

Iuzovka and Revolution

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Iuzovka and Revolution

— VOLUME I —

*Life and Work in Russia's
Donbass, 1869–1924*

Theodore H. Friedgut



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*To the pioneering vision
of John James Hughes
and to the hundreds of thousands of Donbass workers
whose toil and blood made
that vision a reality,
this book is respectfully dedicated.*

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PREFACE

These volumes had an almost accidental beginning. Frustrated by the stagnation of Soviet politics during Brezhnev's declining years, I was looking for a topic that would generate not only insights into the core values and problems of Soviet politics, but also some measure of intellectual interest in a field of research that was rapidly declining from tedium to unrelied dreariness. I began to look backwards, considering the idea that a political biography of Nikita Khrushchev would not only provide an interesting challenge, but would also yield an understanding of the world that formed the current Soviet leadership.

My first discovery was the relative wealth of documentary and memoir literature covering the early years of political development in the mines and factories of the Donbass, where Khrushchev grew up, and where he began his political career. The eagerness of Soviet historians to gather and publish vast quantities of documents on every stage of the growth of the labor movement in the Ukraine as a whole, and in the Donbass as the most important proletarian concentration within the Ukraine, provided a skeleton of problems and events that soon began to take on human shape in the form of the multitude of memoirs published in *Letopis revoliutsii* and other journals of the 1920s, before Soviet history was pressed into the Stalinist mold.

Very quickly the social, political, and economic peculiarities of Iuzovka, the mine and mill town where Khrushchev grew up, came to the fore. Within a few months this mean and grimy industrial settlement stole center stage from the ebullient *apparatchik*, and the Khrushchev biography was shelved, displaced by a biography of Iuzovka.

The very fact that a successful and energetic 55-year-old Welshman had come to the barren steppe of the southeastern Ukraine to create a steel and coal complex for Russia was worth investigating. At first this new industrial development was referred to as the *Iuzovskii zavod* ("the Hughes factory"), but as it prospered and grew, the entire settlement was known by

its founder's name rendered as "Iúzovka" for the settlement, and as "Iúzovo" for the railway station.¹ The fact that over a hundred years later, with a population of over a million, Donetsk still remains the "Kingdom of Iron and of Coal" that Iuzovka grew to be, testifies to the soundness of the foundations Hughes laid.

Much more entered into it, though. Social and political relations took rather different forms than those that surrounded the growth of industry in central Russia. The Donbass was unpopulated. Mine and factory settlements developed mostly in places that had no previous social structure or institutions. In this they resembled some of the new settlements in America. But very little of the spirit and values of the open frontier was to be found here. In addition, Iuzovka was a company town, owned outright by Hughes' New Russia Coal, Iron, and Rail Producing Co, known in Russian as the *Novorossiiskoe obsbchestvo kamenno-ugol'nago. zbeleznago. i relsovago proizvodstva* (frequently abbreviated to N.R.O.). In this, the environment was unlike Moscow or St. Petersburg, where industrial development took place within established urban communities.

Then too, the population that did come to Iuzovka was heterogeneous in the extreme, unlike that of Moscow, which was more uniformly Russian, peasant, and Orthodox Christian. British owners of this company town bossed Russian workmen in a community served by Jewish artisans and merchants. All these groups were surrounded by Ukrainian peasants reluctant to participate in the industrialization of their region. Tracing the role of each community, its status, and the changing pattern of relations between them is an integral part of understanding Donbass politics and society.

The advance of industrial capitalism in Russia is epitomized by the development of Iuzovka. Seasonally migrant villagers became urban industrial workers. Money became the medium of their intercourse with other sectors of society. Industrial capitalism changed not only the venue and nature of their work, but relations with their fellow workers as well. As the Iuzovka steel plant's work force became settled, old village solidarities, expressed through the cooperative organization of labor and housekeeping, declined. To the extent that a stable labor force of coal miners came into being, the same processes may be observed.

¹ The name appears in documents in various spellings: "Hughesoffka," "Jusofka," and sometimes even "Jewsovka"!

The living and housing arrangements of the Donbass workers changed, as did their clothing and diet. Education, and with it the broader aspects of urban culture, entered their world. In the two generations that we are able to observe here there were immense changes: the Iuzovka inhabitants of 1917 lived very differently than did the town's founders. Did increased wellbeing and a higher material and cultural level change social attitudes and erase some of the barriers between the various groups in the settlement? Were new and different barriers erected?

As these many strands of Donbass life spun out and combined, different patterns appeared. A steel worker was not living the same life as a coal miner even within Iuzovka itself, let alone in comparison to the lives of those in the isolated and more primitive coal settlements scattered up and down the Donbass. What differences, if any, were created in the social and political outlook of these two groups of workers? Among Hughes' factory workers in Iuzovka we will be able to observe how different groups emerged as seniority and acquired skills were translated into economic status and security.

Coming to the Donbass, in particular to a factory settlement such as Iuzovka, the migrant peasant was confronted with a many-splendored world whose heterogeneity stood in stark contrast to the solid monotone of the village. The new worker was projected into a world of choice and change. In the village, skill, energy, and good fortune might dictate *how well* you lived, but not *how* you worked or lived, i.e., the structure and goals of your life and work had already been set by the traditional framework of village life. This framework, admittedly, had been changing since the emancipation of the serfs, but far more slowly than the raw and traditionless society of the industrial settlements. There the weak, the unfortunate, and the indolent might drink and drift. The cunning and acquisitive could become small property-holders and business people, and the ambitious could improve or change their skills, launching themselves and their descendants into a world of opportunity that remained largely unattainable to the villager. A whole spectrum of such types appeared in Iuzovka and in the Donbass, and the political behavior of the population in riot, war, and revolution cannot be understood without a knowledge of these people's lives and aspirations. It is the co-existence of these different groups as they simultaneously experienced what appear to be totally contradictory processes of development that lends Donbass society its richly challenging texture. Nor is this differentiation limited to the Russian

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workers. In the impoverished Jewish community of small merchants and artisans, a relatively prosperous group of manufacturers, financiers, and professionals developed. Did their presence influence Iuzovka's politics and society in any way?

And so what was originally meant to be a largely political exploration became, in addition, an attempt to examine the development of a complex social unit. In the process the project grew from a modest monograph to two fat tomes divided by topic rather than chronology. I have attempted to write each as a comprehensible entity in itself; I have also tried to avoid unnecessary duplication by referring the reader of each volume to discussions in its companion. I did not premeditate a two-volume work. My original focus was to be purely political. However, as I became more familiar with the living and working conditions of the Donbass's populations, I was convinced that this dimension of life explained much about their political behavior and, beyond that, had intrinsic interest and importance. It is, therefore, the compelling nature of the research material that dictated the existence of this volume. Without an examination of the cultural fabric of the Donbass factory workers' and miners' daily lives, without an understanding of their most existential aspirations and problems, and without an analysis of the social differentiations that developed among them, I felt I would be unable to understand their politics.

Yet the political core remains. On the foundations of the social inquiry that fills this first book, a second volume devoted to political analysis will be needed to complete the project. The influence of the autocratic bureaucracy on the society and life of the Donbass was of the greatest importance. It set the bounds of the industrialists' activities and totally constricted the development of any sort of civic politics among the workers. But also important is the triangular relation of the government (both local and central), the employers, organized as the Congress of Mining Industrialists of South Russia, and the workers, first as the working forces in individual mines and factories, and later as agglomerated into the various groups within the revolutionary movement. The relations between the radical intelligentsia and the workers must enter into this analysis as well. If such relations were problematic in all of Russia, they were all the more so in the particular conditions of the Donbass.

In the political analysis of Iuzovka's development I have been able to examine not only the evolution of the various corporate actors, but their interaction both in times of peaceful routine and in the recurring civil,

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economic, and military crises that swept the area. In particular, the 1892 cholera riots, the 1905 revolution, and the year 1917 are highlights of this story. Along with this, however, the changing political interplay during the intervals between crises teaches us much about the values and perceptions of the various segments of the Donbass population. Our analysis ends in June of 1924, when the reconstruction of Iuzovka was virtually complete. Life, for the moment, had returned to a daily routine after seven harsh years of disruption. The name of the city was changed in that month to Stalino, symbolizing the new era that stood before the city's inhabitants.

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The debts I have accumulated in the six years I have devoted to this project are enormous. First and foremost I want to acknowledge the cooperation and enthusiastic encouragement given me by Dr. David Balfour, grandson of Archibald Balfour, one of the initiators of the New Russia Co., and by Mr. Vladimir de Boursac, great grandson of John James Hughes. Both of these gentlemen shared with me their information, memories, and memorabilia and encouraged me to push the project forward. Richard K. Kindersley of St. Antony's College, Oxford, kindly provided the first contact with them, and I am grateful.

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visiting researchers from North America, they nevertheless showed proverbial southern hospitality and provided me with material more valuable than could have been expected.

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My intellectual debts are boundless. First of all I have been inspired and challenged by the standards of research and interpretation set by the generation of scholars now dealing with Russia's society during the period with which I am concerned. Coming to this work as a political scientist rather than as a historian I had much to learn about sources and method. What I owe these colleagues is abundantly clear in my great reliance on their writings. In a number of cases I was able to follow their trail-blazing work through archival sources that might never have occurred to me. Such, in particular, was John P. McKay's example in using the bank archives in Paris from which I derived much benefit. I owe thanks to Avraham Ben Yaacov for his energy and efficiency in scouting out the locations and working hours of these archives. Paul Kolsto told me of the Quisling Archive at Oslo University, and its librarians took the initiative in finding the document I needed in the Nansen Archive there. Professor Patricia Kennedy Grimsted was most generous in offering of her expertise in the use of Soviet archives, and, as if by magic, produced the *putevoditel'* that enabled me to penetrate to the heart of the Donetsk Regional Archive without wasting a moment of precious research time. John Hutchinson graciously took time from his own research to share with me his own well informed views of Russian politics and society and provided me with the very important records of the first two All-Russian Congresses of Factory Doctors. *Nizkii poklon!*

Many individuals have been kind enough to read portions of my manuscript or listen to my lectures on Iuzovka, and their comments and ques-

ACKNOWLEDGMENTS

tions have undoubtedly sharpened my understanding and kept me from numerous errors. Professor Sergei I. Potolov of Leningrad was kind enough to devote time and effort to discussions with me and directed me to important archive files in both Leningrad and Moscow. Vadim Vladimirovich Zuev of Donetsk accompanied me happily on an expedition through the city in my quest for the original houses of old Iuzovka. When the residents immediately identified him as an *apparatchik* and raised embarrassing questions as to housing and living conditions, he faced them with undaunted aplomb and good cheer. Without him I would not have been able to understand much of what I saw there of both the old and the contemporary Donbass society. Abraham Ascher, Robert E. Johnson, Alfred Rieber, Harvey Dyck, Ziva Galili y Garcia, Richard Stites, Elena Hellberg, Cynthia Whittaker, and Carter Elwood have all contributed comments and questions that challenged me to focus my formulations. Last but not least, I owe sincere thanks to my colleagues in the Department of Russian and Slavic Studies at the Hebrew University of Jerusalem who generously bore the load of teaching and administration during the last two years while I have been wandering the world freely, gathering and writing this history.

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As great as these happily acknowledged debts are, the critics who will sit in judgment of my work are reminded that all errors of omission, commission, or interpretation which they may claim to find are fully and solely my own.

CHAPTER 1

Introduction: The Donbass before Iuzovka

“The rare villages scattered in the steppe are composed of huts, thatched cottages resembling nothing so much as piles of straw, cupped in a fold of land, usually where a stream is flowing.”¹ This was how the French engineer Monin, sent to survey economic activity in the Donbass, described it in the year 1882. It was a barren, uninviting area. Though Donbass land is fertile, precipitation is infrequent and irregular. Summers are hot and dry, with strong winds that raise an “unbelievable dust.”² There is virtually no plant growth whatsoever. The result is that it is sparsely populated, a fact of some significance to this volume, for it means that when the vast mineral riches of the Donbass were finally developed, there was no local labor surplus to be turned to their exploitation. A new, foreign work force had to be brought to this steppeland of the southeastern Ukraine, complicating the already difficult task of creating a modern industrial society.

The Donbass is geographically within the Ukraine, yet the Ukrainian population of the area plays only a marginal and largely reactive role in our history. For the Ukrainian peasant, industrial labor was a foreign way of life introduced by foreign intruders. As we shall see, Ukrainian peasants avoided entering the coal mines and steel mills as long as any other option was open to them. A survey published in 1886—when the Donbass coal

¹ J. Monin, *Notice sur le Bassin Houiller du Donetz, Nouvelle Russie* (Paris: Dubuisson et Co., 1882). Archive Nationale, Paris (henceforth, AN), File 65AQ-K69, p. 3.

² M. I. Retivov, “Organizatsiia protivokholernykh meropriatii i lechenie kholernykh bol’nykh na ugol’nykh rudnikakh T—va dlia razrabotki kamennoi soli i uglia v Iuzhnoi Rossii,” in I. D. Astrakhan, ed., *Trudy vtorogo userossiiskago s’ezda fabrichnykh vrachei* (Moscow: 1911), vol. 1, p. 70.

boom was well under way, and metallurgy was solidly established and nearing its takeoff point—showed that three-quarters of the indigenous farm families in Slaviansoserbsk uezd in the northern Donbass, were supplementing their income by non-agricultural activity. Yet of 6,922 families surveyed, only 42 had a member permanently employed in mining and only 599 took temporary employment in the mines. An unspecified number of these were working in peasant mines located on the peasants' own land.³ In the Donbass, density of population was half of that in the central provinces of Russia, while individual landholdings were much larger. In the gubernii of Kursk, Orel, Tula, Riazan, and Tambov population density was 44.2 persons per square verst. The Donbass, with its fertile but unwatered black soil had only 21.6 souls per square verst.⁴ The peasants of the Donbass had holdings ranging from one-and-a-half to two times as large as those of Bolkhov uezd in Orel guberniia. An article by I. M. Lukomskaia compares an area of Orel guberniia from which there was great emigration, to the two main industrial uezdy of Ekaterinoslav guberniia. She cites zemstvo statistics showing the following sizes of landholdings: Bolkhov uezd in Orel—7.0 desiatin per household, 2.3 per capita; Slaviansoserbsk uezd in Ekaterinoslav—9.8 desiatin per household, 3.1 per capita; Bakhmut uezd in Ekaterinoslav—13.8 desiatin per household, 4.2 per capita.⁵ Even within the environs of Ekaterinoslav guberniia the difference in population density between the agricultural northwest and the Donbass in the southeast is striking. In 1869, the year that John Hughes began construction of his steel mill and coal mines, the pioneering Russian sociologist Flerovskii wrote that Ekaterinoslav averaged 983 persons per square mile, while the Don Cossack Territory had only 338.⁶ Those Russian peasants who had the strength and the initiative to seek a way to earn money for the purchase of additional land, as well as a sufficiently large family to permit some members to seek work far from home

³ *Sbornik statisticheskikh svedenii po Ekaterinoslavskoi Gubernii* (Ekaterinoslav: 1886), vol. 3, Slaviansoserbsk uezd, pp. 291, 296. (Henceforth cited as S.S.S. with volume no. and uezd name.)

⁴ *Trudy s'ezda gornopromyshlennikov iuga Rossii*. XVIII. 1893 (Kharkov: 1894), p. 328. (Henceforth cited as *Trudy*, no. of session, year of session, page no.)

⁵ I. M. Lukomskaia, "Formirovanie promyshlennogo proletariata Donbassa 70-e, nachalo 80-kh godov XIXv," in *Iz istorii razvitiia rabochego i revoliutsionnogo dvizheniia* (Moscow: Akademiia nauk, 1958), p. 301.

⁶ N. Flerovskii (V. V. Bervii), *Polozhenie rabochego klassa v Rossii* (Moscow: Gosudarstvennoe sotsial'no-ekonomicheskoe izdatel'stvo, 1938), p. 265.

while still leaving enough members behind to work the family holding in the home village, poured into the Donbass in growing numbers. They were attracted by the high wages paid by the industrialists, many of them foreign, who were investing in the region. This frenzy of economic activity and rapid population growth created opportunity in the service sector and on the fringes of the coal and metallurgy industries for small crafts, merchant activities, and small businesses. Since the greater part of the Donbass lay within the Pale of Settlement, that area of the southwestern Russian Empire in which Jews were permitted to reside, a considerable Jewish population was soon attracted. Right through the 1917 revolutions, the tense interplay between English owners, Russian workers, a Jewish service community, and the surrounding Ukrainian peasantry, forms one of the central dramas of political and social life in Iuzovka.

These volumes will present an analysis of all aspects of this relationship. The change in modes of earning a living and in standards of living, the creation of new economic groups struggling for a place among the existing elites of imperial Russia, forms one plane of analysis in this first volume. The presence or absence of community, and the connections or disjunctions among various national, economic, and religious groups, form the focus of our social analysis. The political plane, developed in detail in the second volume will deal with social forces as they attempted to organize, or to prevent organization, for a restructuring of participation in decision-making on both local and national levels.

The developmental process that Russia went through in the fifty years spanning the turn of the century took place in many parts of the western world at much the same time. Occasionally we will have cause to compare it with developments in the United States or in countries of western Europe. Yet Russia had a different historical background and a different political structure, and these play a major role in the direction taken by events and in the choice of solutions to the problems that arose. In similar fashion, the Donbass had its own unique features that made its development differ from that of Russia's central industrial areas. Much of our discussion will be devoted to weighing the importance of these features.⁷

⁷ For a stimulating discussion of the same processes in France, to which my own discussion is much indebted, see Eugen Weber, *Peasants into Frenchmen* (London: Chatto and Windus, 1977). The monographic literature on various aspects of Russian development is growing rapidly and is already too voluminous for mention in a single note. See the bibliography in this volume for a listing of such works.

The Donbass—the Donetsk Basin—is today Donetsk Oblast' in the Ukrainian SSR. In the mid-nineteenth-century it lay mainly within Ekaterinoslav guberniia, particularly the eastern portion, composed of Slavianoserbsk, Bakhmut, and Mariupol uezdy, as well as a portion of Kharkov guberniia and the western edge of the Don Cossack Territory (*Oblast' voiska Donskogo*).⁸ The term "Donbass," an acronym for *Donetskii Bassein*—the watershed of the Donets River, is said to have been used first in the 1820s by the geologist E. P. Kovalevskii, the first person ever to make a detailed geological map of the region.⁹ The northern border of the Donbass was formed by the course of the Donets River; the basin stretched 150 kilometers from north to south, encompassing an area of 23,500 square kilometers.¹⁰

Coal was first discovered in the Donbass in 1724, when an English surveyor named Nixon came with four assistants to look for coal in the Donetsk range.¹¹ As was the case in other European countries (England, for instance), little significance was attached to the discovery at the time, for lack of an appropriate social and economic framework. In a peasant economy blessed with abundant wood there was no market for coal. It was only towards the end of the century that the English engineer Charles Gascoyne, invited by the Russian government to help develop its metallurgical industry, submitted a plan for the use of Donbass coal and local iron ore. In November 1795, an imperial decree ordered the construction of an iron smelter and foundry on the Lugani River—the beginnings of the town of Lugansk—and the establishment of a "quarry" (*lomka*) to dig the coal found in the area.¹² Not only was the technical know-how provided by foreigners, but the factory as well drew from its beginning on nonlocal workers, setting the pattern for later developments: metal workers were brought from the crown factories of the Urals; peasants were brought from

⁸ Levus, "Iz istorii revoliutsionnogo dvizheniia v Donetskom Basseine," in *Narodnoe delo, sbornik 3* (Paris: 1909), p. 44. See also *Trudy*, XVIII. 1893, p. 327.

