of great help to Metrostroi given the shortage of qualified work supervisors there. The technical courses also enabled rank and file workers to do their jobs better. For example, one komsomolka noted that before she attended lectures on cement she had no idea that the use of frozen gravel to make concrete or the wood chips which occasionally fell into the mixture would cause the finished concrete to be weaker. As a result of her studies, however, she claimed she was able to assure higher quality by preventing concrete from being improperly mixed or poured.\textsuperscript{84} Thus, the komsomoltsy, by insisting that tekhučeba be made available to them, were able to bring about a higher degree of technical literacy to Metrostroi.
Another area in which the komsomoltsy at Metrostroi proved especially valuable was in emergency work. Firstly, all Komsomol members were virtually on twenty-four hour call at Metrostroi. If a serious problem arose requiring extra hands at a shaft, the komsomoltsy could be mobilized on the spot. Such mobilizations frequently occurred after the sudden flooding of tunnels due to a summer rainstorm or a broken water main. Tunnel floodings occurred by the dozen at Metrostroi and the komsomoltsy were typically the ones who rushed to the worksite to contain the damage.

Secondly, just as armies in battle often keep their best units in reserve for use in critical situations, so too at Metrostroi were there elite brigades composed of komsomoltsy to be used in times of crisis. A Komsomol brigade headed by a certain Emel’ianov, for example, was known as the "emergency" (avariinaia) brigade. "If it was necessary to conduct urgent work which limited the normal course of work for an entire shaft, then Emel’ianov’s brigade was always dispatched and this brigade always quickly and well fulfilled any assignment—whether it was tunnelling, cementing, waterproofing, cleaning, marble work, etc."\(^{85}\)

The Metrostroi leadership relied heavily on the komsomoltsy in especially dangerous work as well. Sometimes the komsomoltsy willingly did work that no one else wanted. Such was the case at shaft 13-14 where komsomolets E.L.
Limonchik and his brigade volunteered to excavate a section of tunnel that had been closed by technical personnel because the geological conditions there were "very dangerous." Furthermore, many "old timers" (veteran caisson workers) quit Metrostroii because "they were accustomed to working in such conditions where timbering did not crack and the soil held together." To take their place, the Metrostroii leadership chose the komsomoltsy. In all, about 900 youths were allocated to caisson work. Despite their unfamiliarity with caissons, the komsomoltsy reportedly had "colossal energy, [as well as] a firm desire to master all the details of production and to increase the tempo."

What the sources neglect to mention, however, is that owing to their youth and inexperience, the komsomoltsy had no idea just how dangerous the caisson work at Metrostroii was. This ignorance, no doubt, contributed to their ability to tolerate conditions which experienced caisson workers deemed too perilous.

This point is worth emphasizing because it is generally overlooked in the literature on the komsomoltsy. In general, young people tend to be not only more energetic and idealistic, they also tend to have a relatively carefree attitude toward life which enables them to take great risks more easily than older people. Because of their youth and inexperience, young people tend to doubt their own
mortality. It is precisely this attitude which often enables youths to see war as an attractive adventure rather than an opportunity for being maimed or meeting an untimely death. For this reason the military draft age in most countries is 18 or 19 years. After all, an 18 year-old is much more likely than a 35 or even a 25 year-old to obey when ordered to charge a machine gun. Along these same lines, in the very dangerous caisson work at Metrostroii older engineers typically quit after becoming acquainted with the hazardous working conditions. Young engineers, however, were better able to tolerate the same dangerous work environment. This tendency was so strong that the head of caisson work noted that eventually "our engineering-technical collective consisted exclusively of young engineers who came to us straight from their school benches."\textsuperscript{90} Likewise, because of their youthful recklessness, the komsomoltsy enjoyed a great advantage over older workers at Metrostroii.

There is probably no better example of the emergency mobilization of komsomoltsy at Metrostroii than the hurried dispatch of two hundred Young Communists to the Russian Far North on a lumber gathering mission. In early 1934, as the pace of work was dramatically increased at Metrostroii,\textsuperscript{91} the problem of supplying the project with work materials reached crisis proportions. This was especially true with regard to
lumber, which was used to support the newly excavated tunnels until they could be properly concreted. Many of the tunnels and underground stations then being excavated were faced with the threat of collapse as a result. The surface of several areas above the digging—including Dzerzhinsky Square and the Okhotnyi Riad—had already sunk dramatically as a result of the lack of timbering props underground.92

By February the Moscow subway project needed a staggering amount of wood—120 railcars of lumber each day. When Metrostroi urgently appealed to the Soviet lumber trust for more timbering material, however, the latter cited an insufficient labor force to fill such a large order.93 In response the Metrostroi leadership devised the idea of sending its own workers to the Far North to obtain the lumber. On 3 March an appeal was made to Metrostroi’s Komsomol contingent and by the very next day 206 young men had been collected for the task and were heading north by train from Moscow. Their destination was the island of Trudeev in the Northern Dvina River delta, near the White Sea port of Arkhangel’sk.94

About 90 to 95% of Metrostroi’s timbering needs were met with lumber from the Arkhangel’sk area.95 Unfortunately for Metrostroi, the Arkhangel’sk timber industry was notoriously inefficient. Although the Arkhangel’sk region was well endowed with harvestable forests, it was plagued with a long-standing labor shortage. Throughout the 1920s
the Soviet government had difficulty recruiting workers to this cold and remote region, even with the inducement of high pay. Furthermore, those who did agree to travel north to work in the timber industry "did not observe work discipline." Labor "turnover was high and a stable work force [was] difficult to establish."96

It was this endemic labor shortage which led to the decision in July 1929 to employ forced labor in the Soviet timber industry. Many prisons were closed and the inmates were sent to the Far North to fell trees. This decision was taken because of the importance of lumber exports to the Soviet economy during the First Five Year Plan: there was a big market for Soviet lumber in Europe and such sales, which yielded hard currency, were used to help finance Soviet purchases of industrial plant and equipment in the West. To a great extent, then, Soviet industrialization was underwritten by Russian lumber exports. In the process, the notorious GULAG system in the USSR was created, largely for economic, not political reasons.97

The switch to forced labor in the Soviet timber industry did not lead to dramatic improvements there, however. Convict labor was highly unproductive and by necessity was supplemented by the labor of exiles (largely dispossessed kulaks) and mobilized peasants. Due to the poor living and working conditions, neither of the latter two groups worked very efficiently either. Pay for lumber
workers was irregular; often they went months without receiving their wages. Additionally, they lived in barracks which lacked even the most basic amenities, including running water or stoves. Under these conditions, labor turnover remained high, despite prohibitions on leaving the worksite.98

Not only was labor productivity very low in the timber industry at Arkhangelsk, even worse was the fact that a large amount of lumber was routinely lost due to mismanagement. By 1934 it had become a yearly occurrence for tens of thousands of cubic meters of lumber to be carried off in the spring flooding of the Northern Dvina River. This happened because each summer harvested logs were floated downriver to Trudeev island at the mouth of the Dvina where the logs were collected and prior to being stacked on railcars. But due to labor shortages and the lack of railcars, much of each year’s timber harvest could not be shipped away before the spring flooding of the Dvina began. So with the thawing and flooding of the Dvina, Trudeev island became inundated and all the logs remaining there were swept out into the White Sea. Once the logs drifted into international waters, they were gathered by the waiting crews of Norwegian ships.99 This deplorable waste led in early 1934 to the arrest and trial for mismanagement of the directors of the Arkhangelsk lumber trust.100
Metrostroji, however, was able to turn this recurring lumber disaster to its own advantage. In early March 1934, with the spring flooding of the Northern Dvina only two months away, Metrostroji made a deal with Eksportles, the Arkhangelsk lumber trust, by which it could obtain as much of the cut logs on Trudeev Island as could be loaded on railcars. The only condition was that Metrostroji would have to send its own people to do the stacking. This proviso was gladly accepted by the Metrostroji leadership, all the more so because it was given priority allocation of railcars due to the urgent nature of the work.101

Thus, by all appearances, the 206 Metrostroji komsomoltsy sent to Arkhangelsk had a fairly simple assignment. There was no need for them to chop down trees since huge quantities of logs had already been collected on Trudeev Island. It remained only for them to load the cut logs onto railcars. What could be simpler?

Upon arrival in the Far North, however, the komsomoltsy learned that their task would not be so easy. To begin with, it was unseasonably cold—40 degrees below zero on their first work day. One komsomolets reported that the temperature was so low that first morning that when he first stepped outside "it seemed as if someone had poured a bucket of cold water down your back."102 The cold was made worse by the fact that many of the komsomoltsy were not properly dressed for it. Some had brought leather boots instead of
felt valenki. The leather split open in the bitter cold, confining their owners to the barracks. Moreover there was a shortage of work mittens provided by the lumber trust. One komsomolets reported that after the three-mile morning walk to the worksite, "all arrived frostbitten--some with swollen noses, others with swollen cheeks." After half an hour most of the komsomoltsy had fled to the barracks to warm themselves. The consensus in the group was that it was too cold to work and many wanted to return to Moscow.

Aggravating the situation was the difficulty of finding lumber on Trudeev Island. After a half-hour reconnoiter, a newly arrived komsomolets reported to his comrades that "there is absolutely no lumber at all here." Only later did the group learn that all the logs on Trudeev island were buried under ten feet of snow and could only be found with the help of local lumberjacks. The latter were provided by Eksportles not only to show the komsomoltsy where the logs were located, but how to lift and load them as well. But these "specialists" were of limited use since they reported drunk for work each morning: instead of providing leadership they reportedly simply "wallowed in the snow." Equally vexing was the shortage of axes and rope needed to chop out and lift the lumber onto the railcars: Brigadier Rogov reckoned that the 200 komsomoltsy needed 60 axes, but the lumber trust gave them only seven. In place of the desired
66 sets of rope, they received four. Furthermore, once the logs had been found and dug out of the snow and ice, they had to be carried by hand 200 meters to the railcars. The whole operation was conducted without machinery, using "antediluvian methods." These awful working conditions were matched by the low quality of the accommodations of the komsomoltsy on Trudeev island. To begin with, the lumber trust only had barracks' space for about half of the Metrostroï group; the rest were consigned to an abandoned cafeteria which lacked beds. But even the barracks some of the komsomoltsy shared with exiled workers were deplorable: some windows lacked glass panes allowing the extreme cold to penetrate the building. Furthermore, the barracks' walls were cracked allowing water to leak in. As a result, mold was everywhere inside the structure. But as bad as these barracks were, they were probably an improvement on the housing of the forced laborers who lived nearby— they slept in a barge anchored in the Dvina. Matching the komsomoltsy’s substandard accommodations was the deplorable cafeteria fare on Trudeev island: on their first day the komsomoltsy were treated to a meal of worm-infested pea soup. How did the Metrostroï komsomoltsy react to these appalling conditions? It has already been pointed out that many were so discouraged by the bitter cold that they were ready to hop on the next train back to Moscow. What appears
to have held the group together and instilled in it the type of discipline needed to be productive under such harsh conditions were the leaders of the group, especially brigadiers L.T. Rogov and Rebrov. Both men kept a tight rein on their charges during the course of their lumber work. Rebrov, for example, forbade his workers from drinking vodka while in the Far North.\textsuperscript{115} Apparently to minimize their possible demoralization, Rogov prohibited fraternization with the local inhabitants which included exiled kulaks.\textsuperscript{116} As for "slackers," Rebrov reported he had very few in his brigade since he always "gave them what they had coming," apparently a reference to a severe dressing down. Such attention, Rebrov claimed, sufficed to motivate erstwhile shirkers to "work all-out."\textsuperscript{117} Apparently an atmosphere of strict, military-style discipline prevailed in the Komsomol ranks at Arkhangel'sk.

Some indication of just how devoted Rebrov was to Soviet socialism is seen in the decision he took as a sixteen-year old komsomolets. As his native village was undergoing collectivization, Rebrov chose to join the kolkhoz—despite the fact that his father and the rest of his family refused to do likewise.\textsuperscript{118} Having sacrificed his relations with his family and having risked his life for the cause of Soviet power, Rebrov represented an extreme example among the komsomoltsy of devotion to socialism.
Even with the barracks' discipline imposed by Soviet stalwarts like Rebrov, putting their work on a proper footing was no small task for the komsomoltsy. They began by dismissing their drunken "specialists." Additionally, they threatened the lumber trust with a strike unless the latter supplied them with more axes and rope. This tactic yielded the desired result and the komsomoltsy were soon well-equipped to start loading timber. To increase productivity, Komsomol brigades engaged in socialist competition to determine who could load the most railcars with lumber. To counteract the numbing effects of the extreme cold, Rebrov periodically ordered his group to huddle together, shouting, "Boys, squeeze together with all your might. The harder you squeeze the less the cold will affect you."

Hard work and lots of it also fortified the komsomoltsy against the cold. Rebrov reported his crew worked nearly twenty hours a day, rising at 5 am and laboring until 5 or 6 every evening. Those good with numbers might conclude that Rebrov was prone to exaggeration or perhaps simply "mathematically challenged," but such skeptics should remember that the days are much longer in the Far North. Further helping the group maintain their productivity were the improved meals at the Eksportles cafeteria. After the wormy soup incident the komsomoltsy managed to get the cafeteria director fired and then they assigned some of
their own boys to see to it that the quality of the food was improved. To the astonishment of veteran lumber workers the cafeteria was soon serving meals which included meat, something unheard of prior to the arrival of the komsomoltsy.\textsuperscript{124} Taken together, these improvements enabled the komsomoltsy just a few days after their arrival to become proficient at loading railcars with lumber.\textsuperscript{125}

No sooner had the komsomoltsy set matters straight at Trudeev island, however, when new problems developed. To begin with, there was a shortage of railcars, despite their priority allocation to Eksportles. To solve this problem several of the komsomoltsy were assigned posts at the local railyard where they saw to it that newly arrived railcars were indeed sent to Trudeev Island. An even more serious problem arose, however, when it was discovered that about half of the railcars loaded by the komsomoltsy for Metrostroï had been requisitioned by other organizations. For just this purpose there were about a hundred tolkachi ("pushers") at the Arkhangel'sk rail station. These men were stealing Metrostroï lumber through unspecified machinations. Probably they simply bribed local railyard officials to allow them to reroute the lumber railcars by changing their handwritten destinations (located on the outside of the railcars themselves). By simply crossing out "Moscow--Metrostroï" and writing the name and address of their own organizations (for example, a health resort under
construction in the Crimea), the "pushers" were able to steal lumber belonging to the subway project.\textsuperscript{126}

The komsomoltsy protested this theft to the director of Eksportles and demanded that such pilfering be stopped, but the latter claimed there was nothing he could do. In desperation the komsomoltsy telegrammed Moscow for support. No reply was forthcoming for several days, so the Metrostroi workers took matters into their own hands. They began to inspect every railcar. If they found a load of lumber bound for organizations other than Metrostroi, they readdressed it to the subway project. In the meantime, they received confirmation from Moscow that other organizations were forbidden from requisitioning Metrostroi lumber.\textsuperscript{127} Whether the competing tolkachi then honored this formal prohibition the sources do not say.

Despite the kaleidoscope of problems encountered in the Far North, on 5 April the komsomoltsy finished their lumber gathering expedition well ahead of their 1 May deadline. By any measure this was a tremendous accomplishment. How much the Arkhangel'sk expedition actually helped Metrostroi, however, is more difficult to judge. To begin with, determining the amount of wood loaded by the komsomoltsy is not possible. A good idea of the approximate nature of Soviet statistics is given by the fact that Rogov, himself in charge of the expedition, cited conflicting figures regarding the amount of work his group accomplished,
variously claiming 3000 or 3500 railcars of logs were loaded by his crew for shipment to Metrostroii. Further clouding the issue is a contemporary newspaper article which states that only 1000 railcars of lumber were loaded by the Young Communists. Moreover, given the prevalence of theft in the Soviet rail system, one wonders how many of these railcars actually were delivered to the subway project instead of being hijacked by other organizations.

Whatever the case may be, upon their return to Moscow the komsomoltsy were welcomed as conquering heroes, with a ceremony arranged in their honor. Material rewards were distributed as well. Rebrov reports that for his efforts he was given a watch and a bicycle. Of the 206 member group, 85 received monetary premiums, the total sum of which was 17,000 rubles. Once again the komsomoltsy had gone above and beyond the call of duty to help alleviate a serious problem at Metrostroii.

Although the komsomoltsy were instrumental in improving productivity, their beneficial influence at Metrostroii was not limited to the workplace. Komsomoltsy were heavily involved in a variety of extracurricular activities from improving cafeterias and sprucing up dormitories to raising the cultural level of the Metrostroii workers. It is the latter activity which will be discussed below.

Anyone who has spent time in Russia knows that one of
the worst insults there is to be called "uncultured."
Especially among well-educated Russians it is hard to
exaggerate the importance attached to kul’turnost’
("culturedness"). For the komsomolsy in the 1930s
kul’turnost’ was measured first and foremost by appearance
and behavior. It meant personal cleanliness, especially
short hair and a clean-shaven face for men; and proper
attire: a jacket and tie for men and Western-style dresses
for women. To a large extent it meant city manners and
dress, as opposed to "uncouth" peasant behavior and dress.
But kul’turnost’ also meant observation of refined norms of
etiquette, reading great literature, and an appreciation of
the fine arts, especially the theatre and classical music.
A requisite of membership in the Komsomol was an effort to
achieve these norms of "culture," no mean feat for those who
were virtually uneducated and who grew up in the primitive
conditions which prevailed in the countryside.

Even today the foreign visitor to Russia is apt to be
struck by the prevalence of "village influences" in major
cities such as Moscow and St. Petersburg. Spitting is as
common as gum chewing in the United States and is practiced
indoors as well as out. The practice of blowing one’s nose
on the sidewalk is routine. Even more despicable are the
public toilets in Moscow. They are so appalling as to defy
description. All these examples of low standards of
personal hygiene are true in Russia today, sixty years after
Russia industrialized and long after Russia has become a predominantly urban nation. One can imagine how such problems were even more prevalent during the 1930s.\textsuperscript{133}

The komsomol'sy (along with Communists and trade union representatives) attacked many of these undesirable village influences head on, waging a cultural war with the Metrostroi workforce.\textsuperscript{134} Komsomol brigadier L. Aronov, for example, noted that the majority of his brigade's members were non-Party teenage peasants. Some of these boys "did not wash themselves for days at a time, went about dirty, did not have underwear or suits." In order to "unite" and "cultivate" (vospitat') the brigade, Aronov insisted on high standards of personal cleanliness. He was able to convince brigade members to "conclude agreements" to wash themselves more often and to buy underwear and suits. Each link (zveno) within the brigade was responsible for seeing to it that its members complied with their new obligation. Once the fellows had gotten their new clothes, Aronov noted, they were encouraged to go to movies and the theatre.\textsuperscript{135}

Because of the backward nature of much of the Metrostroi workforce, the goals of the komsomol'sy in this cultural campaign were often quite modest. Instead of developing among Metrostroi workers an appreciation for Russia's great writers, often komsomol'sy were reduced to convincing peasant workers to take off their muddy boots before going to bed or persuading veteran Donbass miners not
to use "mother curses" in the presence of female workers. These two issues may not strike the reader as particularly important, but both acquired great urgency at Metrostroii in 1933 and 1934.

Life in Metrostroii barracks and dormitories was fraught with problems, not the least of which was a chronic bedbug infestation. A check of 138 Metrostroii barracks in the spring of 1934, for example, revealed that "not a single room was without these parasites."136 Although bedbugs are not known to transmit diseases, they nevertheless are quite annoying since they feed on human blood and their bites are painful.137 In order to eradicate bedbugs from the dormitories a number of measures were taken. First and foremost, an attempt was made to change and wash bed linen. General barracks' cleanups were organized as well: floors were washed, while walls were either whitewashed or covered with wallpaper.138 In addition, "sanitary-medical personnel" conducted talks with dormitory residents on the importance of cleanliness and a film entitled "Parasites Taken Prisoner" was shown.139

But the effect of all these measures was not immediate, especially on peasants newly arrived at Metrostroii. Many had never seen bed linen before. Some stripped their beds of sheets and slept on bare mattresses "in order not to soil" the linen.140 Others, however, went to bed in their dirty workclothes, not even bothering to take off their
muddy boots. A certain Matrosov, guilty of such behavior, was told that it was "uncultured and unhealthy." He responded with mother curses.\textsuperscript{141} There were many such workers at Metrostroy and they stubbornly fought attempts to rehabilitate them, efforts they scornfully referred to as "intellectual."\textsuperscript{142} As a result, arguments and unpleasantries in the barracks regarding filthy bed linen were numerous. Apparently the only thing which convinced some to doff their boots before going to bed was the prospect of having their picture taken while they slept. Worker-correspondents (primarily Komsomol volunteers) from the newspaper \textit{Udarnik Metrostroia} threatened not only to take such pictures but to publish them in their newspaper as well.\textsuperscript{143}

Another cultural war conducted by the komsomoltsy at Metrostroy was directed against Russian "mother cursing" (\textit{mat}), a manner of expression so obscene that most swearing in English seems tame by comparison. Although mother cursing was prevalent at Metrostroy from the project's inception, a campaign against it was not organized until the fall of 1933, after the massive arrival of Komsomol women in the workforce.

Many Komsomol women sought to end mother cursing at Metrostroy not only because they wanted to exert a positive moral influence on their co-workers, but more importantly
because they found the swearing extremely offensive. It was not uncommon for newly arrived Komsomol girls to be so scandalized by the swearing at Metrostroi that they wanted to flee the project.\textsuperscript{144} Instead of leaving, however, many resolved to fight to eradicate swearing from the worksite, or at the very least to force workers not to use mother oaths in their presence.

Moral support for the battle against swearing appeared in the form of the Komsomol Central Committee, a representative of which branded mother curses "a relic of the past" and an indication of "a lack of culture." But even with such high-level support the opponents of mother curses were greatly outnumbered. Those at Metrostroi who swore seem to have been in the majority and included not only veteran miners but also newly arrived youths from Moscow's factories, including many komsomoltsy.\textsuperscript{145} In fact, even many female workers used mother curses. One komsomolka recalled two women in her shaft who swore so expertly that even the men around them would have found it "awkward to talk that way."\textsuperscript{146} Also using obscene language were a majority of Metrostroi's engineers and technicians, including some shaft chiefs.\textsuperscript{147}

Swearing, apparently, was an integral part of the work culture at the subway project. Many defended it as a useful tool, citing a newly coined saying, "Without mother curses, there is no productivity."\textsuperscript{148} Assistant foreman (and
komsomolets) Shitov, when asked how he fought against swearing at Metrostroi, responded, "Speaking frankly, I believe that without mother curses the Metropolitan could not be built. When you let out a mother curse, your heart becomes lighter." Similarly, a shaft chief claimed that he, as an old miner, could only work well when he could "cuss properly." Although komsomolka Leshcheva strongly opposed mother curses, she noted that the two women at her shaft who swore were shock workers who were especially prone to use foul language when someone jeopardized the fulfillment of the plan. Furthermore, she conceded, these two women never swore when they were away from the shaft. The direct connection of swearing with work was noted by another komsomolka: "After work, not a single person from our brigade curses, but when they go down into the shaft, all you hear is mother cursing." Thus, it seems that swearing at Metrostroi was both a morale booster for workers frustrated by problems beyond their control as well as an effective means to criticize those who were impeding work. In the war against swearing at Metrostroi, then, productivity may have been an unintended victim.

To conduct this "war," female komsomoltsy used a variety of tactics beginning with simple persuasion. As one komsomolka recalled,

The [male] komsomoltsy in our shaft also cussed up a storm. We began to have conversations with them as follows: "Well, if you were walking along with a girl,
you certainly would not swear, so why do you swear around us here?" "Well, okay," they say, "we won't anymore." And after this as soon as someone lets out a swear word, they notice us immediately [and say], "Oh, forgive me, I won't do that again!"153

In fairness to the reputation of the men at Metrostroii, there were some who, without prompting, chivalrously forswore swearing whenever women were present.154 For those lacking such self-restraint, however, some shafts began to impose fines: at shaft 22, an expletive cost 10 kopecks—a substantial fine since average monthly wages at Metrostroii were 150 rubles.155 At shaft 18 komsomoltsy who swore were made to appear before the shaft’s Komsomol committee (where presumably they were reprimanded).156 Finally, in some cases efforts to eliminate swearing went outside the Komsomol organization when women raised the issue at shock-worker and shaft meetings.157

The results of these efforts were mixed, ranging from poor to very good. Komsomolets Malashin claims after his shaft chief was publicly rebuked by the shaft committee (shakhktkom) for his defense of swearing, mother curses "were no longer heard" at his shaft.158 On a similar note, komsomolka Nikitina claimed, "In our presence no one cursed, we broke almost all of the women of this [habit]. In any case, in our brigade cursing had already disappeared."159 At shaft 9, however, efforts to get non-Komsomol women workers to stop swearing failed.160 Similarly, when asked if the fellows in her brigade swore a lot, komsomolka
Shakova responded, "Yes, with all their might. Our presence does not inhibit them. And several of the girls swear. We fought this, but it did not do any good."\textsuperscript{161}

In contrast to the previous chapter where the Communist Youth League was shown to have large numbers of self-serving opportunists and "deserters" in its ranks, this chapter has demonstrated that there were also many dedicated builders of socialism in the Komsomol. Clearly the komsomoltsy played a prominent and beneficial role at Metrostroi, both on and off the worksite. At a project which continually suffered from a shortage of labor, the Metrostroi komsomoltsy did important jobs no one else had the time or energy to do. In their willingness to work overtime and to accept additional responsibilities, the komsomoltsy distinguished themselves from most of the non-Party workforce at Metrostroi. In this sense many of the komsomoltsy seem to have developed a kind of civic consciousness toward Metrostroi, that is, a feeling of responsibility for the ultimate success of the project that transcended customary attitudes toward work. Indeed, at times the contribution of the komsomoltsy to the project assumed heroic proportions, as in the case of the Arkhangel’sk lumber expedition.

Despite their enormous contribution, however, it would be easy to get an exaggerated view of the overall importance of the komsomoitsy to Metrostroi. This tendency is promoted
by Soviet literature on the Metrostroii komsomoltsy which borders on hagiography. For this reason it is well to remember that the komsomoltsy were a minority at Metrostroii, comprising probably something on the order of one sixth of the total workforce. It should also be noted that during the construction of the Metro the contribution of the komsomoltsy was at times deemed insufficient, and was even ridiculed, by the Soviet leadership. Kaganovich in late 1933 complained that the komsomoltsy at Metrostroii were not increasing productivity quickly enough. He brusquely ordered the youngsters to do better, complaining that their "the honeymoon period [at Metrotroii] has dragged on for too long." Also, at a meeting of Metrostroii's best shock workers in March 1934 the poet Bezumenskii harshly rebuked the komsomoltsy, complaining that they were doing poor work at the Metro and not fulfilling the plan. Although he had been asked to read his poetry at the gathering, Bezumenskii refused, telling the komsomoltsy, "I will not read [it], you do not deserve it."162 This was a great affront to the assembled Young Communists, one that Bezumenskii was unlikely to have given without the approval and perhaps even the prompting of the Party leadership.

In fairness to the komsomoltsy, their ability to reorder work at Metrostroii was limited by a number of factors beyond their control. To begin with, the variety of problems that they had to deal with was overwhelming. There
were difficulties everywhere at the worksite: inadequate tools, lack of construction materials, shortages of labor and expertise, and bad organization. On top of this, workers were inadequately housed and fed. In short, the problems were simply too many and too serious to be solved by a limited number of youngsters, however enthusiastic and energetic. Secondly, Komsomol ardor was offset by inexperience: most komsomoltsy were teenagers lacking management or technical skills. In their quest to rationalize work at Metrostroï they literally were groping in the dark, learning by trial and error. In short, they were novices at their trade, however well meaning. That the Party turned to the Komsomol to bring efficiency to Metrostroï only underscores how irrational, in general, work was at the subway project. Finally, given the unrealistically fast tempo of construction demanded by the plan, in relative terms the improvements realized by the komsomoltsy were never enough. The ultimate proof of the failure of the komsomoltsy to adequately raise productivity at Metrostroï is shown by the fact that Metrostroï’s labor force had to be more than doubled in 1934. And, as the next chapter will show, even this greatly expanded workforce did not keep the project on schedule.
1. *Vecherniaia Moskva*, 13 August 1934, 2. This figure seems exaggerated because nearly all published references to the three Komsomol mobilizations of 1933 report that 13,000 Young Communists came to Metrostroi then. As was demonstrated in Chapter Three, the real number was probably less than half of that. Similar imprecision can be expected for estimates of Komsomol recruits in 1934.

2. *Dni i gody Metrostroia*, 49.


5. Letter to Rottter from ONU (acronym for Metrostroi labor recruitment division) Chief Lukin, 14 June 1933, TsGAOR, f. 7952, op. 7, d. 152, l. 23.


7. Conversation with Comrade Kuznetsov, Director of the Metrostroi Personnel Department, 20 November 1934, TsGAOR, f. 7952, op. 7, d. 314, l. 222.

8. Poletaev, 24-25, and "Sotsialisticcheskii dogovor mezhdu Metrostroi i Koltasinskim Raikom Sploshnoi Kolleaktivizatsii Bashkirskoi ASSR, 8 April 1933, TsGAOR, f. 7952, op. 7, d. 152, ll. 6, 7.

9. See for example the complaints of Metrostroi's chief of labor recruitment in mid-1933, TsGAOR, f. 7952, op. 7, d. 152, l. 24. For a general discussion of the failure of organized labor recruitment from collective farms in the early 1930s, see Rassweiler, *The Generation of Power*, 136-39.


11. "Conversation with Comrade Kuznetsov, Director of Metrostroi's Personnel Department, 20 November 1934, TsGAOR f. 7952, op. 7, d. 314, ll. 222-23.

12. "Universitet glubokogo zalozheniia," Comrade Kuznetsov, Director of the Metrostroi Personnel Department, TsGAOR, f. 7952, op. 7, d. 291, l. 155.
13. "Conversation with Comrade Gordon, Chief of the Quarry Division, 16 November 1934, TsGAOR, f. 7952, op. 7, d. 300, l. 72.

14. Conversation with Comrade Kuznetsov, Director of Metrostroi's Personnel Department, 20 November 1934, TsGAOR, f. 7952, op. 7, d. 314, l. 228.

15. Of the half million forced laborers at the Belomor project, only some 500 were freed at its completion. Additionally, 12,484 were paroled and 56,516 received reduced terms. Cited in Vladimir Paperny, "Moscow in the 1930s and the Emergence of a New City," Culture in the Stalin Period, Hans Guenther, ed. (New York: St. Martin's Press, 1990), 231.

16. Conversation with Comrade Kuznetsov, Director of Metrostroi's Personnel Department, 20 November 1934, TsGAOR, f. 7952, op. 7, d. 314, l. 227.


20. "Gorod pod zemlei--kto stroil metro?," Komsomol'skaja pravda, 14 May 1935, 3; Telegram from US engineer Peter Weiner to Rotert, 13 September 1933, TsGAORgM, f. R-665, op. 1, d. 111, l. 11.


23. Transcript of a meeting of Metrostroi shock workers, 1 January 1933, TsGAORgM, f. R-665, op. 1, d. 65, l. 35.

24. Recollections of Brigadier Abagaev, komsomolets, 1000-er, TsGAOR, f. 7952, op. 7, d. 307, l. 20.

25. "Pressurized Air," by P.P Kucherenko, Chief of the
Caisson Group, TsGAOR, f. 7952, op. 7, d. 290, l. 198.

26. The quote is from a 40-year old communist railroad engineer by the name of Pavlovich who worked at Metrostroii in the Sokolniki section (TsGAOR, f. 7952, op. 7, d. 306, l. 76). See also Rasskazy stroitelei metro, 123; Conversation with Shaft 7-8 Partorg, I.I. Ermolaev, 24 March 1935, TsGAOR, f. 7952, op. 7, d. 301, l. 60; Dni i gody Metrostroia, 49-50.


28. Conversation with Leonid Rogov, TsGAOR, f. 7952, op. 7, d. 318, l. 284; Account of I.F. Beshkin, non-Party technician, ibid., d. 342, l. 14; Conversation with T.M. Proskurin, drifter brigadier, shaft 15, ibid., d. 293, l. 4.

29. "Rasskaz shtukatushchika Maks Mil'ke," TsGAOR, f. 7952, op. 7, d. 292, l. 188.

30. For a newspaper article which complains that this was indeed the case, see "Ni odnogo voprosa--bez otveta," Udarnik Metrostroia, 10 September 1933, 1.


33. Conversation with Shaft Chief N.A. Ermolaev, Shaft 9-9b, 17 November 1934, TsGAOR, f. 7952, op. 7, d. 301, l. 15.

34. Conversation with M.I. Ol'khovich, 16 November 1934, ibid., d. 306, l. 35.

35. Conversation with N.A. Ermolaev, 17 November 1934, TsGAOR, f. 7952, op. 7, d. 301, l. 16.

36. Conversation with B.A. Mlodek, Komsorg Shaft 9-9b,
TsGAOR, f. 7952, op. 7, d. 292, l. 212.

37. Although this characterization sounds rehearsed, it was given by a shaft chief who was well-known for his preference of veteran miners over komsomoltsy, and therefore has considerably more credence. Conversation with Shaft Chief N.A. Ermolaev, 17 November 1934, ibid., ll. 15, 17.

38. Polezhaev was director of Metrostroi from 1958 to 1972 (Dni i gody Metrostroia, 113).

39. See, for example, "American Worker Describes Enthusiastic Metro Brigade," Moscow Daily News, 4 December 1933, 4.

40. Brigadier Katamadze noted, for example, that of his entire brigade the only slackers were a Party member and a komsomolets (TsGAOR, f. 7952, op. 7, d. 302, l. 4); Komsomol brigadier Lushnik reported that in his brigade there were several komsomoltsy who "drank and missed work" (ibid., d. 304, l. 40), etc.


42. "Workers Score Record in Finishing Section of Metro," Moscow Daily News, 12 September 1934, 3.

43. These are the comments of Max Milke, a German guest worker at Metrostroi, TsGAOR, f. 7952, op. 7, d. 292, l. 188.

44. Conversation with Comrade Ordova, 1st distantsiiia, TsGAOR, f. 7952, op. 7, d. 306, l. 14. Andrew Smith, an American Communist who became disillusioned after working in a Moscow factory three years, claimed discrimination against women in industry was endemic: "We also fought for the protection of women in industry in America. Yet, what protection do women have here? They do the roughest, most arduous kind of manual labor and receive the lowest wage scale." Andrew Smith, I Was a Soviet Worker (New York: E.P. Dutton & Co., 1936), 94.

45. Conversation with Brigadir Limonchik, shaft 14, 28 February 1935, TsGAOR, f. 7952, op. 7, d. 447, l. 43.

46. Recollections of Brigadir Abagaev, komsomolets 1000-er, TsGAOR, f. 7952, op. 7, d. 307, l. 20.

47. "Byla nastroiashaia rabota," E.M. Knossallo,
brigadier, shaft 18-bis, TsGAOR, f. 7952, op. 7, d. 291, l. 11.

48. The Story of Comrade Katamadze, brigadier, 1st distantsiia, TsGAOR, f. 7952, op. 7, d. 302, l. 4.


50. Industrial workers had a military-like system of ranks, starting at one and ranging to six which was the highest rank. At Metrostroii new workers were generally given the third rank and most achieved the fourth rank within a few weeks.

51. For examples of "slackers" being expelled from their brigades, see Conversation with Comrade A.G. Mordvishov, brigadier, 23 June 1935, TsGAOR, f. 7952, op. 7, d. 316, l. 351; "Byla nastoiashaia rabota," E.M. Knossallo, brigadier, shaft 18-bis, ibid., d. 291, l. 12; Katamadze, brigadier, 1st distantsiia metro, ibid., d. 302, l. 4.

52. "Conversation with Comrade Lushnik, Komsomol brigadier, shaft 12, TsGAOR, f. 7952, op. 7, d. 304, l. 40.

53. For additional examples of workers sleeping on the job, see "Gavrilov, Smirnov, Kozlova na Rabote Spiat," Za boevye tempy, 9 June 1934; and "Inzhiner-Organizator," by L. Aglitskii, TsGAOR, f. 7952, op. 7, d. 377, l. 8.

54. "Conversation with Comrade E.I. Stepanova, komsomolka, 8th distantsiia, TsGAOR, f. 7952, op. 7, d. 320, l. 88-89.

55. Conversation with Comrade Ibragimova, proforg shaft 10-11, 3 December 1934, TsGAOR, f. 7952, op. 7, d. 312, l. 228.


58. Testimony of Comrade Katamadze, TsGAOR, f. 7952, op. 7, d. 302, l. 6.


60. The most famous literary example of this is
Goncharov's novel Oblomov.


63. Literally from the Russian, "tyshe edesh', dal'she budesh'." Testimony of V.M. Kalinnik, brigadier, shaft 31-32, TsGAOR, f. 7952, op. 7, d. 290, l. 93.


65. Rasskazy stroitelei metro, 231.

66. Ibid., 252.

67. For an example of this, see Brigadier Katamadze's recollections, TsGAOR, f. 7952, op. 7, d. 302, l. 4.

68. For reports of carelessly dropped tools lost underground and the time wasted searching for them, see "Metrostroii Foreigners Protest Exclusion from BRIZ Check-Up," Moscow Daily News, 23 June 1933, 4; and "Reveals Many Inefficiencies in Metrostroii Construction," Moscow Daily News, 10 December 1933, 3.

69. For examples of this, see Kak my stroili metro, 60, 73, 103-4. Komsomol predeliction for overtime work was also in evidence at Dneprostroi (Rassweiler, The Generation of Power, 171).


71. Conversation with Comrade Pavlovskii, 4th distantsii, TsGAOR, f. 7952, op. 7, d. 306, l. 76.

72. Conversation with B.A. Mlodek, Komsomol secretary
for shaft 9-9bis, TsGAOR, f. 7952, op. 7, d. 292, ll. 214-15.

73. Testimony of I.L. Fedchun, Deputy Chief of Technical Affairs, shaft 29, TsGAOR, f. 7952, op. 7, d. 295, l. 122.

74. This is perhaps the only documented case of a mental patient actually benefitting by treatment in a Soviet psychiatric ward.

75. Conversation with Comrade Kucherenko, 20 October 1934, TsGAOR, f. 7952, op. 7, d. 314, l. 108.


77. Ibid.

78. These events occurred in March and April 1934. Conversation with Brigadier A.I. Kholod, shaft 7-8, TsGAOR, f. 7952, op. 7, d. 295, l. 182.

79. Rasskazy stroitelei metro, 374-75.


82. According to Metrostroii statistics, 23,550 workers took part in the courses, with 19,191 passing their final exams ("Tsifry i fakty po tekhuchebe po Metrostroiu," TsGAOR, f. 7952, op. 7, d. 312, l. 224).


84. " радости от работы сколько!" N.D. Morgunova, shaft 36-37, TsGAOR, f. 7952, op. 7, d. 292, l. 28.

85. Testimony of Leonid Rogov, shaft 13-14, TsGAOR, f. 7952, op. 7, d. 318, l. 290.

86. "Conversation with Comrade E.L. Limonchik, Komsomol brigadier, shaft 13-14, TsGAOR, f. 7952, op. 7, d. 304, l. 7.

88. Ibid.
89. Ibid, 178.
90. Ibid, l. 174.
91. For more on the work speedup at Metrostroii, see Chapter Five, pp. xx.
92. Testimony of Brigadier A.T. Rogov, TsGAOR, f. 7952, op. 7, d. 318, l. 293.
93. Stenogram of a conversation with Comrade Levchenko, Director of Metrostroii's Supply Department, 20 November 1934, TsGAOR, f. 7952, op. 7, d. 304, l. 100.
94. Komsomol'skaja pravda, 5 March 1934, 4; and TsGAOR, f. 7952, op. 7, d. 318, l. 298.
95. Komsomol'skaja pravda, 5 March 1934, 4, and TsGAOR, f. 7952, op. 7, d. 318, l. 298.
97. The decree to establish OGPU-run prison colonies to fell timber was made by the Sovnarkom on 11 July 1929 (ibid.). For a discussion of the serious trade dispute between the US and the USSR over the former's objection to the use of forced labor in the Soviet timber industry, see Schultz, "The American Factor in Soviet Industrialization," 224-272.
98. "Istoriia poezdki komsomol'tsev Metro v Arkhangelsk," June 1934, TsGAOR, f. 7952, op. 7, d. 451, l. 78.
99. Conversation with Comrade L.T. Rogov, TsGAOR, f. 7952, op. 7, d. 318, l. 299.
100. "Istoriia poezdki komsomol'tsev Metro v Arkhangelsk," June 1934, TsGAOR, f. 7952, op. 7, d. 451, l. 78.
101. Transcript of a conversation with Comrade Levchenko, Director of the Metrostroii Supply Department, 20 November 1934, TsGAOR, f. 7952, op. 7, d. 304, l. 100.
103. Conversation with Comrade L.T. Rogov, TsGAOR, f. 7952, op. 7, d. 318, l. 300.

104. Instead of the needed 205 pairs of work mittens, the lumber trust "with difficulty" was able to supply only 150. Testimony of Brigadier Rogov, 13 March 1935, TsGAOR, f. 7952, op. 7, d. 318, l. 308.

105. Conversation with Brigadier Rebrov, TsGAOR, f. 7952, op. 7, d. 293, l. 181.

106. Conversation with Brigadier Rogov, 13 March 1934, TsGAOR, f. 7952, op. 7, d. 318, l. 309.

107. Conversation with Brigadier Rebrov, 1 December 1934, TsGAOR, f. 7952, op. 7, d. 307, l. 9-10.

108. Conversation with Comrade Rogov, 13 March 1935, TsGAOR, f. 7952, op. 7, d. 318, l. 309.

109. Testimony of Brigadir Rogov, TsGAOR, f. 7952, op. 7, d. 318, l. 300; and testimony of Brigadir Rebrov, TsGAOR, f. 7952, op. 7, d. 293, l. 181.


112. Ibid., l. 92.

113. "Istoriia poezdki komsomol'tsev Metro v Arkhangel'sk," June 1934, TsGAOR, f. 7952, op. 7, d. 451, l. 95.

114. Conversation with Brigadier Rebrov, TsGAOR, f. 7952, op. 7, d. 293, l. 183.


117. Conversation with Comrade Rebrov, 1 December 1934, TsGAOR, f. 7952, op. 7, d. 307, l. 6.

118. Ibid., l. 1.

120. Ibid., l. 101.

121. Ibid., l. 102.

122. Conversation with Comrade Rebrov, TsGAOR, f. 7952, op. 7, d. 293, l. 182.


124. Conversation with Comrade Rebrov, TsGAOR, f. 7952, op. 7, d. 293, l. 183.

125. Conversation with Comrade Rebrov, TsGAOR, f. 7952, op. 7, d. 293, l. 182.

126. TsGAOR, f. 7952, op. 7, d. 318, ll. 301, 311.

127. TsGAOR, f. 7952, op. 7, d. 318, l. 301.


130. Conversation with Comrade L.T. Rogov, TsGAOR, f. 7952, op. 7, d. 318, l. 303.

131. Conversation with Comrade Rebrov, TsGAOR, f. 7952, op. 7, d. 293, l. 184.

132. Conversation with Comrade Rogov, TsGAOR, f. 7952, op. 7, d. 318, l. 303.


135. Rasskazy stroitelei Metro, 256.


138. "Conversation with Comrade Kopeikin, partorg 2nd section, TsGAOR, f. 7952, op. 7, d. 291, l. 4; and "People Grew Before our Eyes," by Mar’ianovskii, et al., TsGAOR, f. 7952, op. 7, d. 292, ll. 64-65.

139. Metrostroii’s Yearly Report for 1932, dated March 1933, TsGAOR, f. 7952, op. 7, d. 161, l. 86.

140. Conversation with Partkom Bakhonin, shaft 10-11, TsGAOR, f. 7952, op. 7, d. 341, l. 257.


142. Ibid, l. 59. The pejorative connotation of the adjective "intellectual" (intelligentskii) in Soviet society is much more pronounced than in the United States. Professor A.I. Smirnitsky’s famed Russian-English dictionary renders "intelligentskii" as "weak-willed, hesitating."

143. Ibid, ll. 66-7.

144. See for example, the testimony of the 10,000-er Gorskaia, TsGAOR, f. 7952, op. 7, d. 344, l. 59.

145. Testimony of N.D. Morgunova, tile worker, shaft 36-37, TsGAOR, f. 7952, op. 7, d. 292, l. 31.

146. Conversation with Comrade Leshcheva, shaft 9, 1 November 1934, TsGAOR, f. 7952, op. 7, d. 304, l. 49.

147. Conversation with O.A. Ustinova, brigadier, shaft 18-18bis, 29 November 1934, TsGAOR, f. 7952, op. 7, d. 307, l. 159; Conversation with Shaft Chief Kalashnikov, shaft 7-8, ibid., d. 303, l. 102; and Testimony of M.K. Malashin, brigadier, shaft 22, ibid., d. 292, l. 224.

148. Conversation with O.A. Ustinova, shaft 18-18bis, 29 November 1934, TsGAOR, f. 7952, op. 7, d. 307, l. 159.
149. Conversation with Comrade Shitov, shaft 22, 10 October 1934, TsGAOR, f. 7952, op. 7, d. 309, l. 148.

150. Conversation with Brigadier M.K. Malashin, shaft 22, TsGAOR, f. 7952, op. 7, d. 292, l. 224.

151. Conversation with Comrade Leshcheva, shaft 9, 1 November 1934, TsGAOR, f. 7952, op. 7, d. 304, l. 50.

152. Conversation with O.A. Ustinova, shaft 18-18bis, 29 November 1934, TsGAOR, f. 7952, op. 7, d. 307, l. 159.

153. Conversation with N.D. Morgunova, shaft 36-37, TsGAOR, f. 7952, op. 7, d. 292, l. 31.

154. Conversation with Comrade Gorskaia, shaft 18, TsGAOR, f. 7952, op. 7, d. 344, l. 59.

155. Conversation with M.K. Malashin, brigadier, shaft 22, TsGAOR, f. 7952, op. 7, d. 292, l. 224. Fines were also imposed at the 7th distanziia, but the source does not specify the amount (Conversation with K.V. Nikitina, komsomolka, 3 December 1934, ibid., d. 317, l. 29).

156. Conversation with O.A. Ustinova, shaft 18, 29 November 1934, TsGAOR, f. 7952, op. 7, d. 307, l. 159.

157. Ibid.


159. Conversation with K.V. Nikitina, komsomolka, 7th distanziia, 3 December 1934, TsGAOR, f. 7952, op. 7, d. 317, l. 29.

160. Conversation with Comrade Leshcheva, shaft 9, 1 November 1934, TsGAOR, f. 7952, op. 7, d. 304, l. 50.

161. Conversation with Comrade Shakhova, concrete worker, shaft 13-bis, 1 November 1934, TsGAOR, f. 7952, op. 7, d. 309, l. 135.

162. Diary of a shaft 15 drifter, entry dated 16 March 1934, TsGAOR, f. 7952, op. 7, d. 449, l. 99.

163. From 36,927 workers at the beginning of 1934, Metrostroi’s workforce rose to 75,639 by May of the same year (Testimony of P.P. Rotert, Director of Metrostroi, TsGAOR, f. 7952, op. 7, d. 293, l. 135).
Chapter V

The Pursuit of "Bolshevik Tempo" and its Consequences

After the introduction of thousands of komsomoltsy to Metrostroii and their impressive accomplishments there, one might expect that the subway project had finally been placed on a proper footing. Unfortunately, this was not the case. By the end of 1933 work at Metrostroii continued to move forward at a relatively slow pace. With only ten months remaining before the Metro's scheduled opening on 7 November 1934, 85 percent of the project's excavation and 93 percent of the project's concrete work remained undone. In response to this troubling situation, Kaganovich assembled Metrostroii's Party activists and shock workers on 29 December 1933 and treated them to a typically long-winded speech. The gist of the talk was to point out that the subway would not be completed on time at the present rate of construction. From this Kaganovich concluded that Metrostroii's "main task" was "to speed up the tempo of construction, to root out handicraft and tortoise-like tempos." But how was this to be accomplished? Mathematically, the answer was simple: the rate of tunnel excavation would
be sped up by a factor of five, while the laying of concrete
would be done 8 or 9 times faster. In human terms, however,
the idea of implementing this work speedup was daunting,
calling as it did for Herculean efforts. Although
Kaganovich indicated that the size of the workforce would be
increased (an additional twenty thousand new workers were to
join the thirty-five thousand already on the job), the
overwhelming majority of the increased productivity was to
come from existing workers and equipment.3 In essence,
Kaganovich called for better organization of work at
Metrostroi to accomplish the task he outlined.

Not surprisingly, many at Metrostroi considered this
plan for a work speedup unrealistic. Skeptics ranged from
common workers to members of the Metrostroi leadership,
including Rotert.4 Even Party members were not immune to
such doubts. For example, a certain Communist engineer
Bogdanov told a brigade leader that he believed the new
construction timetable was both "unfulfillable" and
"unrealistic." Bogdanov justified his pessimism by
disparaging the Metrostroi komsomoltsy, claiming the new
production targets were "unthinkable" with Komsomol labor.
On the other hand, Bogdanov maintained, "If I were to be
given Tatars or Bashkirs, then, perhaps, I would be able to
fulfill the plan."5 For his comments Bogdanov was branded a
"double-dealer" (dvurushnik) and a "right opportunist," was
expelled from the Party and fired.6
Leading the charge to denounce and dismiss those who doubted the plan's feasibility were Metrostroi's Party cell secretaries. At the subway project's First Party Conference in early January 1934 a proposal was made to remove all people who exhibited "elements of Bogdanovism." But practical concerns sometimes overrode efforts to defrock "heretics," as in the case of section chief (nachal'nik uchasta) by the name of Semenov. Complaining to N.I. Zaitsev, his local Party representative (partorg), Semenov claimed that the new plan was unfulfillable. To justify this heresy Semenov noted that he had 150 men less than the new plan called for. But Zaitsev was unmove[d]. In strict accordance with the Party line, Zaitsev stressed the idea that there were no "objective reasons" for non-fulfillment of the plan. He explained to Semenov that fulfilling the plan was simply a matter of people—not their quantity, but rather their proper allocation at the worksite by a capable leadership. Zaitsev denounced Semenov for lacking faith in the decision of the Moscow Party Committee (which had decreed the revised construction tempo) and called a meeting of all Communists at his worksite to discuss Semenov's "opportunisti[...](8)

The decision to fire Semenov, however, was not approved by the Metrostroi leadership, apparently because Semenov's technical qualifications outweighed his political
shortcomings. Also in Semenov's favor was the fact that he had not gone outside the Party with his complaint. Apparently those Communists (like Semenov) who expressed their doubts solely to Party members suffered no greater penalty than harsh rebukes. This was probably more the result of the shortage of skilled managers and engineers than any display of leniency. On the other hand those (like Bogdanov) who criticized the plan in public were dealt with much more severely. Firing and expulsion from the Party were standard punishment.