⁹ S. I. Potolov, *Rabochie Donbassa i XIX veke* (Moscow-Leningrad: Izdatel'stvo Akademii nauk, 1963), p. 9.

¹⁰ Auguste M. Pourcel, *Memoir sur les recents developpements de l'industrie bouillere au Donetz et la mine de Chicherbinovka* (ms., 23 pp.), (Paris: Ecole Superieure des Mines, 1897).

¹¹ L. Liberman, *V ugol'nom tsarstve* (Petrograd 1918), p. 8. See also, Iu. Iu. Kondufor, ed., *Istoriia rabochikh Donbassa* (Kiev: Naukova dumka, 1981), vol. 1, p. 15.

¹² Kondufor, *Istoriia*, p. 17. See also the account of Patricia Herlihy, "Ukrainian Cities in the 19th Century," in Ivan Rudnitsky, ed., *Rethinking Ukrainian History* (Edmonton: Canadian Institute of Ukrainian Studies, 1981), p. 149.

Lipetsk and Tambov regions. As these proved insufficient, army recruits and criminals sentenced to hard labor were sent in as reinforcements, setting precedents for possible solutions to a chronic labor problem which was to plague the Donbass through most of its history.¹³ The factory was never a success: it suffered from the poor quality of its coking coal and from insufficient transportation both for bringing iron ore from a distance of sixty kilometers and for marketing its production. The isolated nature of this enterprise is indicated by the fact that during the first ten years of its existence, the two coal mines that supplied it produced ninety percent of the coal mined in the entire Donbass region.¹⁴ These two mines, the Dagmar and the Capital, produced 200,000 pud a year to meet the factory's modest needs; had there been transport and a market, they could have produced seven million pud a year.¹⁵ In 1845, the smelting operations of this factory were closed down and it began using pig iron hauled in from the Urals for its production of iron goods. Subsequently a new smelter was set up in Kerch, in the Crimea, where it was hoped that the proximity to iron ore, and to the sea as an avenue of transport, would contribute to the plant's success.¹⁶ The capture of this plant by Anglo-French forces during the Crimean War gave the Russian authorities pause to consider the strategic problems of siting what was even then seen to be one of the cornerstones of national power for the coming years. Later attempts to build the Petrovskii smelter near Poliakov's South Russian Coal Co. mines on the Korsun River and a smelter at Lisichansk were quickly abandoned at the end of the 1860s.¹⁷ The Lisichansk smelter, equipped under the supervision of Professor Ivan Time, succeeded in producing the first pig iron in Russia smelted in a coal-fired blast furnace. Because of economic problems—chiefly a lack of capital and of appropriate infrastructure—the smelter never went beyond experimental production.¹⁸

¹³ A. G. Rashin, *Formirovanie rabochego klassa v Rossii* (Moscow: Izdatel'stvo sotsial'no-ekonomicheskoi literatury, 1958), p. 446 n. 1.

¹⁴ Kondufor, *Istoria*, p. 17.

¹⁵ "Raport direktora Gornago Departamenta predstavlennyi Gospodinu Ministru Finansov o sostoianii gorno-zavodskoi promyshlennosti v Rossii za poslednia desiat' let," *Gornyi zhurnal*, no. 1, 1874, p. 32.

¹⁶ A. Keppen, ed., *Istoriko-statisticheski obzor promyshlennosti Rossii. Gruppy 4. gornaya i solianaya promyshlennost'* (St. Petersburg 1882), pp. 80–81. See also, B. F. Brandt, *Inostrannye kapitaly v Rossii i ikh vlianie na ekonomicheskoe razvitie strany* (St. Petersburg, vol. 2, n.d.), p. 45.

¹⁷ Brandt, *Inostrannye kapitaly*, vol. 2, pp. 44–45

¹⁸ "Raport direktora," p. 31.

Despite renewed efforts to activate the Lugansk smelter in its old location, it never reached fifty thousand tonnes of pig iron production per year and was finally closed down in 1872 when John Hughes' New Russia Coal, Iron, and Rail Producing Co. began pouring a steady stream of pig iron from its first blast furnace.¹⁹ It took nearby iron ore and limestone, mixed and melted them in blast furnaces fired by Iuzovka coal, and poured ingots of pig iron that were later worked into beams and rails. A few years later the pig iron was processed into steel, and this steel was rolled, cast, and forged into a variety of forms, but always with railway rails as a main end product. Because it began with ore, limestone, and coal, and ended with a finished product, the New Russia factory was known as a "full-cycle" enterprise.

This marked the birth of the modern Donbass. Cutting back the Lugansk factory's activity meant that only 231 families with a total of 361 souls remained employed there, while 710 families totaling 1,207 souls lost their livelihood.²⁰ Most of these returned to their villages or sought to settle in new areas, but some were hired at Hughes' factory and were to provide an experienced, if sometimes problematic element of the Iuzovka labor force. As will be shown later, others of the technical personnel of the Lugansk and Lisichansk factories played various roles in the Donbass.

In its coal production, the Donbass was divided into a southeastern portion, lying mainly within the Don Cossack Territory, and a western portion, lying in Ekaterinoslav guberniia. The former produced anthracite, while the latter, a larger area producing the bulk of Donbass coal, was almost exclusively bituminous. The beginnings of anthracite production in the Grushevsk region of the Donbass can be traced back to 1817; this production grew comparatively rapidly, largely due to the proximity of the port cities along the shore of the Sea of Azov.²¹

The first "model" mines, in the area were designed to introduce the latest techniques of mechanized coal extraction to this comparatively new, but prospectively rich, region. They were established by *ROPIT*—the Russian Steamship and Trading Company. In 1865 an engineer named Wagner, the mines' director and one of the pioneers in development of the

¹⁹ Potolov, *Rabochie Donbassa*, ch. 1, and P. I. Fomin, *Gornata i gorno-zavodskaya promyshlennost' iuga Rossii* (Kharkov: 1915), vol. 1, chapters 1–2 (hereinafter *Gornata promyshlennost'*), give detailed accounts of this early pre-capitalist development of the Donbass.

²⁰ *S.S.S.*, vol. 3, Slaviansoserbsk uezd, p. 25.

²¹ Kondufor, *Istoria*, vol. 1, p. 19.

Donbass coal industry, imported the first steam engines for coal raising and water pumping. It is typical of Russia's situation at the time (and even much later) that this valuable equipment sat for six months until a crew capable of installing and maintaining it could be assembled.²² The mine was not only highly mechanized for its time, but was intended to provide a social model as well. A large infirmary was built, pay was distributed to the workers on a monthly basis (rather than semi-annually as was the custom at the time), and two-storey stone houses were constructed to house the workers.²³ In its scale and in its production and living arrangements the ROPIT mine stood in bold contrast to virtually all the other mines of the Don Cossack Region, which were at that time almost exclusively family enterprises worked by hand or by draught animals and lacking all investment or technological improvement.

Peasants often mined outcroppings of coal on the lands of their own village association, or rented portions of a landlord's coal-holdings and mined them on a sharecropping basis. Such mines never went deep and rarely used any mechanical power. A human-powered or horsedrawn winch was used for raising coal to the surface, and a pit one meter square and ten meters deep was considered an achievement. Even as late as 1884, when there were numerous examples of modern mines to be seen in the Donbass, only 17 of the 57 coal shafts in the Slaviansoserbsk district had steam-powered equipment, while the remaining 40 were worked by horsepower.²⁴

An *artel'* consisting of five or six people at least would work such a mine. The cost of opening such a mine was estimated at the end of the 1880s to be about 175 rubles. Such a sum was beyond the means of almost any group of peasants and required loans at interest or credit against a contract to sell coal at a pre-set, usually low, price. In this way, peasants were drawn out of their parochial subsistence economy, and connected to the rest of society by a commercial nexus. In the regions of Ekaterinoslav guberniia in which peasants worked their own mines and average land-

²² I. P. Khlystov, *Don v epokhu kapitalizma* (Rostov: Izdatel'stvo Rostovskogo universiteta, 1962), p. 147. The "modern-ness" of the ROPIT mine, was, of course, judged within the Russian context. The first steam engine used for pumping a mine was installed at Dudley Castle in Great Britain, in 1712. See Anthony F. C. Wallace, *The Social Context of Innovation* (Princeton, N.J.: Princeton University Press, 1982), p. 53.

²³ V. Domger, "Sovremennoe sostoianie nekotorykh rudnikov iuga Rossii," *Gornyi zhurnal*, no. 11, 1874, p. 161.

²⁴ *S.S.S.*, vol. 3, Slaviansoserbsk uезд, p. 339.

holdings were somewhat smaller than in other regions of the province, there were a higher incidence of working of rented land and larger holdings of working livestock. The coal income allowed peasants to expand their economy, as well as giving them an economic alternative to having to work on the landlord's holdings in order to pay the high rents or redemption payments with which their own land might be burdened.²⁵ This seasonal coal mining could yield a cash income of seventy to one hundred rubles, far more money than peasants had had at their disposal previously, and sufficient to support a family of four to five people through much of the year.²⁶

In similar fashion, individuals or small partnerships with an initial capital of only a horse and wagon and a few rubles became substantial merchants and coal producers in their own right through dealing with these peasant miners.²⁷ As may be seen in Malkin's career, many of these small-scale entrepreneurs were active in the Donbass for considerable periods; they often shifted from mine to mine, opening and abandoning pits as short-term opportunity presented itself. Ludwig Erhardt, an otherwise unidentified personage, pointed out this phenomenon to the Minister of State Domains in a note that sums up all the evils of this practice. He states that the peasants often rented out their lands for a pittance in cash and a few buckets of vodka, that wages paid at such mines were low and living conditions poor, and that the short-term outlook and lack of investment were destroying the coal seams. Erhardt recommended that short-term rental of coal lands be prohibited.²⁸ The fact that Erhardt placed all blame for such practices on the Jews does not invalidate his other observations: we will

²⁵ Gr. Shreider, "Ocherki kustarnoi gornoj promyshlennosti," *Russkaja mysl'*, no. 10, October 1889, p. 72.

²⁶ Shreider, "Ocherki," pp. 69, 85 n.26.

²⁷ The sources allow us to trace the career of Ia. L. Malkin, a Jewish merchant of the second guild, a member of the Congress of Mining Industrialists of South Russia in 1882—see *Trudy*. XVII. 1882, pp. 180–89 for list of coal shippers. In *S.S.S.*, vol. 3, Slaviano-serbsk uezd, pp. 390–91, 397, Malkin is noted as being involved in coal mining and transport as well as having contracted with a partner for developing a mine on lands rented from a village association. In *Trudy*. XVII. 1892, pp. 358–59 he is listed as 46th of 236 Donbass coal shippers, having marketed 280 tonnes of coal in the course of the year. TsGIAL, F. 37, op. 55, d. 199, p. 46, contains a 1913 report that states that Malkin operated the Novo-Grigorevka mine and employed 129 workers (of whom only 24 were accompanied by their families). All the data indicate a small, short-term, substandard mine.

²⁸ TsGIAL, F. 381, op. 50, ed. khr. 3, pp. 100–106. The memo is undated, but its location in the archive and internal evidence would indicate that it dates from the early 1870s.

see in the course of our discussion that the problem raised here was central in the economic development of the Donbass coal industry.

The peasant-owned mines were never an economic factor in the production of Donbass coal—even as early as 1884 they accounted for only about 2½ percent of all coal mined in the region.²⁹ The “capitalist” mines of the greater and lesser merchants and coal producers were rather different. As we shall see, their owners played the most active role in the workings of their professional association, the Congress of Mining Industrialists of South Russia, setting the tone of its policies far more than the foreign giants who dominated the production side of the industry in both coal and metallurgy.

In addition to the sparseness of population, the structure of land-holding in the steppe region had much to do with the fact that the local peasantry did not go into the mines. The greater part of the land in the Donbass region had been in crown holdings which maintained few serfs. Serfdom had never been strongly entrenched in the region, even on privately held lands.³⁰ With the economic stimulus of the coal boom, the village associations began acquiring land rapidly. Between 1884 and 1886 landholdings of village associations in Slaviansoserbsk uezd grew from 6,582 desiatins to 27,109, while local landlords, tempted by rising prices, were selling to coal companies and to the peasant associations. In the above period landlords' holdings declined from 247,274 desiatins to 231,372 desiatins.³¹ As will be discussed later, it was more advantageous for the coal entrepreneurs to acquire land from the landlords or from crown lands than from the village associations. The expansion of industry thus did not dislodge the peasants from their lands. On the contrary, it seems to have provided them with the opportunity to enlarge their holdings. In addition, even when peasant associations leased their lands to large coal producers, they retained the rights to mining the first 15 sazhen (32 meters) depth.³² Indeed, as might be anticipated, the peasants were soon aware of the income to be derived from mining and turned increasingly towards supplementing their agricultural income by working their own mines. Of twenty peasant mines in Slaviansoserbsk uezd in 1884, four

²⁹ S.S.S., vol. 3, Slaviansoserbsk uezd, p. 419

³⁰ Kondufor, *Istoria*, vol. 1, p. 15.

³¹ S.S.S., vol. 3, Slaviansoserbsk uezd, p. 4.

³² V. Islavin, “Obzor kamennougol'noi i zhelezodelatel'noi promyshlennosti donetskago kriazha,” *Gornyi zhurnal*, no. 1, 1875, p. 45.

opened in the 1870s, and thirteen in the 1880s. Only two were from earlier years.³³ The relatively large landholdings and the predominance of individual farmers in the steppes are said to have remained a powerful economic and political factor in the region well into the 1920s,³⁴ though it might have been expected that the many poor farmers among them might have been tempted to leave agriculture for industry by the prospect of higher income. There was a persisting pattern, however, of clinging to the land. When the serfs were emancipated in 1861, the crown serfs who worked in the Lisichansk smelter were offered their freedom with a land allotment. Despite the fact that these were described as virtually all "hereditary proletarians" who had never farmed, one-third of them chose to return to the land.³⁵

The growth of the coal industry and, in its wake, of metallurgy was swift and intense. Of 57 commercial coal mines in the heart of the Donbass in 1884, 46 were opened between the mid-1870s and the mid-1880s.³⁶ So striking was this phenomenon of economic growth that the Russian press (and, in particular, many conservative and nationally-inclined elements who viewed askance the phenomenon of an upstart entrepreneurial stratum sailing giddily into prosperity on a floodtide of foreign capital) referred to it as the "coal craze" (*uglomania*).³⁷

The basic political factor influencing the Russian government in its decision to develop its coal and iron industries had been the Crimean War. English and French forces and their supplies had sailed to the Crimean peninsula through the Mediterranean and Black Seas more swiftly than Russian forces could be transported overland. Shaken by this fact and humiliated by the technological inferiority of Russian arms, the regime decided (however reluctantly) that it must follow the path that western Europe had taken almost a century earlier. The railroad was seen as key to the efficient conquest of Russia's vast expanses. Coal and iron were the sine

³³ E. F. Bogutskii, "Polozhenie gornorabochikh v Donetskom Basseine," *Iuridicheski vestnik*, November 1890, p. 447.

³⁴ H. H. Fisher, *The Famine in South Russia, 1919-1923* (New York: Macmillan, 1927), p. 265.

³⁵ Shreider, "Ocherki," p. 48.

³⁶ Bogutskii "Polozhenie," p. 447.

³⁷ N. Kavraiskii, "Rudnichnaia rel'sovaia otkatka liudmi s tochki zreniia khoziaistvennoi, s prilozheniem tablitsy normal'nago truda otkatshchika," *Gornyi zhurnal*, no. 11, 1871, p. 188n. Although the main thrust of Kavraiskii's article is strictly technical, it contains much stinging social and political criticism.

qua non of railway development.³⁸ The French geologist Le Play, in his 1842 *Voyage dans la Russie Meridionale*, had already indicated the full extent of the Donbass' mineral wealth, focusing the regime's eyes on the south as the locus of future development. The stage was set for a South Russian industrial revolution.

³⁸ A. Keppen, "Materialy dlia istorii gornago dela na iuge Rossii," *Gorno-zavodskii listok* (henceforth *G-z D*), no. 18, 1899, pp. 3958–59.

CHAPTER 2

The Genesis of Iuzovka

John James Hughes pioneered in creating the model for Donbass development: he brought three necessary elements of heavy industry—iron ore, coal, and rail transport—into a self-sufficient entity based on industrial enterprise to which both capital and labor could be attracted. There, where in 1870 he first settled in a lonely shepherd's cottage, now stands the city of Donetsk, with its population of over a million. Although no monument to Hughes is to be found in the city, his impact is clear. An urban center built on coal and metallurgy, it has followed the path which he charted from its earliest days.

Hughes was born in 1814 in the town of Merther Tydfil in South Wales.¹ After what is described as a "home education" he was apprenticed to the local Cyfartha Iron Works where his father was also employed, gained additional experience at the Ebbw Vale works, and, at the age of twenty-eight, struck out on his own, buying the Uskside Engineering Co. at Newport. Here he evidently had free play for his considerable energy and ingenuity: eight years later we find him director, then president of the Millwall Engineering Company, a major marine engineering firm on the Thames.

Hughes had made a name for himself in marine engineering with such innovations as the development of an improved naval gun mount. When the British government, looking to armor its fleet, held a competition for

¹ The main published biographical sources are: Emrys G. Bowen, *John Hughes* (Cardiff: University of Wales Press, 1978); Samuel Knight, "John Hughes and Yuzovka," *Planet*, vol. 21, 1974, pp. 35–41; J. N. Westwood, "John Hughes and Russian Metallurgy," *Economic History Review*, 2d ser., 1965, pp. 564–69; and the *Russkii biograficheski slovar'* (New York: Kraus Reprints, 1962), vol. 24, p. 318. In addition to these I have derived some understanding of the man from his letters to various Russian government officials, from memoirs and observations of persons who saw him at work in the early days of the New Russia Co., and from conversation with his great-grandson.

armor plate, Hughes' Millwall firm came out on top. This success made Hughes' reputation. At fifty he was at the peak of an enviable career.

It was the reputation of Millwall's armor plate that first attracted Russian attention to John Hughes. The tsar's government sent General Totleben and Col. (later Major General) Gern to England to inquire as to the possibility of using Millwall armor to strengthen Fort Konstantin at the approaches to Kronstadt. It would appear that Russian intentions went beyond this one project, for when Hughes arrived in St. Petersburg for negotiations, additional proposals regarding the development of Russian metallurgy were broached.

The Russians first proposed that Hughes take over the management and modernization of the metal works run by the naval ministry at Kolpino. After visiting the site and examining its operations Hughes, seeing no prospects of putting this backward plant onto a modern industrial footing, refused.² It was then that the building of an entirely new plant in the south was proposed.

The failure of the state-run Lugansk and Lisichansk metallurgy enterprises, combined with the painfully slow development of Donbass coal, was a source of chagrin to the Russian government. Plans for rapid expansion of the railway network made the establishing of a large rail-producing factory a high priority. The 1868 opening of the new Putilov works in St Petersburg showed what Russia could do in this field. Production in this plant soon reached two million pud per year (32,760 tonnes), providing 400 versts of track, and the work force grew to 2,500 men.³ This, however, was only a small part of Russia's need, and the siting of Putilov in St. Petersburg, where it would remain dependent on coal and iron imported from abroad, left the mineral wealth of the Donbass undeveloped.

It was suggested to Hughes, probably through Gern, that he tour the Donbass area and see whether it appeared a promising site for the development of metallurgy. Prince Kochubei had already been granted a concession for the building of a full-cycle metallurgy plant and rail-producing factory based on local Donbass materials, but this concession had

² E. M. Garshin, "Poezdka na Iuzovskii zavod i poputnyiia zametki o tekhnicheskome obrazovanii v Donetskom kamennougol'nom raione. Doklad," *Trudy po tekhnicheskomu obrazovaniiu, 1890-1891* (St. Petersburg: 1891), 3d ed., p. 2. Garshin's source is evidently personal conversation with Hughes' sons in Iuzovka.

³ Reginald E. Zelink, *Labor and Society in Tsarist Russia* (Stanford: Stanford University Press, 1971), p. 213.

not been exploited. It was intimated that should Hughes be ready to fulfill the conditions of the concession, it would be made available for him to purchase. Guided by Ia. I. Drevnitskii, a local shepherd reputed to know every rock and fold of land in the district, Hughes visited the area.⁴ After viewing the coal seams and other resources, Hughes decided that the locale was suitable and submitted a grandiose proposal to the Russian government. In addition to the coal, iron-smelting, and rail-producing works in the proposed Kochubei concession, Hughes suggested both a locomotive works and railways linking the new enterprise to the center of Russia and to the Sea of Azov.⁵ Hughes also undertook to train local workers and estimated a possibility of marketing up to thirty million pud of coal annually within a short time.

A complex series of negotiations followed involving not only Kochubei, but also various other persons associated with the land rights, the marketing of the goods to be produced, and other aspects of the project. Hughes eventually purchased the concession for the sum of 24,000 pounds sterling paid in shares of the New Russia Co., and 30,000 silver rubles in cash (equalling approximately another 3,000 pounds sterling).⁶ The Russian authorities rejected Hughes' ideas for expanding the project; the two sides agreed, however, to the original idea, and the Minister of Railways approved the agreement on April 15, 1869. Three days later the Russian government officially promulgated the agreement. The Articles of Agreement of the New Russia Co. were signed in London on May 28, and on July 3 the two documents were registered together at the Registrar of Companies in London.⁷

⁴ *Novorossiiskoe obschestvo. Iuzovka. Ekaterinoslavskoi gubernii* (Ekaterinoslav: Baranovskii, 1910), p. 5.

⁵ TsGIAL. F.219. op.1, d.23846. pp. 16–18. Letter dated November 12, 1868, from Hughes to the Minister of Railways.

⁶ See the Articles of Agreement of the New Russia Co. in Companies' House, London, File 4467, *New Russia Co.*. In addition to Prince Kochubei as holder of the concession, the agreement names: Prince Paul Lieven, on whose lands the factory and mines were to be constructed; Christopher Ivanoff, a leaseholder on Lieven's estate; and George Fronstein of St. Petersburg, a guild merchant who held rights to market rails and iron plates to be produced by the plant. The price paid by Hughes for the concession is noted in V. S. Ziv, *Inostrannye kapitaly i Russkoi gornozavodskoi promysblennosti* (Petrograd, 1917), p. 1. See also I. A. Gonimov, *Staraiia Iuzovka* (Moscow: Sovetskii pisatel', 1967), p. 13. Both sources mention only the 24,000 pounds. The additional cash payment is in the Articles of Agreement, p. 2, one-half to be paid six months after formation of the New Russia Co., the other half one year after the company's formation.

⁷ The English translation of the agreement appears as an annex to the New Russia Co.'s

Hughes undertook the forming of an English company with three hundred thousand pounds capital for the construction of an iron smelter, a rail-producing plant, coal mines, and an eighty-five verst railway joining the site of his enterprise to the Kursk-Kharkov-Azov railway. The blast furnaces were to be in operation and capable of producing one hundred tons of cast iron weekly, while the coal mines were to be capable of producing two thousand tons per day as soon as the branch railway was completed and ready to haul the coal away. In return Hughes was to receive a subsidy of fifty kopeks a pud on the production of rails up to a quantity of three hundred thousand pud per year for a period of ten years.⁸ This was a considerable incentive since the cost of a pud of rails imported through Taganrog was said to be one ruble at that time, and the sale price of rails to the Russian government mentioned in the Articles of Agreement is 1.38 rubles per pud.⁹ Nevertheless, the subsidy by itself was insufficient stimulus for the metallurgy industry, for the offer of this premium had been standing through the mid-1860s without any private entrepreneurs coming forward to take advantage of it in South Russia.¹⁰ Most important for Iuzovka's future character, the agreement stipulated that at the end of the ten-year period, Hughes was to receive outright ownership not only of the lands granted to the company but also of such further lands as the company might have in the meantime rented from local landowners to accommodate expansion needs. This provision set the seal on Iuzovka as a

Articles of Agreement and bears Hughes' signature, along with those of William Kelk, an accountant acting for the other New Russia shareholders, and Alfred Cox of Bristol, banker for the new company. On the Russian side, the agreement is signed by "The Minister of Communication, Ways Engineer General Lieutenant Melnikof," and "The Minister of Finance, Secretary of State Reutern." The translation is certified as true by the "Chief Engineer of the Board of Plans of the Railway Department, N. Goobsky." Hughes was represented at the signing by Samuel Keith Gwyer. The original Russian text of the agreement may be found in TsGIAL, F.219, op.1, ed. khr.23846, pp. 69-74. The copy cited by Potolov in his *Rabochie Donbassa* (Fond 37, op.67, d.213) appears to be a draft intended for office use. Not only is it unsigned, but it bears a notation: "The conditions of the agreement are not written fully, and are not literal (*ne vse i ne tekstual'no*)." Notice of the Russian government's granting of the concession to Hughes appeared in the *Times* of London, June 16, 1869, p. 4, col. 2.

⁸ Ziv, *Inostrannye kapitaly*, p. 1, claims that the original Kochubei concession called for only five years of subsidies.

⁹ Gonimov, *Staraya Iuzovka*, p. 11. Articles of Agreement, p. 3.

¹⁰ A. Keppen, "Materialy," *G-z l*, no. 2, 1902, pp. 5409-410. I. Glivitz, *Potreblenie zbeleza v Rossii* (St. Petersburg: 1913), p. 53, dates introduction of the subsidy on rail production from February 15, 1866, and writes that it was part of a package of financial measures designed to encourage development of the iron industry and of the railways

company town in the fullest meaning of the word and determined many features of its future social structure. Construction materials and equipment were to be imported duty-free under the supervision of an engineer who would be appointed by the government to watch over the implementation of the agreement. On November 22, 1869, Court Councillor N. Lebedev was transferred from his position as Chief of the Urals Mining Industry in order to observe "the construction of the mines and factories of the New Russia Coal, Iron, and Rail Producing factory."¹¹ Lebedev was instructed to file monthly reports "because of the importance of the matter," and the first of these reports was filed on December 24, 1870.¹²

Hughes had lost no time in forming the company and raising the capital. Although the Franco-Prussian war and tensions relating to the "Eastern Question" clouded Anglo-Russian relations,¹³ Hughes' professional prestige and connections attracted a number of prominent personalities among his seventeen original shareholders, facilitating the bank loan from Cox that provided the bulk of the company's first working capital. Hughes raised a total of 50,000 pounds sterling. Of this, however, 20,000 pounds had to be deposited in a Russian bank as a performance bond to guarantee that, in accordance with the terms of the agreement, a blast furnace would be in operation within nine months, and that the stipulated one hundred tons of pig iron per week would be produced.¹⁴ As we shall note, these terms were to cause Hughes many sleepless nights and anxious days as he pitted himself against the realities of the Donbass steppe.

The Cox loan was of crucial importance to the new company, for of the 6,000 shares of 50 pounds each authorized in the company's statutes, only 1,452 were issued by November 1869. Some of these were quite clearly issued in payment of "services rendered" or to facilitate future operations, as was customary in Russia, adding nothing to the company's available capital.¹⁵ Such shares would include the 100 shares owned by Major Gen-

¹¹ *Gornyi zhurnal*, no. 12, 1869, p. xvi. The archival source, TsGIAL, F.37, op.67, d.213, p. 3, puts it rather more bluntly: Lebedev was sent to "audit the company's doings" ("*dlya kontrolya nad deistviy*").

¹² TsGIAL, F.37, op.53, d.746, p. 26. Memo dated December 22, 1870, from Mining Department director Rasher.

¹³ See the *Times* of London, November 23, 1869, for anxious comments on this score.

¹⁴ TsGAOR, F.7952 (*Izdatel'stvo istorii fabrik i zavodov*), op.6, d.119, p. 3. This file contains both original documents and copies that served Gonimov in his writing of *Staraya Luzovka*.

¹⁵ Archive of the Credit Lyonnais (henceforth CL followed by file number and details),

eral Gern, who was a director of the company, the 400 shares listed under the name of Prince Paul Lieven, on whose land the factory and mines were to be built, and very likely the shares owned by Count Dmitri Nesselrode.¹⁶ The prudence of conforming to local custom was, however, demonstrated early on. In a letter to the Minister of Finance, Hughes mentions his indebtedness to General Gern, who “most kindly interfered on my behalf” after Hughes had been informed that the equipment shipped from England had been lying on the Taganrog docks for two months “and no remonstrance had [had] the slightest effect upon the Railway Authorities.”¹⁷

If the political climate was unfavorable, the recession in English coal trade made it easy for Hughes to recruit skilled Welsh miners to accompany him to the Donbass. Large numbers of miners were leaving Wales for Argentina and Australia, and the emigration was expected to encompass several thousand men before the end of 1869.¹⁸ There is no record of exactly how many Welsh and English workers came with Hughes to the Donbass at the end of 1869; estimates run from seventy to over one hundred.¹⁹ It is clear, however, that although British workers retained a number of key technical and administrative posts into World War I, and some remained as administrators as late as 1919, virtually from the first stages of the construction and test running of the plant, Hughes sought to recruit and train Russians for the plant’s operation and expansion. Hughes’ original proposal had included this intention, but this aspect of his ambitions, as so many others, was harder to bring to fruition than he had imagined. Addressing himself to Count Valuev, the Minister of State Domains, whose ministry had authority over mining industry enterprises at this

File 1607, *Frais generaux spectraux a la Russie pour un charbonnage*, January 2, 1903. This is a bitter twenty-five page report on the special payments that must be made from top to bottom of Russian society by foreigners attempting to operate a business in that country.

¹⁶ Companies’ House, London, File 4467, *New Russia Co.*, vol. 1. List of shareholders as of November 9, 1869.

¹⁷ TsGIAL, F.37, op.53, d.746, p. 24. Letter of Hughes to Minister of Finance, November 7, 1870.

¹⁸ The *Times* of London, June 15, 1869, p. 11, col. 6.

¹⁹ Potolov, *Rabochie Donbassa*, p. 101, writes that there were seventy. In a letter dated May 17 (29), 1896, John Hughes, Jr., states that he cannot ascertain the exact number of Welshmen who accompanied his father to Russia, but that it was “considerably in excess” of the eighty people in the accompanying list. See Welsh National Library MS. 3617B. It should be noted that Hughes is writing here only of Welsh residents of Iuzovka and not of other Britishers who were there.

time, Hughes confessed: "When I commenced these works I set my mind upon training the Russian workmen (knowing at the time that it would cost much time and money) with a view to creating a colony of iron-workers who would be attached to the place, and the Directors in London quite approved of my plan. To attain this was my pride and ambition and it is discouraging that the results have not been more satisfactory after twelve months' experience."²⁰

Economic development in the Donbass was fundamentally different from previous efforts to develop Russian metallurgy. The Urals region, a traditional site of Russia's metallurgy, had developed factories as crown enterprises. As has been noted, the unsuccessful Lugansk and Lisichansk undertakings had also been based on state initiative. The New Russia Company on the other hand, was established on the basis of private capital. At virtually the same time, D. A. Pastukhov, a Russian entrepreneur, also began building a metallurgy plant in the Donbass, at Sulinsk: he was investing his own fortune in an attempt to develop a new smelting process using both local ores and local anthracite coal in the blast furnaces.²¹ Pastukhov did not contract for any government subsidies on his products. He did, however, receive the right to import his machinery free of duties and was given a monopoly on the use of scrap steel and iron from Black Sea naval bases at advantageous prices.²² At the same time, as the demand for coal and iron offered prospects of profit, both Russian and foreign private investment capital began pouring into the Donbass.²³

From the beginning of foreign involvement in Donbass development there had been Russian opposition on nationalist grounds. Some critics argued against industry as a foreign and corrupting force in Russian life; others wrapped themselves in the flag to protest foreign dominance in the development of Russia's resources. As we have already noted, it was in fact the nationalist desire to repair Russia's international standing in the speediest possible fashion that lay behind inviting Hughes to develop the New Russia Co. In this the nationalists found themselves in agreement

²⁰ TsGIAL, F.37, op.53, d.746, p. 115. Letter of Hughes to Valuev, October 15, 1874.

²¹ In the U.S., Pennsylvania anthracite had been used for smelting iron from the 1840s. See Wallace, *The Social Context*, p. 108.

²² Khlystov, *Don*, p. 148. See also I. Glivitz, *Zheleznaia promyshlennost' v Rossii* (St. Petersburg: 1911), pp. 18–19; P. I. Fomin, *Gornaia promyshlennost'*, vol. 1, p. 435 n. 1.

²³ Brandt, *Inostrannye kapitaly*, vol. 2, pp. 46–66, gives the founding dates, capitalization and brief histories of all the main metallurgy and metal working factories of the Donbass.

with persons who had no great national passions, but who, for internal social reasons, wanted Russia industrialized and saw foreign capital as the best available instrument. Tugan-Baranovskii, reviewing Hughes' pioneering activities in metallurgy, wrote: "The more energetically foreign capital flows into Russia, the quicker we will extricate ourselves from the present situation of the excess demand for capitalist industry, compared to the supply. Our market is too small as yet to be used by capitalism and therefore is endangered by chronic overproduction."²⁴

There were several reasons for Russian enmity towards foreign investors. One was the granting of large tracts of land such as Hughes received.²⁵ The large salary and wage advantage of the foreigner over the Russian was another. Foreigners received anywhere from three to six times as much as Russians; this differential applied to everyone from directors, engineers, and teachers to plant workers, and caused jealousy, even strikes.²⁶

The overt expression of this resentment appeared in the discussion of the prominent role played by foreign technical experts in the industry of the Donbass, and was noted, though not always taken seriously, by the foreigners themselves. A French diplomat, reporting on the development of the Donbass, commented: "Russian engineers have seen foreigners moving into their field, along with them or over them, occupying important posts and receiving good treatment. But what is usefully noted—and what the Russians ought to note . . . is that large scale metallurgy is as yet too new to have formed the number of trained personnel needed for such installations, that such foreigners have only come to play the role of instructors, and to supervise the use of their compatriots' investments and that in the end it is the country itself that will derive the greatest profit from the goodwill of the capitalists and the foreign engineers."²⁷ The greater part of the Congress of Mining Industrialists of South Russia viewed the situ-

²⁴ M. Tugan-Baranovskii, *Russkaia fabrika v proshlom i nastoiashchem* (St. Petersburg: Nasha zhizn', 1907), 3d ed., vol. 1, pp. 372–73.

²⁵ See the article by F. A. Pr—ii in *Moskovskie vedomosti*, September 6, 1892, p. 2. The author emphasizes his opposition to such grants to foreigners, particularly "when they are not of our faith."

²⁶ Newly-graduated French engineers received 5,600 rubles a year, plus accommodation and generous home leave arrangements, highly-paid managers from 15,000 to 30,000 rubles. McKay, *Pioneers for Profit* (Chicago and London: University of Chicago Press, 1970), p. 167. Levus, "Iz istorii," p. 56, and Keppen, "Materialy," *G-z I*, no. 6, 1900, p. 4190, both note labor disputes in which foreigners' wages were a grievance.

²⁷ AN, F12, 7173. Report on the Donbass, July 30, 1895.

ation differently. Claiming that there were 137 foreigners out of 267 technical personnel in the Donbass they stated that “this undoubtedly diminishes the demand for Russian technical personnel” and characterized the period as one of “colonization of workers,”²⁸ in which foreigners were imported and settled in the region, occupying most of the important positions.

The central demand of the nationalists at the 1896 meeting of the Congress was that all foreigners coming to work in the Donbass be required to pass an examination in Russian language, and an examination, given in Russian, of their technical knowledge. The attack was led by Nikolai Stepanovich Avdakov, who presented the Congress with a plan for using language and licensing requirements to exclude all foreigners from the Donbass within six years. There ensued a bitter debate and four votes were called, the decisive one a rollcall vote decided by the chairman casting his lot with the nationalists. Despite the opposition of numerous industrialists, Avdakov’s proposal was adopted, with a grace period of ten years. The opponents of exclusion were no less in favor of training and using Russian specialists—indeed they saw it as a necessity if the Donbass was to continue its development—but they balked at the rhetoric of the nationalists and their excessive readiness to use state compulsion to serve their private interests.²⁹

The polemic continued in the press for several years, with Professor Ivan Time as one of the sharpest-tongued proponents of the national outlook.³⁰ Yet Time himself was won over by a visit to the New Russia factory. He came to Iuzovka with an image of the settlement as a foreign encroachment and hardly Russian at all. He changed his mind: “Apart from two English blast furnace foremen, and four foremen at the Marten ovens, all the remaining journeymen, machinists and workers are Russians, many of them younger people belonging to the local, as you might say, to the Iuzovka population.”³¹ The number of British workmen and supervisory personnel

²⁸ *Trudy*, XXI, 1896, pt. 1, pp. 516–17.

²⁹ *Trudy*, XXI, 1896, Avdakov’s proposal, pp. 516–19; the debate and votes, part 2, pp. 244–94, particularly the remarks of Al’chevskii, a mine owner, and of Kozlovskii of the South Russian Dniepr Co.

³⁰ See his response to Lutugin in *G-z I*, no. 3, 1899, p. 3664—Knowledge yes, servitude no! We are giving away our national riches, etc., etc. See also his “Spasatel’nye arteli pri kamennougol’nykh rudnikakh,” *G-z I*, no. 8, 1899, p. 3776. The foreigners get lots of benefits but teach us little.

³¹ Time, “Ocherk,” pp. 10–11. It does not appear that Time’s perceptions were correct,

must have fluctuated with the years, for in 1874 Hughes wrote that only 37 British foremen, journeymen, and senior workers remained, but the 1884 zemstvo survey found 300 foreigners in Iuzovka.³²

Although from the end of the century on foreign capital was steadily replaced by Russian investment, the sanctions envisioned by the Congress were never applied. Foreigners felt that the business climate had become less attractive, and Russians were finding themselves with more and more investment capital as economic activity created wealth.³³ The Hughes brothers themselves attempted to sell the New Russia in 1898, but were unable to find a buyer on satisfactory terms.³⁴ In the final reckoning, the matter was resolved far from the Donbass. "For two years now, the Congress in Kharkov has been talking of the need to get rid of foreign directors and engineers, but the high personalities have given them to understand that this, for the moment, would be poor policy."³⁵

In the early development of the Donbass, the Russian state took on two new roles. Rather than operate the new branches of industry, it regulated them, creating through legislation an economic framework of subsidies, tariffs, and freight rates on the largely government-owned railways, as well as a social framework of labor legislation. In addition, the state was the greatest customer for metal and coal, which it used for railway needs as well as for Russian naval and military needs. In no way did the Russian government abdicate its autocratic prerogatives in the face of Russian and foreign capital. The bureaucratic institutions of the Russian state were intimately and often suffocatingly involved in every stage of the development of the Donbass.³⁶

Russia's demand for coal and iron was central to the development of industry. The question of the "internal market" was as hotly debated among the fledgling industrialists as it was in the revolutionary move-

since we know from John Hughes, Jr.'s letter cited earlier that there were still numerous Welsh workers in Iuzovka. It may well be that knowing Time's views and his influence, the Hughes brothers prepared a "Potemkin shift" for him to review.