Doubts about the realistic nature of production plans were nothing new in the Soviet experience by 1934. In fact they were a natural by-product of the First Five Year Plan era (1928-32) with its emphasis on breakneck-paced construction. Many in industry proved unable to enthusiastically endorse what quickly proved to be unrealistically high production targets. Not all who felt such reservations voiced them, however. Those arrested for "wrecking" at this time were often accused of advocating low production targets and this naturally put a damper on open criticism of planning targets. For the majority of factory managers and technical specialists, opposition to the overambitious plans was not voiced, but was real nevertheless. Thus, the fact that doubts existed at Metrostroi regarding the feasibility of the 1934 work speedup does not seem extraordinary.
What is significant about the drastically increased construction tempo at Metrostroï starting in 1934 is that it occurred at the same time that Soviet industry, on the whole, had already returned to more sober planning. As one economic historian of the USSR has noted, by 1933 "the fever had abated" and wildly unrealistic targets were replaced by more modest ones.\textsuperscript{12} In the general setting of Soviet industry, then, Metrostroï's drastic work speedup of early 1934 was an anomaly. How is it to be explained?

To begin with, the Moscow Metro was built to show the superiority of socialism over capitalism. For this reason it was important not only to build a subway which was more comfortable and beautiful than those in the capitalist West, but to build the Metro in record time as well. In this sense, the very reputation of Soviet socialism in the eyes of the world depended upon the speedy completion of the Metro.\textsuperscript{13}

But just as important is the fact that Kaganovich, as the overall supervisor of Metrostroï, staked his personal reputation on the project's rapid completion. Any delay in the Metro's opening would not only have been embarrassing, but damaging to him politically. As a result, he pressed ahead with construction at Metrostroï as if his very life depended upon its speedy completion. That this was the case becomes more understandable when one is aware of Kaganovich's unusual public persona at Metrostroï.
Kaganovich was a unique figure within the Stalinist leadership of the 1930s. On the one hand, he was "the very embodiment of the 'trouble-shooter,'" a man who liberally used arrest and even execution to solve problems, whether in grain procurement or rail transport. Kaganovich's style of management was aptly expressed in a speech in 1934 when he explained that "the earth should tremble when the director is entering the factory." This dark side of Kaganovich's personality, in which he played the role of "supreme slave-driver," is generally well known. Overlooked by historians, however, is the more personable aspect of Kaganovich's leadership style. Although apparently lacking talent for behind-the-scenes political maneuvering, Kaganovich as a public personality was unsurpassed. Unusual among the Stalinist leadership, he was a highly effective orator who could "capture an audience." Also distinguishing Kaganovich from fellow Soviet leaders was his ability to mingle with people, to "work crowds." This trait was very much in evidence in the way Kaganovich supervised work at Metrostroi.

On his frequent visits to the subway project Kaganovich cultivated an image of concern for the common worker. Unlike other leaders who generally remained aloof on their inspections of worksites, Kaganovich usually greeted Metrostroi workers and conversed with them in a familiar way, "as if he had been working with them several months."
Helping him in this regard was his phenomenal ability to remember the names (and patronyms) of people at Metrostroi, including common workers.\textsuperscript{20} Furthermore, in his talks with workers, Kaganovich used "simple, understandable" language, asking about their wages, how well they were being fed, whether their living conditions were adequate, and so on.\textsuperscript{21} In cases where workers complained of inadequate food or improper housing, Kaganovich often saw to it that the problem was quickly remedied.\textsuperscript{22} For example, when he learned that a Metrostroi shock worker named Kozlovskii was prevented from marrying the girl he loved because he did not have a room of his own and had no prospects of ever getting one, Kaganovich intervened. By the very next day Kozlovskii had his room and he was soon married.\textsuperscript{23} Further illustrating Kaganovich's image as a "man of the people" was an incident which occurred during the making of a documentary movie about Metrostroi. As the lights went up and filming was about to begin, a crowd of managers, engineers, and others in leadership positions soon formed around the Moscow Party chief. Kaganovich ordered them away, however, insisting that he be filmed with ordinary workers.\textsuperscript{24}.

With the possible exception of Sergei Kirov, this type of "up close and personal" public demeanor was not typical of the Soviet leadership. True to character the reclusive Stalin did not once visit Metrostroi, despite the fact that
much of the work there occurred only a stone's throw from his Kremlin office.\textsuperscript{25} Like Kaganovich, fellow Politburo member Nikolai Bulganin (and Chairman of the Moscow Soviet) also was charged with supervising Metrostroi. But as mentioned earlier, Bulganin's visits to the worksite were rare and he did not develop any rapport with workers there.\textsuperscript{26}

With no rivals in the Politburo to dispute his jurisdiction over Metrostroi, Kaganovich became closely identified with the enterprise. At Metrostroi a very real "Kaganovich cult" developed. This close personal identification with the subway project apparently made it imperative for Kaganovich to press work forward there with the utmost urgency. Starting in mid-1933 Kaganovich promised in public speeches that the Metro's first line would open on 7 November 1934, the seventeenth anniversary of the October Revolution, nearly a month earlier than the official scheduled completion date of 1 December 1934.\textsuperscript{27} Throughout the rest of 1933 and into 1934 he repeated his pledge at public gatherings that the metro would be completed by the revised date. A poem was even created to emphasize this:

\begin{quote}
The Metro you are building, 
Fired by Stalin's strength 
Lazar Kaganovich will launch 
On November Seventh.\textsuperscript{28}
\end{quote}
And so it is no exaggeration to say that Kaganovich staked his very reputation on the timely completion of the subway project. This helps to explain why "Bolshevik tempo" was stressed at Metrostroi long after it had been relaxed in Soviet industry as a whole.

Ordering a dramatic increase in the construction tempo at Metrostroi was, of course, easier than achieving it. To facilitate the work speedup a number of measures were implemented. First, the supervision of the project by Kaganovich and Khrushchev was stepped up. Secondly, Kaganovich sought to whip up worker enthusiasm at Metrostroi in a series of speeches to rank and file workers. Finally, wages were adjusted so that decent incomes could be had only by those workers who produced at accelerated rates.

The salutary effects of visits to Soviet construction sites by high Party officials are well known. Generally, however, the frenetic activity which followed such visits did not last long after the dreaded visitor had taken his leave and was safely several hundred miles distant. Because of its proximity to the Kremlin, however, Metrostroi was subject to Party supervision like no other giant construction project in the USSR. With their frequent and unannounced inspections, Kaganovich and Khrushchev kept both workers and managers at Metrostroi on their toes. Kaganovich was particularly demanding; it was rare when he
did not find fault with what he saw. Moreover, he could be blunt, even brutal in his criticisms. One high-ranking engineer at Metrostroi described Kaganovich as "a tiger in the full sense of the word" and admitted that Kaganovich's wrath "terrified" him.30 One gets some idea of Kaganovich's motivating influence on work at Metrostroi from novelist Sergei Antonov's satirical description:

He only had to appear at the tunnel heading for the excavation to double in speed and for the rail carts to run at their maximum velocity. From his presence alone electric light bulbs shone brighter and cement hardened more quickly.31

Khrushchev seems to have adopted Kaganovich's intimidating style of "Bolshevik leadership"; he, too, inspired fear as he made his daily rounds at the Metro. Shaft Chief A.G. Tankelevich recalled Khrushchev's visit one morning. After it had become clear that Tankelevich was having trouble meeting his production deadline, Khrushchev asked him "point blank" when he expected to finish his task. Knowing his answer would not please Khrushchev, the shaft chief reported he "felt the ground give way under his feet," thinking his "number was up."32 Not only did he reject the date Tankelevich suggested, Khrushchev accused the latter of sabotaging the plan and thoroughly chewed him out. Tankelevich was so shaken by this incident that he fully expected to be fired. He reckoned that he would be very lucky if he managed to get by with only a severe reprimand in his Party file. In the meantime, however, he saw to it
that his work was speeded up as much as possible. When Khrushchev returned at midnight that same day, he found work progressing well. Much to Tankelevich's surprise, Khrushchev smiled broadly and patted him on the shoulder. Not a word was spoken about the morning's confrontation.33

Because he devoted most of his attention to Metrostroi, Khrushchev was able on a daily basis to prod managers to greater productivity with his combination of verbal dressings down and friendly pats on the back.34 In this respect, he was probably an even more important presence than Kaganovich, for whom Metrostroi was only one of a number of important projects under his supervision.35

Metrostroi also benefited from the close scrutiny of Kaganovich and Khrushchev because their support was instrumental in overcoming bureaucratic obstacles and supply bottlenecks. One quick call from Kaganovich, for example, could yield several truckloads of scarce cement or resolve a dispute with the Mossovet.36 In this way problems which otherwise might have held up work for days or even weeks were quickly solved. Such intervention, of course, had its limits, but it nevertheless went a long way toward allowing work at Metrostroi to progress in the "organized chaos" which characterized the USSR in the 1930s.

Furthermore, on his visits to Metrostroi worksites, Kaganovich frequently asked workers to produce counterplans of their own and to pledge themselves to the new plans'
fulfillment.\textsuperscript{37} How much choice workers had in adopting counterplans is not clear, but workers typically obligated themselves to complete their current tasks two weeks or a month ahead of schedule.\textsuperscript{38} Apparently at least some were inspired by Kaganovich’s oratory. One shock worker claimed that after hearing Kaganovich speak, he "began to work at any even greater tempo."\textsuperscript{39} Similarly inspired, a non-Party miner with 30 years experience reported his reaction to Kaganovich’s late December 1933 speech to the Mossoviet:

\begin{quote}
[Kaganovich] said, that we need to produce three times as much as we were already obligated to do and that we will do this. He said, let those Bolsheviks who lack faith get out of the way and not hinder the work of others...The plenum of the Mossovet had an effect on us like it had been during the Civil War when a commander addressed tired Red Army troops and raised their spirits.\textsuperscript{40}
\end{quote}

In his efforts to whip up production enthusiasm at Metrostroï, Kaganovich reminds one of Alexander Kerensky in June 1917. Kerensky spent much of that month visiting the front making speeches in which he asked his troops to pledge themselves to the success of the upcoming Russian offensive. Under the thrall of Kerensky’s spellbinding oratory, soldiers temporarily forgot their war weariness and willingly promised to destroy the German foe. After Kerensky’s departure, however, most recovered their senses and returned to their anti-war mood. Since Kerensky saw only enthusiastic troops, he deceived himself into thinking that the offensive would succeed. In fact, the June
offensive not only failed, it quickly deteriorated into a rout, one made all the worse by Kerensky’s inability to foresee it.⁴¹

Kaganovich, like Kerensky, was a fiery and effective speechmaker, and very likely was also deceived by the skill of his own oratory. The enthusiastic workers he addressed probably only strengthened his conviction that the Metro could be finished on time. But the Metrostroi workers who agreed to counterplans were often just as divorced from reality as had been Kerensky’s soldier audiences in June 1917. However well meaning, both groups made promises they could not keep.

Another strategy to boost the tempo of construction at Metrostroi was a calculated manipulation of the wage system. Wage rates were set at such a low level that in order to receive a decent income, workers had to perform at shock-work (i.e., greatly increased) pace. Those who did not were consigned to subsistence-level wages or worse. Kaganovich openly admitted this was the case when a group of komsomoltsy complained to him that their production-based wages were too low.⁴²

In some cases this system did in fact spur workers to increase their labor productivity. But often the system was counterproductive, leading to high rates of labor turnover because the wage-rates were often set so low that even hard work yielded low pay.⁴³ Contributing to this problem was
the fact that wages often did not keep up with increases in productivity, as wage norms were constantly ratcheted upward. For example, the average productivity of Metrostroi drifters (those who dig at the tunnel heading) rose 45% in the first half of 1934. But drifters' wages rose only 12% in the same period. On the whole, Metrostroi seems to have suffered from the same defects in its wage system that plagued Soviet industry in general in the 1930s.

Efforts to speed up the construction tempo at Metrostroi also relied heavily on increases in the size of the workforce. In late 1933 Kaganovich called for a massive infusion of labor at Metrostroi: an additional 20,000 workers to join the existing 35,000. This increase was soon supplemented by yet another 20,000 so that by May 75,000 people were on the subway payrolls—and plans were made (but never realized) to hire 20,000 more. At 75,000, the Metrostroi workforce seems to have been second in size only to the notorious White Sea Canal (Belomor) construction project which employed 500,000 forced laborers in the early 1930s. But even this enormous workforce was not sufficient to meet Metrostroi's tight construction schedule, so recourse was made for the employment of another type of labor—uncompensated.

The massive use of subbotnik, or volunteer labor, constitutes one of the most dramatic attempts to speed up work at Metrostroi. Ultimately, subbotniks at Metrostroi
proved a failure, for reasons explained below. But while the final result of the subbotnik campaign was disappointing, its massive scale was quite impressive. Before the campaign ended in April 1934, more than half a million Muscovites had taken part in it.

Subbotnik (literally "Saturday person") is the Russian term for volunteer work for the common good accomplished by people on their days off. Lenin himself inaugurated the subbotnik tradition in 1919 when he made an appeal for volunteer civilian labor in Moscow to support the Civil War effort. Subbotniks quickly became a widespread phenomenon and the practice endured until the very end of the Soviet period. An example of a latter-day subbotnik was the annual spring cleanup of Moscow in which huge groups of komsomoltsy and others swept streets and removed litter after the long Russian winter. The absence of such subbotniks in the spring of 1992, after the collapse of the Soviet Union, was sorely felt by Muscovites who complained about the resulting shabby appearance of their city.

But to return to the 1930s, it should be pointed out that the accuracy of labelling subbotnik workers as "volunteers" is debatable. Since maintenance of shock worker status was contingent upon participation in two subbotniks per month, it could be argued that subbotnik participants were anything but volunteers.
Whatever the case, the practice of holding subbotniks at Metrostroi started in the fall of 1933 when a group of Civil War veterans--Red Guards and Partisans--volunteered for a day of subway work.\textsuperscript{51} Other subbotniks were held sporadically that same fall, but never with more than a few thousand participants.\textsuperscript{52} It was not until late December 1933 that the decision was made to make subbotniks an integral part of the subway construction project.

In his 29 December 1933 speech outlining the need for a dramatic work speedup at Metrostroi, Kaganovich closed by describing how subbotnik labor could play a vital role at Metrostroi. He noted that in Moscow there were two million adults and that if each were to work one day voluntarily for Metrostroi, the result would be a "huge additional help" for the project. For the ideologically challenged, Kaganovich offered an incentive: subbotnik participants would receive a ticket for a free ride on the subway before its official opening. He drew laughter when he speculated that many young workers would surely take part in two Metro subbotniks in order to get tickets not only for themselves, but for their girlfriends as well.\textsuperscript{53}

In early 1934 plans were developed to make subbotniks a daily occurrence at Metrostroi. Moscow trade unions were tasked with organizing the subbotniks which were to take place until the completion of the first line in November.
In all, 2.5 million "person-days" of subbotnik labor were planned, with about 9000 volunteers working each day.\(^5^4\)

By late March, however, the volunteer labor campaign at the subway project acquired an almost carnival atmosphere with the introduction of the so-called massive subbotniks, each of which involved several tens of thousands of free laborers. The first massive subbotnik at Metrostroi took place on 24 March and estimates of the number of unpaid workers participating ranged from 60 to 85 thousand.\(^5^5\) What distinguished these subbotniks from those previously held was not only their tremendous size but their inclusion of VIP's as well. A list of the celebrity participants in the various massive subbotniks reads like a Stalinist Who's Who: besides Kaganovich and Khrushchev, also taking part were Andrei Zhdanov, Valerian Kuibyshev, Emelian Yaroslavsky, and even the notorious Andrei Vishinsky, to name just a few. Joining the celebrities were people from all walks of life: OGPU troops who helped raze the Kitaigorod wall, visiting delegates of the All-Union Peasants' congress, even tourists from the United States who went along for fun. Adding to the festive atmosphere of the massive subbotniks was the presence of bands which provided music while the volunteers toiled.\(^5^6\)

The massive subbotniks were evidence of the Moscow Party organization's ability to mobilize large-scale human resources to implement policy it deemed vital. One estimate
of the total number of participants in the subway project's subbotnik campaign is 500,000.\textsuperscript{57} How well those half a million volunteers were utilized at Metrostroy is another matter, however. In fact, much of the unpaid labor was wasted due to poor organization. For example, a group of one hundred student volunteers reported being made to wait forty minutes before being admitted to their assigned worksite. Once inside the compound they discovered that shaft personnel had not prepared any work for them. Even when they were finally given a task, only half of the group was able to participate, while the remaining 50 volunteers stood idle. At first the volunteers were asked to move timbering supports from one spot to another. But soon they were told to stop and were ordered to move some of the logs back to their original location. Next the group was told to spruce up the worksite by clearing away debris and litter. But again the group was soon ordered to stop after it was learned that the shaft chief did not want the volunteers policing the area. In response, the exasperated volunteers complained to the shaft chief that he should give them proper work. This only caused the latter to erupt into an "abusive tirade" in which he informed the volunteers that "in general the subbotniks [are] not needed here" and that "it would be very easy" for him "to throw them out of the shaft."\textsuperscript{58}
This example, though extreme, was by no means unique. Many volunteers had trouble finding work: Kuibyshev's group was sent to eight different areas before being assigned a task. And once on the job, volunteers were often handicapped by a shortage of tools—for example, shovels and wheelbarrows for those required to move earth. Moreover, the volunteers were often too numerous to be used effectively, "suffocating the shaft with an overabundance of people." Yaroslavsky, for example, complained after his subbotnik that his crew would have been able to do "three times as much" work had it not been for the overcrowding.

Only making matters worse was the frequent absence of Metrostrooi personnel to supervise the volunteers. As a result, the jobs done by the subbotniks were often merely busy work which served no useful function. Such was the opinion of an American visiting the USSR at this time. By chance she took part in a subbotnik and reported on her group's task of moving a large pile of dirt:

The shift worked on in a steady drizzle and our mountain was moved. But I am sure that the mountain had been put there by a subbotnik of the day before and that the mound augmented by our ineffectual labor will likewise be moved to another spot by a subbotnik to come.

Despite such problems some did perform their voluntary labor at Metrostrooi with enthusiasm. Even those who complained about the disorganization of the subbotniks often claimed to have worked there "happily" and "cheerfully."
But one wonders if such enthusiasm also did not have it drawbacks. The example of the toolmaker Trofimov of the Number One Ballbearing Factory is a case in point. Missing both legs, Trofimov nevertheless insisted on participating in a Metrostroii subbotnik and demanded that he be put to work in the tunnels. His wish was granted, we are told, and he was said to have "quickly mastered air hammering technique." Soon he reportedly could "fulfill the work norm of an experienced tunneler." But Trofimov was not content to work just one free day at Metrostroii. He repeatedly returned to the tunnels and even pledged not to stop working there until "the last cubic meter of earth was excavated." Such enthusiasm and commitment is impressive, but it also calls into question the judgment of the Metrostroii leadership--and here Kaganovich bears the most responsibility--regarding the use of untrained workers in the hazardous working environment underground. Although most of the subbotnik volunteers were confined to surface work, hundreds of those who requested underground tasks were given them. Not surprisingly, the work of most of these volunteers was of marginal value (Trofimov's example notwithstanding) and the experienced workers were often hindered by the crowds of newcomers. The presence of volunteers also led to increased accident rates at Metrostroii. All told, these negative features eventually
led to the abandonment of subbotniks at Metrostroii by late April 1934.69

Despite their eventual failure, however, it would be a mistake to see the subbotniks at Metrostroii solely in a negative light. Although much of the technical leadership at Metrostroii was probably relieved to see the subbotniks ended, others regretted their passing. One engineer noted that the subbotniks had been a "great help" in policing the worksite. In their absence, he complained, it "had become harder to work" because the shaft had reverted to the mess it was prior to the volunteer labor campaign.70

A Metrostroii brigadier, F. Zamuldinov, defended the subbotniks for another reason: they changed, he claimed, the attitude of Muscovites toward the subway project. Zamuldinov noted that prior to the subbotnik campaign, when he rode in a streetcar people often looked at him "as if he were a beast" and uttered derogatory terms like "volosatik" (louse) and "nekul'turnyi" (uncultured). But this negative attitude changed, according to Zamuldinov, after many Muscovites themselves spent a few hours working at Metrostroii and "saw how we work, [and] in what conditions."71 What Zamuldinov does not mention, but which would have been obvious to residents of Moscow at the time, was that Muscovites were loath to be crammed into overcrowded public transport with subway tunnelers who were covered head to foot with mud and grime. Apparently as a
result of their subbotnik experience, however, some Muscovites became more tolerant of Metrostroi workers. In this sense, it appears the subbotnik campaign was a public relations success for Metrostroi.\textsuperscript{72}

Not surprisingly, the obsessive focus on speed of construction at the subway project led to many unforeseen negative consequences. To begin with, Bolshevik tempo typically led to lower quality finished work at Metrostroi, just as it did in Soviet industry in general (see pages xx). Bolshevik tempo also inspired a novel approach to engineering: one that emphasized "boldness" rather than the traditional caution. Soviet engineer I.L. Fedchun described this approach to tunnelling at Metrostroi:

\begin{quote}
In our work we proceeded first and foremost from the fact that we were given a time limit which we were not to violate. This is what guided us in our work. In this regard I've become firmly convinced that if a person works quickly, then many mistakes which he commits in the course of his work will be covered over on account of quickness. It is possible to do alot, even with insufficient timbering, in the time it takes for soil to start moving. And therefore I always strove to conduct my work as quickly as possible.\footnote{13}
\end{quote}

In other words, when digging tunnels in unstable soil, the best way to avoid cave-ins is to dig as quickly as possible! Other Metrostroi engineers as well left accounts of how they developed a "bold" approach to their work as a result of their experience at the subway project. A certain Kalashnikov, a shaft chief, recalled that when he first
arrived at Metrostroii he noticed that "people at the Metro
possessed more boldness" than he.

Until this time I lacked a sense of technical risk. I thought that any job had to be calculated beforehand with absolute accuracy, without the smallest error. There, where it was necessary to act with complete decisiveness, I would begin with discussion. Now, looking at others, I gradually have begun to change my methods and this has fruitfully reflected itself in my work."74

Here one sees a clear enunciation of the principles of Stalinist engineering: produce results through bold and decisive action; minimize discussion and careful planning to the greatest extent possible.

Given the tempo-driven construction environment at Metrostroii, it is no surprise that engineering methods underwent an almost metaphysical transformation there. But the results of such force-paced engineering were often disappointing. Cave-ins, for example, occurred frequently during the tunnelling work at Metrostroii. The stress on tempo caused workers and technicians, on the whole, to think primarily about moving forward, not on properly shoring up what was behind them. As a result, a great lag often occurred between the excavation of a tunnel and the time it was finally concreted. In the meantime, tunnels were left improperly supported by wooden timbering, often leading to cave-ins and surface settling. The excavation of the Dzerzhinskii Square station, for example, nearly ended in a catastrophic cave-in for this very reason.75 In fairness to
Metrostroii workers, the lag between excavation and concreting was not always their fault—sometimes shortages of timber and cement made proper shoring up and concreting impossible. But even so, in the race to meet production deadlines, there is no denying that excavation, not timbering or concreting, was given higher priority.\(^7^6\)

But just how serious were the results of these cave-ins? Of particular interest is the issue of the number of lives lost in such mishaps. This question is perhaps the most controversial issue relating to the building of the Metro's first line. In the absence of published accident statistics, speculation about the likely victims of forced-pace excavation has run rampant. Describing tunnelling at Metrostroii, a Western biographer of Khrushchev paints a typically dramatic picture:

The task of tunnelling was a job after Khrushchev's heart: it called for boldness amounting to recklessness, sacrificial toil, vast operations based on insufficient forethought, a standing disregard of the limitations of human flesh and blood and the facts of nature. Speed was of the essence. Immense risks had to be taken to keep up to schedule: nobody knows how many died as a consequence of the inevitable catastrophes. The work was pressed through as though the very future of the Soviet Union depended upon it.\(^7^7\)

Although the author here admits to a lack of concrete evidence to support it, the implication is that the death toll at Metrostroii was huge. Similar claims are made by other Western authors.\(^7^8\) Indeed, many Russians today are
convinced that dozens, if not hundreds, perished in cave-ins during the construction of the Metro's first line.

Archival records, however, paint a different picture: despite the frequent occurrence of cave-ins and other accidents at Metrostroi, deaths resulting from such mishaps appear to have been relatively few. Research for this study uncovered documentation for just sixteen work-related deaths in the construction of the first line, only six of which were the result of cave-ins.\[^{79}\] No record of any catastrophe at Metrostroi involving major loss of life was found, contradicting age-old rumors and the speculations of Western historians.\[^{50}\]

Furthermore, for those quick to condemn the Soviet system for its inhumane working conditions, it is instructive to compare the Moscow subway project with similar construction projects in the West. For example, when one bears in mind that 44 workers were killed in the construction of the first line of the New York subway (1900-04), Metrostroi's death toll seems quite modest.\[^{51}\].