³² TsGIAL, F. 381, op. 50, ed. khr. 3, p. 3.

³³ McKay, *Pioneers for Profit*, p. 281.

³⁴ CL, 11850, note 208, du Marais, *Neu Russia Co.* December 1898, pp. 4-5.

³⁵ CL, 11582, note 1607, *Frais generaux*, p. 8.

³⁶ A succinct and penetrating analysis of the Russian state's role in the growth of capitalism is Alexander Gerschenkron's "Problems and Patterns of Russian Economic Development," in Cyril E. Black, ed., *The Transformation of Russian Society* (Cambridge, Mass.: Harvard University Press, 1967), pp. 42-72.

ment. No less important, of course, were issues of pricing. Donbass coal and iron had to compete not only against foreign goods, but also against alternative products available within Russia, as well as coal and iron from the Urals or Poland. A third question, debated throughout the development of the Donbass, was that of labor. The supply and cost of the working force remained on the agenda of the industrialists throughout the period.

The railways and sugar mills gave the original impetus to the cycle of development as their growing demand for fuel drove up the cost of wood. A cubic sazhen of wood that sold for ten rubles in 1865 cost sixteen in 1882.³⁷ Meanwhile, Russia had already taken the first steps towards creating a modern mine industry. Improved technology and increasing amounts of capital were being applied to better-quality coal with an eye to challenging Cardiff and Newcastle coal in Russia.³⁸ This was no easy matter. From the 1840s on, Demidov and Le Play had found that English coal was underselling the Russian coal in Russia. English ships, coming to load grain in Odessa, carried coal as ballast, while the inadequate Russian transport system drove up the price of the Russian product.³⁹ A French mining engineer visiting the Donbass in 1887 noted the same phenomenon, adding that local internal use of coal in Russia was as yet small, as was that of iron, while the few substantial metal-using projects that existed were given out to persons of influence at court, rather than to people exhibiting entrepreneurial merit.⁴⁰ In early 1874, when Hughes was producing three million pud of coal annually and increasing his output rapidly, he was urging the Russian government to provide the facilities to challenge English coal in Russia and even in the Black Sea area. He pointed out that the British were selling over 16 million pud of coal a year to Russia, through the Black Sea and Azov ports, at 26 to 42 kopeks per pud. Moreover they were selling 42 million pud in the Dardanelles, Black

³⁷ Monin, *Notice*, p. 8. See also V. Islavin, "Obzor," p. 40.

³⁸ Islavin, "Obzor," p. 40. Islavin, who had first visited the Donbass in 1871, writes that Valuev, the Minister of State Domains, sent him to survey the area in the summer of 1874. Since Valuev himself toured the Donbass that same summer, Islavin's mission may be presumed to have been the preparation of an evaluation and agenda for the minister's meeting with the Donbass industrialists. Unfortunately, Valuev's diary contains no details of his visit to the region.

³⁹ A. Keppen, "Materialy," Pt. 2, *G-z 1*, no. 1, 1899, p. 3620.

⁴⁰ Paul Chapuy, *Journal de voyage en Styrie et dans le Bassin du Donetz*, Ms., Ecole supérieure des Mines, Paris: 1887, pp. 113, 120.

Sea, and Danube estuary. According to Hughes, the New Russia Co. alone could export 20 million pud per year if only there were a railway from Iuzovka to Mariupol or Berdiansk.⁴¹

In 1860, the Donbass had produced 6 million pud of coal. In 1870 it was 15.6 million, with prices rising sharply amidst complaints of rising wage costs and a chronic labor shortage that had coal producers luring away each others' workers. In 1873 production leaped to 37.77 million pud.⁴² With the first spurt of development, production began to outrun demand. Prices fell sharply, from 18 kopeks per pud in 1870 to 9 per pud in 1876.⁴³ Hughes contributed to this by running a large-scale, comparatively efficient operation. While prices were still rising in 1870, he had lowered the selling price of his coal to 6 to 8 kopeks per pud.⁴⁴ This was just the first of many price falls that transformed both coal and metallurgy into industries of recurring crisis. It is remarkable that, despite recurrent depression, the overall growth of these industries, and of coal in particular, was uninterrupted until the turn of the century. Only the recession of 1901/1902 and the 1905 revolution brought temporary setbacks. Taking the production level of 1860 as an index of one, the Donbass in 1913 reached an index of 257, producing more than 1.5 billion pud of coal.⁴⁵

If one were to believe the mining industrialists, Russia's weak industrial development and the unstable and migrant nature of the labor force were both root causes of cyclical crisis in the coal and metal industries. When there was a good harvest, field hands would be in demand, agricultural wages would rise, and fewer peasants would seek work in the mines. The railways would be busy until late in the winter, hauling grain and sugar beet, and would postpone serving the coal mines. This chain of events hindered the mines' penetration of markets in Moscow and other central cities, in which economic activities had been stimulated by the development of the Donbass-Krivoi Rog coal and iron complex.⁴⁶

⁴¹ TsGIAL, F.381, op.50, d.3, p. 4. Letter of Hughes to Valuev, February 25, 1874.

⁴² Ziv, *Inostrannye kapitali*, p. 55. For the effect of this disastrous price collapse see also Keppen, *Istoriko-statisticheskii obzor*, pp. 32–33. On reports of the labor shortage and rising wages see the 1870 report of Engineer Shostak's visit to the construction site of the New Russia factory cited in Keppen, "Materialy," *G-z l*, no. 6, 1900, p. 4190.

⁴³ L. Liberman, *V ugol'nom tsarstve*, p. 17.

⁴⁴ TsGIAL, F.37, op.53, d.746, p. 8. October 1870 report of Engineer Shostak on his visit to Iuzovka.

⁴⁵ Ziv, *Inostrannye Kapitali*, p. 55.

⁴⁶ Robert E. Johnson, *Peasant and Proletarian* (New Brunswick, N.J.: Rutgers University Press, 1979), p. 16, notes this effect of economic stimulation in the Moscow region.

When the Congress of Mining Industrialists of South Russia met in 1882, a representative of a prominent commercial firm presented a list of Moscow factories ready to order 22 million pud of coal annually if the price and the reliability of delivery could be arranged. These conditions meant the construction of a new railway line and provision of more rolling stock to alleviate the already incapacitating strain on the rail lines. Since the potential orders represented nearly 40 percent of all Donbass coal shipped in that year, the producers were more than willing to push the matter.⁴⁷ Indeed, pushing the construction of railroads and of railroad equipment was a central concern of the Congress of Mining Industrialists from its inception. The railways were at one and the same time the greatest potential customer of the coal and metallurgy industries and the enabler of their development. The Donbass lay far from the ports of the Sea of Azov and far from any navigable rivers. Without railways, coal and iron could not reach their markets.

To outside observers the early development of Russian railways often appeared to be dictated by strategic rather than commercial considerations. This diminished their attractiveness as investments. One exception was Hughes' "Bakhmut-iron foundry line."⁴⁸ The economic effect of this line was immediate and clear, and the line was closely watched by foreign observers interested in the Donbass' growth potential.⁴⁹ Yet during the first twenty-five years of the factory's existence the inadequacies of the railway system limited the growth of the New Russia Co. and of the Donbass as a whole. A mining engineer surveyed the growth of Iuzovka and its technological achievements and wrote in 1880 that were there railways linking Hughes' factory to the Black Sea (the ports of the Sea of Azov were small, shallow, and poorly equipped), his products would even then compete in price with foreign goods.⁵⁰ Although this had been a major item on the agenda at the founding meeting of the Congress of Mining Industrialists of South Russia a decade earlier, it was 1884 before the Ekaterinin

⁴⁷ *Trudy*. VII, 1882, pp. 101–107. *Trudy*, XVII, 1892, p. XVI gives 1882 shipments of coal from the Donbass as 57,817,200 pud (96,362 carloads of 600 pud each).

⁴⁸ See the *Times* of London, October 26, 1869, p. 4, col. 1, for the negative evaluation, and October 28, 1869, p. 8, col. 3, for the announcement of the line in the Donbass.

⁴⁹ AN, File F12, Box 7173, Report for 1871 from the French consul at Odessa noting the expected completion of the branch line joining "les usines d'Yuse" to the Kursk-Khar'kov-Azov line that had been operating since 1869.

⁵⁰ F. Zilov, writing in the *Iuzhno-Russkii listok*, no. 4, 1880, p. 50.

Railroad, linking the coking coal of the Donbass to the rich iron ore of Krivoi Rog, was put into service.⁵¹

But the rapid growth of the New Russia factory would have strained even the most rapidly expanding system. In 1894, the factory received 42,735 carloads of ore and other materials—a daily average of 117 carloads on a year-round basis. It shipped 8,349 carloads of metal goods, and could have doubled its production if only the railways could have hauled the goods away.⁵² In the business year from September 1, 1898, to August 30, 1899, the materials received grew to 55,112 carloads and the goods dispatched to 20,557 carloads.⁵³

Lack of storage facilities and reserves was a problem for the railways as well as for actual and potential customers of the Donbass coal producers. As late as 1900, Avdakov and Rabinovich complained at a session of the Congress that they had no reason to try to build up their summer coal production since the railways could not haul it away. At the same time factory owners in the southern cities, who turned in growing numbers to steam-powered machinery, were complaining that although they had contracted for coal and paid for it, they could not ensure delivery. City representatives complained of lack of storage space for the reserves necessary to guarantee lighting, heating, and similar services.⁵⁴ Even when the Donbass was beginning to open up and had the capacity to produce far more than it actually did, the Kursk-Kharkov-Azov line used coal only as far as the Slaviansk station and reverted to wood after that—it lacked coal-storage and coal-hauling capacities for longer distances.⁵⁵ For every verst of railway built, 5,000 pud of rails had to be hauled to the construction site, and rails had to be replaced, first at five-year intervals, then, after the introduction of steel rails, at somewhat longer intervals. All of this activity had to be factored into the work plans of the railroads, which slowed the expansion of their haulage capacity and track length. Then, too, Russian railways remained backward and inefficient in their equipment and its use. While the Northern Pacific railway in the U.S. was using coal cars of

⁵¹ See the account of engineer Ioss' presentation to the meeting in "Gornozavodskoe delo v minuvshem godu," *Gornyi zhurnal*, no. 1, 1875, p. 56.

⁵² See *Trudy*, XIX, 1894, pp. 263, 266, for the activity of the factory; Ragozin, *Zbelezo i ugol' na iuge Rossii*, p. 48, for its capacity.

⁵³ *Trudy*, XXIV, 1899, pp. 59, 65.

⁵⁴ *Trudy, ekstremnyi s'ezd*, 1900, Stenographic report of fifth session, pp. 75–82.

⁵⁵ See engineer Shostak's 1870 report cited in Keppen, "Materialy," *G-z l*, no. 6, 1900, p. 4190.

1,750 pud capacity, Russian railways loaded only 600 pud per car. Ore cars on the Ekaterinin Railway between Krivoi Rog and the Donbass averaged between 4.5 and 5.9 kilometers per hour, depending on the season, and their utilization was estimated to be only one-quarter of what it should have been.⁵⁶

The lack of rail connections affected the development of many mines and often put them out of business. Except for the New Russia Co., which supplied itself with coal from its own mines, and the iron works in Lugansk, which took relatively small quantities of coal, there was no local market. Among the reasons cited by Engineer Taskin in a survey of the coal industry's failure to realize its full potential was the fact that consumers believed that, given the weakness of the railway system, coal producers could not provide a reliable supply of fuel. Yet railways were indispensable to the mines, and, in the same survey, Taskin noted that mines lying any distance from the railways could not market their product economically and were closing down in considerable numbers.⁵⁷ By 1880, 27 Donbass mines were standing unused because they lacked a means of transport for their product; by 1881 the number had grown to 32. Without cheap railway haulage they simply could not compete in the Russian market. The coal producers responded by emulating Hughes' example: they worked toward the building of branch lines that would link their mines to the trunk routes of the Russian railway system.⁵⁸

The railways grew rapidly, expanding their haulage of Donbass coal from three million pud in 1870 to 69.4 million pud in 1894. In the years 1896–1900, 14,887 versts of track were laid—nearly as much as in the previous twenty years. Yet in a report to the Minister of State Domains, who at that time supervised the mining and metallurgy industries of Russia, the Congress of Mining Industrialists wrote that despite all the state's efforts to expand the railways, the mining and metallurgy industries were growing even faster.⁵⁹ Russia never did create an adequate rail system. In

⁵⁶ *G-z I*, no. 16, 1899, p. 3931; *Trudy*, XXIV, 1899, report of Engineer S. Zimovskii.

⁵⁷ *TsGIAL*, F.37, op.5, d.990, pp. 6–7. Report of Engineer Taskin, January 22, 1877.

⁵⁸ See *Trudy*, VII, 1882, pp. XXIV–XXV, 9; Potolov, *Rabochie Donbassa*, p. 78, notes a crisis of "overproduction" in these years. Lukomskaia, "Formirovanie," p. 293, for the same phenomenon in the 1870s; *S.S.S.*, vol. 3, Slaviansoserbsk uезд, p. 395. When the railways did come to the mines they put an end to a prosperous business of off-season haulage of grain and coal by which peasants were earning as much as forty rubles cash per year. *Ibid.*, pp. 290–91.

⁵⁹ For annual construction rates 1861 to 1910 see Glivitz, *Zbeleznaia promyshlennost'*, p.

1917, when one-half of the Donbass coal mined remained at the pit heads and rail junctions for lack of transport, this weakness was a central cause of the regime's downfall.

From the start, the shortage of coal cars caused frictions within the community of coal producers, and no less friction between the mine owners and the railways. In the early years of the Donbass, many coal shippers were merchants rather than producers: they contracted for coal from peasant mines and sold it in Kharkov or other cities. There were those who sold their coal to owners of nearby, larger, mines with well-developed marketing connections.⁶⁰ Some of these merchants shipped only one or two carloads a year.⁶¹ They would, however, register with the Congress committee for freight car allocation, established in 1874, ordering in advance a larger number of cars than they actually needed and then selling their rights to producers who found themselves short of transport. This caused Islavin to complain that since all Congress members had an equal right to reserve coal cars, there were some who reserved them even before they had coal ready for shipment—"a whole class of small-time peddler Jews [*zhidki skupshchiki*] who scuttle along the railways, looking for the right moment to offer their services. These Elanchiks, Zaslavskiiis, Aptekmans, and dozens like them seize the readiness of the coal producers to market coal at a reduced price . . . then sell the coal in the city, at a higher price, of course, and gain an unearned profit on the coal producers' labor and capital."⁶² This "Shylock syndrome"—the total lack of understanding

79. The growth in haulage is noted in Avdakov's report to the Congress in *Trudy*, XX, 1895, p. 505. The letter to the Minister of State Property is in *Trudy*, XXIV, 1899, p. 104.

⁶⁰ S.S.S., vol. 3, Slavianoserbsk uезд, p. 399. At this stage of his career, Ia. Malkin was selling his coal to a mineowner named Zavadskii, who marketed it.

⁶¹ For a list of coal shippers and the amounts they shipped see *Trudy*, XVII, 1892, pp. 358–59.

⁶² Islavin, "Obzor," pp. 64, 66–67. See also Kavraiskii, "Rudnichnaia relsovaia ot-katka," p. 188n. He complains that the mine owners have insufficient understanding of conditions in the mines and insufficient information regarding development and operations, and states that "as a result the coal producer is completely at the mercy of arbitrary demands of the workers and the Jewish speculators." CL, 11582 note 1607, *Frais generaux*, pp. 8–9, notes the history of the committee for allocation of railway cars, and also singles out Jewish merchants as cornering available cars and then turning them over to coal producers for a commission. Nearly thirty years after the committee was established it was still operating although the author notes that except for the harvest period there are generally sufficient cars available. The conclusion that he sends to his French employers is that the committee "meets a real need, but in our country would not have been necessary."

and consequent fear of commercial middlemen in industrial marketing—was typical of the shortcomings of the Donbass industrialists, who operated in a conceptual world of state-run enterprise and manor-bred paternalism rather than in the European tradition of commercial risk-capital.

In the agriculturally based Russian economy not every year produced a bumper crop. When there was a bad crop year, overall economic activity slowed. Sugar and flour mills worked less, the railways worked less, and consequently the demand for coal slackened.⁶³ Despite these conditions, as the continuous rise in production shows, the trend toward industrial development was stronger than the business cycle, and, in fact, an analysis of coal consumption over the period 1891–1904 shows a steady growth in coal use in miscellaneous industries and institutions (municipalities, etc.), and by private users. These consumers' share in the end use of coal was fairly stable, varying only between 27 and 31.5 percent of all Donbass coal marketed.⁶⁴ Russia as it developed was consuming more and more coal and iron each year. Brandt sets the *per capita* annual demand for iron at 8 funt in 1850 and 52 funt in 1897.⁶⁵ Glivitz notes a doubling of Russian coal consumption between 1880 and 1908.⁶⁶ Moreover, the prospect for further development was bright, for despite these gains, Russia's fuel consumption at that time was as yet 53.22 percent wood and an additional 14.21 percent straw and peat, while coal provided only 23.9 percent and petroleum only 8.67 percent.⁶⁷ An 1878 report sets the aim of the South Russian Coal Co. as the supplanting of wood and of foreign coal in Russia, noting that foreign sources supplied 28 percent of the coal then used in the empire.⁶⁸ An 1895 report of Hughes' New Russian Co. notes that while the plant's production had grown to over nine million pud of pig

⁶³ See the speech of Nikolai Stepanovich Avdakov in *Trudy*. XIII, 1888, pp. 247–48. See a similar explanation of the 1885 recession in *S.S.S.*, vol. 3, Slaviansoserbsk uezd, p. 393.

⁶⁴ *Trudy*. XXIX, 1904 (Reports volume), p. 17.

⁶⁵ Brandt, *Inostrannye kapitaly*, vol. 2, pp. 80–81.

⁶⁶ Glivitz, *Potreblenie zbeleza*, p. 8. Different sources bring widely differing statistical material regarding the consumption of coal and iron in Russia at this time, but the trend of rapid growth is clear whether the estimate is 27 funt, as in Brandt, or 90 kilograms, as in Glivitz. There is also a consensus that Russia's consumption of these two basic industrial materials ranked far below that of the U.S. and Great Britain and was even less than that of Spain or Austro-Hungary.

⁶⁷ A. Gapeev, "K voprosu o roli Kuznetskogo Basseina v ekonomicheskoi zhizni Rossii," *Brulleten' V.S.N.Kh.*, no. 2, June 1918, p. 49.

⁶⁸ *TsGIAL*, F. 37, op. 5, d. 1858, pp. 5–6.

iron annually, one-third of all the iron poured in the south of Russia, the country was still dependent on imports for almost forty percent of its iron consumption.⁶⁹

The markets for coal and for metal changed steadily over the years, both geographically and by sectors of the economy. Responding at first to local needs, Donbass coal slowly spread across Russia on rails made of Donbass steel. Of the 14 million pud of coal mined in the region in 1869, over 70 percent was used within the Donbass itself: for the needs of the mines, for peasants' own use, and for the Lugansk iron works. Of the portion that was shipped out, private purposes consumed nearly two-thirds in the towns of the Azov and Black Sea coasts, the steamer fleets of the rivers and of the Black Sea took 30 percent, while the railways used only 210,000 pud, a mere 5 percent of the coal shipped from the Donbass.⁷⁰ As soon as the railways could replace the bullock carts of the steppes, the coal market grew and changed in its structure. (See Table 2. 1).

Perhaps the most salient point of Table 2. 1 is the growing interdependency between railways, coal, and metallurgy. Each needed the other for its development. For all its potential, the New Russia Co. provided only six percent of the rails needed by Russia in the 1870s.⁷¹ Islavin claimed even more, stating that another thirty-five plants like Hughes' would have to be built to meet the country's current needs.⁷² Once the railroad to Krivoi Rog was in operation, metallurgical plants claimed a growing share of coal production and their expansion spurred the further development of mines.⁷³

Along with the phenomenal growth of coal production and the con-

⁶⁹ TsGIAL, F. 37, op. 55, ed. khr. 260, p. 8.

⁷⁰ Liberman, *V ugol'nom tsarstve*, p. 12 n. 2.

⁷¹ K. Skal'kovskii, "Gorno-zavodskaya proizvoditel'nost' Rossii v 1872 godu," *Gornyi zhurnal*, no. 9, 1874, p. 329. His calculation is that each verst of single track line needed 5,000 pud of rails that last five years. As Russia in 1872 had 16,000 versts of rail line, the annual need was 16 million pud. In addition, there was new construction of 1,500 to 2,000 versts annually and ancillary uses of iron for bridges, buildings, etc.

⁷² Islavin, "Obzor," p. 61.

⁷³ See Avdakov's speech on the interrelation of coal, metallurgy, and railways in *Trudy*, XIII, 1888, p. 253. Demand of the Donbass metallurgy factories for coal and coke grew from 147.2 million pud in 1907 to 214 million in 1912. *Trudy*, XXXVII, 1912, report of the Avdakov commission on the state of the coal industry, Appendix IIa. According to CL, File 13599, study 1847B, M. Geibel, *Olkhov Blast Furnace Co.*, August 1904, p. 11, only Hughes, the Russo-Belgian Co., and Olkhov were self-sufficient in coke and coal and thus avoided problems of price and supply during the years of great expansion.

CHAPTER 2

TABLE 2.1
Changing Consumption of Donbass Coal, 1880–1915

Year	1880	1890	1900	1911	1915
Total Production (million pud)	86.35	183.25	671.65	1217.63	1316.54
Own use ^a (million pud)	48.52	65.13	257.59	560.63	141.25
Coal shipped (million pud)	38.73	118.12	414.06	657.00	1175.29
Coal shipped (% of total)	44.85	64.46	61.65	53.96	89.27
Consumed By (percentages)					
Railways	56.9	33.9	22.8	37.9	40.7
Metallurgy	00.5	14.9	38.3	15.8	22.0
Steamer fleet	05.9	09.6	03.5	05.1	04.8
Gas works	00.8	01.6	00.8	00.8	00.6
Sugar mills	17.7	10.7	08.1	09.2	03.3
Inst., ind., pr. ^b	18.1	29.2	26.6	31.2	28.5

Sources: Production 1880–1911: Зив, *Inostrannye kapitaly*, p. 55. Production 1915: *Birzhevye vedomosti*, February 11, 1917.

Own use and consumption shares derived from *Trudy*, various years.

Note: Percentage discrepancies are due to the rounding of decimals.

^a Use by mines and by metallurgy enterprises with their own coal supplies.

^b Government institutions, industries, and private use.

sumption of coal by the railroads and iron foundries, the coal producers achieved a steady increase of industrial and institutional use of coal and stimulated the growing demand for coal for home heating in Russia's towns and cities. Donbass coal was penetrating deeper and deeper into northwestern Russia. Nevertheless, this transition was difficult and not without setbacks. The desire of the coal producers to conquer new markets was not always accompanied by a convincing economic argument. At the Congress session in 1882, a representative of Malkin's company made an ardent speech about the importance of conquering the Moscow market. His figures, however, reveal that Donbass coal would cost at least two

kopeks more than would English coal delivered in Moscow.⁷⁴ Moscow remained a hard nut to crack; during the next decade reports to the Congress continued to show that although Donbass coal was having its successes in other regions, oil shipped up the Volga was underselling coal in Moscow factories.⁷⁵

From their beginnings the coal and iron industries had been vulnerable to the swings of the business cycle. This was particularly felt by the metal producers, who rushed into the Russian market in even greater numbers than did the coal producers. In 1869, Hughes' New Russia factory was the only full-cycle metallurgical plant in the Donbass. By 1899 there were twenty-three such plants, representing a capital investment of 124.75 million rubles. Ten of these had opened in the years 1894–1900. If we take South Russia's iron production of 495,850 pud in 1874 (virtually all of it produced by Hughes' New Russia Co.), as an index of 1, then the 24,398,000 pud produced in 1897 represents an index of 49.2.⁷⁶ This would be an impressive growth rate for any industry at any time and was rivalled only by the growth of Donbass coal in those same years. After the economic shakeouts of the first decade of this century, there remained only eighteen metallurgy firms, but their capital had nearly doubled, reaching 224.18 million rubles.⁷⁷

Yet it is the coal producers who constantly debated the crisis of their industry. In 1882, E. N. Taskin, a district mining engineer and one of the veterans of the Congress of Mining Industrialists, reminded them that the "coal crisis" in one form or another had existed since the founding of the Congress, and that the Congress had been established to overcome such problems.⁷⁸ The same debate recurs in 1912 virtually unchanged, with the chairman of the annual meeting warning that despite the great growth

⁷⁴ *Trudy*, VII, 1882, p. 185, speech of Geuntzelman.

⁷⁵ *Trudy*, XVII, 1892, p. XXXIII. See also an unsigned report to the Congress suggesting that the railways in the south and exports through the Black Sea would be the natural market for Donbass coal, and that there would be no hope of competing in Moscow. *Trudy*, XIII, 1888, pp. 86–96.

⁷⁶ Production derived from Keppen, *Statisticheskie tablitsy po gornoj promyshlennosti Rossii* (St. Petersburg: 1879), p. 42, Ragozin, *Zhelezo i ugol'*, p. 51.

⁷⁷ *Ziv, Inostrannye kapitaly*, p. 7. See also, Brandt, *Inostrannye kapitaly*, vol. 2, pp. 76–77; and Kondufor, *Istoriia*, vol. 1, p. 31.

⁷⁸ *Trudy*, XIII, 1888, p. 37. Cf. Alchevskii's speech in *Trudy, ekstretnnyi s'ezd*, 1893, pp. 67–68. He asks why, if the industry stands before a crisis of overproduction, increased output is being planned for the coming year, and why the industrialists are enlarging their mines at great cost.

of production, the coal market, and particularly the use of coal by the railways, was unstable.⁷⁹

What did take place in the crisis years was a restructuring of the industry, with the less efficient producers selling out to the larger, better capitalized firms. In 1881 there were 34 Donbass coal firms operating, and in 1883 only 23, yet production grew by 26 percent.⁸⁰ Between 1903 and 1906 the number of large coal firms producing more than 10 million pud per year rose from 18 to 30, while the small firms producing less than a million pud each year declined from 55 to 27.⁸¹ However, even some of the stronger firms were affected by the periodic crises. Chapuy writes in his journal that in 1885, Hughes was on the point of closing down and was saved only by the imposition of a new tariff on imported cast iron that made local users turn to domestic sources.⁸²

This was not the first time that the state had boosted the metallurgy industry. When Hughes and his colleagues faced technical difficulties and for this reason delayed making a transition from iron rails to longer-wearing steel rails, a government commission of enquiry recommended not only tariff protection, but long-term orders at substantially improved prices. In August 1876 the government ordered 12 million pud of steel rails, to be supplied by eight enterprises. The New Russia Co. was awarded 2.7 million pud as its share.⁸³

State interest in the heavy industries of the Donbass brought on a period of active protectionism that began in 1877 and reached its peak in 1891. A tariff had been placed on the import of rails in 1868, the year the Putilov plant began producing them. From 1880 on there was a tariff on pig iron, a commodity that had been imported freely over the previous twenty years. In 1887 this tariff was extended for another ten years, which helped to pave the way for the takeoff of metallurgy in the last decade of the century.⁸⁴ Under these conditions, Hughes' pig iron could sell for 92 kopeks a pud in Moscow, while foreign goods of the same quality were selling for

⁷⁹ *Trudy*, XXVII, 1912, p. XXIV.

⁸⁰ Lukomskaia, "Formirovanie," p. 290.

⁸¹ *Vestnik finansov*, no. 25, 1908, p. 454.

⁸² Chapuy, *Journal*, p. 120.

⁸³ Fomin, *Gornaiia promyshlennost'*, p. 441. TsGIAL, F.37, op.53, d.746, Lebedev's report of October 2, 1879, notes that the contract with the New Russia Co. was signed on July 30, 1877, and was to be fulfilled in the course of three years.

⁸⁴ Glivitz, *Zheleznaia promyshlennost'*, p. 56. See also *Trudy*, XXIV, 1899, p. 18.

a ruble and ten kopeks.⁸⁵ Import duties also helped the Donbass coal producers against their mortal rivals, the English. In 1885 there had been 14,754,324 pud of coal imported by way of the Black Sea. By 1903 this had been reduced to 1,523,000, although coal still flowed plentifully into the Baltic ports to supply the northwest area, where Donbass coal was not yet marketed.⁸⁶ The tariff, however, was an uncertain shield, and Witte in particular, as Minister of Finance, did not hesitate to remove tariffs and force coal and metal prices down when he thought that the mining industrialists had an unfair advantage. In 1893, after two years of cholera had caused the coal industry considerable difficulty, the possibility of a "coal crisis" was yet again debated in the industrialists' annual meeting. It was pointed out by some of the participants that the government was prepared to ease import duties on foreign coal, encourage the use of petroleum, and give preference to the coal of other areas of the empire if the Donbass could not supply Russia's needs.⁸⁷ Allocation of funds for subsidies was also a subject of inter-elite battles, and, as Roberta Manning points out, subsidies to industry gradually declined after 1907, yielding to subsidies for agricultural production.⁸⁸

The question of the "internal market" for iron stirred passions in Russia. Critics of the industrialists claimed that only high prices kept iron from a wider market in Russia. Skal'kovskii, an official of the Mines Department, denied this vehemently, stating that price reductions could not induce Russia's peasantry to use iron, and that the country was as yet far from any mass private market.⁸⁹ Hughes felt this lack keenly and noted in a letter to Count Valuev that his factory was losing money because it was working at much less than full capacity; indeed, were sufficient orders to appear, it could produce four times its actual production of that time.⁹⁰ In following this debate, however, we should note that even in the 1890s, when Donbass metallurgy was growing vigorously, Russia's own produc-

⁸⁵ Time, "Ocherk," *Gornyi zhurnal*, no. 1, 1889, p. 15.

⁸⁶ Avdakov's report in *Trudy*, XXIX, 1904, p. 64.

⁸⁷ *Trudy*, XVIII, 1893, Part II, pp. 73-76. A similar threat can be found in the wake of coal strikes in 1906. See *G-z l*, no. 29, 1906, p. 8619.

⁸⁸ Roberta T. Manning, *The Crisis of the Old Order in Russia* (Princeton, N.J.: Princeton University Press, 1982), p. 359.

⁸⁹ K. Skal'kovskii in *Novoe vremia*, February 1, 1901, p. 3, in a polemic with *Russkiiia vedomosti*.

⁹⁰ TsGIAL, F.381, op.50, ed. khr.3, p. 4, letter of Hughes to Valuev, February 25, 1874.

tion supplied only two-thirds to three-quarters of the domestic demand for iron.⁹¹ The question is in large part one of producers adapting themselves to the needs of the market.

In the midst of the 1901/1902 recession the debate flared up. It was pointed out that 77 million rubles worth of machinery was imported annually, ten million by the government and the rest by private firms. Was this not the long-sought private market?⁹²

But the real question for the metallurgy industry was the role of the state. Skal'kovskii proclaimed that the state, not the peasants or artisan-merchants, was the hope of the industrialists. He claimed that state railways took one-half of all Russia's iron production, while military and state-initiated civil uses consumed a good deal of the remainder.⁹³ Although important as a metal consumer, by the turn of the century the state was in fact no longer the most important economic factor in the metal market. In 1898, of the 27,542,449 pud of iron goods marketed in Russia, the state took about one-third, while the private market, including the factories' own consumption of metal, took two-thirds.⁹⁴ There were plants like the Donetsk-Iureev works that had, at that time, virtually no government business. Pastukhov's Sulinsk plant did only 13.5 percent of its business with the state, and the New Russia Co. 32 percent, mainly rails for the state-owned railways. Others like the Petrovskii works at Enakievo and the Donetsk factory at Druzhkovka depended on the government for two-thirds of their income.⁹⁵ The state, however, was a relatively stable customer, while the rest of the Russian market was notoriously and chronically unreliable. Thus, when the recession of the early 1900s set in, it was only the state that kept many of the larger firms going. In 1901 the Hughes factory was dependent on state orders for no less than 81 percent of its orders, while a number of other firms also sold over half their production to the Russian government and its agencies.⁹⁶ In arguing for the

⁹¹ Brandt, *Inostrannye kapitaly*, vol. 2, p. 81.

⁹² Report of Iu. M. Gorianov in *Trudy, ekstrennyi s'ezd*, 1902, pp. 65–66.

⁹³ *Novoe vremia*, February 1, 1901, p. 3.

⁹⁴ *G-z I*, no. 18, 1899, p. 3957.

⁹⁵ *Trudy*, XXIV, 1899 Report on Development of South Russian Metallurgy. *G-z I*, no. 18, 1899, p. 3957, notes that of 8.8 million pud of rails ordered in 1898, 7.9 million were for the government.

⁹⁶ *Trudy*, XXVII, 1902, vol. 3, stenographic record of the fifteenth session, p. 177. See also the discussion of this point in Alfred J. Rieber, *Merchants and Entrepreneurs in Imperial Russia* (Chapel Hill, N.C.: University of North Carolina Press, 1982), p. 242.

establishment of a metal marketing cartel, Guzhon pointed out that government orders allowed six metallurgy firms to flourish, while the instability of the general market put the remaining eighteen Donbass steel works in a hopeless position.⁹⁷ By 1911, however, when the market was buoyant once more and one could no longer speak of an infant industry, state orders were only fifteen percent of Russia's metal market.⁹⁸ In the period 1903–1912 the consumers of South Russia's metal were: railways—21.9 percent; the general market—29.1 percent; industry and manufacture—16.5 percent; construction—19.7 percent; and pipe manufacture—5 percent.⁹⁹

Although national pride and national security were the political motivations for the government's tariff and subsidy policies, these policies also brought unanticipated results. One such result was the protection of corrupt and inefficient industrialists. An analyst for the Credit Lyonnais, noting the large profits to be made from government orders, wrote: "The Briansk factory, although deplorably managed and administered, has been well favored with state orders that are of such importance."¹⁰⁰ An earlier report had spelled out the type of mismanagement that had been revealed and corrected after a period of recession and the appointment of a new director: the cost of tea supplied to the factory had been cut by 12,000 rubles; services never performed were shown to have cost 25,000 rubles; and the staff hired for overhauling the factory had been reduced from 7,000 workers to 4,500.¹⁰¹ Coal wagons were generally loaded at the mines with 15 to 25 pud more than their nominal capacity of 600 pud, but arrived at their destinations 50 to 100 pud underweight, depleted by theft all along the line.¹⁰² Yet as McKay has pointed out, the foreign entrepreneur had to be able to distinguish between corruption and unfamiliar foreign customs.¹⁰³ Among the many unusual costs that entrepreneurs

⁹⁷ *Trudy*, XXVII, 1902, vol. 3, speech of Guzhon, p. 177.

⁹⁸ Glivitz, *Potreblenie*, p. 105.

⁹⁹ Glivitz, *Potreblenie*, p. 28. The author gives no explanation as to the meaning of "general market" as distinct from industry and manufacture, but it seems reasonable to assume that he is referring to artisan use of iron, e.g., blacksmiths in villages, etc.

¹⁰⁰ CL, 11852, *Briansk Factory*, February 1904, p. 11.

¹⁰¹ CL, 1606, *Briansk Factory*, June 2, 1903, p. 4

¹⁰² Islavin, "Obzor," p. 65.

¹⁰³ McKay, *Pioneers for Profit*, pp. 177–78. I am indebted to McKay for having pioneered the way to both the rich Donbass holdings of the French bank archives and the library of the Ecole des Mines in Paris.

in Russia faced might be payments to railway station workers "to be on good terms," or to postal workers "so that letters won't be forgotten and telegrams will be sent." The annual total of these "special general costs" could amount to five percent of the invested capital.¹⁰⁴

Between the constricting bureaucracy and this combination of corruption and inefficiency, Russia's atmosphere was not conducive to entrepreneurial activity. In addition, the mentality of many of the local industrialists and of some of the foreigners can hardly be described as enterprising. As we will note in detail in the second volume, when we examine the politics and policies of the Congress of Mining Industrialists of South Russia, the majority of coal and metal producers tended to look to the government for the solutions to all their problems. In addition, most of them, particularly in the coal industry, were small operators with a short-term view of industrial activity. They sought to exploit their mines for "two, three, five years, and rarely ten years," though the period for return of capital invested in a mine was calculated at eleven to twenty-three years, depending on the degree of development of the mine.¹⁰⁵ Most of them, even owners of some larger sized mines, lived outside the Donbass in Moscow, Kharkov, Taganrog, or Voronezh, and left their mines in charge of a hired manager who might be no more than a foreman with limited decision-making powers.¹⁰⁶ D. A. Pastukhov was the exception, the "rare example of a millionaire who preferred the pioneering labor of founding a new enterprise in the empty steppes to the conveniences of life in the capital."¹⁰⁷ While physical presence, energy, and inspired devotion to the challenge of industrial development were not in themselves sufficient to assure economic success, they were certainly necessary ingredients that were all too often lacking in the context of Donbass growth. At Hughes' New Russia factory, the individual personality of John James Hughes left an indelible imprint on the growth of both the enterprise and the town.

¹⁰⁴ CL, File 11582, note 1607, *Frais generaux*, January 1903, pp. 9, 22.

¹⁰⁵ *Trudy, ekstrennyi s'ezd'*, May 1900, Report of committee on workers' living conditions, p. 5. See also P. Ia. Ryss, "Uglekopy," *Russkoe bogatstvo*, no. 4, 1907, p. 139. Calculation of the term for return of capital is from *Vestnik finansov, promyshlennosti i torgovli*, no. 49, 1916, p. 407.

¹⁰⁶ *Trudy, ekstrennyi s'ezd'*, 1902, p. 56.

¹⁰⁷ Time, "Ocherk," p. 6.

CHAPTER 3

The New Russia Comes of Age: Economic Development to 1914

Certainly John Hughes must have resembled Pastukhov more closely than he did the majority of South Russia's industrialists, native or foreign. What could have been the motivation for a man aged fifty-five, well-established professionally, and in a position of considerable independence and power as head of the Millwall Engineering Co., to uproot himself and start anew in a foreign country, and in a barren and remote corner of that country? "In this unpopulated steppe locality, with its unfavorable conditions, Hughes was faced with obstacles which for all his energy would have been hard to overcome even in a more civilized place. More particularly was this so for a newcomer who was unacquainted with local speech and customs."¹ Neither the man himself nor his descendants have left us many hints, but his entire life suggests a personality that valued independence and responded to challenge.²

¹ Islavin, "Obzor," p. 56. Hughes evidently never did learn Russian and is said to have signed his name to Russian documents "I-03," as a close approximation of the Cyrillic transcription of his name. I am indebted to Michael Kaser for this bit of Iuzovka folklore. His source was Mr. Donald Crawford, who for many years was an official of the Department of Overseas Trade of the British government.