However, to point out that deaths due to cave-ins at Metrostroi appear to be relatively small is not to say that Bolshevik tempo there was achieved safely--quite the contrary. Reading the accounts of those working at Metrostroi, one is struck by the number of people who narrowly escaped death in cave-ins (usually they were dug out by co-workers before they suffocated).\[^{82}\] Also striking
is the great extent of non-fatal injuries, including
electrocution, concussions, and broken bones.\textsuperscript{83} Metrostroi
personnel attributed such injuries to the inexperience of
workers as well as the "negligence of technical
personnel."\textsuperscript{84} But the lack of observance of even minimal
standards of safety combined with the fact that work was
rushed to accommodate production schedules surely
contributed to the high rate of injury. Some evidence that
injuries were a by-product of Bolshevik tempo is seen in one
shaft’s monthly injury reports for 1934. In precisely the
same period that the push for tempo was at its highest
(January and February), so too were injuries—at about 200
reported cases per month. Only in May did the number of
injuries fall (to 123) and thereafter injuries continued to
decline: July—82, August, September, October—about
72/month, falling to about 54 injuries for December.\textsuperscript{85}

Additionally, rheumatism and the bends existed in
epidemic proportions at the subway project. One caisson
worker reported that of his brigade of 45 men, all but three
suffered from the bends. Fifteen of them were so badly
affected that they had to be hospitalized.\textsuperscript{86} Even
Metrostroi’s Chief Engineer developed a severe case of the
bends when he unwisely entered a compressed air chamber
while suffering from a head cold (he was in the process of
investigating an accident). After leaving the chamber he
was stricken with a terrible pain in his head. The pain was
so bad that it incapacitated the engineer for 15 days and
drove him to ask for a revolver so that he could end his
suffering by shooting himself. Even Deputy Director
Abakumov was not immune to work-related injury. He
experienced burst veins in his legs due to exposure to
pressurized air (the fact that he was greatly overweight
apparently was a contributing factor). When he neglected
treatment, ulcers developed, requiring hospitalization on
four separate occasions. And so, even though fatalities
apparently did not occur on a massive scale, Soviet workers
(and engineers) paid a high price for their participation in
the forced-pace construction of the Moscow subway.

Furthermore, there was at least one incident at
Metrostroi which came close to justifying the most morbid
speculation about the subway project: an entire shift of 96
workers very nearly perished in a spectacular underground
fire. Occurring on 24 September 1934, the fire was
apparently started by a worker's cigarette—despite the fact
that smoking underground was strictly forbidden. Once
begun, the rapidly spreading fire blocked the escape route
of an entire shift which was working under compressed air in
a so-called tunnelling shield. Saving the workers from
certain death was the fact that only three days earlier a
junction had been effected with a neighboring shaft—
providing a lifesaving emergency exit from the fire and
smoke. Even so, two workers died in the accident and those
who survived suffered greatly as a result of the too-rapid decompression they received as they rushed to escape the underground inferno. One eyewitness noted that the normal decompression period of thirty minutes was reduced to just two minutes in order to expedite the workers’ escape. As a result, "upon reaching normal air pressure [at the surface] people became swollen like puffed-up fish that had been extracted from a great depth." Although the sources do not say so, these workers undoubtedly suffered from a severe case of the bends, which, as in the case of engineer Gertner cited above, frequently resulted in excruciating pain lasting hours or even days after its onset.

Another undesirable consequence of the furious tunnelling pace at Metrostroii was widespread surface damage above and adjacent to the subway line. Sometimes such damage was confined to street surfaces. Large craters developed as a result of cave-ins and other accidents in the tunnels, often making streets impassable. For example, in front of the Bolshoi Theatre a crater six meters wide and seven meters deep was created. Usually the craters were quickly filled and normal traffic soon resumed. Traffic on the Prospect Marx (a major Moscow thoroughfare) adjacent to the Lenin Library, however, was stopped for a year and a half due to subway-related damage.

More serious than king-sized potholes, though, was the damage done to buildings along the subway route. Although
most of the first line was located directly below street surfaces, many buildings were located within inches of the subway tunnels. And there were several areas where the subway route passed directly beneath buildings, placing those structures at risk. What made buildings especially vulnerable was the fact that construction occurred at a pace which did not allow for the proper shoring up of their foundations. As a result, dozens, perhaps hundreds, of buildings as far as 300 meters from the tunnelling suffered damage, usually in the form of cracks in their foundations and walls. The west wall of the Lenin Library, for example, to this day has cracks extending up 30 or more feet. Other noteworthy structures damaged during the construction of the first line include the Manege (at the time it served as the headquarters of the Comintern), the Malyi Theatre, the OGPU (later KGB) building on Lubianka Square, and the Northern train station.

Many buildings were damaged beyond the point of repair. The architectural carnage caused by Metrostroii is evident even today in Moscow. In some areas, vacant lots mark buildings completely destroyed in the tunnelling (Prospect Marx/Mokhovaia Street across from the Lenin Library, the intersection of Kropotkinskaia and Ostozhenka Streets, the eastern end of the Arbat, etc.). In addition, there are whole strings of buildings so badly damaged that they were rendered uninhabitable, but for some reason were never
razed. They stand today as empty, unsightly shells (north of the Pushkin Art Museum on the Volkhonka, the west side of Kalanchevskaya Street, the east side of Smolenskaya Ploshchad Street, etc.). Finally, there are many buildings which suffered major damage, but which were successfully repaired, for example, by bricking over their lower parts (including windows) or by bracing the entire structure together with huge iron bars literally bolted into the walls (the Arbat and the Volkhonka).  

In fairness to the builders of the Metro, it should be noted that damage to buildings along the first route was not always accidental. Many structures, in fact, were deliberately destroyed. Churches, were razed in large numbers, a continuation of the state's anti-religious campaigns which began shortly after 1917. But non-ecclesiastical structures suffered as well, usually due to the dictates of the plan for the "socialist reconstruction" of Moscow first outlined in 1931. Perhaps the most dramatic example of such reconstruction occurred in the historic Okhotnyi riad ("Hunters' Row") district, which was unceremoniously obliterated. In its place rose the Moskva hotel (which houses an entrance to the Metro), along with the huge asphalted area now known as Manege Square. In general, the number of churches and other architectural monuments leveled during the construction of the first line is staggering. In architectural terms for Moscow the years
1931 to 1935 constituted a period of "Great Purges." The sense of outrage and of loss due to this deliberate destruction of Russian culture is still felt keenly by many in Russia today.\textsuperscript{102}

Most of the structures located along the subway route were, of course, not architectural monuments, but simple apartment buildings filled to overflowing with residents. Occasionally these residents experienced the loss of water or sewer service as a result of damage due to the nearby digging.\textsuperscript{103} An even greater cause for concern was structural damage to the apartment buildings. When subway digging caused large cracks to develop in the foundation and walls of their buildings, panicked residents frequently demanded to be moved to safer lodging. Usually, however, Metrostroï officials refused such demands, assuring the residents that the damage was not serious. Sometimes such assurances were given by men who themselves were not certain that the building in question would remain intact. Engineer Kalashnikov (cited above) later admitted to a lack of "firm conviction" in his assurances to alarmed residents of a Mokhovaïa Street building that their damaged home would not collapse. But Kalashnikov overcame his doubts because he was not permitted to stop the tunnelling. As a result, he claimed to have received his "first lesson in boldness."\textsuperscript{104}

In general, the policy at Metrostroï was not to evacuate residents even if their building suffered major
structural damage. A structure had to be on the brink of collapse before subway authorities would authorize evacuation and arrange new housing for the displaced residents. The reasons for this were both practical and political. On the one hand, Moscow's severe housing shortage made it extremely difficult to find apartments for those displaced by subway-related damage. Some buildings along the subway route slated for razing were left in place only because municipal authorities in Moscow could not find living space for the condemned buildings' residents.

Some idea of the terrible overcrowding in Moscow in the 1930s is conveyed by the story of one group of people resettled after having been evacuated from their collapsing building. When brought to their new residence and told that two families would be assigned to each room, they protested. Soviet authorities apparently thought the evacuees would have been grateful for their crowded new quarters. After all, they had been moved from an even more overcrowded building where four to five families were housed in each room. Beyond the housing shortage, however, from the Party's point of view evacuations were to be avoided if at all possible in order "to avoid creating panic" in the areas adjacent to the subway route. By downplaying the dangerous condition of damaged buildings, Party authorities apparently also hoped to reduce anti-Metrostroi rumors in Moscow.
As a result, digging often occurred beneath buildings in grave danger of collapse while residents remained blissfully unaware of their peril. One engineer described tunnelling under the corner of a building which housed a hundred residents. He noted the work was "very tense" because, "if we were to touch that corner, then the entire building would have collapsed." Tunnelling late at night under the Arbat, Brigadir M.Z. Pliss recalled that their work brought them very close to the floor of a house.

The floor in the house turned out to be so decrepit and rotten that boards rained down on us and the legs of a bed broke through. Someone had been asleep in the bed. Of course, the residents of the building were terribly frightened and raised a racket, but we quickly went into the building and calmed the residents, telling them that there was nothing to be afraid of..."

Distantsiia Chief A.M. Stepanov described a similar incident. After a summer downpour created a flood which undermined the foundation of a building exposed by subway digging, one of the workers shouted that the residents should be evacuated immediately. According to Stepanov, however,

We did not allow that. The workers began to cover the lower part of the foundation with construction material. Bricks, logs, boards flew to the ever growing hole. But the ground had already fallen away from underneath the building. And the residents did not even know of the danger that threatened them. Section Chief Bondarenko completely lost his head.

Stepanov went on to describe how by jumping into the water several engineers and Party members eventually managed to
shore up the foundation and save the building. In conclusion, he noted with pride that the residents of the building found out about the incident only after the storm had passed.\textsuperscript{112}

The incident Stepanov describes is useful because it highlights how differently events at Metrostroj can be perceived, depending upon one’s point of view. Westerners, this writer included, are apt to be shocked by Stepanov’s refusal to alert the residents of the building to their danger. Representing the Soviet view, Stepanov, on the other hand, clearly saw his efforts as heroic. Furthermore, he believed the decision not to evacuate the residents was justified by the fact that he and his comrades did manage to save the building. In general, Soviet accounts of Metrostroj stress the heroism of workers who at great risk to their own lives “saved” dozens of buildings threatened by collapse.\textsuperscript{113} As in the Soviet industrialization effort overall, so too at Metrostroj were events portrayed in a militaristic fashion, with battles to be fought and lives to be risked for the greater goal of finishing the subway. Heroes abound in these accounts as do cowards and “deserters.” Unfortunately, as in most modern wars, at the Metrostroj front lines, “civilians,” in the form of building residents, were exposed to the risks of battle. The “heroes” who saved those buildings belonged to the same “army” which negligently damaged the structures in the first
place. Only through good fortune combined with heroic effort were such "civilians" not casualties in this struggle.

Ironically, in late March 1934, at the height of the subbotnik campaign at Metrostroi when workers were encouraged to work to the utmost to meet their ambitious production targets, the Politburo generously granted Kaganovich a six-week vacation. Along with his wife, Kaganovich spent this vacation at a spa in the resort city of Kislovodsk, in the Kuban. Interestingly, Kaganovich's absence from the subway project led to an important development there. On 16 April, Viacheslav Molotov (who, as the Chairman of the Councils of Peoples' Commissars was the head of state of the USSR), visited Metrostroi in the company of Khrushchev, Bulganin, Rotert, and Abakumov. Molotov made a thorough inspection of several shafts, spending a total of three hours at the subway project.

What prompted Molotov's inspection at Metrostroi is not clear. What is evident, however, is that Molotov was not pleased with what he saw in the tunnels he visited. Much of the finished concrete work there was shoddy. Concrete not only had been poured unevenly in the tunnels, in many places its quality was unacceptably low. In some areas the concrete was so soft that it had to be torn out and repoured. Upon concluding his inspection Molotov gave the
Metrostroï leadership a severe dressing down, emphasizing that the success of the subway project depended upon "not only great tempo, but more importantly, extremely high quality." In order to ensure quality work, Molotov ordered the establishment of formal instruction for those involved in the making and laying of concrete and he suggested that formal standards be created for concrete work.

The upshot of Molotov's visit was that the extreme emphasis on tempo of construction at Metrostroï was eased somewhat—though by no means eliminated. The heretofore ubiquitous slogan "Daily excavate not less than nine thousand cubic meters of soil and lay four thousand cubic meters of concrete" was replaced by exhortations to create high quality concrete. Furthermore, the use of subbotniki at Metrostroï was discontinued and the opening of the first subway line was indefinitely delayed. In essence Molotov had executed a coup d'état at Metrostroï in Kaganovich's absence.

The fact that Metrostroï was not able to meet its production schedule only made easier Molotov's decision to delay the opening of the first line and to stress the need for quality at the subway project. This is not to say that great progress had not been made in the effort to speed work at Metrostroï in early 1934: by March, excavation rates had doubled since January and the speed of concrete pouring had
increased by a factor of two and a half. But even these dramatic increases did not suffice. General plan fulfillment at Metrostroi for March 1934 was only in the range of 70 percent.\textsuperscript{121}

It seems likely that someone in the Metrostroi leadership had invited Molotov to have a look at the disastrous consequences of Kaganovich's work speedup. It is reasonable to assume that Kaganovich's intimidating character prevented those working under him to alert him to this problem.\textsuperscript{122} And so they apparently took advantage of Kaganovich's absence to call Molotov's attention to the poor quality of work at Metrostroi.

Whatever the case may be, after mid-April 1934 a system of quality control for concrete work was implemented at Metrostroi. This is not to say that the need for such control had not been obvious earlier. In February 1934 Kaganovich had urged the creation of a commission to supervise work quality at Metrostroi, but it was not formed until the beginning of April. Even then the commission performed poorly due to understaffing and a lack of technical guidelines for the laying of concrete. Only in May, a month after Molotov's intervention, were strict technical requirements established. And it was not until June that so-called "quality inspectors" were appointed and a serious attempt was made to enforce the new standards. Thus, only after the subway project had been underway more
than two years were technical standards developed regarding the laying of concrete. This neglect, according to the engineer who was in charge of quality control at Metrostroi, was unusual even by Soviet standards.\textsuperscript{123} Problems with concrete work at Metrostroi were several. All stemmed from improper mixing or pouring and resulted in a finished product of substandard strength and durability. To begin with, the sand or gravel used to make the concrete was often dirty or mixed with ice. In their haste to meet construction schedules, workers at Metrostroi often failed to wash the sand or gravel before mixing it with cement. Furthermore, subway workers often mixed the concrete in an arbitrary fashion—sometimes it was made too wet, other times too dry.\textsuperscript{124} Another problem was that newly-mixed concrete often sat for several hours before it was poured, by which time it had already started to harden. Lastly, concrete was often poured improperly, for example over standing water or on top of construction debris and even tools, such as shovels or axes.\textsuperscript{125} All of these problems were the result of shoddy work habits and, as mentioned, led to a substandard (weaker) finished product.\textsuperscript{126}

In order to avoid such problems, a system of so-called quality inspectors was created to see to it that concrete was poured according to established standards.\textsuperscript{127} The quality inspectors were often Communists or komsomoltsy with records of good work at Metrostroi. Most had little or no
prior expertise in this area, but they did usually receive brief training in the basics of concrete before being discharged to their supervisory roles.

To accomplish their mission, quality inspectors supervised both the mixing and laying of concrete. Ideally they recorded any instances of improper concrete work they encountered and reported such cases to their superiors at the end of each shift. Shaft chiefs were expected to read daily the reports of the quality inspectors and punish those responsible for low-quality work. Such punishments varied according to the seriousness of the offense, ranging from reprimands and reduction in work grade to firing and even formal criminal charges. Given the shortage of skilled workers at Metrostroi, however, the most popular punishment appears to have been to convict in a peoples' court (narodnyi sud) those guilty of simple work spoilage (brakodel) and to allow them to serve their "correctional labor" terms at Metrostroi. The first such conviction at Metrostroi for improper concrete work came in early June 1934 and involved three workers, an engineer, a technician, and a foreman. All were subjected to a cut in pay of twenty to twenty-five percent and were sentenced to terms of "correctional labor" from five months for the foreman to an entire year for the engineer.

Undoubtedly the system of quality inspectors led to improvements in the laying of concrete at Metrostroi—the
testimonials of workers who managed to prevent or expose low-quality work are too numerous for one to think otherwise.\textsuperscript{130} But at the same time, one has reason to remain skeptical that the quality inspectors represented a real turning point in the building of the subway. The problem was that too many factors prevented the quality inspectors from doing their job properly.

To begin with, quality inspectors were not people who worked full time to ensure construction standards were met, but rather were workers who volunteered or were assigned to check quality after having themselves completed a normal work shift. Therefore, both the time and the energy of quality inspectors to do their work was limited. Secondly, the quality inspectors often did not "see support" from their superiors in the administrative and Party leadership. As one disillusioned quality inspector put it, "Inspectors make concrete suggestions, but the administration does not implement them."\textsuperscript{131} Nor did the inspectors always have the respect and cooperation of the people they worked with. When one komsomolka attempted to get a brigade to pour concrete properly, its brigadier encouraged his men to laugh at her, apparently hoping that ridicule would drive her off.\textsuperscript{132}

In this regard, it seems that the quality inspectors were given the responsibility to ensure high quality work was done, but they were not given the authority necessary to
accomplish this. This is well-illustrated by the experience of shock worker and komsomolets Katamadze, who served also as a quality inspector. While mixing concrete one day, Katamadze’s effort to ensure high quality got him into a fight with an engineer. The engineer had allowed dirty gravel to be delivered to the worksite, but Katamadze refused to mix concrete with it until it was washed properly. The engineer ordered Katamadze to mix the concrete anyway, but the latter held his ground. When this matter came to the attention of the shaft leadership, both the engineer and Katamadze were given reprimands. The former was rebuked for not washing the gravel, while Katamadze was criticized for not submitting to the engineer’s authority (and thus violating the by-then sacred principle of edinonachaliia ["one-man management"]).

Later Katamadze was involved in another dispute with the same engineer over low-quality concrete. With his earlier reprimand still fresh in his mind, Katamadze this time agreed to pour the sub-standard concrete after the engineer insisted he do so. Again Katamadze was given a reprimand, this time for pouring bad concrete. Clearly, as a quality inspector, Katamadze was in a no-win situation.

The ambiguous position of the quality inspectors stemmed from the fact that even after Molotov’s visit to Metrostrooi and the subsequent emphasis on quality there, the previous stress on tempo remained strong, even dominant. By
mid-1934 the scheduled opening of the Metro was delayed a mere two or three months from the earlier 7 November 1934 target date.\textsuperscript{135} This rescheduling by no means allowed for a much-needed "breathing space" in the work at Metrostroi. To the contrary, the revised work plan was nearly as force-paced and almost as unrealistic as the earlier one and caused a great deal of consternation among the engineering leadership at the subway project who questioned its feasibility. Thus, as much as Metrostroi engineers may have wanted to produce quality work, they knew that in the final analysis they were judged first and foremost by the speed with which they completed their tasks. The result, as one quality inspector put it, was that engineers had to "spit on quality for the sake of doing things quickly."\textsuperscript{136}

Further evidence that quality standards were not markedly raised by the campaign for quality at Metrostroi came from Kaganovich himself in a speech given to the Mossovet in mid-July 1934. Although the speech was given a full three months after the importance of quality work began to be stressed at Metrostroi, Kaganovich noted that the question of quality was "most important," even "decisive" for the subway project.\textsuperscript{137} As for concrete work, Kaganovich noted that it was being done, "as a rule, solidly, but still slovenly, with uneven surfaces, sometimes with holes and crusts."\textsuperscript{138} The Moscow city Party chief had even harsher criticism for the tunnel waterproofing then underway:
...this work is being done poorly. I could mention a whole list of shafts where the waterproofing work is being done carelessly...There is nothing complicated in this operation, it is simple technical work. What is needed for people to reorganize their work? Very little is required of them. It is only necessary that the same attention be given to the quality of the waterproofing and finishing work as is given to the tempo. But this is not yet the case.\textsuperscript{139}

As for those who continued to do low quality work, Kaganovich promised that the Mossoviet would frequently check the quality of work at Metrostroii and he darkly warned, "as to those who...do not want to produce work of the highest quality, the organs of authority will take all measures necessary."\textsuperscript{140}

Notwithstanding such threats and the existence of the quality inspectors, the finished subway tunnels by early 1935 were so plagued with defects that several months of remedial work on them was necessary to get them ready for the opening of the first line.\textsuperscript{141} Among the problems uncovered was that concrete had been applied too thick in some sections of the tunnels, not leaving enough room for subway trains to pass through.\textsuperscript{142}

Despite the fact that the Metro did not open as scheduled on the seventeenth anniversary of the October Revolution, but rather half a year later in May 1935, in Soviet literature much has been made of how quickly the Metro was built. Most published Soviet accounts leave the reader with the impression that the Moscow subway was built
faster than any other subway in the world, the result of the inherent superiority of socialism over capitalism. The following characterization is typical:

The greatest construction project in the world in scope, capital investment, and quality, the Moscow Metro has been completed; completed, by the way, in the most short time period, one which not a single construction project in the world has ever seen.¹⁴³

To bolster this argument, Soviet sources often list the lengths and time of construction for the first lines of other subways in the world. They are quick to point out that Berlin’s first line was 11 km long and took six years to build. The 25 km first line of the Rome subway required 12 years to finish, etc.¹⁴⁴ All of the subways cited, of course, compare poorly to the 11.7 km first line of the Moscow subway which was completed in just three and a half years.

Such comparisons make the Bolshevik tempo used to complete the Soviet subway seem very impressive. Unfortunately, however, the impression is a false one since Soviet authors, in the time-honored practice of historians the world over, have presented only those facts which support their argument. Not mentioned in Soviet histories of the Metro, for example, is that the first line of the Paris Metro (opened 1900), 10 km long, was built in just 20 months—i.e., in roughly half the time required to finish the Moscow underground.¹⁴⁵ Also unreported is the fact that
the New York subway's first section (opened 1904) stretched 14.5 km and was built in just four and a half years.\textsuperscript{146} Another issue on which Soviet sources are silent is the comparison of the size of workforces used to build the respective subways of the world. In their haste to establish the Moscow Metro as the fastest-built subway in the world, Soviet sources neglect to point out that Metrostroi's workforce was much larger than those of its Western counterparts. For example, the workforce used to build the first line of the New York subway was only 7,700 strong, nearly ten times smaller than the Metrostroi workforce at its peak (75,000).\textsuperscript{147} Such information, of course, is not mentioned in Soviet publications because it tends to deflate Soviet claims of superior construction methods.

But the fact that Metrostroi did not set a new time record for subway construction does not mean that the Moscow Metro was not built quickly—it certainly was. Three and a half years is a relatively short period of time to complete a subway line, especially a first line. The Bolshevik tempo achieved at Metrostroi is even more impressive when one remembers that 85 percent of the project was completed in one year (1934) alone. This was a tremendous accomplishment which demonstrated the ability of the Soviet system to mobilize resources to quickly accomplish a goal it deemed important. But the cost of this success, as we have seen,
was high, in terms of labor allocation, personal injury, damage to streets and buildings, and the quality of the finished work at Metrostroi itself. So Bolshevik tempo was achieved at Metrostroi, at least in the final year of the project, but only at a very high cost.

The fundamental problem with Bolshevik tempo, of course, is that it could not be sustained indefinitely, and therefore was a poor substitute for the Western model of industrial work habits: a combination of high productivity and steady performance. Never able to achieve this type of an industrial work ethic, the Soviet system produced the phenomenon of "storming" as a substitute. "Storming" refers to periods of intense, frenetic activity in Soviet industry and it usually took the form of a week or so of furious work at the end of each month as Soviet factories struggled to meet their monthly production targets. In a very real sense 1934 at Metrostroi should be seen as a year of nearly uninterrupted "storming." Such storming could produce impressive results in terms of the quantity of work done, but (as at Metrostroi) typically the quality of the work suffered. Furthermore, storming led to economic imbalances and inefficiencies.

Drawbacks aside, storming and Bolshevik tempo were used to complete the construction of the Moscow Metro. The next chapter will show that in the second half of 1934, as the
deadline for completion of work neared, storming and Bolshevik tempo at Metrostroi achieved new heights.
1. Khrushchev speech, Udarnik Metrostroia, 1 January 1934, 1.

2. Kaganovich speech, Udarnik Metrostroia, 8 January 1934, 2.

3. Ibid.

4. TsGAOR, f. 7952, op. 7, d. 394, l. 40; d. 300, l. 162.

5. Ibid., d. 294, l. 41.

6. Ibid.

7. TsGAORgM, f. R-665, op. 1, d. 133, l. 42.

8. Testimony of N.I. Zaitsev, partorg 2nd distantsia. TsGAOR, f. 7952, op. 7, d. 449, l. 150.

9. Ibid.

10. For a similar example of this, see the case of shaft chief Trupak (TsGAOR, f. 7952, op. 7, d. 294, l. 40).


13. For a discussion of the time it took to build the Metro compared to construction times of other subways, see pp. XX.


16. The characterization "supreme slave-driver" belongs to Edward Crankshaw (Khrushchev: A Career, 84). For description of Kaganovich's "trouble-shooting" activities along with perhaps the most complete political biography of Kaganovich that has been published, see Roy Medvedev, All Stalin's Men (Oxford: Basil Blackwell, 1983), 113-39.