² Soviet historians and Donetsk officials to whom I posed the question of Hughes' motivation unanimously ascribed his presence in the Donbass to greed—the chance for millions in profits by exploiting cheap labor and Iuzovka's abundant resources. Although I would not suggest that Hughes was indifferent to profit, it should be remembered that he was already a man of considerable means and standing when he left England for what was an uncertain venture at best. The fact that he remained active in Iuzovka to the end of his life and pursued the development of the enterprise vigorously to the end suggests a much more complex motivation involving devotion to professional excellence along with other personal traits.



3.1 John James Hughes, founder of the New Russia Co., 1814–1889.

Physically, he has been described as “strong, round-faced, short-bearded, with the thick, bowed legs of a bulldog.”³ His biographer writes of him as “open-faced, clear-eyed, bluff and handsome, with laughter as well as command in the tone of his voice . . . reminiscent of a non-conformist minister.”⁴ A portrait used in the publications of the New Russia Co. and reputedly once hung in the London office (Illustration 3.1) shows a long, strong, stern face, bearded and sombre.⁵

Hughes was a worker and trained his sons in the same way. All four—John Jr., Arthur, Ivor, and Albert—played active managerial roles in the plant throughout its existence. Albert, who was later to be in charge of the New Russia Co.’s blast furnaces and analytic laboratories, received a technical education in London, then hired on as an ordinary worker in a chemical laboratory, studying physics, chemistry, mechanics, and mineralogy at night at King’s College.⁶ The early days of Luzovka have been described as “simple and patriarchal.”⁷ Hughes is depicted as visiting his workers in their homes, bringing a gift for a wedding or a new birth.⁸ He was the undoubted patriarch, setting regulations for every aspect of life, at home, at work, or in the community; he was unabashedly authoritarian in his approach, a believer in the responsibility of officialdom to impress itself upon its environment. Absent from Luzovka on a business trip, he heard of an outbreak of cholera in the Donbass and hastened to write to the Minister of State Domains in St. Petersburg: “Ever since I have been in South Russia I have impressed on the workmen in our employ to abstain from drinking vodka as much as possible and also to avoid eating a large amount of cucumbers and melons and especially unripe fruit. I have also impressed upon our doctors as also on our police to look after the cleanliness and ventilation of the houses as well as of the people themselves, as all doctors agree that cleanliness is the enemy of diseases.”⁹ Long after

³ Gonimov, *Staraiia Luzovka*, p. 16.

⁴ Bowen, *John Hughes*, p. 37.

⁵ Undated clipping from the London *Daily Telegraph*, communicated to the author by Mr. V. de Boursac, Hughes’ great-grandson. This was evidently the official portrait of the founder, for it appears in editions of the brochure produced by the New Russia Co. (See photograph opposite p. 41.)

⁶ Garshin, “Poezdka,” pp. 5–6.

⁷ P. Surozhskii, “Krai uglia i zheleza,” *Sovremennik*, no. 4, 1913, p. 302.

⁸ Gonimov, *Staraiia Luzovka*, p. 40.

⁹ TsGIAL, F.37, op.53, d.746, p. 297. Letter of Hughes dated February 12, 1879.

Hughes' death in 1889, the New Russia Co.'s total control of the settlement remained the central political, social, and economic fact of Iuzovka's life.¹⁰

Patriarch he was, perhaps even despot, yet he inspired admiration in many quarters. It is reported that Engineer Lebedev, seconded by the Russian government to keep an eye on Hughes, had at first described his rails as "rubbish" (*drian*) that lasted barely one year, while British products lasted six years.¹¹ Yet when Hughes died, Lebedev eulogized him as "one of the most energetic and honorable persons engaged in the mining industry."¹² The entire tone of the obituary reveals genuine admiration and deep affection. No less a person than Nikita Khrushchev also praised Hughes' fairness.¹³

Hughes died on June 17, 1889, at the Hotel Angleterre in St. Petersburg at the age of seventy-five. Never one to rest on his laurels, he had come to the Russian capital to pursue plans both for the export of Iuzovka coal to the Mediterranean to compete with British coal there and also for the sale of Iuzovka pig iron in St. Petersburg. In a period of rising Russian nationalism, when the activities of foreign investors were often regarded askance, he was given a glowing eulogy by the St. Petersburg paper *Novosti i birzhevaia gazeta*: "English by origin, he was Russian in his soul, and we may boldly say that he desired Russia's industrial success as passionately as any Russian."¹⁴

Considerations of technical self-sufficiency were the sole factors determining the siting of Iuzovka. Prince Lieven was willing to lease and ultimately sell all twenty thousand desiatin of his land, which assured the

¹⁰ The genesis of Hughes' outlook may perhaps be traced to his apprenticeship in the Cyfartha Iron Works where his father was an engineer. The factory was owned and operated by the Crayshaw family and had been handed down from generation to generation. The Crayshaws maintained both an elaborate set of laws governing factory discipline, and strict rules for home-workers. They also regulated their employees' education and medical care, strictly maintained the payment of wages in cash rather than in kind, and arranged ways to lower the cost of food bought by their workers. For all these details, see Anthony F. C. Wallace, *The Social Context*, p. 77. The reader will find that Hughes' relations with his workers had many of the same features.

¹¹ Gonimov, *Staraiia Iuzovka*, p. 57.

¹² *Novoe vremia*, June 20 (July 2), 1889, p. 3.

¹³ *The Times* of London, May 20, 1961. Israel's Minister of Transport in 1964 expressed similar memories of fair treatment to Hughes' great-grandson. (Personal communication to the author from V. de Boursac.)

¹⁴ *Novosti i birzhevaia gazeta*, no. 168, 1889.

factory both room for expansion and long-term security of tenure. The Lieven estate included the Smolianinov seam, the finest seam of coking coal in the Donbass, which was up to six feet thick and had been discovered by Le Play in 1837.¹⁵ Local iron ore, though not of the highest quality (it contained only 42 percent iron as against more than 60 percent in the Krivoi Rog ore which was to be the eventual supply for all of the Donbass¹⁶) was close at hand and thus could be moved without reliance on the development of lagging rail transport. Nearby limestone and the waters of the Kalmius River were the final elements in fixing the location. In an early report on the progress of construction at the site, Engineer Shostak praised Hughes' choice, noting that proximity to coal and water was more important than to iron ore, and that Hughes had already contracted for 150,000 pud of iron ore to be delivered at a reasonable price.¹⁷ Although Shostak wrote that the nearest iron ore deposits were thirty-five versts from the Hughes factory, Hughes had already discovered iron ore on his own lands, but kept it as a reserve (and a secret) "as it lies in close proximity to the blast furnaces and can be removed without difficulty."¹⁸

Although Hughes had satisfied himself that there was sufficient iron ore in the vicinity to feed his blast furnaces, the problems he had in contracting for it only convinced him all the more of the necessity of owning his own resources. When the Krivoi Rog iron mines were developed and linked to the Donbass, the New Russia Co. bought extensive holdings there and operated its own mines. An experienced business man and evidently no spendthrift, Hughes haggled hard for every contract, unwilling to be an easy mark for the locals. He complained that the landowners, "not knowing the real value of their minerals, and fearing to ask too little, ask prices which are in many cases far beyond the value." As for the peasants from whom Hughes wanted to lease ore concessions, and across whose lands his ore was to be hauled to the factory, Hughes saw them as "unwilling to accept fair compensation for their minerals, [they] continually interrupted me—thinking thereby to obtain better terms." Hughes coun-

¹⁵ Islavin, "Obzor," pp. 55–56. See also G. F. Tunner, "Otchet," *Gornyi zhurnal*, no. 1, 1871, p. 49n.

¹⁶ E. I. Ragozin, *Zhelezo i ugol'*, p. 48.

¹⁷ TsGIAL, F.37, op.53, d.746, pp. 6–7. Report dated October 24, 1870. See also Zilov, "Zavod Novorossiiskago obshchestva (Iuza)," *Iuzhno-Russkii listok*, no. 4, 1880, p. 50.

¹⁸ TsGIAL, F.37, op.53, d.746, pp. 21–26. Letter of Hughes to Minister of Finance, November 7, 1870.

tered by playing one off against the other, noting with satisfaction that as his operations became known, new offers of ore concessions were coming in steadily.¹⁹ The economic outcome of Hughes' careful siting of the plant was that, throughout the factory's history, its independent control of raw materials enabled it to produce more cheaply than most of its competitors. An 1896 examination of raw material costs at the Donbass' five largest metallurgy plants found that the New Russia plant expended 10.89 kopeks for every pud of pig iron produced while the other four expended sums ranging from 11.7 kopeks to 20 kopeks per pud.²⁰

The technological advantages of the site were great indeed, but otherwise there was little to recommend the place. It was over 1,000 kilometers from Moscow and more than 350 kilometers from Kharkov, the nearest sizeable city. On Prince Lieven's farm there were two huts and a sheep pen, and around them, as far as the eye could see, the empty steppe, "a totally open area bare of any sort of growth."²¹ The physical problems were enormous. The Kalmius carried little water in summer, and there was a chronic shortage of water, even after the river was dammed in 1890 at a cost of 100,000 rubles, creating a forty-foot-deep lake. Even then, mine pumpings—water pumped from the mines—were used for the steam boilers.²² Such water shortages were a fact of nature found everywhere in the Donbass and played a prominent role in the sanitation problems of the region. The emptiness of the locality also meant that there was no housing stock available; Hughes had to build from scratch accommodations for all those he attracted to his factory and mines. Given the rapid growth of his enterprises and of the population, housing was to be another chronic shortage. Here, too, Iuzovka's difficulties were repeated, often in even sharper form, throughout the Donbass. Though Hughes' closest neighbors, Col. Rykovskii and Ilovaiskii, had been operating small coal mines on their estates for fifteen years or more and had constructed some workers' housing for their migrant labor force, their mines as well encountered severe problems of housing when foreign firms bought the properties and rapid development began.

Actual construction of the New Russia factory and mines began only at

¹⁹ Ibid.

²⁰ *Trudy*, XXI, 1896, p. 452.

²¹ Fomin, *Gornata promyshlennost'*, vol. 1, p. 448; V. V. Sviatlovskii, *Kharkovskii fabrichnyi okrug: otchet za 1885g.* (St. Petersburg: Ministerstvo finansov, 1886), p. 23.

²² Garshin, "Poezdka," pp. 2, 5.

the start of August 1870, when Hughes sailed into Taganrog with eight shiploads of steam boilers, lifts, compressors, fire-resistant brick, and all instruments large and small that would be needed in the enterprise.²³ At the same time, construction was started on a ten-kilometer rail spur to the Konstantinovka rail line that connected to the newly opened Kursk-Khar'kov-Azov line. Hughes took great pains to connect his mines, factory, and the outside world by a network of branch lines, and the economic effect of this communications network served as a model for the other mineowners who came to invest in such lines only much later. The equipment that Hughes imported from England was laboriously hauled a hundred kilometers from the port of Taganrog by bullock cart over the steppe tracks, and in the first stages of the smelting operation endless trains of bullock carts hauled iron ore from fifteen different mining sites up to forty versts distant. Evidently the acquisition of numerous ore sources not only assured an adequate supply for Hughes' blast furnaces, but aided in his bargaining with his suppliers, for we find that whereas he was paying 10.5 kopeks per pud in 1870, his average ore cost seven years later was only 7.5 kopeks per pud. The price paid to the peasants for right of passage over their lands had settled by that time at $\frac{1}{6}$ kopek per pud.²⁴ In its first years the New Russia Co. kept a herd of 2,500 bullocks for the hauling of coal, ore, and limestone, but eventually these were replaced by the factory's internal rail network.²⁵ Yet as long as bullock carts were the principal transport, the supply of ore would evidently be interrupted by spring thaws and autumn rains as well as by other causes, for we find Lebedev reporting a shortage of ore for the blast furnace in his report of April 1, 1875, and noting resumption of its work only a month later.²⁶

From the very outset, Hughes was aware of the difficulties and shortcomings in his holdings and moved swiftly to correct them. To assure himself control of the water supply for the future, he acquired land that straddled both banks of the Kalmius and leased yet more land as he discovered additional promising iron ore deposits nearby.²⁷ In this manner

²³ TsGIAL, F.37, op.53, d.746, pp. 8-9. Shostak report.

²⁴ Compare the price noted in Shostak's October 1870 report with that noted by Engineer Taskin in January 1877. TsGIAL, F.37, op.5, d.990, pp. 61-62.

²⁵ AN, 65AQ-K69, Monin, *Notice*, p. 4.

²⁶ TsGIAL, F.37, op.53, d.746, pp. 227, 229. Since April included the Easter holiday as well as the beginnings of field work in the south, the shortage may have been due to a lack of cart drivers.

²⁷ Fomin, *Gornaia promyshlennost'*, p. 433; Islavin, "Obzor," p. 57. Lukomskaia, "For-

Hughes accumulated a total of close to 20,000 desiatin (55,000 acres) of land; under the company's original Articles of Agreement this would be his personal property, but the New Russia Co. would have free access to it for its operations.²⁸

The construction of the blast furnace and factory went more slowly than had been anticipated. As Hughes later recalled, Finance Minister Reutern had warned him that when he arrived in the south, his real troubles would begin.²⁹ Although Hughes himself "energetically supervise[d] the work from morning to evening" and had his skilled Welsh workers with him, without whom "it would have been impossible to think that he would have been able to fulfill the obligation he had undertaken,"³⁰ recruitment of Russians was difficult and those who were willing to work were unskilled in industrial construction. The workforce was small for such an ambitious project. The entire population of Iuzovka in 1870 consisted of 164 people, with only 42 families.³¹

Hughes had to battle difficulties posed by nature, men, and international politics, combatting them, as he somewhat ruefully remarked, "one by one—and sometimes two and three at a time." His equipment was delayed by the sluggish Russian bureaucracy. The Franco-Prussian war disrupted shipping schedules and delayed the delivery of additional equip-

mirovanie," p. 295, uses the text of an 1875 lease by which Hughes acquired the use of sixty-four desiatins of peasant land at an annual rent of two rubles per desiatin.

²⁸ See the Articles of Agreement, p. 5, Articles 5 and 6. The English version of the agreement between Hughes and Lieven, appended here, calls for part of the lands to be given to Hughes and additional lands to be sold to him at fifteen pounds (150 rubles) per desiatin. The draft version of the agreement in TsGIAL, F.37, op.67, d.213, p. 2, calls for a free gift of the lands to the company. Prince Lieven, in a letter to the New Russia Co. written early in 1874, mentions Hughes having transferred his rights in the land to the company. He makes no mention of what, if any, consideration Hughes might have received in return. See TsGIAL, F.381, op.50, ed. khr.3, p. 370. Garshin, "Poezdka," p. 3, writes that Hughes bought the entire concession in 1889, paying 2.5 million rubles. Ivor Hughes writes in 1896 that "the works, which employ over 8,000 hands, stand on the Company's freehold, consisting of estates the extent of which will be about 55,000 acres." He writes of the town as also being situated on "the Company's property." National Library of Wales, MS 3617E.

²⁹ TsGIAL, F.37, op.53, d.746, p. 25, letter from Hughes to Minister of Finance, November 7, 1870.

³⁰ TsGIAL, F.37, op.53, d.746, p. 11. Shostak report, October 1870.

³¹ *Istoriia mist i sil UkrSR* (Kiev: 1970), vol. Donetskii oblast', p. 81. The number of families is noted in Lukomskaia, "Formirovanie," p. 296. As will be shown at a later point, the presence of families was an indicator of the stability of the population.

ment. Cholera broke out, causing the death of several of Hughes' English and Russian workers and the flight of others, and almost halting construction. Last but not least was an unusually early and heavy snowfall.³²

Hughes' account of his achievements and difficulties was no mere courtesy to the minister. The deadline for the completion of the blast furnace and the beginning of production had already been extended to November 1870 and would be re-extended to April 24, 1871—nine months after the beginning of construction.³³ Lebedev's reports were coming in monthly, and reports of independent observers such as Shostak were also available to the authorities. It must have been no secret to Hughes that he had enemies, both local and in the capital, who for many and various reasons hoped that after this extended gestation and painful labor a white elephant might be stillborn.

On the day of the deadline, April 24, 1871, the first blast furnace was fired, charged, and tapped, but had to be closed down again on May 2 due to faulty charging and faulty materials that formed a clinker threatening to destroy the whole structure. Fortunately, success in remodelling and activating the Iuzovka coal mines and the positive reports tendered by Lebedev and Shostak had strengthened Hughes' hand. Feverish work in rebuilding the blast furnace followed, and by November 15, 1871, Lebedev could report that repairs were complete and that a test firing of the furnace had taken place.³⁴ It took another two months before Hughes could send a triumphant telegram to the Minister of Finance: "On Saturday January 22 the blast furnace began working. Everything going well."³⁵ The steady production of pig iron had begun, and was followed by the first successful puddling of steel eight months later and by the first production of iron rails in September of 1873.³⁶

The next two years saw the basis of the New Russia Co. established.

³² In his letter of November 7, 1870, Hughes recounts all these hardships to Finance Minister Reutern along with the details of his progress in constructing the coal mines and first blast furnace.

³³ See notice of the Ministry of Finance to the Mines Department in TsGIAL, F.37, op.53, d.746, p. 29, dated December 31, 1870.

³⁴ TsGIAL, F.37, op.67, d.213, p. 3.

³⁵ TsGIAL, F.37, op.53, d.746. The telegram was sent only on January 25. Whether this is due to Hughes' caution or postal bureaucracy cannot be ascertained.

³⁶ TsGIAL, F.37, op.53, d.746, p. 167. Hughes's telegram to Minister of Finance, January 1, 1873. Zilov, "Zavod," p. 51

The labor force grew steadily to 800 workers in 1872, 850 in 1873, and 1,295 in 1874. Production difficulties were still evidently being encountered, for, if the governor's reports are accurate, the value of production in 1872 was 360,000 rubles, but fell to 200,000 rubles in the following year and recovered only to 300,000 rubles in 1874.³⁷ Hughes quickly established the New Russia Co. as the rail-producing center of South Russia: he purchased a contract from Poliakov to refurbish used steel rails (and thus eased his own workers into the complex transition from iron to steel in the rolling of rails), and followed this by buying Poliakov's concession for setting up a rail-producing plant, thus eliminating a potential competitor. This latter purchase was approved by the Russian government only after Lebedev reported that the New Russia Co. had more than adequate capacity to fulfill all its production obligations.³⁸ At the end of two years production, in June of 1874, Hughes was producing 160 to 170 tonnes of pig iron per week, easily exceeding his contractual obligation. A second blast furnace was under construction, and its completion would enable him to double his output. In the calendar year 1873 the New Russia factory had produced 350,000 pud of rails; this too, would be doubled when the new blast furnace came into production.³⁹ Hughes complained that running below full capacity was causing the factory to lose money and that at full capacity he could double the number of workers and employ 2,600 skilled men and 600 laborers; that in that case he would provide Russia with four times the amount of iron and steel that he was then producing.⁴⁰ Production of coal and pig iron grew steadily almost to the end of the century, although the difficulties with conversion to steel rails affected production of rails for more than three years after 1878, despite nearly two years of preparation. (See Table 3.1.)

³⁷ TsGAOR, F.1284, op.69, ed. khr.186 (1873), 225 (1874), and 192 (1875). Reports of the Ekaterinoslav governor. The *Pamiatnaia knizhka Ekaterinoslavskoi gubernii na 1875 g.* (Ekaterinoslav: 1875), p. 155, lists 1,295 workers and 2,500,000 rubles of production for the New Russia Co. It may be suggested that the governor's report was badly prepared or miscopied by an incompetent clerk.