17. Ibid.

18. Molotov, who clearly did not like Kaganovich,
nevertheless related the story of how Sergei Ordzhonikidze "was estatic about Kaganovich's public speaking skills" after the two of them addressed the same meeting (Molotov Remembers: Inside Kremlin Politics, Conversations with Felix Chuev, Albert Resis, ed. [Chicago: Ivan R. Dee, 1993], 229).

19. Conversation with Comrade Sokolin, Chief of the Second Distantsiia, 20 November 1934, TsGAOR, f. 7952, op. 7, d. 398, l. 114. An office manager under Kaganovich noted that the latter "even greeted janitors with a handshake" (Tak govoril Kaganovich, 155).


21. Ibid., and the testimony of M.I. Rokhvatger, Shaft Chief, TsGAOR, f. 7952, op. 7, d. 293, l. 60.

22. For an example of this, see the testimony of Brigadier F. Zamuldinov, TsGAOR, f. 7952, op. 7, d. 301, l. 84.


24. Testimony of Shaft 10-11 Party Secretary Vakhonin, TsGAOR, f. 7952, op. 7, d. 341, l. 264. For a similar incident, see ibid., d. 304, l. 84. The image of Kaganovich as a self-styled patron of the common worker comes through very clearly in Sergei Antonov's novella about Metrostroii. Antonov introduces the reader to Kaganovich by showing how the latter champions the cause of a female worker whose request for a transfer to underground work was unsympathetically heard by her superiors (Sergei Antonov, Vas'ka, 10).

25. Testimony of Shaft Party Secretary Ol'khovich, TsGAOR, f. 7952, op. 7, d. 292, l. 306.

26. In both published and archival sources regarding to Metrostroii, references to Bulganin are extremely rare. This may be explained by the aforementioned fact that on his very first visit to the shafts at Metrostroii Bulganin caught a bad cold and developed a severe skin infection (sciatica). Because of these illnesses Bulganin was unable to work for at least a month, perhaps longer (Khrushchev, "Vospominaniiia," 17).

27. In fact the scheduled opening of the Metro had
been January 1, 1935, but Kaganovich offered a "counterplan" to complete the first line by 7 November 1934.

28. The poem—which apparently lost something in translation—was composed by A.I. Bezymenskii and is quoted in Medvedev, All Stalin's Men, 125.

29. Take, for example, the highly effective visit of Sergio Ordzhonikidze and his deputy, Lazar Kaganovich, in September 1931 to the automobile plant construction site at Nizhny Novgorod (Schultz, "American Factor in Soviet Industrialization", 183-84).

30. Conversation with Comrade Gertner, Chief Engineer of the Miasnitskii Radius, 22 November 1934, TsGAOR, f. 7952, op. 7, d. 300, l. 161a.


32. Literally, "Ia pochuvstvoval chto pochva iz pod nog ukhodit i zasypalsia okonchatel'no."

33. Recollections of A.G. Tankelovich, chief of shafts 18-18 bis, TsGAOR, f. 7952, op. 7, d. 295, l. 41.

34. For two additional examples of this, see TsGAOR, f. 7952, op. 7, d. 290, l. 129; and ibid, d. 292, l. 51.

35. For example as work at Metrostroii was entering its crucial final stages in October 1934, Kaganovich was dispatched to Siberia (along with Yagoda) to "shore up" grain procurements there (Politburo meeting protocol, 2 October 1934, RTsKhIDNI, f. 17, op. 3, d. 953, l. 24).

36. TsGAOR, f. 7952, op. 7, d. 292, l. 306; and d. 294, l. 73.

37. For background information on the phenomenon of counterplans (vstrechnye plany), see Andrle, Workers in Stalin's Russia, 106.

38. For an example of this, see the testimony of Party member Gotseridze at the First Metrostroii Party Conference, 10 January 1934 (TsGAORgM, f. R-665, op. 1, d. 133, l. 47).

39. Brigadier A.I. Katamadze, TsGAOR, f. 7952, op. 7, d. 290, l. 52.

40. Account of technician I.F. Veshkin, TsGAOR, f. 7952, op. 7, d. 342, l. 16.

42. TsGAOR, f. 7952, op. 7, d. 294, l. 45. This practice was common throughout Soviet industry in the 1930s (Donald Filtzer, Soviet Workers and Stalinist Industrialization: The Formation of Modern Soviet Production Relations, 1928-1941 (London: Pluto Press, 1986), 71.

43. "American Engineers on Metrostroi Ask More Efficiency," Moscow Daily News, 27 May 1933, 3. For a first-hand account of how wage rates in the early 1930s were sometimes improperly set, see Smith, I Was a Soviet Worker, 45-46.

44. Report of Abakumov at a plenum of the Mossovet, 16 July 1934, TsGAOR, f. 7952, op. 7, d. 216, l. 11.

45. From 1928 to 1938 "the overall trend for the period was for productivity to rise massively relative to 1928 while real wages plummeted. Even during the expansion of the mid-1930s the improvement in living standards was extremely modest while productivity saw its biggest increases." Filtzer, Soviet Workers and Stalinist Industrialization, 208.

46. According to Rotert, the Metrostroi workforce in May 1934 reached 75,639 (TsGAOR, f. 7952, op. 7, d. 293, l. 135).


49. The author heard such complaints while in Moscow conducting research for this dissertation.

50. Filtzer, Soviet Workers, 70. Andrew Smith, too, argued that subbotniki were not volunteer, but rather "compulsory" labor since maintenance of shock worker status required participation in two subbotniki each month. Smith, I Was a Soviet Worker, 65, 85, 294.

51. Poletaev, 38.
52. Ibid., 38-39.

53. Udarnik Metrostroia, 8 January 1934, 3.


55. For the source of these estimates, see The New York Times, 25 March 1934, 1 (60,000); Udarnik Metrostroia, 26 March 1934, 1 (est. 80,000); Vecherniaia Moskva, 25 March 1934, 1 (55,000).


57. Poletaev, 40.

58. Vecherniaia Moskva, 17 April 1933, 3.

59. Udarnik Metrostroia, 8 April 1933, 1. For other examples of this, see ibid, 21 March 1933, 1 and 14 April 1933, 2; and TsGAOR, f. 7952, op. 7, d. 268, 1. 3.

60. TsGAOR, f. 7952, op. 7, d. 268, 1. 3. For example, on the second massive subbotnik (late March 1933), at shafts 7-8 the number of volunteers expected was 160, but 590 showed up. At shaft 18-18b, 200 were expected and 1000 actually appeared (Udarnik Metrostroia, 1 April 1933, 1).

61. Udarnik Metrostroia, 8 April 1934, 1.

62. Ibid.

63. See, for example, "Likvidirovat' "dubinushku" pod zemlei Moskvy," Stroitel'noe Moskvy 1 (1934): 24.


65. Udarnik Metrostroia, 14 April 1934, 2.

66. Poletaev, 40. With all due respect to Trofimov, one wonders how many experienced tunnellers were needed to assist Trofimov in order for him to achieve his impressive productivity. Here, apparently, was a precursor to the illusory achievements of the coal-miner A.G. Stakhanov, who also had behind-the-scenes support which rendered his work achievement of questionable merit. For more on Stakhanov and the labor movement named in his honor, see Siegelbaum,
Stakhanovism and the Politics of Productivity.

67. Poletaev, 40.

68. TsGAOR, f. 7952, op. 7, d. 268, l. 2.


70. TsGAOR, f. 7952, op. 7, d. 310, l. 214.

71. Ibid., d. 301, l. 85-86.

72. Historian Peter Kenez, perhaps, would not be surprised by this development. After describing the origins of the subbotnik movement in 1919 he notes, "Communist activists immediately recognized the value of this movement not only for the economy but also as an instrument of propaganda" (Kenez, Birth of the Propaganda State, 91).

73. TsGAOR, f. 7952, op. 7, d. 322, l. 13.

74. TsGAOR, f. 7952, op. 7, d. 290, l. 271.

75. "The situation at the station at the time of my arrival was very serious. As a consequence of a very large quantity of excavation and a delay in the concreting, huge subsurface pressures arose, very nearly reaching catastrophic proportions. The tunnel supports broke [under this pressure--WKW]. On the surface significant settling occurred," Testimony by Shaft Chief Baryshnikov, TsGAOR, f. 7952, op. 7, d. 288, l. 142.

76. Chief Engineer Gertner, referring to an excavated area which had partially collapsed, noted that "we didn't do timbering work immediately, as it should have been done, but rather only when we had been grabbed by the scruff of our necks [i.e., been ordered to do so from above--WKW] ("Excerpt from a transcript of a meeting of the brigade with patronage over shaft 13-14," 1 April 1934, TsGAOR, f. 7952, op. 7, d. 142, l. 68).


78. See, for example, the better-documented work of Lazar Pistrak, The Grand Tactician: Khrushchev's Rise to Power (London: Thames & Hudson, 1961), especially Chapter Eight, "The Party Builds a Subway," 86-100. Stuart Kahan, Kaganovich's biographer, claims that Kaganovich "ignored the precautionary measures urgently recommended by experts" in his direction of Metrostroi, resulting in "countless deaths" (Stuart Kahan, The Wolf in the Kremlin, [New York: Wm.
Morrow & Co., 1987). Even Richard Stites has incautiously claimed that the Metro was built "at the cost of hundreds of lives" ("Stalinism and the Restructuring of Revolutionary Utopianism," The Culture of the Soviet Period, 91).

79. The complete breakdown for the cause of fatalities is:

- Due to cave-ins: 6
- Electrocution: 4
- Carbon Dioxide Asphyxiation: 1
- Killed in the fire of 21 Sept 1934: 2
- Unspecified: 4

Source: personal accounts left by Metrostroii employees, TsGAOR, f. 7952, op. 7, d. 267, l. 18; d. 291, l. 157; d. 294, l. 114; d. 298, l. 256; d. 300, l. 206; d. 306, l. 148; d. 308, l. 89; d. 308, l. 173; d. 311, l. 48; d. 318, l. 101; d. 342, l. 1; d. 342, l. 32.

80. A note of caution, however, is in order here. The author did not have access to comprehensive statistics regarding injuries and fatalities. Such information, if it exists at all, probably would be found in GARF's "secret sections" which were not open to researchers when the author was in Moscow. Clearly the Soviet authorities did their best not to allow such figures to reach the public. Therefore, it is still possible that work-related deaths at Metrostroii were higher than the author's preliminary conclusions would suggest.


82. Archival documents in possession of the author, by no means comprehensive on this subject, describe nine separate incidents of cave-ins with non-fatal injuries (TsGAOR, f. 7952, op. 7, d. 295, 11. 181-82; d. 299, 11. 180-81; d. 307, l. 160; d. 308, l. 73; d. 311, 11. 48-9; d. 314, l. 112; d. 314, l. 353; d. 342, 11. 26-7).

83. For accounts by those who reported large incidents of injury among those working with or under them, see the testimony of (all in TsGAOR, f. 7952, op. 7): Shaft Chief N.A. Ermolaev, d. 301, l. 18; Komsomol Secretary Shiriaev, d. 309, l. 171; Brigadier Malashkin, d. 316, l. 197; Brigadier Zdorovikhin, d. 301, l. 138a; and ordinary worker Koposova, d. 296, l. 227.

84. "Conversation with Comrade Malashkin, Brigadier,
shaft 22," 13 October 1934, TsGAOR, f. 7952, op. 7, d. 318, l. 197.


86. "Conversation with Comrade N.K. Kraevskii," English Shield Brigadier, 22 October 1934, TsGAOR, f. 7952, op. 7, d. 303, l. 150. For other reports of widespread cases of the bends, see "Toward a history of shield work at shaft 12," V. Suvorov, Deputy Chief of the Technical Department of shaft 12, TsGAOR, f. 7952, op. 7, d. 320, l. 36; and "Transcript of a conversation with the partorg on the first Soviet shield, Comrade Moiseev," TsGAOR, f. 7952, op. 7, d. 342, l. 152.

87. "Conversation with Chief Engineer Gertner," 22 November 1934, TsGAOR, f. 7952, op. 7, d. 300, l. 160.

88. Ibid.

89. Conversation with Chief Engineer Gertner, November 22, 1934, TsGAOR, f. 7952, op. 7, d. 300, l. 153.

90. A tunnelling shield is a highly mechanized device used in tunnel excavation. Propelled by hydraulics, it allows for simultaneous excavation and construction of iron or concrete walls in the finished tunnel. Two such devices were employed at Metrostroi in the section between the Bolshoi Theatre and Dzerzhinsky Square.

91. Testimony of Shift Engineer Velikzhanin, TsGAOR, f. 7952, op. 7, d. 288, l. 228.

92. Several eyewitness accounts of the fire exist at TsGAOR. See, for example the testimony of shift engineer Velikzhanin, f. 7952, op. 7, d. 288, ll. 228-29 and d. 299, l. 192; Deputy Director Abakumov's account, d. 299, ll. 55-56; and komsomolets Milashevich's comments, d. 305, l. 17.

93. Conversation with Gertner, Chief Engineer of the Miasnitskii radius, TsGAOR, f. 7952, op. 7, d. 300, l. 152a.

94. "Conversation with Comrade Gertner," Chief Engineer of the Miasnitskii radius, TsGAOR SSSR, f. 7952, op. 7, d. 300, l. 151.

95. Even had there been sufficient time, it is unlikely this would have helped much--engineers and workers experienced in foundation support work were almost entirely
absent at Metrostroii (testimony of Distantsiia Chief A.M. Stepanov, TsGAOR, f. 7952, op. 7, d. 294, l. 173).

96. British Foreign Office: Russia Correspondence, 1934, reel 12, volume 18331, Moscow embassy report dated 17 July 1934, page 70.

97. For a discussion of the damage done to the Lenin Library due to Metrostroii, see the transcript of the meeting of the All-Union Soviet Scientific-Engineering-Technical Society of 19 March 1934, TsGAOR, f. 7952, op. 7, d. 276, l. 19.

98. TsGAOR, f. 7952, op. 7, d. 318, l. 337.

99. TsGAORgM, f. R-655, op. 1, d. 127, l. 29.

100. Documented cases of buildings inadvertently destroyed by Metrostroii include Volkonka Street No. 6, and October Twenty-Fifth Street, No. 25 (TsGAOR, f. 7952, op. 7, d. 310, l. 212).

101. The author obtained this information simply by walking above the route of the first subway line in late 1991 and early 1992.

102. For a comprehensive description of noteworthy structures in Moscow deliberately razed by the Soviet government, see S.K. Romaniuk, Moskva--Utraty (Moscow: Tsentr, 1992).

103. Such, for example, was the case at 14 Mokhovaia Street (TsGAOR, f. 7952, op. 7, d. 293, ll. 59-60).

104. TsGAOR, f. 7952, op. 7, d. 290, l. 272.

105. For an example of a building evacuated in the middle of the night just before it collapsed, see the account of an engineer who witnessed the evacuation in TsGAOR, f. 7952, op. 7, d. 310, ll. 212-13.

106. Three residential buildings near the Kropotkinskaya station, for example, fell into this category. See the recollections of Kh. M. Shmidt, Station Chief, 17 March 1935, TsGAOR, f. 7952, op. 7, d. 323, l. 195. Metrostroii engineer G.A. Lomov described a similar situation: "An entire row of buildings on the Arbat radius, according to plan, was to be demolished since underpinning them would have cost considerably more than the construction of new buildings for the same residents. However, knowing how severe the housing situation in Moscow was, we often
resorted to reinforcing the buildings instead of razing them" (TsGAOR, f. 7952, op. 7, d. 291, l. 271).

107. Ibid., 213.

108. This directive was given on Khrushchev's order (testimony of Distantsiia Chief N.I. Sokolov, TsGAOR, f. 7952, op. 7, d. 294, l. 129).

109. TsGAOR, f. 7952, op. 7, d. 310, l. 212.

110. TsGAOR, f. 7952, op. 7, d. 293, l. 3.


112. Ibid.

113. For examples of this at TsGAOR, f. 7952, op. 7, see the testimonies of Shaft Chief S.A. Mashkevich, d. 289, l. 146-47; Shaft Chief M.I. Sokhvatger, d. 293, l. 59; Distantsiia Chief N.I. Sokolov, d. 294, l. 127; Distantsiia Chief A.M. Stepanov, d. 294, l. 170; and Shift Technician I.S. Lazarev, d. 342, l. 74.

114. The vacation was from 30 March to 15 May 1934 (RTsKhIDNI, f. 17, op. 3, d. 942, l. 26).

115. TsGAOR, f. 7952, op. 7, d. 306, l. 155.

116. Although Molotov headed the Soviet government, ultimate authority within the USSR rested in the hands of the leader of the Communist Party of the Soviet Union, General Secretary Josef Stalin.


118. Most often the concrete was poured too thick. Abakumov in mid-July 1934 reported that Metrostroi's overall use of cement was 5 to 7.5% more than needed (TsGAOR, f. 7952, op. 7, d. 216, l. 3).

119. Udarnik Metrostroia, 17 April 1934, 1.

120. TsGAOR, f. 7952, op. 7, d. 316, l. 193.

122. A.V. Khrabrovitsky, a Soviet journalist who saw
Khrushchev and Kaganovich together on many occasions notes,
"Kaganovich was the active, powerful one, whereas all I ever
heard Khrushchev saying was 'Yes, Lazar Noiseyevich,'
'Right, Lazar Noiseyevich' (Medvedev, All Stalin's Men,
125).

123. TsGAOR, f. 7952, op. 7, d. 302, li. 17-18.

124. Ibid., d. 316, li. 193. According to an American
engineer working at Metrostroi, most of the concrete poured
at Metrostroi was too dry, causing "honeycombing," which
made the concrete even more susceptible to seepage of water
(Moscow Daily News, 27 May 1933, 3).

125. For such cases, see TsGAOR, f. 7952, op. 7, d.
291, li. 15; d. 292, li. 36; and TsGAORgM, f. R-665, op. 1, d.
125, li. 12.

126. TsGAOR, f. 7952, op. 7, d. 291, li. 16.

127. Udarnik Metrostroi, 8 May 1934, 1.

128. TsGAOR, f. 7952, op. 7, d. 295, li. 74.

129. Vecherniaia Moskva, 7 June 1934, 1. Such
penalties were a precursor to the draconian labor decrees of
1940 which branded as criminals those who incurred a single
unexcused absence from work. Punishment was up to six
months "forced labor at place of employment" with a
Corresponding 25% reduction in pay (Nove, Economic History
of the USSR, 252-53).

130. For such examples, see TsGAOR, f. 7952, op. 7, d.
289, li. 54; d. 291, li. 30; d. 291, li. 10; d. 342, li. 84;
TsGAORgM, f. R-665, op. 1, d. 125, li. 12; Za boevye tempy,
13 May 1934, 1 and ibid., 6 June 1934, 1.

131. Za boevye tempy, 19 June 1934, 1.

132. TsGAOR, f. 7952, op. 7, d. 291, li. 10.

133. The principle of one-man management had been
instituted in September 1929 to eliminate the chaos which
had existed in Soviet industry since directors, Party and
trade-union officials all shared management authority.
Henceforth, Party and trade union officials were required to
subordinate themselves to the director's authority. This
principle was applied at all levels of management (Nove,
Economic History of the USSR, 203-4).
134. TsGAOR, f. 7952, op. 7, d. 302, ll. 6-7.

135. The subway was scheduled to open sometime in January "or at the very latest in February 1935" (L.M. Kaganovich, The Construction of the Subway and the Plan for the City of Moscow [Moscow: Cooperative Publishing Society of Foreign Workers in the USSR, 1934], 15).

136. Literally "naplevat' na kachestvo lish' by vse bylo bystro" (TsGAOR, f. 7952, op. 7, d. 289, l. 54).


138. Ibid., 26.

139. Ibid., 27.

140. Ibid., 28.

141. In the process, the opening of the Metro was delayed from February to mid-May 1935. See the Politburo meeting protocol for 5 March 1935 (RTsKhIDNI, f. 17, op. 3, d. 960, l. 1).

142. TsGAOR, f. 7952, op. 7, d. 318, l. 107.

143. Kovalev, Metro, 2.

144. Ibid., 3.


146. Brian J. Cudahy, Under the Sidewalks of New York: The Story of the Greatest Subway System in the World (Brattleboro, Vermont: The Stephen Greene Press, 1979), 15. For descriptions of the unmechanized construction of the first line of the New York subway, see ibid., 23-34 and Hood, 722 Miles, 84-90. The New York subway's first line opened in stages: its entire length (36 km) was not opened until seven years after construction had begun. One Soviet historian erroneously claims that the first line of the New York subway was only 20 km long (Poletaev, 42). He is, of course correct to say that the entire line took seven years to complete, but he conveniently neglects to mention the opening after only four and one half years of 14.5 km of the line. Furthermore, unlike the two-track Moscow Metro, the New York subway's first line had four tracks: two for local routes and two for express trains.
Chapter VI

Frantic Finish and a Grand Opening

By late 1934, the completion of the first line was in sight. Excavation work was nearly finished and the concreting and waterproofing of tunnels was in the final stages. Nevertheless, a multitude of additional jobs remained largely undone. These included the laying of track, the manufacture of the subway’s rolling stock and the training of crews to operate it, the construction of surface vestibules which would serve as entrances to the subway, the decoration of the underground stations, the technically difficult digging of the inclined tunnels from the surface to the underground stations, and the construction and installation of escalators in those same inclined tunnels.¹

Such finishing work was made more difficult by the fact that, until very late, it had been placed on the "back burner" (zadnyi plan).² As I.E. Cherkasskii, chief of decorative work complained, "the Metrostroi administration took almost no interest in decorative work, giving all of its attention to the construction of the tunnels." The same was true for the Metro’s electric power system and its rolling stock.³ Thus, much of the time that could have been
beneficially used to lay the groundwork for the finishing work was lost. When full attention finally was given to station decoration, planning and training workers had to occur on an accelerated schedule. Cerkasskii claimed that he had to complete preparatory work for station decoration in just thirty or forty days, while "under normal circumstances" such work would have taken about a year. A similar situation existed for other types of finishing work.

Further complicating the final stages of work at Metrostroii was the reappearance of a labor shortage in November 1934. Many of those hired to the project in early 1934 had contracts which obligated them to stay only until the subway's scheduled completion on November 7th of that year. When the opening of the subway was delayed, however, many of these workers could not be persuaded to remain at Metrostroii beyond November 7th and they returned to their factories.

The combination of an accelerated schedule and a depleted workforce meant that the final stages of work at Metrostroii were characterized by frenetic and, at times, even desperate activity. As a result, the "storming" which had been present at the project throughout 1934 became especially intense late that year and early 1935. Often during these periods of storming, as in the final concrete pouring at shaft 30, even employees who normally never engaged in manual labor were mobilized. For example, shaft
30's chief, deputy chief, and Party secretary along with white collar employees from the accounting and technical departments all abandoned their offices for the worksite. With shovels in hand they helped the shaft meet its deadline.6

Moreover, during this final period many at Metrostroi worked overtime on an unprecedented scale, "forgetting what home and family are."7 Describing the race to meet his 15 October deadline, the man in charge of track laying for the Sokolniki radius noted that certain brigades worked four to five shifts in a row without rest. As for himself, he reported working seven days straight with only three hours sleep each day.8 Similarly, in the "storming" at shaft 7-8, the chief mechanic noted that for an entire five to six day period workers never left the shaft.9

Not surprisingly, the relatives of those involved in this "storming" were often concerned when their loved ones failed to return home. Worried family members often came to the shafts or telephoned to inquire about loved ones.10 In some cases, however, concern was overridden by anger. After working three days straight at tunnel waterproofing, Komsomolets Stepenechev was met at the worksite by his angry wife who was carrying their baby in her arms. The latter, infuriated by her husband's prolonged absence, handed her child to its father, threatened to divorce him, and left.11 In a similar incident, the wife of mechanic Butiugin claimed
she was through with her husband after he failed to come home even once in a ten-day period.¹²

Working such long hours was, of course, strictly forbidden by Soviet labor laws. Although prohibitions against overtime were poorly enforced, nevertheless it seems that it was primarily cadre workers who stayed on the job for days at a time. Rank and file non-Party workers do not seem to have participated in the work marathons—apparently they could not be persuaded to do so. This, at any rate, is the impression given by the few documented references on the subject. One source, for example, lists "the entire engineering-technical staff, Party, trade union, and Komsomol aktiv (those who worked full-time for these organizations) as those who labored for days without leaving the worksite."¹³ Another source describes the stormers simply as komsomoltsy.¹⁴

Among these cadre workers were some who stayed on the job simply because they wanted to. One engineer noted that he ordered a youth by the name of Vorob’ev to go home and get some rest after the latter had worked two days straight waterproofing the tunnels. Completely covered in the tar-like material used for waterproofing (his "eyes alone were visible"), Vorob’ev pretended to leave. A little while later the engineer discovered the same Vorob’ev working at the other end of the worksite. When questioned the youth replied, "I am not leaving until I finish the
waterproofing." In recalling this incident, the engineer concluded with the observation that there were "many" (bylo ne malo) workers like Vorob'ev.\textsuperscript{15}

But not all displayed such steadfast devotion to their work. One work supervisor noted how he "reluctantly" had to talk a brigade into staying at its Komsomol station worksite, despite the fact that it had already worked eighteen hours and its members were "almost falling asleep." Defending the great sacrifice he demanded, the supervisor claimed "we had no other choice" (inogo vykhoda u nas ne bylo), implying that there were no other workers to take the sleepy brigade's place. The group, almost certainly komsomoltsy, remained on the job an additional twelve hours.\textsuperscript{16} Another supervisor described a five to six day stretch of uninterrupted work and noted that some of "the best people, even a Party cell secretary" at one point protested that they could not continue working. In response the supervisor "ordered" them to stay and "threatened strong measures" against those who did not comply. The group stayed and eventually finished the job.\textsuperscript{17}

Just as supervisors and shaft chiefs applied pressure on their subordinates to work overtime in the final stages of work at Metrostroï, they, in turn, had great pressure put on them by their superiors. Kaganovich, for example, seems to have increased his already close supervision of the subway project in its final months. Characteristically, he
was unspiring in his criticisms when it appeared that a job would not be finished on time. Even during his absences from Moscow Kaganovich managed to stay abreast of developments at Metrostroi. For example, in October 1934, while Kaganovich (accompanied by Genrikh Iagoda, the head of the NKVD or Soviet secret police) was in Western Siberia to "intensify grain procurement,"\(^\text{16}\) Metrostroi personnel sent him a cordial telegram which described the successful trial run of a subway train on the Sokolniki radius (the only section of the Metro completed by that time). In response, Kaganovich telegraphed back:

...according to information in my possession, at shafts 7, 8, 9, 9-bis, 10, and 11, the fulfillment of the plan is going extremely unsatisfactorily, threatening the timely completion of construction. ...at the Komsomol'skaia ploshchad' station concrete work is being carried out extremely unsatisfactorily. There, apparently, [people] have given themselves airs due to [earlier] successes and are becoming extremely ecstatic. In the meanwhile, their station is still not finished--it is early for them to be in such foolish raptures.

...according to information in my possession there is smoking in the tunnels, at Bobrov's shaft kerosene is being stored in buckets, the drying of the tunnels is being done with blow lamps, with open fire. I request an investigation of this and that I be telegraphed.

Kaganovich\(^\text{19}\)

It seems likely that it was Khrushchev who kept Kaganovich so well informed about developments at Metrostroi. Indeed, it would seem that it was Khrushchev's daily scrutiny of work at the subway project even more so than Kaganovich's surprise visits or criticisms from afar which most kept work supervisors on their toes. For
example, when construction of the northern vestibule of the Okhotnyi riad station lagged, Khrushchev obtained a promise from workers there that they would speed up their work and meet their construction deadline. Afterwards, Khrushchev visited the site daily to ensure that adequate progress was being made. During his visits he frequently asked the work supervisor, "May I inform Lazar Moiseevich [Kaganovich] that the vestibule will be finished?" Obviously this reference to Kaganovich was meant to intimidate the supervisor and motivate him to get the most from his work crews. Apparently it worked. After completing the northern vestibule, its director of construction noted,

We succeeded only because the direct leader and organizer of the northern vestibule was not me, although I was considered to be the director, but rather Nikita Sergeevich Khrushchev.

One more example will suffice to demonstrate the kind of intimidating pressure Khrushchev applied in the final weeks of work at Metrostrooi. At another vestibule, also lagging behind schedule, Khrushchev told the shaft chief,

Comrade Kuz’mín, you promised to remove all the lumber from the vestibule by the twelfth [and] to allow the [escalator] assemblers in. But it turns out that you have deceived the MK [Moscow Party organization]. Today is the tenth, but look, what’s going on here? Kuz’mín, of course, promised that the work would be done on schedule and indeed it was. It was precisely this kind of daily supervision, accompanied by implied threats, which helped motivate Metrostrooi’s cadre workers to perform almost
superhuman feats in the final stages of work at the subway project.

Of all the finishing work at Metrostroii, it could be argued that decorating the underground stations was the most important. After all, as Kaganovich himself pointed out, it was on the basis of this decorative work that people "will first and foremost make their judgements about the Metro." Therefore it was a priority that the stations be built and decorated "well and beautifully." To accomplish this, the stations were finished in marble and other polished stone, as well as with tile mosaics, murals, and statuary. On top of this, the Metro's stations were designed to be more spacious and much better illuminated than their Western counterparts. The Metro's stations, for example, had ceilings roughly twice as high as those in the stations of the New York and Berlin subways. Furthermore, Kaganovich stipulated that "not a single station should be similar to another." This combination of beauty, spaciousness, and varying station designs is precisely what has made the Moscow Metro so unique among the world's subway systems.

As mentioned earlier, however, the proper decoration of the stations was made difficult by Metrostroii's labor shortage. Experienced marble workers were in short supply in Moscow--a couple dozen were found working on the Hotel Moscow, a number far below Metrostroii's needs. Another
batch of eighteen were somehow found and both groups were put to work as instructors, teaching their craft in crash courses to Metrostroï komsomoltsy who only days earlier had been pouring concrete or waterproofing tunnels. Cutting marble is a notoriously slow process, however, and soon the Metrostroï leadership was accusing the veteran marble workers of working at a "death-like tempo" (grobovyte tempy), one that threatened to disrupt the plan. Apparently realizing the irony of this remark, one marble worker shot back, "Yes, up to now we worked in a cemetery making tombstones, we had no reason to hurry."²⁷

The komsomoltsy, however, who trained under the veterans were said to have cut and polished marble at a faster pace; they, in turn, taught specially recruited (though unskilled) peasants from the Tver region how to work marble.²⁸ Metrostroï not only supplied labor to cut the marble, it procured additional saws and polishing equipment as well. To maximize production, marble processing was put on a twenty-four hour a day basis. In a remarkable feat of organization, Metrostroï was soon mass-producing finished marble plates ready to hang on the walls and columns of the subway stations. In the end, Metrostroï managed in just three months to procure, process, and install an astounding 22,000 square meters of marble—enough to cover the two mile-long facade of a five-story building.²⁹
This grand logistic victory, however, was tarnished by the relatively low quality of much of the finished marble work. Due to the haste and lack of experience of the installers (yesterday’s concrete pourers), many marble-covered columns were so poorly fashioned that Kaganovich insisted they be stripped bare and done over. In general, the marble work on the Metro’s first line does not withstand the scrutiny of even the untrained eye. The plates fit together poorly and many are broken, their large cracks clearly visible. Apparently they were dropped at the time of installation and then cemented back together. That these broken plates were not discarded only underscores how difficult it was for Metrostroii to obtain adequate quantities of marble in time for the first line’s opening.

In this regard Metrostroii received a windfall of sorts when it discovered that the recently completed Lenin Library was in possession of a large quantity of Italian white and blue-grey marble. The marble had been torn (apparently with great difficulty) from the Cathedral of Christ the Savior prior to that imposing structure’s demolition in 1932. After "persistent requests" by Metrostroii, the Lenin Library agreed to hand over the marble, apparently in trade for unspecified goods from the subway project. Thus, although nothing remains of the Cathedral of Christ the Savior at its original site (now occupied by an outdoor swimming pool whose heated waters attract bathers even in the dead of
winter), marble from the vanished cathedral can be seen today at the Okhotnyi riad station.35

Originally the Metro's stations were to be decorated almost entirely in natural stone (marble, granite, etc.). Such plans were deemed "wholly satisfactory" by the Metrostroii leadership, but impractical nevertheless since "this decision is EXPENSIVE [emphasis in the original] and creates a whole host of difficulties with regard to the processing of this natural stone in the course of the relatively short period which remains before the opening of the metropolitan."36 Thus, as an austerity measure, the use of marble in the subway stations was deliberately limited. Following the example of Western subway systems it was decreed that ceramic tile would be used extensively to decorate the stations.37 From the subway architects' point of view, however, this decision amounted to a rotten compromise and they "zealously fought" against it. They argued that ceramic tiles "could be used in a toilet or even a bath house, but by no means in a station."38 Kaganovich himself settled the argument, apparently making a virtue out of necessity, claiming that an "excess of marble" would spoil the looks of the stations.39 Posterity, however, seems clearly to have sided with the architects: even Muscovites proud of their subway derisively refer to the ceramic covering of the stations and underground passages as "bathroom tiles" (tualetnye plitki). Thus, as lavishly as
the first line was decorated, it too was subject to a certain degree of economy. The extensive use of ceramic tile, by the way, was not limited to the first line of the Moscow subway—the material is found in subsequent lines as well.

That Kaganovich had the final say on the use of ceramic tile in the Metro is not surprising given his great interest in the subway's architecture and decoration. No detail in these areas was too small to warrant his attention. He kept in his office, for example, samples of various marbles and "took part in the selection of materials for the decoration of each station." Furthermore, in his supervision of station decoration, he often ordered work which did not suit him to be redone, as well as decreeing changes in existing architectural plans in the course of his worksite inspections. For example, after twenty meters of the Okhotnyi riad station had already been excavated, Kaganovich decreed a major change in its configuration, ordering it switched from a two-arch to a three-arch (and thus more spacious) design. Additionally, before he approved them, Kaganovich ordered changes in the designs of several of the Metro’s surface vestibules.

That Kaganovich, poorly educated and a boot maker by profession could order major architectural modifications on a whim must have been frustrating to the professional architects who worked under him. But just as Stalin’s
suggestions, however ill-considered, were by necessity accepted as Gospel truths, so too were Kaganovich's ideas portrayed as flashes of genius by those around him. The fact that Kaganovich was a "little Stalin" with his own cult of personality at Metrostroi comes through very clearly in the following account of Metrostroi Party secretary Belyi regarding how the final design of the Arbat vestibule was arrived at:

We knew that L.M. [Kaganovich] would come to settle the question of the architecture of the vestibule. We brought in a model of the vestibule in order to show L.M. When we looked at the model it seemed light, refined, and very beautiful and all who were in attendance and looked at the model were delighted by its beauty. L.M. arrived and this visit in essence was a lesson in architecture for all of us. L.M. took all the details of the model, determined the interrelationship of the individual parts and demonstrated that this model did not correspond to that vestibule which should be here and now we saw clearly in a completely different light how miserable and ugly the model was—the scale model of the future vestibule. We were struck by the many-sided nature of this person. Every detail not only interested him, he knew each one as if he had worked daily with us shoulder to shoulder.43

Needless to say, the vestibule design was redrawn according to Kaganovich's instructions. Later, after about sixty percent of the vestibule had been completed, Kaganovich decided that it was being built in the wrong place, so he ordered it torn down and built anew at a different site.44 The final result, according to Belyi, was a "light, elegant vestibule which really beautified the square." The Party secretary concluded by noting that the architecture of the
vestibule represents "a monument to our epoch and the idea of Lazar Moiseevich." It is telling that Kaganovich was largely responsible for the design of the Arbat vestibule because it is the one structure on the Metro's first line which has been subject to the most criticism from an architectural point of view. The primary focus of this criticism has been the vestibule's shape—that of a five-pointed star, the symbol of the Red Army. From ground level the star shape is not apparent, however, and so the building's symbolism is lost on the observer. Only from above can the star shape be detected. This, however, is not only impractical but virtually impossible since planes were forbidden to fly over central Moscow. Even an otherwise laudatory contemporary article on the architecture of the Metro's first line pointed out this flaw, as have numerous critics since. But even from a purely aesthetic view, the vestibule leaves much to be desired. The poet Evgenii Dolmatovskii was a youthful komsomolet who helped build the Metro's first line. A native of the Arbat who was deeply attached to his neighborhood, Dolmatovskii lamented the appearance of the Arbat vestibule, claiming that the structure "was distinguishable from a cream cake only in that it was a little taller and made from inedible material."

But these criticisms of Kaganovich's meddling should not obscure the fact that a revolution in subway
architecture had taken place at Metrostroi. The use of unique designs for each station and vestibule for the Moscow subway was unprecedented. Although this example was not immediately infectious, in the postwar period several new subway systems were built in which this type of architectural diversity was incorporated. 49

In January 1935, as some Metrostroi workers furiously completed decorating the subway stations, others began a hurried installation of the escalators which would provide Muscovites easy access to those same stations deep underground. About 600 people worked around the clock in temperatures as low as minus 35 degrees Celsius to assemble the escalators, a task accomplished in less than three weeks. By 6 February 1935, the day the first trial run of the entire first line was to be made, the escalators had been installed and were working properly.

The successful installation of the escalators, however, demonstrated more than the stamina of the Metrostroi workforce. Since the escalators were both designed and manufactured in the USSR, it was also a tribute to the ingenuity and resourcefulness of Soviet engineers. That complex machinery like escalators were produced by Soviet industry is also a tangible demonstration that the vast industrial base established during the First Five Year Plan was beginning to bear fruit by early 1935.
The reader will recall that the 1932 decision to convert the Moscow subway to a deep-tunnel system was controversial in part due to opposition to the use of escalators (see pp. 81-83). Because of their ignorance of moving staircases (there were none in the USSR), many Soviet engineers at Metrostroi considered the devices dangerous. Just as serious an objection, however, was the complex nature of escalator construction, something which many believed was beyond the capability of Soviet industry.

But budget restraints forced the Soviets to attempt to build their own escalators rather than spend precious hard currency to purchase them abroad. Indeed, one estimate of the cost of the 24 escalators needed for the first line was 8 or 9 million gold rubles. This figure dwarfs Metrostroi's hard currency budget of $100,000 for all of 1932.

Out of fiscal necessity, then, Soviet engineers were compelled to build their own escalators. This was a challenge all the more daunting because the Soviets knew virtually nothing about escalator manufacture. This lack of expertise might not have been such an obstacle had technical literature on escalators been in the public domain. Soviet engineers could have obtained blueprints detailing escalator construction and simply copied the designs, using Soviet factories to produce the needed components. A search of libraries in the USSR and abroad,
however, uncovered no technical material on escalators. Apparently manufacturers chose not to publish technical information on escalators in order to protect trade secrets. This is understandable given the fact that in the 1930s escalators were still a relatively new technology. Although the first escalator was demonstrated at the 1900 Paris World's Fair, many years passed before moving staircases came into widespread use in the industrialized West. Escalators were not used in Germany until 1925, for example. Moreover, with regard to their use in subway systems, escalators represented brand-new technology in the early 1930s. The first subway system to employ escalators, the London underground, did not install the devices until 1932. Further complicating the situation for the Soviets was the fact that in the early 1930s there were still only two escalator manufacturers in the entire world: the Otis Elevator Company and Karl Flor, a German firm.

In order for Metrostroi engineers to get more information on escalator design and construction, then, they were forced to go to the source: the foreign manufacturers. But the latter were not about to release such information for nothing—which was about all the Soviets were willing to pay. Knowing this, Metrostroi engineers devised a clever ruse. They convinced both Otis and Flor that Metrostroi was about to place a large order for foreign escalators and was prepared to negotiate terms of the sale. While
"negotiating," the Soviets milked the manufacturers' representatives of as much technical information about escalators as possible. For example, when Karl Flor's technical director came to Moscow to discuss terms, he arrived with "draft plans for escalators" and "obligingly acquainted Metrostroi's staff with escalator construction." When the German pressed Metrostroi to place its order, subway officials stalled him, claiming "Metrostroi is agreeable to placing an order, but first it is necessary to hear the offers of other firms."

Later that year Otis's London representative came to Moscow to discuss a possible sale. He, too, provided details about escalator construction and design, but was not very specific in his comments since he "feared competition and the use of his information by other firms." Metrostroi prolonged the negotiations with Otis by expressing interest in the purchase of twelve escalators, but protested that Otis's asking price was too high. Over the course of these months-long negotiations (intentionally protracted by the Soviets), Metrostroi engineers began to piece together the puzzle of escalator design "line by line, part by part," despite the restraint shown by the representatives of both Flor and Otis.

Of course, even with the unwitting help of the foreign escalator firm representatives, the process of unlocking the secrets of escalator design was painstaking and the outcome
was not certain. Some at Metrostroi thought the task of producing escalators "from scratch" too difficult for Soviet industry and suggested the relatively inexpensive purchase of a single Western escalator which, after disassembly, could serve as a model for Soviet factories to replicate.\textsuperscript{62} But when confronted with the Soviet request to purchase only one escalator instead of twelve originally proposed, the Otis representative replied that the price of one escalator would be the same as the total cost for twelve.\textsuperscript{63} Otis, apparently, had caught on to the Soviets' game by this time. Metrostroi countered with an offer to buy three escalators from Otis, but only if the London firm were prepared to offer Metrostroi five years' credit to finance the purchase. Otis, however, refused to provide such long-term credits.\textsuperscript{64}

By the end of 1933, with the Moscow subway's scheduled completion less than a year away, Metrostroi conducted negotiations of another kind: with Soviet factories. Since the USSR was obliged to build its own escalators, it fell to Metrostroi to find Soviet factories which would agree to manufacture them. Eventually two suitable Russian factories were found, but the factories made their agreement to build the escalators contingent upon certain conditions. These included 125,000 gold rubles for the purchase of needed foreign equipment, financing from Metrostroi for the dispatch abroad of three specialists from each factory in order to study escalator construction, and a Western
escalator for each factory to serve as a model for construction. The last condition was deemed impossible by Metrostroi since Western escalators ordered in December could not be delivered to Moscow before May of the following year. Such a late delivery would not allow the Soviet factories to copy the Western escalator and manufacture them in time for the Metro's planned opening in November. Whether or not the other demands were met is not clear, but whatever the case, by February 1934 the two Soviet factories finally agreed to make the 24 escalators needed by the subway project. Krasnyi metallist in Leningrad agreed to build 18 escalators, while Moscow's Pod'emnykh sooruzhenii picked up the order for the remaining six escalators.

Metrostroi did, however, make one last effort to purchase escalator technology on the cheap—it negotiated the purchase of technical plans from the Western firms. Flor offered to sell its escalator designs for 500,000 gold marks, but even this sum was apparently out of reach for the hard currency-short Soviets. Besides, as one Metrostroi engineer noted, "the more deeply we delved into this work, the more confident we became of our own ability."

This confidence, however, was born out of necessity and not shared by all. In July 1934 the disgusted Otis representative in Moscow, after having been put off for months, announced that he was returning to London. When asked by the Soviets to stay in Moscow he pointed out that
the Russians had already begun to build their own
escalators.

To this [the Soviets] replied quite frankly that
their steel was no good, the designs were all wrong,
they could not get the "three speed" motors for the
elevators [sic] nor did they know how to construct the
safety section of an elevator. Having given
assurances, however, that they could make them, they
did not know how they could escape responsibility
unless they could find a way of using Otis elevators
without revealing the fact that they were foreign
products. The [Otis] representative replied, "That is
beyond me."

The chief engineer is fully aware that the plans are
wrong, but is apparently unable to face Kaganovich with
the fact. At the same time, Kaganovich himself is by
no means happy, and the staff are terrified at what may
happen when the train vibrations actually start. 69

Ultimately, Soviet engineers were able to overcome these
problems—but not without great difficulty. One engineer
reported that he had to fight for virtually every component
of the escalators with "blood and sweat" in order to obtain
them from already overburdened Soviet factories. 70 One can
only wonder how much greater the struggle for these
components might have been had People's Commissar of Heavy
Industry Sergo Ordzhonikidze not issued a special decree
unconditionally obligating Soviet factories to fill orders
for parts to Metrostroil's escalators. 71 Also aiding the
effort to manufacture the Soviet escalators was the Moscow
Party leadership which intervened when construction
schedules appeared to be in jeopardy. For example, in the
final phases of escalator construction Khrushchev travelled
to the *Krasnyi metallist* factory in Leningrad to oversee the operation and speed up final assembly.\textsuperscript{72}

As mentioned earlier, the early 1935 installation of the escalators was a hurried affair, one made all the more difficult by the fact that the components had not previously been tested or assembled.\textsuperscript{73} Moreover, escalator assembly occurred simultaneously with the plastering of the inclined tunnels in which the escalators were located. As a result, escalator installers "worked literally on the shoulders of the construction workers."\textsuperscript{74} Despite these problems, however, the escalators were installed on time. Khrushchev's close supervision of the escalator assembly no doubt was beneficial in this regard. During the three-week period of their installation Khrushchev was said to have "been at each escalator worksite several times each day, hurrying the workers and demanding that they finish the job sooner."\textsuperscript{75}

In outward appearance, the Metro's escalators were nearly identical to those used in the London subway—a clear indication of the degree to which the Soviets purposely imitated Western models. But the achievements of Soviet engineering were not limited to copying foreign designs—in some respects, the Soviets were able to improve on existing technology. To begin with, the escalators at the Kirov Station, the first line's deepest, were the largest in the world at the time. At a total length of 60 meters (197
feet), the escalators had a vertical height of 30 meters (98 feet). Additionally, Metrostroi's escalators operated at speeds one and a half times faster than those of the London Underground's escalators, with top speeds of .75 meters per second. This difference in speeds may seem trivial to the uninitiated, but for those using the Metro it resulted in a dramatic saving of time. For a passenger to use the Kirov Station's 60 meter escalator at London speeds would require a full two minutes. With the Soviets' faster speed, however, the same distance could be covered in only a minute and twenty seconds. Thus, as with the Metro as a whole, even in the design of its escalators emphasis was placed on the convenience of the passengers.

In the final analysis, the design, construction, and installation of the Metro's escalators demonstrated the impressive results Soviet engineering could achieve despite inadequate funding, a lack of expertise, and terrible working conditions. In the face of such daunting handicaps a high quality product was achieved through cleverness and hard work.

With the completion of station decoration and the installation of the escalators by early February 1935, the Metro was almost ready to open. Beyond the training of the crews to operate the system, however, some problems remained. These consisted primarily of construction flaws
needing attention before the Metro could be made operational. As previously mentioned, one such flaw was that in some areas the tunnels' interior dimensions were too small to allow for the passage of subway cars—this due to the "not quite careful" lining of the tunnels with concrete. These particular flaws, by the way, were not minor ones, but rather "large" violations of the tunnels' interior dimensions. ⁷⁹

These and other problems were so numerous that the specially appointed government commission charged with identifying them worked until 5 March 1935 before it could issue a detailed report of all the needed corrections. At that time Metrostroii was given until 15 April to correct the indicated problems. ⁸⁰ Sometime around the beginning of April Stalin himself is said to have visited the Metro, apparently on an pre-opening day inspection tour. As luck would have it, the car in which he rode travelled just 200 meters before it unexpectedly came to a stop. The problem was identified as a minor fault in the Metro's safety signals and the car was soon on its way again. Though the rest of the visit is said to have passed without incident, the damage clearly had been done. Taking into consideration the importance he attached to the Metro, Stalin clearly did not want any mishaps, even minor ones, to mar the subway's inauguration. For this reason he ordered Metrostroii to take
an additional six weeks to ensure that on opening day "there will be no hitches" with the operation of the Metro. 81

The caution Stalin exhibited here was prudent, even if it contradicted the spirit of the "Bolshevik tempo" by which the Metro had been built. Certainly by 1935 Stalin knew only too well how many First Five Year Plan factories had been ceremoniously opened on their planned completion dates only to be quietly shut down a short time later. Most of these closures were tacit admissions that the factories never should have been opened in the first place because key elements had not yet been finished. 82 Such "Potemkin production" was relatively harmless and, in fact, might even have been useful in maintaining the Soviet people's faith in their country's industrialization, a process much more protracted than Stalinist planners had anticipated. But the opening of a subway line was a different matter. It could not be faked. Unlike a factory, a subway system is open to the general public; the degree of public scrutiny the Metro would be under made it likely that any problems would have immediately become common knowledge in Moscow, and this, in turn, would have led to a public relations disaster.

Incidentally, when the Metro's first line did open on 15 May, even then the system was not completely finished. Work continued on the first line for months after its official opening. Such work included installing rail sidings at the Metro's terminal stations, building a second
entrance to the Kirov station, as well as the manufacture of additional rolling stock to enable the Metro to run twenty-four pairs of six-wagon trains per hour. The last task was very important since the Metro’s limited rolling stock on opening day did not suffice to meet the demand of people wishing to use the subway. Even worse, though, was the absence of track connecting the two separate rail lines at each of the terminal stations (Sokolniki and Park Kul’tury, for example). This defect meant that only one train could run on each track: when the train reached the end of the line, the motorman would transfer to the car at the other end of the train and then drive the train in the opposite direction from which it had just come. This lack of turnaround track at the terminal stations drastically reduced the passenger capacity of the Metro, so much so that when the Metro opened in mid-May 1935 it was not truly a fully operational system. This fact, combined with other information already cited (see pp. 280-82), fully compromise the Soviet claim that the Moscow subway had been built in world record time.

By 20 April, still more than three weeks short of the Metro’s official opening, a restricted form of passenger traffic on the Moscow subway began. A limited number of tickets (about 50,000 a day) were distributed in Moscow’s factories to those who the year before had participated in
Metrostroi subbotniks. Other groups, for example elementary school-aged "Pioneers," were given tours of the Metro as well. The idea behind this limited operation of the Metro was "to introduce both the subway personnel and the general public to the mysteries of underground travel before the subway is put in regular commercial operation." Apparently these "sneak preview" Metro rides were tremendously popular. One Western commentator claimed in late April that the Metro was "the only subject of conversation in Moscow" and that those unable to get subway tickets were considered "socially out." Lucky workers with Metro passes, meanwhile, stood in long lines far into the night waiting for a ride.