³⁸ See TsGIAL, F.37, op.5, d.990, p. 64, for the record of purchase of the rail refurbishing contract, and F.37, op.53, d.746, pp. 245–46 for Hughes' assumption of Poliakov's obligation to produce 500,000 pud of rails per year. Lebedev's report is F.37, op.53, d.746, p. 251.

³⁹ TsGIAL, F.381, op.50, ed. khr.3, p. 47. Report of Engineer Zilov, June 21, 1874.

⁴⁰ *Ibid.*, pp. 3–4. Letter from Hughes to Valuev, February 25, 1874.

The growth pattern in Table 3.1 illustrates the economic conditions under which the New Russia plant operated. Coal production went almost totally for the coke and coal needs of the iron works. As very little coal was shipped out, crises in the market did not affect the steady growth of coal production. The jump in pig iron production in 1877 reflects the firing of a second blast furnace in mid-1876 in anticipation of the large government order (mentioned above). The production drop in rails and other iron goods two years later reflects the difficulties of converting to steel to fill that order, as the New Russia plant then concentrated on selling pig iron to other manufacturers of iron goods. With furnace number two in full production Hughes wrote to the Minister of State Domains that the hundred tonnes of pig iron he had undertaken to produce weekly were now a *daily* target, "the Russian workmen having now become well trained to our system of working," and he added: "We now only want a sufficiency of orders to keep the works fully employed."⁴¹ A third blast furnace was not fired until 1890, when an American designed furnace capable of producing 10,000 pud per day was completed. Two more were completed by the following year, and in 1900 seven blast furnaces worked a total of 1825 days.⁴² The steady rise of production from 1876 to 1890 reflects technological progress and the growing skills of the work force recruited by Hughes, interrupted occasionally only by the dips of the business cycle. The figures for the end of the 1890s indicate the great leap forward achieved in that decade, as well as the continuing impact of the unstable market and the efforts of the New Russia Co.'s management to reduce its reliance on basic products and rails by developing sales of other specialized iron goods (in the New Russia's case, large, fabricated bridge sections for iron bridges up to 180 meters in length.).⁴³ While the factory remained consistently profitable throughout its existence, it did not regain its previous growth even in the renewed prosperity on the eve of World

⁴¹ TsGIAL, F.37, op.53, d.746, p. 273.

⁴² Time, "Ocherk," p. 16. Westwood, "John Hughes," p. 568, writes that Hughes had three blast furnaces in 1884. The third blast furnace did, indeed, exist, but was a small one for the production of ferro-manganese and other special irons and evidently worked intermittently. See Kulibin, *Sbornik*, 1890, pp. 190-91; 1891, pp. 206-207, 1900, pp. 310-11.

⁴³ *Novorossiiskoe obshchestvo, Iuzovka, Ekaterinoslavskoi gubernii* (Iuzovka: NRO printers, 1919), p. 26. The bridge shop came into production only in 1909.

TABLE 3.1
New Russia Company Production, 1873–1912
(Thousands of Pud)

Year	Coal	Pig Iron	Rails	Other Iron
1873	3,850	487	143	19
1874	3,882	479	165	35
1875	4,251	436	363	173
1876	5,809	599	606	164
1877	6,009	896	864	267
1878	7,293	1,477	907	255
1879	7,440	1,431	576	158
1880	7,029	806	198 ^a 253 ^b	125
1881	9,739	1,191	62 ^a 833 ^b	145
1882	11,331	1,879	1,392	105
1883	10,234	1,765	1,176	93
1884	11,018	1,678	572	158
1885	13,883	1,962	1,581	177
1886	13,867	2,322	1,462	188
1887	15,489	3,125	1,726 ^c	283
1888	17,351	3,321	1,666	294
1889	16,860	3,726	1,974	350
1890	18,570	5,230	2,938	327
1891	21,516	4,868	2,920	259
1892	24,187	6,023	3,401	392
1893	28,223	7,322	3,523	311
1897	37,023	15,114	5,435	n.a.
1899	43,598	17,732	5,889	n.a.
1903	46,080	8,764	3,431	1,246
1904	57,536	15,219	4,255	1,850
1911	86,234	14,674	3,077	2,669
1912	81,013	15,833	5,143	2,526

TABLE 3.1 (cont.)

Sources: 1873: Zilov, "Zavod," p. 51. 1874–1888 I. Time, "Ocherk sovremennago sostoiانيا gornozavodskago dela v Donetskom Basseine," *Gornyi zhurnal*, no. 1, 1889, p. 18. 1889–1893: E. I. Ragozin, *Zhelezo i ugol' na iuge Rossii* (St. Petersburg: 1895), p. 51. 1897–1899. TsGIAL, F.266, op. 1, ed. khr.125, p. 372, New Russia Co. reports. 1897–1899: coal production; Kulibin, ed., *Sbornik statisticheskikh svedeni o gornozavodskoi promyshlennosti* 1897, p. 344; 1899, p. 359. 1903–1912: TsGIAL, F.23, op 19, ed. khr.319, pp. 14, 39.⁴⁴

^a Iron rails.

^b Steel rails (from 1882 on all rails produced were of steel).

^c Time gives this figure. Ragozin renders it as 7,726—evidently a misprint

War I and never regained the peak of 17.7 million pud of pig iron produced in 1899.

The growth of the labor force is much more erratic, demonstrating the assimilation of new skills and technologies along with the vagaries of the business cycle. The steady growth of the numbers of miners relative to the numbers of factory workers is also a point to be noticed. This is a matter of importance not only as a factor in the social life of Iuzovka, but also as an illustration of the differing paths of development followed by metallurgy and coal: labor intensive in the mines, capital intensive in the factories.⁴⁵ Table 3.2 sets out the development of the work force of the New Russia Company's mines and factory in Iuzovka.

Although powered equipment began to be widely used in the Donbass

⁴⁴ Other sources give production figures that differ considerably from those in Ragozin. See for instance, Fomin, *Gornaya promyshlennost'*, pp. 434–36 and Islavin, "Obzor," p. 59. Ragozin's figures, however, are close to the official series edited by S. Kulibin, *Sbornik statisticheskikh svedeni o gornozavodskoi promyshlennosti Rossii* (St. Petersburg: gornyi uchennyi komitet, annual). Volumes from 1886 to 1910 were examined and will be referred to as Kulibin, *Sbornik*, with the appropriate year. As sources close to the company (e.g., Lebedev) and the New Russia Co.'s own publications also give rather widely differing production figures, it must be concluded that although there was an abundance of statistical material published in Russian industry during these years, there was little rigor of definition, and the figures are best treated as a time series rather than as individual totals under the assumption that any single source will have some internal consistency of definition, dates (e.g., calendar year or business year), etc., and therefore will be of some reliability as to trends of development.

⁴⁵ If we compare production per person in 1874 and 1903, the earliest and latest years for which we have complete data as to manpower and production, we find that coal production declines from 10,492 pud per miner to 8,452 pud, while pig iron production grows from 334 pud per worker to 1,758 pud.

TABLE 3.2
New Russia Company Labor Force, 1870–1913

Year	Miners	Factory Workers	Total	Year	Miners	Factory Workers	Total
1870	—	—	64	1891	1,399	6,734	8,143
1871	—	—	451	1892	2,064	5,367	7,421
1872	—	—	—	1893	—	4,938	—
1873	—	—	—	1894	—	5,553	—
1874	370	1,436	1,806	1895	—	6,000	—
1875	—	—	—	1896	3,160	6,466	9,626
1876	—	2,135	—	1897	3,975	8,807	12,782
1877	—	2,237	—	1898	5,058	11,000	16,058
1878	—	1,956	—	1899	5,658	8,319	13,977
1879	—	1,956	—	1900	5,839	7,150	12,989
1880	—	2,000	—	1901	6,226	8,925	15,151
1881	—	2,160	—	1902	4,465	4,309	8,774
1882	—	2,400	—	1903	5,452	4,986	10,438
1883	—	2,400	—	1904	6,524	5,805	12,329
1884	625	2,400	3,025	1905	—	—	—
1885	—	2,400	—	1906	—	—	—
1886	—	2,574	—	1907	7,095	6,340	14,435
1887	—	2,580	—	1908	7,350	6,050	13,400
1888	—	2,601	—	1909	7,918	6,052	13,970
1889	—	3,372	—	1910	7,891	6,171	14,062
1890	1,773	6,326	8,099	1913	9,935	8,045	17,980

Sources: 1870, 1884. *S.S.S.* vol. 2, Bakhmut uезд, p. 229. 1874 Islavin, "Obzor," p. 81. 1876–1881: TsGIAL, F.1284, op.69, ed. khr.192, p. 42; ed. khr.194, p. 32. 1882–1900: Rashin, *Formirovanie*, 1958, p. 30. 1889–1910 Kulibin, ed., *Sbornik statisticheskikh svedenii o gornozavodskoi promyshlennosti Rossii*, various years and pages. 1913: Postriyanov, *Metallurgicheskaia promyshlennost' iuga Rossii* (Kharkov 1923), p. 408 for workers. M. A. Rubach, ed., *Rabochee ditszhente na Ukraine s gody novogo revoliutsionnogo pod'ema 1910–1915 gg.* (Kiev: Politicheskaiia literatura, 1959), p. 9, for miners.

only in the 1890s and in small units,⁴⁶ Hughes had steam power from the outset. It did take some time, however, for Hughes to install his machines and render them operational, for when a hostile commission of three engineers all occupying responsible posts in the Donbass visited Iuzovka in June 1871, they emphasized that steam engines, although present, were not yet operating at the Lieven and Smolianinov mines, that the horse-operated lifts were poorly constructed, and that the delivery and loading of blast furnace materials and coke were done using horses and not machine.⁴⁷ Three years later, the situation had changed markedly. Hughes had twenty-two steam engines totalling 791 horsepower working at the factory and mines. To realize the significance of this, we may compare it with St. Petersburg only a decade earlier when the total horsepower of all the machine and metal factories of the capital was 1,125.⁴⁸ By 1884 the factory and mines were using forty-four steam engines, totalling 3,239 horsepower, doubling not only the number of engines, but also their average size. By 1908, the New Russia factory had 22,520 horsepower, or 3.72 horsepower per worker.⁴⁹ In the years 1890–1908 the average horsepower per enterprise in South Russia grew from 1,530 to 8,003, while horsepower per worker grew from 1.02 to 3.23.⁵⁰ Electricity later began replacing steam, and by 1916 the New Russia plant was using nearly 28 million kilowatt hours per year, and its generators were used at 68 percent of capacity, by far the highest efficiency in the Donbass.⁵¹

⁴⁶ McKay, *Pioneers for Profit*, p. 146.

⁴⁷ Report of Zelentsev, Roialkov, and Letunovski to the Mining Department, TsGIAL, F.37, op.53, ed. khr.746, pp. 74–78.

⁴⁸ Westwood, "John Hughes," p. 567. For St. Petersburg, see Zelnik, *Labor and Society*, p. 208. It would appear that Lukomskaia, "Formirovanie," p. 294, is in error in claiming that the New Russia mines used horsepower for raising coal to the surface in 1884, though other mines in the vicinity of Iuzovka did so as late as 1917. For Hughes' reliance on steam power see the N.R.O. report in TsGIAL, F.37, op.53, d.990, p. 63, for 1877, stating that only two exploratory shafts use horsedrawn winches. See also S.S.S., vol. 2, Bakmut uезд, p. 263, referring to 1884. For use of horses in 1917 see *Izvestiia Iuzovskago soveta rabochikh i soldatskikh deputatov*, no. 53, November 18, 1917. The list of horsepowered mines given there includes some producing as much as five million pud of coal per year.

⁴⁹ A. M. Pankratova, *Rabochee dvižhenie v Rossii v XIX veke* (Moscow: Gospolitizdat, 1952), vol. 3, pt. 1, p. 824. The 1908 figure is derived from Kulibin, *Sbornik, 1908*, pp. 300–301, 342–43.

⁵⁰ Glivitz, *Zheleznaia promyslennost'*, p. 114.

⁵¹ V. G. Postriganov, *Metallurgicheskie zavody iuga Rossii* (Kharkov: 1923), p. 236. The next highest utilization of equipment was by the Petrovskii factory at Enakievo utilizing 50 percent of its generating capacity.

The first years of the New Russia factory were by no means all success. Lebedev was far from alone in his criticism of Hughes' product quality. During September 1873, the first month of rail production in the New Russia plant, Lebedev reported that "a great part" of the rails produced did not meet the railways' standards, and again in October he wrote that "rails are not yet being accepted."⁵² Of the first 180,000 pud of rails produced, one-third was rejected. By 1874, the rejection rate had dropped to 10 percent, and by 1876, to 5 percent.⁵³ The process of adaptation was repeated with the conversion to steel rails, but a test of a batch of 2,000 rails delivered to the Kursk-Kiev railway in the spring of 1892 was subjected to a rejection rate of only 2.65 percent.⁵⁴ Hughes' insistence on quality was backed by technical investment. We have already mentioned Albert's training as a chemist; a chemical analysis laboratory was one of the factory's early innovations. By 1902 the laboratory was housed in a two-storey structure with work space for a staff of twenty.⁵⁵

The delay due to the false start of the blast furnace, as predictable and explainable as it was in the circumstances, must have caused near unbearable financial and nervous strain. Hughes was no doubt aware that the triumvirate headed by Zelentsev had cast doubt on the capacity of his blast furnace to produce one hundred tonnes weekly even if it were to start production. They had also flatly stated that his coal reserves were inadequate and had accused Hughes of not knowing or doing enough, and altogether of having deceived the Russian government. In their conclusion they affirmed the potential of the region as far as coal and ore reserves, but predicated any economic success on the enterprise being headed by "a person with good knowledge of the matter, and one who has firm credibility."⁵⁶

⁵² TsGIAL, F. 37, op. 53, d. 746, pp. 181, 183.

⁵³ TsGIAL, F. 37, op. 5, d. 990, p. 64. A January 1877 report by Engineer Taskin.

⁵⁴ TsGIAL, F. 265, op. 1, ed. khr. 798, p. 1.

⁵⁵ TsGIAL, F. 266, op. 1, ed. khr. 125, p. 387. For a later reference to the laboratory's size and equipment see Postriganov, *Metallurgicheskie zavody*, p. 371. For an early reference to the laboratory see M. A. Pavlov, *Vospominaniia metallurga* (Moscow: Gosudarstvennoe nauchno-tekhnikeskoe izdatel'stvo po chernyi i tsvetoi metallurgii, 1949), p. 6. Pavlov tells of being guided through the laboratory by Arthur Hughes in the 1880s.

⁵⁶ Report of Zelentsev, Letunovskii, and Roialkov, June 1871, in TsGIAL, F. 37, op. 53, d. 746, pp. 85–86. Zelentsev was later to become the head of the Mining Department of South Russia and, in that capacity, chaired the annual sessions of the Congress of Mining Industrialists of South Russia from 1892 through 1904. Some of the industrialists' doubts of Hughes' credibility evidently were the result of discrepancies between the number of

Even after Hughes and his staff had given ample proof of their ability to master the production of iron, the skeptics were not silenced. The three years of difficulties involved in the transition from iron rails to steel are clearly reflected in the production figures as they must have been in the financial balance sheet. Production fluctuated wildly from month to month as technical hitches, equipment breakdowns, and manpower shortages bedevilled the factory and mines. Lebedev's summary of production for 1878 sets the fragile balance in stark relief. Coal production, averaging 693,000 pud per month through the year, went as high as 881,871 pud in May, and dropped to a low of 490,338 in October. Pig iron production fluctuated in similar fashion. The output of rails reached a high of 109,121 pud in February, dropped to 12,609 in May, recovered to 75,961 pud in August and then dwindled to zero in October, with a bare trickle of rails as output for the rest of the year.⁵⁷ In such conditions, financial planning and the economic use of manpower would have worn down the toughest and most experienced of entrepreneurs. In March 1884, with production slow and credit exhausted, the company desperately sought a loan of 200,000 rubles to meet its current obligations while awaiting arrival of a down payment on an expected order of two million pud of rails.⁵⁸

Together with more technical objections, these problems provided ample opportunity for caustic comments at Hughes' expense. Zilov noted that while in Peterburg that spring he heard only one theme: "Only from the Krivoi Rog or Korsak-Magil ore will Hughes be able to produce steel of the quality demanded by the Ministry of Railways." The ore of the Luzovka area was thought to be too high in phosphorus for the production of rail steel.⁵⁹ Lebedev's telegram reporting the successful production and testing of rail steel referred bluntly to the controversy: "The question of production of steel rails from local ore and coal may be considered solved."⁶⁰

Though acceptance was slow in coming, each step forward won new

people Hughes claimed were employed in the mines and in construction of the blast furnaces and the number the commission actually observed at work. It should be remembered, however, that they visited Luzovka in June, a month when many of the workers would be absent, working in agriculture.

⁵⁷ TsGIAL, F.37, op.53, d.746, p. 304.

⁵⁸ TsGAOR, F.7952, op.6, d.119, p. 45. This was evidently the period of crisis to which Chapuy refers in his journal.

⁵⁹ Zilov, "Zavod," pp. 50-52.

⁶⁰ TsGIAL, F.37, op.53, d.746, p. 311.

respect. The successful production of steel rails from Donbass materials prompted A. F. Mevius to comment: "One cannot but compliment Mr. Hughes on his particular service in his striving to perfect and broaden his production. . . . The recent experiments at the Hughes factory uprooted the opinion that our ores were not suited to the making of steel rails. At the present moment this is a very, very important fact."⁶¹

Both progress and potential were evident from the beginning. Among Hughes' talking points with the Russian government had been the decreasing of Russia's dependence on foreign sources for strategic goods and of its expenditures of foreign currency. The Russo-Turkish war, in creating extra demand for metal products, and straining Russia's finances, made the growing Hughes plant appear even more advantageous.⁶² In its first year of production the New Russia factory had been ranked ninth in the Russian empire.⁶³ By 1898 it was considered to be the most important producer of pig iron in Russia, with production costs said to be very low for the country.⁶⁴ Hughes' production far outdistanced that of Pastukhov, who in 1892 produced only 614,000 pud of pig iron—one-tenth of the production in Iuzovka that year.⁶⁵ Until 1895, Hughes employed more workers than Putilov, whose plant then became the largest industrial employer in Russia.⁶⁶ Hughes' performance even drew the attention of a young radical scholar studying the development of capitalism in Russia, who noted that Iuzovka's industry produced twice as much as all sixty-

⁶¹ A. F. Mevius, "Obzor postepennago razvitiia gornago promysla na iuge Rossii," *Iuzhno-Russkii gornyi listok*, no. 2, 1880, p. 20.

⁶² Gonimov, *Staraya Iuzovka*, p. 62. See also Keppen, "Materialy," *G-z l*, no. 1, 1899, p. 3620, citing writings of Professor Demidov from 1852 to the effect that in Russia's growing coal and metallurgy industries the English see "a new Russian Hercules that, naturally, they want to eliminate while it is yet young."

⁶³ Skal'kovskii, "Gorno-zavodskaiia proizvoditel'nost'," p. 343.

⁶⁴ CL, 11850, note 208, du Marais, *New Russia Co.*, December 1898, p. 2. As against this judgment are the earlier opinions of Taskin in 1877 that the prices charged by Hughes are rather high in comparison to costs of production, and of Zilov in 1880 that production costs and high prices are one of the factors limiting Hughes' success in the Russian market. See TsGIAL, F.37, op.5, d.990, p. 65, and Zilov, "Zavod," p. 51.