One might expect that such large-scale visits to the Metro might have caused the opening day celebrations to be anti-climactic. This, however, was far from the case. On May 15, the Metro's first day of full operation, Harold Denny, the New York Times' Moscow correspondent, reported that the "trains and stations are jammed worse than at Times Square at rush hour."

The worst difficulty is at the ticket booths and car doors. Persons outside the trains insist on getting in and out at the same time. The automatic doors cause great interest, and there are whoops of laughter when anyone's coattail is caught.

The crowds were large indeed--estimated at 370,000 people or more than twice the daily average number of people who would use the Metro in its first month of full operation.
But the overcrowding did not dampen the festive mood that day. Denny’s London Times counterpart claimed the opening of the Metro imparted a "holiday atmosphere" to Moscow, "with banners, blaring loud speakers, and illuminated pictures of Stalin and other leaders."\(^{95}\) Denny himself likened the scene to an "underground picnic" in which people dressed in their best clothes took joyrides on the Metro. In addition to the excitement underground, a huge parade was held on Tverskaya Boulevard. Half a million participants helped commemorate the opening of the Metro by marching past the Moscow City Council building.\(^{96}\)

Other means as well were used to celebrate the opening of the subway. A documentary movie on the history of Metrostroi was released\(^ {97}\) and the first volume of the official history of the construction of the subway was published.\(^ {98}\) Furthermore, on 13 May the list of Metrostroi veterans who were to be awarded medals for their work was announced. Topping the list was Nikita Khrushchev who was awarded the Order of Lenin for his supervisory role at Metrostroi. In all, some 250 Metro workers received awards including Orders of Lenin (37), Orders of the Red Star (13), Orders of Labor of the Red Banner (32), and Certificates of Merit (168).\(^ {99}\)

On 14 May Soviet leaders took part in celebrations surrounding the Metro’s opening by attending a festive meeting of Metrostroi’s shock workers at the Hall of Columns.
in the Dom soiuzov. Not only were Kaganovich, Khrushchev and Bulganin present at the gathering, virtually the entire top Soviet leadership was there as well including Stalin, Molotov, Voroshilov, Ordzhonikidze, Ezhov, and Mikoyan.\textsuperscript{100} Stalin delivered a short speech which happened to be his first radio broadcast.\textsuperscript{101} To tumultuous applause the Soviet leader read a special decree on behalf of the Soviet government which declared its gratitude to all Metrostroi workers for their participation in the project’s successful completion. In addition to this, Stalin announced that the Moscow Komsomol organization would be awarded the Order of Lenin for its part in building the Metro. This announcement led to an "explosion of applause" and after a few more words Stalin took his seat.\textsuperscript{102}

After Stalin’s remarks Kaganovich gave a much longer as well as more significant speech.\textsuperscript{103} Given the fact that the Metro was Kaganovich’s project, this was only fitting. That Kaganovich was given primary credit for the successful completion of the Metro is shown by the decision to name the subway in his honor. For Kaganovich the opening of the Metro was a moment of great personal triumph, perhaps even the high point of his political career. Indeed, the transcript of the speech indicates that the normally unsentimental Kaganovich was choked with emotion as he began to speak.
In the midst of all these festivities surrounding the Metro's opening, Noel Charles, an attache at the British embassy in Moscow, was something of a spoil sport, claiming that the praises being sung to the new subway were out of proportion to the accomplishment. In a dispatch to London, Charles recorded his amazement that "the opening of a short stretch of underground railway" could "completely overshadow" Stalin's meeting with French Foreign Minister Pierre Laval on 14 May. Rejecting the idea that the Metro was "one of the wonders of the world," Charles claimed the hullabaloo surrounding the Metro was "an example of the Soviet tendency to emphasize the circenses at the expense of the panem." Furthermore, he complained,

With the labour, materials, and money expended on this line and on its unnecessarily sumptuous stations, the very serious housing shortage in Moscow could probably have been dealt with, leaving enough over to relieve the no less serious transport shortage by the provision of extra trams and omnibuses, for which there is plenty of room in Moscow's comparatively empty streets.

Charles can perhaps be forgiven for his carping. Being British, it was no doubt easy for him to take subways for granted. After all, London's underground railway (the world's first) had opened in 1863 and Glasgow's subway system dated back to 1883. So what seemed novel, even futuristic to Muscovites was "old hat" to the British diplomat. Precisely because he considered the Moscow Metro an unnecessary extravagance, Charles failed to recognize the tremendous symbolic value the Soviet subway had acquired at
the time of its official opening. Since the Metro's ideological role was not fully enunciated until the Moscow subway was opened to the public, this is perhaps the appropriate time to discuss it here.

From its inception in 1931 the Moscow subway was designed to be "the best in the world." As has already been pointed out, this decision was a response to subway critics of the late 1920s and early 1930s who claimed that subway systems were inherently exploitative, in addition to generally being crowded, dirty, gloomy, etc., and thus unsuited for socialist societies (see page 36). During the course of its construction, the Moscow Metro gradually acquired even more ideological value in the eyes of the Soviet leadership so that by the time the subway was completed the Metro had been transformed into the premier showcase of socialism in the USSR. In an ideological sense, the Metro was used both to demonstrate the superiority of socialism over capitalism as well as to inspire the Soviet people with a glimpse of the bright future which awaited them under socialism. Just how these ideas were promulgated with the aid of the Metro will now be discussed.

There were many ways the Soviets used their subway to demonstrate the superiority of socialism over capitalism. First and foremost they boasted that the Moscow Metropolitan was "the world’s best Metro." This claim was based primarily on aesthetic grounds, and from this point of view
there were few subway experts, Soviet or otherwise, who disputed it. Underscoring the importance to the Soviet leadership of proving this assertion, French and British subway engineers were invited to Moscow in May 1935 to inspect the Metro and render their judgements. Their high praise of the Moscow Metro was quoted prominently in the Soviet press. For example, one London subway official declared to his Soviet audience, "You have built a subway of exceptional beauty and quality. You have created that which we did not even try to create." Additionally, George Morgan, an American tunnelling engineer who was Metrostroii's chief foreign technical adviser, was effusive in his praise for the Soviet subway. Morgan's positive appraisal was also featured prominently in Soviet publications, including a book written by Morgan and translated into Russian: Moskovskij Metropoliten--lushchij v mire ("The Moscow Metropolitan--best in the world").

Also supporting the Soviet claim of the superiority of socialism over capitalism was the "record time" in which the Moscow Metro was built. It has already been pointed out (see pp. 280-82) that this claim is misleading, but Soviet citizens were in no position to independently verify the accuracy of this boast. One can only assume than many if not most Soviets believed this claim.

Furthermore, Soviet propagandists made much of the Moscow Metro's lavishly decorated, well-lit and spacious
stations as proof of socialism's greater commitment to the welfare of the laboring classes. These attractive features of the Metro were contrasted by Soviet propagandists with the unadorned and often dilapidated subways of capitalist cities. Kaganovich, for example, claimed that the socialist Metro "provides comfort, better spirits, and artistic delight" to its passengers and makes them feel "as if in a palace," while the "gloomy, monotonous, and dismal" subways of capitalist cities caused their work-weary passengers to feel even more tired as they return home from work each day.\textsuperscript{108}

Kaganovich explained the uniqueness of the Moscow Metro by claiming that it was a reflection of the inherent differences between the capitalist and socialist systems. "While in other countries subways were built chiefly for the extortion of profit," he claimed, "we built [ours] solely for the purpose of making easier the conveyance of workers of our proletarian capital."\textsuperscript{109} This assertion corresponds well to Marxist theory and may even have been readily accepted by much of the Soviet population in 1935, but it is not well supported by fact.

As for the idea that capitalist subways were operated only with profits in mind, the example of the New York subway shows this not always to have been the case. When it first opened in 1904 the New York system featured stations with modest tile mosaic decorations. The City Hall station
was the system's jewel—it was sumptuously decorated and quite beautiful. What caused the New York system to deteriorate to the "gloomy, monotonous, and dismal" state for which it has been so justly criticized was the fact that New York politicians saw to it that the subway passenger fare was kept at an unprofitably low rate—just five cents. The nickel fare stood for decades (from 1904 until after 1945) making a subway ride affordable even for low-income New Yorkers. But as beneficial as this artificially low fare was for the working poor, it was disastrous for the New York subway itself: it placed the subway administration in dire financial straits, not allowing for proper maintenance of the existing system. Furthermore, due to budget restraints, new lines were built with economy as the foremost consideration—decorating new stations was out of the question. Thus, the dreariness of the New York subway came about precisely because city fathers intervened to make it affordable to all, not because of the inherently exploitative nature of capitalism as Kaganovich and other Soviet leaders asserted.\textsuperscript{110}

Ironically, it was the Moscow Metro in the mid to late 1930s which could be characterized as a system designed with profits in mind. When the Metro opened subway fare was set at 50 kopecks, much higher than the price of a tram or bus ride (10 to 20 kopecks). With a monthly income of just 150 rubles, the average Soviet worker simply could not afford to
pay the 50 kopeck fare: riding the subway daily would have meant spending about one fifth (20%) of his entire income on transportation alone.¹¹¹ On the other hand, the average working class salary in New York in 1943 was $125 per month.¹¹² For a person with this salary to ride the subway twice a day, seven days a week would cost $3 or just 2.4% of monthly income. For a person with a working class income, then, the Moscow Metro fare of 50 kopecks was more than eight times more expensive than the nickel fare of the New York subway.

Thus, unlike their New York counterparts, in the 1930s most Muscovite workers could not afford to use the subway which had been designed to provide them with "comfort, better spirits, and artistic delight." Instead, the Moscow Metro primarily served more prosperous Muscovites. Speculation at the time was that the Soviet authorities had raised the Metro fare to such a high level in order to discourage overcrowding on the system.¹¹³ Given the Metro’s shortage of rolling stock, this seems quite possible. On the other hand, in his old age Kaganovich boasted that the Metro fare had been covered by the five years of covering the cost of factor as overcrowding. Of course, the "nickel fare" of its own
when it lowered the cost of a Metro ride to five kopecks. But this fare reduction did not take place until after 1945.

The fact that Soviet propaganda surrounding the Metro was blatantly untrue, however, by no means implies that it was any less effective. After all, the Soviet government had a monopoly on the mass media and other forms of public information dissemination within the USSR. Deprived of information which contradicted official propaganda, the average Soviet citizen was necessarily much more susceptible to the Party's version of the reality. The extent to which Muscovites actually accepted Soviet propaganda regarding the Metro, however, is impossible to gauge. It is clear, though, that popular reaction to the Metro was very positive and this probably made Muscovites more psychologically disposed to believe the Metro-related propaganda.

In addition to demonstrating the alleged superiority of socialism over capitalism, Soviet leaders claimed that the Moscow Metro represented "a small slice of the grand and glorious future." The Soviet people were told that as bright and beautiful as was the Moscow subway, so too would their lives be in the near future under Soviet socialism. In a congratulatory telegram sent on the occasion of the Metro's opening, the Leningrad Party Committee expanded on this idea:

The entire country sees in the Moscow Metro a wonderful piece of socialism, a piece of the bright future of our country, the prototype of all magnificent
projects, the purpose of which is to make the life of
the Soviet people bright, joyful and beautiful.\textsuperscript{116}

As a symbol of the bright future that awaited the Soviet
people under socialism, the Moscow Metro was meant to
provide hope to a nation which had suffered severe hardship
and deprivation during the years of forced collectivization
and rapid industrialization. Elaborating upon this idea,
Kaganovitch announced that the opening of the Metro signified
"a new stage in our construction of socialism," a time of
"construction of direct and first-rate services for the
people" including "housing...bread factories, schools,
thatres, movie houses," etc. The delegates of the Congress
of Soviets and Congress of Collective Farms who recently
toured the Moscow Metro, Kaganovitch continued, were able to
see in it

the embodiment of their near future. They were not
jealous that in Moscow such a project was built which
does not exist in other areas, saying instead, "If our
workers and peasants' government can build such a
project underground, then [surely] it will be able to
bring to us in other cities and villages a truly
prosperous and cultured life."\textsuperscript{117}

In this sense, then, propaganda surrounding the Metro was
part of the larger Soviet campaign to convince people that,
with the basis of Soviet industry already established and
collectivization of agriculture now complete, in the USSR
"life has become better, happier."
Whether or not the Soviet leadership initially realized it, the choice of the Moscow Metro as a showcase of socialism was fortuitous. Because it was underground, the Metro was uniquely able to give its passengers the illusion of being in a entirely new world, one having no connection to the often ugly reality left behind on the surface. In building their subway stations the Soviets managed to effect a creation of almost Biblical proportions by transforming a dark nothingness into a kind of earthly paradise. The contrast between the dreary, grimy existence of the USSR in the 1930s and the bright and beautiful Metro stations could not have been sharper and no doubt helped Metro passengers imagine that they truly were seeing the future under socialism. In this sense, the entire Metro served as a form of theatre where the suspension of belief could convince the "spectator" that he had been transported to another place and time.

Contributing to this otherworldly illusion was the cleanliness of the Metro stations. Those familiar with Russian life know how Moscow's public areas can be very dirty, even to the point of foulness. Train stations, public restrooms, even cafeterias suffer from very low standards of cleanliness (in contrast to the high standards prevailing in private living space). In this regard, one of the attractions of the Metro was its unprecedented spotlessness. Because of its great symbolic value, Soviet
authorities took great pains to see to it that the Metro remained immaculate. Not only was it washed down and scrubbed each night, every effort was made to ensure that the stations remained free of litter of any kind. Before the Metro even opened "the city was deluged with appeals" to the population to help keep the subway clean.118

These appeals, supplemented by strict police supervision, had astonishing results. Woe to the passenger who dropped a cigarette or a piece of paper. He was sure to be denounced loudly by his fellow passengers, and, if police were in the vicinity, to be arrested.119

And so the contrast between the disorderly, dirty life on the surface and the polished spotlessness of the Moscow Metro only contributed to the illusion that the subway truly was a vision of the wonderful socialist future.

For all of its advantages, however, there was at least one drawback to the use of the Metro as a showcase of socialism: the traditional association of the underground world with evil and death. Other subways had already suffered from this association. In its early years the Paris Metropolitain, for example, was derisively referred to by some as the "Necropolitain."120 In this sense, the choice of the Metro as a propaganda showpiece was chancy. This risk was made even greater by the superstitious nature of the average Russian.

To counter popular prejudices against the sub-surface world, Metrostroi planners took extensive measures to
prevent Metro passengers from feeling that they were underground. This was done through the extensive use of bright lighting, outfitting stations with high, arched ceilings which resembled the natural sky, as well as providing ventilation adequate to eliminate dampness or musty odors associated with cellars and other underground structures. Promotional poetry was even composed in which the point was driven home that Metro passengers did not experience the sensation of being underground. Semen Kirsanov, for example, described he and his wife's first visit to the Metro, an experience he likened to an "underground baptism." Here are a few lines of his poem which relate to the issue of the subway's underground setting:

My wife says to me, surprised,  
"We are descending the staircase,  
but we feel, I think, higher!"  
It seems that clouds will soon appear,  
lowering themselves from the columns and balconies...  
Priests in the twinkling of candlelight railed  
about a dreadful underground Hell,  
But there is no Hell!  
Rays of light gleam  
and Muscovites begin to arrive here  
as if to a lesson on hygiene.  
You could run a relay-race here  
such is the extent of the underground boulevard,  
and the light is like the May sun...121

The poem contains other references to how "great it is underground!" (khorosho pod zemlei!) too numerous to quote here in their entirety. While this poetry may be overstated, it is hard to disagree with its basic message:
the Metro's stations are so beautiful and spacious that the sensation of being underground is absent or nearly so. In this sense, the Moscow Metro truly was a revolutionary subway since it was the first in the world which "completely and wholly liquidated the impression of [being in] a cave."122 In the final analysis, all these efforts to dissociate the Metro with any negative aspects of the underground seem to have paid off. There is no evidence of any widespread shunning of the system due to its below ground location.

In addition to the primary ideological roles outlined above, the Soviet leadership used the Moscow Metro in a couple of additional symbolic roles, both essentially defensive in nature. These roles can be considered defensive because they did not so much seek to portray the Soviet system as superior to the capitalist West as to defend the Soviet government against charges economic and cultural inferiority.

Firstly, the Soviets made much of the claim that the Moscow subway was built "without foreign help." That the Metro was a Soviet project, built by Soviet engineers and workers, with Soviet materials, was hailed as proof that Soviet industry by 1935 had achieved maturity. In other words, the Metro can be seen as something of a final exam successfully passed by the Soviets, conferring upon the USSR the right to membership in the ranks of the industrialized
nations of the world. Given Russia's traditional economic backwardness, this was no small claim. The great pride that many Soviets felt in their achievement should not be underestimated.

Secondly, the Moscow Metro was used by the Soviet leadership to demonstrate its commitment to culture and to refute claims by its detractors that the Bolsheviks were "barbarians" and "destroyers of culture." With the opening of the beautiful Moscow Metro Kaganovich declared "this lie by our enemies is exposed once and for all." That it was important to the Soviet leadership to defend itself against these charges of barbarism and destruction of culture can be seen in the fact that Kaganovich addressed this issue on three separate occasions in his speech dedicated to the opening of the Metro. In the course of that speech Kaganovich rejected the association of socialism with a barracks-type regimentation of all aspects of life. "Until the October Revolution," Kaganovich continued, "we unmasked this slander with words. Now we are smashing it once and for all (do kontsa) with our Bolshevik deeds."

The theme of Bolsheviks defending themselves against charges of being destroyers of culture was not a new one at the time of the Metro's opening in 1935. More than a decade earlier S.M. Kirov had advocated the construction of a magnificent Palace of Soviets to silence Bolshevik detractors:
There is much talk about us. We are characterized as people who have, with the speed of lightning, cast from the face of the earth the palaces of bankers, the landlords and tsars. That is true. Let us now put new palaces of workers and laboring peasants in their place, let us bring together everything with which the Soviet lands are rich, let us put all of our worker-peasant creativity into this monument and show those who are and are not our friends alike that we "semi-asians," we who have been looked down upon, are capable of embellishing this wretched earth with monuments that our enemies have not even dreamt about.125

Ultimately, of course, the grandiose Palace of Soviets was never built. Had he lived to see them, however, there is little doubt that Kirov would have agreed that the stations of the Moscow Metro qualified as "new palaces of workers and laboring peasants." Clearly the Metro, as a cultural monument, was meant to impress not only the Soviet people, but the enemies of Soviet socialism throughout the world as well.

In this sense, the Moscow Metro was one of the most tangible demonstrations of the commitment of Soviet power to culture. And, one may safely add, one of the most successful. Proof of this is seen in the fact that the Metro was spared the frenzy of destruction aimed at Soviet monuments which accompanied the fall of communism in Russia in the early 1990s. Not only was the Metro spared this destruction, it continued to be a source of pride for Muscovites, even those not sympathetic to communism. Today, several years after the fall of the Soviet Union, Muscovites still proudly show the Moscow Metro to visitors. Many, in
fact, consider a tour of the Metro as obligatory as a visit to the Kremlin.

Ironically, though, in the very process of crafting the ultimate monument to Soviet culture, the builders of the Metro destroyed much that was of cultural value in Moscow, including many churches and the Kitaigorod wall. In many cases this destruction was not inadvertent but rather a deliberate elimination of cultural monuments. It is precisely this widespread destruction of Russian architecture which many Russians today see as one of the cruelest legacies of the Soviet period. Even erstwhile loyal Communists often view the Soviet government as guilty of architectural and cultural genocide in Russia and they, as Russians, feel themselves to have been victims of Soviet rule as a result.

Despite the hurried nature of its construction and occasional architectural compromises, when the Metro opened in 1935 it was well received by the population of Moscow. The problems with quality which had plagued the project from its very inception were overcome through extensive remedial work and all indications are that the Metro operated safely and efficiently after opening day. The Soviet leadership could proudly and with justification boast that they had built "the world's best Metro."
Some have criticized the Moscow Metro for its extravagance and high cost at a time when the Soviet people were experiencing great material deprivation. While there is merit in this observation, the same complaint could be directed toward the great cathedrals of Europe built during the Middle Ages. They, too, were financed largely through taxes levied on an impoverished population. Yet how many people today bemoan the existence of these beautiful structures because of the sacrifice they represent?

The comparison of the Metro to a medieval cathedral is an apt one because both objects were meant to enhance the prestige of the ruling elite as well as to provide spiritual fulfillment for the common people. Despite the Metro's immense cost, the Soviet government got a tremendous return on its investment in terms of propaganda dividends. And who can truly say that Muscovites as well did not greatly benefit by having access (even if limited) to such a beautiful and inspirational public transport system?
1. The list of finishing work given here is by no means comprehensive. Other jobs included the installation of an electric power system, automatic braking and signal equipment for the subway tracks, providing ventilation for the stations, as well as the formidable task of inspecting the tunnels and repairing their numerous defects (Kak my stroili metro, 616).

2. Ibid., 620.

3. Ibid., 659-60.


5. Conversation with Comrade Klimov, engineer and quality manager, 20 November 1934, TsGAOR, f. 7952, op. 7, d. 302, l. 25.

6. TsGAOR, f. 7952, op. 7, d. 292, l. 50.


10. TsGAOR, f. 7952, op. 7, d. 290, l. 109; and ibid., d. 315, l. 142.

11. "Na ploshady trekh vokzalov," TsGAOR, f. 7952, op. 7, d. 290, l. 142.


14. Ibid., d. 290, l. 142.


16. "Na ploshady trekh vokzalov," A.S. Korobko and
17. Conversation with Comrade O.D. Titkova, chief engineer at shaft 7-8, 8 February 1935, TsGAOR, f. 7952, op. 2, d. 321, l. 6.

18. RTsKhIDNI, Politburo protocol, 2 October 1934, f. 17, op. 3, d. 953, l. 24.

19. *Kak my stroili Metro*, 44.

20. Ibid., 42.

21. Ibid.

22. "*Kak my borolis' za plan,*" TsGAOR, f. 7952, op. 7, d. 292, l. 51.

23. "*Mramor, granit, steklo,*" I.E. Cherkasskii, Chief of the Construction Office for Decorative Work, TsGAOR, f. 7952, op. 7, d. 295, l. 183.


25. "*Mramor, granit, steklo,*" I.E. Cherkasskii, Chief of the Construction Office for Decorative Work, TsGAOR, f. 7952, op. 7, d. 295, l. 184.

26. Conversation with Comrade Kozlov, Deputy Chief of the 3rd Distanziia, November 1934, TsGAOR, f. 7952, op. 7, d. 314, l. 57.

27. Testimony of Engineer Fradkin, Chief of the 8th Distanziia, *Krymskaiia ploshchad* station, TsGAOR, f. 7952, op. 7, d. 295, l. 158.

28. Conversation with Comrade Kozlov, TsGAOR, f. 7952, op. 7, d. 314, l. 57.


30. Kaganovich, typically, was the one who ordered the work redone. See, for example, "*Na otkrytom sposobе,*" testimony of Mikhailov, Secretary of the 3rd Distanziia Partkom, TsGAOR, f. 7952, op. 7, d. 292, l. 242.

31. These comments are based solely on the author's inexpert observations of the Metro's stations while living in Moscow in the year 1991-92.
32. Incidentally, marble work on subsequent lines of
the Metro is of a much higher quality.

33. For information on the history of the cathedral as
well as the details of its demolition, see S.K. Romaniuk,
Moskva--Utraty (Moscow: Tsentr, 1992), 77-86.

34. "Arkhiitekturnoe oformlenie i otdelochn'iu raboty,"
I.E. Cherkasskii, TsGAOR, f. 7952, op. 7, d. 322, l. 284.

35. The cathedral's marble was also used to decorate
the Lenin Library and the Hotel Moscow.

36. Transcript of a technical meeting on decorative
materials, 28 February 1934, TsGAORgM, f. R-665, op. 1, d.
127, l. 6.

37. Ibid.

38. "Mramor, granit, steklo," I.E. Cherkasskii, Chief
of the Construction Office for Decorative Work, TsGAOR, f.
7952, op. 7, d. 295, 186.

39. Ibid., 185.

40. "Vot chto takoe metro!" Komsomol'skaia pravda, 14
May 1935, 2.

41. Testimony of engineer A.I. Bobrov, shaft chief,
TsGAOR, f. 7952, op. 7, d. 288, l. 203.

42. Testimony of P.P. Rotert, Chief of Metrostroi,
TsGAOR, f. 7952, op. 7, d. 293, l. 139.

43. Testimony of Comrade Belyi, Secretary of the Party
Committe of shaft 36-37, TsGAOR, f. 7952, op. 7, d. 341, l.
253.

44. Ibid., 252.

45. Ibid.

46. Kaganovich suggested that the vestibule be built
in the form of a star, the symbol of the Red Army, because
the building housing the People's Commissariat for Defense
was nearby ("Proektirovanie Arbatskogo vestibulia,"
Stroitel'stvo Moskvy, 1935:2/3, 40).

47. D. Aranovich, "Arkhiitektura Moskovskogo
notes that Kaganovich was responsible for the building of
another star-shaped structure in Moscow, the Red Army Theatre. It's star shape as well was not apparent from ground level (Roy Medvedev, "Stalinist--dolgozhitel,' Sputnik, 1990, No. 6 [June], 41).

48. Dni i gody Metrostroia, 119.

49. This is true not only of the subways built in the Communist world (such as Leningrad and Peking), but in the West as well, the best examples being Stockholm and Mexico City (Bobrick, Labyrinths of Iron, 308-9, 311-12).

50. "Eskalatory budut rabotat' bystro i nadezhno," Udarnik Metrostroia, 10 July 1934, 1.

51. Two sources confirming this are TsGAOR, f. 7952, op. 7, d. 317, l. 68 and ibid., d. 298, l. 2.

52. Testimony of L.A. Ostrovskii, Deputy Chief Engineer of Mechanical Construction at Metrostroi, TsGAOR, f. 7952, op. 7, d. 317, l. 68.

53. Kak my stroili metro, 649.

54. Ibid., 640.


56. Udarnik Metrostroia, 10 July 1934, 1.

57. TsGAOR, f. 7952, op. 7, d. 317, l. 69.

58. Ibid.

59. Ibid.

60. British Foreign Office: Russia Correspondence (hereafter BFO:RC), 1934, reel 12, volume 18331, p. 64, Commercial Counsellor report from the Moscow embassy, 3 July 1934.

61. Ibid.

62. Testimony of Engineer Kattsen, Deputy Chief Engineer of the Electric Traction Department at Metrostroi, TsGAOR, f. 7952, op. 7, d. 314, l. 325.

63. BFO-RC, 1934, reel 12, vol. 18331, Commercial Counsellor report, Moscow Embassy, 3 July 1934, p. 64.
64. Ibid., pp. 64-5.

65. Letter of P.P. Rotert to Kaganovich, 7 December 1933, TsGAOR, f. 7952, op. 7, d. 161, l. 314.

66. Ibid.

67. Kak my stroili metro, 641.

68. Udarnik Metrostroia, 10 July 1934, 1.

69. Report of Nimidoff, Otis Representative in Moscow, as recorded by the Moscow embassy, 17 July 1934, BFO-RC, 1934, reel 12, volume 18331, p. 70.

70. Testimony of L.A. Ostrovskii, Metrostroii's Deputy Chief Engineer for Machinery Construction, TsGAOR, f. 7952, op. 7, d. 317, l. 71.

71. Kak my stroili metro, 644.


73. Kak my stroili metro, 648.

74. Ibid., 642.

75. Ibid., 635.

76. TsGAOR, f. 7952, op. 7, d. 317, l. 70 and ibid., d. 289, l. 2. Prior to the opening of the Moscow subway, the world's biggest escalators were in London, with a vertical height of 26 meters ("Eskalatory budut rabotat' bystro i nadezhno," Udarnik Metrostroia, 10 July 1934, 1).

77. Kovalev, Metro, 163.

78. The question of the relative reliability of Soviet escalators compared to those produced in the West is one that the author cannot address due to lack of source material. However, it should be pointed out that by the early 1990s, the frequent breakdown of escalators was becoming a major problem in the Moscow Metro. Apparently after several decades of continuous operation the devices were starting to wear out. Also, there is at least one documented case of a Soviet escalator's failure leading to a major disaster. In the early 1980s the escalator at the very deep Aviamotornaia station "broke in half," killing 27 people. "Bad engineering" and the failure of maintenance personnel to check the escalator's brakes were cited as


80. Protokol No 22--Zasedaniia Politbiuro TsK VKT(b) ot 5 Marta 1935g, "Doklad Pravitel'stvennoi Komissii po priemke Moskovskogo Metropolitena," RTsKhIDNI, f. 17, op. 3, d. 960, l. 1.


82. See, for example, Schultz, "Building the 'Soviet Detroit'," 211.

83. "Doklad pravitel'stvennoi Komissii po priemke Moskovskogo Metropolitena," Protokol No 24--Zasedaniia Politbiuro TsK VKP(b), 26 April 1935, RTsKhIDNI, f. 17, op. 3, d. 962, l. 2. For a frank report of the enormous difficulties involved in supplying the Metro with rolling stock, see "Construction of Subway Cars for the Moscow Subway: Visit of Consul Hanson to Mitishchi Car Building Plant Outside Moscow," 10 July 1934, U.S. Department of State, Record Group 59, file 861.78/14.

84. On opening day trains consisted of only four wagons, instead of the desired six ("Pered Puskom," Komsomol'skaia pravda, 15 May 1935, 4), and Metrostroii had at its disposal a total of only 60 subway cars (Kak my stroili metro, 675). Today, the standard length of subway trains in Moscow is eight cars.


87. On 8 May, for example, 30,000 Pioneers and other students visited the Metro (Komsomol'skaia Pravda, 10 May 1935, 4).


92. Ibid.


98. The book was entitled Istorija metro Moskvy. Sbornik I: Rasskazy stroitelei metro and was edited by A. Kosarev.


103. The speech is important because it gives the most detailed explanation of the ideological importance of the Metro ever put forth by an official Soviet source. It is cited frequently in the analysis which follows ("Pobeda metropolitena--pobeda sotsializma," Metrostroi, 1935, 5-6 [May-June], 4-9).


105. Ibid.

106. Statement of Mr. Brook, Chief of Electric Traction for the London Metropolitan, "Obed v predsadetelja moskovskogo soveta tov. N.A. Bulganina v chest' predstavitelie londonskogo i parizhskogo metropolitenov,"
Komsomol'skaja pravda, 17 May 1935, 1.

107. Published in Moscow in 1935. For other published material by Morgan, see Kovalev, Metro, 88-102; and Rasskazy stroitelei metro, 93-99.


109. Ibid., 8.


114. Tak govoril Kaganovich, 144.

115. This particular quote is by Nikolai Bulganin ("Triumf Pobeditelei," Komsomol'skaja pravda, 15 May 1935, 1).


118. Henderson, A Question of Trust, 288.

119. Ibid., 288-89. This account is corroborated by Soviet sources; see for example Pravda, 16 May 1935, 3.

120. Bobrick, Labyrinths of Iron, 159.


124. Ibid., 8.

126. After its first full month of operation, Soviet officials reported that about 150,000 people used the Metro daily. Its passengers were said to have become accustomed to the Metro and the operation of the subway was described as accident-free ("Moscow Subway Thrives," *New York Times*, 16 June 1935, 20).
CONCLUSION

It is a commonplace to note that Russia is a land of great contrasts and that the character of the Russian people is rife with contradiction. Yet there is some value in reminding the reader of this "inconsistency of the Russian spirit" because it was very much in evidence in the way the Moscow Metro was built and how it was symbolically used by the Soviet state. When it opened in 1935, the Metro was a marvel of modern technology and efficiency and yet as has been shown, it was built largely with manual labor and antediluvian work methods. Although the finished product was astoundingly beautiful, the construction of the Metro was anything but pretty, plagued as it was by delays, destruction, wasted effort, and serious lapses in quality. Furthermore, despite the fact that the Metro was designed by the Soviet leadership to serve as a symbol of the commitment of the Soviet state to the welfare of the laboring masses, when the Metro opened most Muscovites could not afford to use it.

But perhaps the greatest inconsistency of all concerning the Metro is the simple fact that it was built. After all, from a strictly technical point of view, given
the overwhelming problems they faced, it appeared unlikely (if not impossible) that the Soviets could have built a subway in the early 1930s. The key point to remember, however, is that the decision to build the Moscow Metro was not made with technical considerations in mind. Rather, like Soviet industrialization in general, the decision to build the Metro was made in flagrant disregard of practical limitations. Only after the decision was made to build the subway and the parameters of the project were decided were the engineers called in to determine how to build it. In this sense, the construction of the Moscow Metro was not a rational process but rather an exercise in faith—specifically, the belief that the Stalinists could accomplish anything they set out to do.

Whether or not the Stalinists truly believed "that there were no fortresses they could not storm," they certainly acted that way. The best example of this was the requirement that the Metro would be built at an unprecedentedly fast pace. This was an impossible demand, but it was never conceded as such by the Party leadership. How it was to be met was a problem that Metrostrooi engineers were required to solve and so initially, Party supervision of the subway project was relatively light. Soon after construction started, however, it became clear that Metrostrooi could not meet its work schedule. This angered Kaganovich and he increased his scrutiny of the project as a
result. The turning point came in May 1932 when the Party leadership (indeed, Stalin himself), despite Director Rotert's vehement objections, decreed that the Metro would be switched to a deep tunnel system. From this point on the Party leadership assumed greater control of the project and Rotert was reduced to a virtual figurehead, with Kaganovich, through his close supervision, becoming the project's *de facto* director. Party control was further strengthened at Metrostroi at roughly the same time when Kaganovich assigned his deputy Khrushchev to work virtually full-time overseeing the project. These two men demanded and achieved results, even from those who did not share their faith in the omnipotence of the Party. In the process, the subway project was politicized to an extraordinary degree.

The politicization of Metrostroi by Kaganovich and Khrushchev, above all else, meant demanding that the project's workforce take seriously the project's breakneck-paced construction schedule. In practical terms this meant that virtually everything at Metrostroi was subordinated to the quest for rapid construction. But this resulted in the adoption of policies which can only be described as technically illiterate: the conversion to deep tunneling before adequate geologic surveys were taken; the recruitment of thousands of unskilled teenage komsomoltsy and their rapid promotion to positions of responsibility; the use of volunteer subbotnik labor in a dangerous and complex work
environment; the use of inexperienced workers to tunnel near and under buildings not properly reinforced and then not notifying the residents even when their lives were in danger. As has been shown, by the spring of 1934 even the Party leadership (though not Kaganovich himself) realized that the emphasis on tempo at Metrostroii was excessive since it was dramatically lowering the quality of work there. As a result, the work pace was slackened, although not greatly.

Despite the high costs of the quest for tempo at Metrostroii, the finished product was a wonder to behold. Incredibly, the very fact that the Metro was so difficult to build redounded to the benefit of the Stalinist leadership. After the struggle to build the Moscow subway seemingly against impossible odds, the successful completion of the project was cited as proof that the Bolsheviks really could accomplish anything that they set out to do. In effect, the Stalinists had performed a miracle which probably only encouraged more people to believe in Soviet socialism.

But to return to the theme of the contradictory nature of the Moscow Metro, there are two diametrically opposed ways to view the construction of the first line of the Moscow subway. The first is to see the whole project as foolhardy, with tremendous waste, horrendous mistakes, and huge sums of money spent on nonessential decorations when more basic human needs in Moscow were going unmet. A second view is to see the project as a heroic effort which achieved
spectacular results, as a technically complex project completed by the Soviets without significant foreign help, and therefore a source of great national pride. Although these two views are diametrically opposed, both are equally valid. In this sense they are a lot like what the Moscow Metro has become today—an impressive and still revered monument to a political system that collapsed under its own weight.
Although the first line of the Moscow Metro was very difficult to build and, has been shown, many costly mistakes were made during its construction, by the time the Metro was finished an experienced corps of subway engineers and workers had been created. This made the construction of subsequent Metro lines relatively easy. Fully fifteen thousand workers from the first line helped build the Metro's second route starting in 1935.\(^1\) Furthermore, as one might expect, the construction of the second line was more mechanized than the first. By 1937, for example, Metrostroi was employing 42 tunnelling shields to accomplish 80% of its excavation, as compared to only two tunnelling shields used on the first line. The limits of this increased mechanization, however, are revealed by the still relatively large size of the Metrostroi workforce in 1937: 34,000 people.\(^2\) This figure is half the size of the labor force which built the first line, but still several times larger than comparable subway workforces in the West.

During the Second World War, as the Soviet state battled the Nazis for its very existence, work continued on the Moscow subway system. In 1943, for example, three new
stations were opened. During the panic which seized Moscow in mid-October 1941, however, when it appeared that the Soviet capital would fall to the approaching Germans, the Metro briefly stopped operating—apparently the only interruption of subway service in Moscow before or since.

It is well known that the Moscow Metro played an important wartime role. In late July 1941, when the Germans started air raids on Moscow, the Soviet High Command established a post at the Kirov station, a site selected because it was the Metro’s deepest (at 30 meters). While the command post was in use, no trains were permitted to stop at the station. The platform was partitioned with plywood to make an office for Stalin as well as a separate room for communications. The post was used only until December 1941 when the danger of German air raids diminished considerably.³

Additionally, subway stations were used as civilian bomb shelters during the battle of Moscow in late 1941. Each evening, after the last train at 8 p.m., approximately half a million Muscovites sought refuge in the Metro. Women and children slept on the station platforms, while men were consigned to the tunnels.⁴ All told, some 283 children were born in the underground stations during the war.⁵

After 1945, with the advent of the Cold War, the Soviet military improved upon the defensive value of the Moscow Metro by building an entirely new subway system some 200 to
300 meters deep. Presumably this great depth makes the system impervious to nuclear attack. The central point of this underground network is the Kremlin and it includes three lines radiating out of the city to distances as great as 37 miles. The system includes approximately 20 bunkers and command posts along with 15 "factories" which support the system's communications and transport lines. The existence of this military subway network was not made public until 1991 when the CIA published a report describing it. The Russian military, on the other hand, has steadfastly refused to release any information about this classified underground system.

Another aspect of the Moscow Metro which until recently had been shrouded in secrecy was the private subway line used by Josef Stalin. This route, now open to the public, enabled the Soviet leader to quickly and safely reach his dacha at Kuntsevo west of Moscow. Stalin entered his private subway not at an ordinary subway station, but rather through a private entrance at the Defense Ministry Building at 37 Miasnitskaia ulitsa. The existence of this private line explains why two separate Metro lines, the Dark Blue and Light Blue lines, closely parallel each other from the Kiev station to the Lenin Library station.

The high point of grandeur for the Moscow Metro came with the building of the fourth or so-called "Ring Line" in the last years of Stalin's rule. Although from an
architectural point of view it may not be the most interesting line, it is by far the most ostentatiously decorated. The lavishness of the Ring Line makes the first line seem plain by comparison. Not surprisingly, the Ring Line is the most popular Metro destination for tourists.

Subway lines built after Stalin's death are identifiable by their lack of lavish ornamentation. The stations are still decorated, but in a relatively Spartan manner. This change was apparently the result of the 1955 "Decree on Eliminating Waste in Building Design" issued by Nikita Khrushchev and Nikolai Bulganin. The decree condemned the "completely unjustified" lavish ornamentation of public structures built during the Stalin era. Such "architectural excesses" the decree admitted, resulted in the waste of state funds "that would have provided many million square meters of living space for the working people." It is ironic that this change occurred on Khrushchev's watch since he was a driving force behind the construction of the first line. At the same time, though, it is understandable since one of the hallmarks of Khrushchev's rule (and the basis for his popularity) was to place more emphasis on raising the nation's standard of living.

Another significant development involving the Metro which took place during Khrushchev's rule occurred in 1957 when Kaganovich's name was dropped from the Metro's official
title. Thereafter, Lenin's name replaced Kaganovich's. This change occurred as a result of a power struggle in the top Soviet leadership when Molotov, Kaganovich and Malenkov united in hopes of deposing Khrushchev. After the triumvirate failed to remove Khrushchev the latter stripped the three conspirators of their high Party positions, sentenced them to administrative exile, and relegated them to the status of non-entities.¹⁰

In the nearly sixty years since its opening, the Moscow Metro has become an integral part of the lives of Muscovites. Needless to say, in a city with relatively few owners of private vehicles, public transport is of vital importance. Even with its extensive bus and trolley lines, the Metro is far and away the most popular mode of transport, undoubtedly because it is the quickest.

Not all Muscovites who would like to use the Metro as their primary mode of transportation can do so, however. This is because of the relative scarcity of Metro lines and the great distance between most Metro stations. A comparison of Moscow and New York, both cities of roughly ten million people, will illustrate this point. From its single seven-mile line in 1935 the Moscow Metro by 1992 had grown to a system encompassing nearly 150 miles of track and 148 stations. This dramatic growth seems quite impressive until one realizes that the New York subway system has 722
miles of track and 469 stations. Thus, New York’s subway system has more than four times as much track and roughly triple the number of stations in a city roughly the same size as Moscow. In this sense the New York subway is far and away the more convenient of the two systems. Ironically, though the New York subway is the world’s largest, it is the Moscow Metro which is the world’s busiest with an average of seven and a half million passengers daily (compared to New York’s 2.7 million passengers a day). The relative scarcity of subway lines and stations in Moscow, despite its heavy use, is reflected in real estate prices. Rents are typically much higher for apartments located near subway stations.

If the Moscow Metro suffers from a relative lack of stations, it tends to compensate for this deficiency by the frequency of its service. At rush hour, Metro trains arrive at ninety-second intervals, much more often than do trains in New York’s subway system. By this measure, the Moscow system is the more convenient of the two.

Beyond simply serving the transport needs of Muscovites, the Metro typically serves several other important functions as well. To begin with, surface entrances to the Metro are often locations of flourishing private markets. One is apt to find tobacco, fresh produce, books, newspapers, and flowers on sale there, just to mention the most basic items. In recent years, the
availability of "fast food" in these areas has increased. Also seeking to benefit economically by the large volume of passersby are the legions of beggars and street musicians who frequent the entryways to the stations.

Besides providing venues for open-air markets, the Metro serves a vital social service as well: it provides Muscovites who live in different neighborhoods a convenient (and warm) way of meeting for dates or other social activities outside the home, for example, a trip to the theatre or cross-country skiing. Here's how the system works: the two parties agree by telephone to meet at a certain time at the Metro station closest to their final destination. Since the subway stations are rather large and two people waiting for each other in different parts of the station could easily not notice each other, Muscovites arrange to meet in a specific part of the station. The most commonly used area for meetings is the station platform where the last car of the train stops. But since each station has two separate tracks for trains moving in different directions, the pair must specify which train's last car. This is done quite simply. Because of Moscow's radial transportation grid, most trains travel either toward the center of town or away from it. Thus the pair need only agree on whether or not they will meet adjacent to a train coming from downtown or going away from it (in Russian, "от центра" or "на центр."
In addition to allowing Muscovites conveniently to meet or visit one another, the Metro also tends to limit social activity in a chronological sense. Because passageways between subway stations close at midnight and the subway system closes entirely at 1 a.m., public transport-dependent Muscovites must adjust their evening schedules accordingly. Usually this means leaving a social gathering well before 1 a.m. in order not to be stranded far from home.\textsuperscript{13} This aspect of the Metro is reminiscent of the drawbridges across the River Neva in St. Petersburg. They are opened every night starting at 1 or 2 am and remain open until 5 or 6 am, effectively stranding all who fail to return to the side of the river they live on before the bridges open. Thus, both the Moscow Metro and the Neva bridges, which normally function as passageways facilitating transportation, are transformed into effective barriers when closed/raised.

Historians of Russia are aware that the tsarist government in both 1905 and 1917 used the Neva bridges for political purposes, occasionally opening them during daylight hours to discourage the congregation of militant protesters in the center of St. Petersburg. In this sense, the bridges were used as barriers to revolution. It is interesting that in 1992 the Yeltsin government in Moscow adopted virtually the same tactic, this time using the Metro as a dike to ward off (counter)revolution. For example, on 17 March 1992, a rally of Communists calling for the
establishment of the old Soviet parliament was planned for
the Manege Square adjacent to the Kremlin. In anticipation
of the rally, pro-Yeltsin authorities closed the Metro
station nearest the Manege (the Okhotnyi riad station) in
hopes of keeping the number of demonstrators down. On
several other occasions Metro stations were closed for
similar reasons.\textsuperscript{14}

The fall of the Soviet Union in late 1991 has had a
profound effect on the Moscow subway. Surprisingly, the
mania of destruction of Soviet monuments did not extend to
the Metro. The only immediate change the Metro experienced
was the renaming of many of its stations. Most station
names of Soviet origin were rechristened with traditional
Russian names, usually corresponding to place names used in
pre-revolutionary Moscow. Thus the central "Prospekt
Marksa" station became "Okhotnyi riad" and the Kirov station
became the "Miasnytskaia."

Another, less superficial, change in the Metro after
1991 was its commercialization. For the first time
advertisements in the form of posters appeared in the subway
cars. This development is anathema to Metro purists, but it
signalled a general trend: the gradual degradation of the
Metro after the fall of Soviet power. This degradation has
taken the form not only of offensive advertisements, but by
a lowering of the standards of cleanliness as well.
Apparently due to budget cuts, the Metro after 1991 is not being cleaned as thoroughly and as often. Nor are all passengers treating the system with the same respect as before. Whereas before 1991 it was unheard of for passengers to eat or drink in the stations or cars, after that year Muscovites could occasionally be seen with food in the Metro. They began to leave piles of sunflower seed husks or other litter in the cars, something unheard of (and virtually unthinkable) in the Soviet era.

Ironically, underfunding and the lack of a state committed to the Metro's exalted status threaten to convert the Moscow subway into a trashy, commercialized system similar to the New York subway. Only time will tell if Muscovites will rally to save their Metro from such an inglorious fate.

In retrospect, the Moscow subway can be viewed as a tragic monument of the Soviet era. From its inception, the Metro was meant to symbolize the bright socialist future, to be a harbinger of the more cultured and beautiful life to come. When Kaganovich opened the Metro in 1935, he pointed to the Moscow subway as proof that Bolsheviks did not plan to build a society where clothing, housing, and other aspects of life would all conform to a barracks-like similarity as the detractors of socialism had predicted. The Metro served as a tangible expression of the idea
promoted by the Soviet state in the 1930s and thereafter that "communism was on the horizon," that is, within sight and soon to be reached. As has been pointed out elsewhere, this slogan proved prophetic in a way unforeseen by the Soviet leadership: a horizon is a line that can be viewed from afar, but cannot be reached—the closer one moves toward it, the more it recedes into the distance. And so it was that communism, too, was never achieved in the USSR.¹⁵

In many ways, the barracks-like regimentation of life repudiated by Kaganovich was a hallmark of Soviet existence. The sad irony of the Moscow Metro is that it was gradually transformed from a symbol of the bright future to a place of psychological refuge from the dinginess and grey sameness of Soviet life. In this sense, the Metro is a tragic monument because it represents a promise unfulfilled.

On the other hand, the Metro represents a source of hope for Russian society. Since the Moscow Metro served for decades as an icon of Soviet power, one might expect that with the collapse of the USSR, public veneration of the Moscow subway would cease. But as mentioned earlier, this simply has not happened. Instead, Muscovites continue to regard the Metro with fondness, even reverence, despite misgivings about the "Soviet experiment." As one of the few Soviet monuments not destroyed after the fall of the USSR, the Metro provides a much-needed bridge to the Soviet past, giving even those who did not support the Soviet government
something to be proud of from that bygone era. The Metro's beauty and vaunted efficiency serve as a tangible reminder that not all of the Soviet past was negative. For a society riven by extreme differences in political outlook, the existence of an institution like the Metro, which virtually all Russians take pride in, serves perhaps in some small way to help heal social wounds caused by the fall of the USSR.
1. "Conversation with Comrade Kuznetsov," Chief of Metrostroy's Department of Cadres, 20 November 1934, TsGAOR SSSR, f. 7952, op. 7, d. 314, l. 213.


6. Argumenty i fakty, no. 5 (590), February 1992, 8.


8. Argumenty i fakty, no. 5 (590), February 1992, 8.


13. Of course, much more so than most Americans, many Muscovites are not averse to staying the night in the apartment of close friends—even on weeknights—when they fail to leave for home in a timely fashion (or are in no shape to travel alone because they have honored a few toasts too many).

14. The author observed this practice first-hand while in Moscow doing research in the 1991-92 academic year.

BIBLIOGRAPHY

ARCHIVES

Tsentral'nyi Gosudarstvennyi Arkhiv Oktiabr'skoi Revoliutsii i sotsialisticheskogo stroitel'stva goroda Moskvy (TsGAORgM)

Tsentral'nyi Gosudarstvennyi Arkhiv Oktiabr'skoi Revoliutsii SSSR (TsGAOR) [now known as "Gosudarstvennyi arkhiv Rossiiskoi Federatsii" or "GARF"]

Tsentral'nyi Gosudarstvennyi Istорicheskii Arkhiv (TsGIA) [now known as "Rossiiskii gosudarstvennyi istoricheskii arkhiv" or "RGIA"]

Rossiiskoi Tsentr Khraneniia i Izucheniiia Dokumentov Noveishii Istorii (RTsKhIDNI) [previously known as the "Tsentral'nyi partiniy arkhiv i Institut Marksizma-Leninizma" or "TsPA IML"]

GOVERNMENT DOCUMENTS

British Foreign Office: Russia Correspondence

United States State Department Records--Internal Affairs of the Soviet Union, 1930-39. Decimal File 861: Political Affairs

JOURNALS

Byloe

Metrostroi

Moskovskii Metropoliten

Stroitel'stvo Moskvy

Znamia
NEWSPAPERS

Argumenty i fakty
Ekonomicheskaia zhizn'
Izvestiia
Komsomol'skaia pravda
Metro v srok
Moscow Daily News
Moscow Guardian
Moscow Times
New York Times
Pravda
Rabochaia Moskva
Times (London)
Udarnik Metrostroia
Vecherniaia Moskva
Za boevy tempy

BOOKS


______. "Stalinist--dolgozhitel’." Sputnik, 1990, No. 6 (June), 38-43.


Poletaev, V.E. "Iz istorii stroitel’stva pervoi ocheredi Moskovskogo metropoliteniya." Istoricheskie zapiski no. 42, 1953, 19-44.