⁶⁵ Khlystov, *Don*, p. 199. Khlystov gives Pastukhov's production in selected years between 1874 and 1892. Pastukhov, who had tremendous technical difficulties with his technique of using anthracite in his blast furnaces, suffers great variations in production and at no point approaches Hughes' achievements.

⁶⁶ A. G. Rashin, *Formirovanie promyshlennogo proletariata v Rossii* (Moscow: Sotsekgiz, 1940), p. 30 for employment in the New Russia factory, p. 120 for the number of workers in Putilov.

three industrial enterprises of Ekaterinoslav, and employed twice as many workers.⁶⁷

Hughes based the economic health of his plant on the relatively sure demand for pig iron and rails and hesitated to branch out into the multitude of special forms of metal such as roofing iron that other manufacturers found so attractive. This apparent conservatism drew sharp criticism from French analysts, one of whom noted that "from an industrial point of view, the business has been badly run, without daring, and even without foresight."⁶⁸ Nevertheless, the New Russia Co. was one of the two most profitable enterprises in the Donbass.⁶⁹ At the peak of the golden decade of the 1890s, the New Russia Co. could boast a balance sheet with total assets twice the value of the shares that had been issued, though these had twice been split so that each of the shareholders now enjoyed four times the par value originally invested. Moreover, half the company's worth was in the form of cash, accounts receivable, and stocks of material held at the plant, and these far outweighed the company's debts and obligations.⁷⁰

An earlier visitor, having noted the company's self-sufficiency in raw materials and the good quality of its labor force, was surprised that the Hughes brothers, who carried on their father's policies when they began managing the plant after his death in June 1889, were not branching out into new products. He wrote: "Mr. Hughes recently informed us that he recoils from seeking to raise his profits by new installations and more debt. The factory operates, and gives profits with which he declares himself satisfied." The visiting analyst also managed to deduce that all development of the plant was charged to current operating costs.⁷¹ These comments were written during a period just after the shareholders had enjoyed a stock split, and another was not far off, and while the annual dividend was 25 percent. Even through the industrial crisis of 1900–1904 an annual 10 percent dividend was declared, as sufficient reserves had been accumulated during the latter half of the 1890s to finance needed development despite diminution of current profits. The report of the Credit Lyonnais analyst, Geibel, shows clearly these financial policies.⁷²

⁶⁷ V. I. Lenin, *Sochinenia* (Moscow: 4th ed.), vol. 3, p. 607.

⁶⁸ CL, 13599, study 1255 ter., *New Russia Co.*, M. Geibel, January 24, 1905.

⁶⁹ *G-z l*, no. 12, 1899, p. 385 l. The other was the South Dniepr Co.

⁷⁰ Brandt, *Inostrannye Kapitaly*, vol. 2, p. 241.

⁷¹ CL, 11850, note 208, *New Russia Co.*, December 1898.

⁷² CL, 13599, study 1255 ter., M. Geibel, *New Russia Co.*, p. 8. The profits, dividends,

Period	Annual Profit	Annual Dividend	Reserve
1886–91	1,323	1,107	216
1892–96	3,331	1,357	1,331
1897–1900	7,437	1,928	4,062
1901–1904	3,188	3,000	188

It was not only in industrial policy that the sons followed their father's policies. They had learned from him to be closemouthed about their business affairs, and one sometimes receives the impression from the accounts of visitors that the brothers had a sharp sense of what their visitors wanted to hear and enjoyed regaling them with far-out stories regarding the trials, tribulations, and in particular the achievements of the New Russia Co. But as to business, the less said the better. Gonimov suggests that Hughes used folksy anecdotes as a smokescreen to hide his commercial and industrial secrets.⁷³ "Hughes is not very obliging and refused to give almost any precise information."⁷⁴ "We had to visit the factory without any guide and were given no quantitative information. The accounts published by law in *Vestnik finansov* are a summary balance sheet, distorted by inclusion of 'reserves' and 'various provisions' under the heading of creditors."⁷⁵ The Credit Lyonnais analysts visited Iuzovka almost annually, and were virtually unanimous in their disapproval of the way the New Russia Co. was administered. "No new ore concessions have been acquired and reserves are dwindling as production grows . . . from next year they will have to buy coal."⁷⁶ At that very time, the company was investigating the possibility of prospecting for iron ore in the Urals and bringing it from Magnitnaia to Iuzovka by way of the Cheliabinsk-Tsaritsyn Railroad.⁷⁷ Only a few years later, in 1903–1904, the New Russia Co. had as many as a hundred men, close to a fifth of its total Krivoi Rog labor force, working

and reserves are stated in thousands of French Francs (25FF. = 1 pound sterling). See *G-z I*, no. 13, 1899, p. 3875 for announcement of a 25 percent dividend for 1897.

⁷³ Gonimov, *Staraia Iuzovka*, p. 12. As we have noted, this technique boomeranged in the case of the Zelentsev commission, when the commissioners counted the numbers of persons they saw working in various parts of the enterprise, and compared their observations to the figures given them by Hughes.

⁷⁴ Chapuy, "Journal," p. 115.

⁷⁵ CL, 13599, study 1255 bis, *New Russia Co.*, M. Geibel, 1905.

⁷⁶ CL, 11850, note 208, du Marais, *New Russia Co.*, December 1898.

⁷⁷ *G-z I*, no. 4, 1899, p. 3685.

on exploratory pits to develop new ore beds and enlarge its iron mines.⁷⁸ The result of this forward-looking policy was that estimates of the extent of Krivoi Rog ores were continually revised upward throughout this period, as new mining techniques were put into practice and new ore beds uncovered. As for coal, the statistical annuals of the mining industry reveal a sharp slowdown of production after the turn of the century, but also show continuing development of the New Russia coal mines, from eight coal shafts in 1899 to eleven in 1905, while power available grew from 5,400 horsepower in 1899 to 7,435 in 1905, and the mine labor force grew from 5,658 to 6,524. Coal production rose from 43,598,376 pud in 1899 to 46,536,881 in 1905, at the same time that the industrial crisis was causing a drop of one-quarter in the company's production of pig iron.⁷⁹ Without a doubt there was a consistent long-range development policy that maintained the self-sufficiency of the New Russia Co. throughout its existence.

For its first ten years the New Russia Co. had declared no dividends.⁸⁰ This was ascribed to the use of low-grade local iron ore and to an unskilled work force, both of which contributed to high costs of production.⁸¹ However, when we examine Hughes' economic development strategy we see that it was his policy to plough back income into development, avoiding as much as possible any accumulation of interest payment burdens or broader capitalization. He was not out to "milk" the New Russia Co. for the benefit of stockholders. The shares of the company were not listed on the stock exchange, nor were additional shares offered to the public, though the roster of shareholders grew somewhat over the years as select British and Russian personalities acquired small quantities of shares from the undistributed residue in the company treasury. In 1895 and again in 1900 shareholders enjoyed a stock split so that each original share had by then become four shares.⁸² Only in 1898 and 1899, at the peak of the

⁷⁸ V. A. Mekhmandarov, "Zabolevaemost' gornorabochikh iuga Rossii," *Vestnik fabrichnago zakonodatel'stva i professional'noi gigieny*, no. 2, 1905, p. 54.

⁷⁹ See Kulibin, *Sbornik*, 1899, pp. 240-41, 359; 1905, pp. 286-87, 476-77. As will be noted later, the upheavals of the 1905 revolution affected Iuzovka relatively little, and production that did not depend on railway transport was stable or continued to grow.

⁸⁰ Time, "Ocherk," p. 17; see also CL, 13559, study 1255 bis, *New Russia Co.*, M. Geibel, January 1905, p. 21.

⁸¹ *Ibid.*, p. 21.

⁸² See Companies' House, File 4467, note of May 21, 1895, increasing nominal capital to 600,000 pounds, and 4467, p. 155, noting the New Russia Co. Act of 1900 establishing the capital as 1,200,000 pounds.

“Witte decade” of frantic industrial expansion did the New Russia Co. float two twenty-year, 5 percent bond issues, totalling 300,000 pounds sterling. In 1910 a new emission of 600,000 pounds sterling worth of 6 percent bonds was floated, retiring the old bonds ahead of schedule, and preparing the company for a renewal of development. In the decade 1903–1912 over nine million rubles were invested in the New Russia Co., over half of it in the period 1910–1912, with cash raised by the new bond issue. The earlier half, spread over seven lean years of a difficult decade, was financed out of current earnings and reserves, despite recession and revolution.⁸³

Although other plants in the Donbass were now producing more than the New Russia, its economy was sound and growing. Much of this was due to the personal involvement of John James Hughes, and of his sons after him, as well as that of his active partners, the Balfour family, who helped raise the capital for the New Russia factory and remained involved with the company throughout its history. A. M. Balfour was a director of the firm until his death and lived in Iuzovka as commercial director of the firm up to 1912.⁸⁴ His son, Montagu, also lived in Iuzovka, and took particular interest in the model farm of the New Russia Co. as he had studied farming in Canada before settling in Iuzovka. The Balfour involvement in the New Russia plant’s development resulted in the naming of one of the railway stations near the factory as Balforovo.⁸⁵ Until 1905, the Hughes brothers and Montagu Balfour lived in Iuzovka, actively managing the factory. They then moved to St. Petersburg where three of them remained almost until the revolution, while management of the factory passed first to John Anderson, an Englishman born in Russia who had considerable experience in the Donbass metal industries, and later to a Russian manager, Adam Aleksandrovich Svitsyn, who remained manager of the plant through the 1917 revolutions and the civil war, leaving his post only after the Bolsheviks took control of Iuzovka in mid-1919.⁸⁶

⁸³ See the record of capital investment in TsGIAL, F.23, op.19, ed. khr. 319, p. 16.

⁸⁴ See the listing in the *Adres-kalendar i pamiatnaia knizhka Ekaterinoslavskoi gubernii na 1912 godu* (Ekaterinoslav: 1912).

⁸⁵ Letter dated August 9, 1955, from the late E. M. Wiskin to Mrs. Sheila Chester Browne, daughter of Montagu Balfour. The author is deeply grateful to Mrs. Chester-Browne for permission to use this material. See also the reference to Balforovo station in Iu. Volin, “V tsarstve chernoii zoloty,” *Birzhevye vedomosti*, January 31, 1917. No reference to the station remains in post-revolutionary sources.

⁸⁶ It would seem that Svitsyn’s connections with Donbass metallurgy did not end with

The New Russia Co. may be said to have come of age in 1896. Long recognized within coal and metallurgy circles as a leader in Russia's development, it received a citation of excellence at the all-Russian Nizhnyi Novgorod Exposition of Arts and Industries of that year. The citation was for "developing steel production and for high quality steel rails; for large scale coal extraction and rational development of the coal industry in all ways; for underground unloading using compressed air, and for ventilation of the mine galleries by means of panel work, thus evacuating explosive gases."⁸⁷ In addition, as we will discuss at a later point, Hughes' housing provisions for his workers were praised.

The members of the Congress of Mining Industrialists, the Hughes brothers among them, invested considerable effort in mounting an impressive display at the exposition. The event was even used as an opportunity to educate the industrialists themselves. E. N. Taskin, at that time head of the Mining Administration of South Russia, arranged for all the Donbass exhibits at the exposition to be lit by electric light, used only to a very limited extent in the mines at that time. In this way he thought to impress the industrialists as to the superior qualities of electric lighting.⁸⁸

The New Russia Co. had its own display, a sort of Greek temple whose fluted columns, steel rails standing on end, supported layers of iron beams

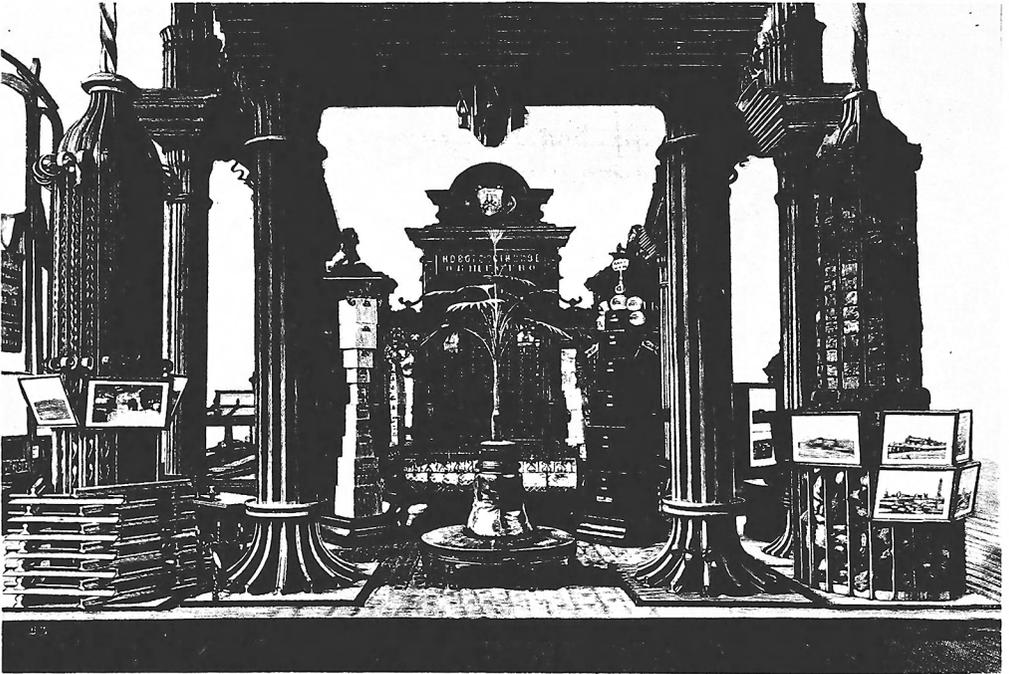
the Bolshevik return in 1919. A meeting at the Moscow headquarters of *Iugostal'* on September 9, 1926, to discuss an American entrepreneur's proposal to modernize the Makeevka steel plant was chaired by A. A. Svitsyn. See Hoover Institution Archives, Percival Farquhar Archive, box no. 2, Accession no. 54007-8.23. The coincidence of surname, initials, and profession make it likely that this was the same man. He was not the only Donbass luminary to serve under the Bolsheviks. L. G. Rabinovich also held a responsible position in the Donbass coal industry until the "Shakhty Affair," in which he was one of the accused.

⁸⁷ *Vserossiiskaia promyshlennaia i khudozhestvennaia vystavka 1896g v Nizhnem-Novgorode. Spisok eksponentov udostoennykh pokhvalnykh nagrad* (St. Petersburg: Ministry of Finance, 1897), p. 66.

⁸⁸ *G-z I*, no. 3, 1906, pp. 8312-13. Gonimov, *Staraja Iuzovka*, p. 121, writes that in the 1890s the New Russia Co. lagged behind such firms as the South Russian Coal Co. and the Donetsk-Iureev steel mills in use of electricity. In 1887, Chapuy, "Journal," p. 117, notes a 350-horsepower motor running the rolling mill, and one twice that size being installed. By 1898 the machine shops of the factory were lit by electric light as was a part of the settlement. By 1916, the factory alone was using 10,346 horsepower of electric motors, one-half of its total power supply. See Postriganov, *Metallurgicheskaia promyshlennost'* p. 236. CL, 11850, note 147, du Marais, *South Russian Coal and Salt Co.*, January 1899, p. 4, notes that in the Shcherbinovka mines electric motors were being used to run the coal wagonettes in the galleries, as well as to run pumps and ventilators down to a depth of 180 meters.

and capitals decorated with wrought iron. (See Illustration 3.2.) There were iron enclosures holding coal lumps and size-graded piles of iron ingots, labelled as to sort. Inside the temple was a dais with elaborate wrought-iron screens topped by the company's name and a symbol of crossed hammers on a shield. This *sanctum sanctorum* was guarded by two elves, resembling the mascots of the Russian mining industry, one a coal miner carrying a pick, the other a smith with hammer and anvil. Photographs of the factory and the mines hung everywhere, and a scale model of the factory and of a coal mine stood at one side.⁸⁹

Eight groups of fifteen workers were picked on the basis of outstanding work records to spend two weeks each at the fair, and were given half a



3.2 The New Russia Coal, Iron, and Rail Producing Company Pavilion at the Nizhnyi Novgorod Exposition, 1896.

⁸⁹ *Vserossiiskaia khudozbestvenno-promyshlennara vystavka 1896g. v Nizhnem-Novgorode* (St. Petersburg: Izdatel'stvo German Goppe, 1896), p. 48. It would appear from the picture that the potted palm standing at the entrance to the exhibit was also of wrought iron. The worker-elves, complete with pointed stocking caps and flowing white beards and moustaches, once graced the inner cover of the *Gornyi zhurnal*—except that there they are both miners. See *Gornyi zhurnal*, no. 1, 1875, reproduced on the frontispiece of this volume.

ruble per day spending money by the company.⁹⁰ In the description of Iuzovka given in the exposition catalogue, the idyllic features of the settlement are perhaps overemphasized: the park with an artificial lake for boating and fishing, the orchestra, the settlement's sanitation facilities—are described in glowing detail. The good burghers who bought the catalogue would hardly sense the smoke, dirt, and poverty that were still the first features of the settlement to strike visitors. Yet, as the detailed descriptions by Garshin and Ragozin have shown, Iuzovka was a living and growing settlement in which its population justifiedly took both pride and interest.

Towards the turn of the century the economy began to diversify. Iuzovka was still a company town, and the New Russia Co. was the single determining factor of its growth. Of the settlement's 23,076 inhabitants, 12,782 worked in the New Russia's factory and mines.⁹¹ The annual payroll of the company amounted to some four million rubles.⁹²

As Iuzovka became the nerve center of the Donbass, more and more enterprises connected to the mining and metallurgy industries began setting up branches there. A branch of the Moscow-based Dinamo firm was set up to market electric and pneumatic mine drills, and the sole Russian licensee for Wolf safety lamps, used by coal miners throughout Europe and in America as well, established his distribution headquarters in Iuzovka.⁹³ Mine cables, first imported from Britain and later from a factory in Poland, began to be manufactured in Iuzovka at the Lobasov brothers' cable and nail factory, one of the six largest in the Ukraine.⁹⁴ In addition to agencies of firms dealing in mine and mill equipment, also commercial agencies such as the Singer Sewing Machine Co. moved to Iuzovka, moti-

⁹⁰ Gonimov, *Staraia Iuzovka*, p. 124. Later it was claimed that some of these workers were contacted by revolutionaries in Nizhnyi-Novgorod and had brought back illegal literature to Iuzovka. See I. Mikhailik and L. Vysotskaia, "Nerushimaia druzhba," *Donbass*, no. 1, January–February 1962, p. 128.

⁹¹ *Istoriia mist i sil*, p. 81. Material on Bakhmud uezd is to be found in *Pervaia vseobshchaia perepis naseleniia Rossiiskoi imperii 1897 g.*, vol. 13, Ekaterinoslav guberniia (St. Petersburg: 1904). Since Iuzovka was not formally a town, it receives no individual mention in the various tables. Employment figures are from Kulibin, *Sbornik*, 1897, pp. 232–33, 344.

⁹² *Trudy*, XXV, 1900, Pt. 3, p. 77, Stenographic reports.

⁹³ *Gorno-zavodskoe delo*, no. 32, August 16, 1914, p. 524 for Dinamo, p. 522 for Wolf. When nationalized in 1920, the Dinamo office in Iuzovka had eight clerks. P. P. Gudzenko et al., eds., *Robitnichii kontrol' i natsionalizatsiia promislivosti na Ukraini* (Kiev: Akademii nauk, 1957), p. 642, document 562.

⁹⁴ Gudzenko, ed., *Robitnichii kontrol'*, pp. 659–60, document 574.

vated not only by the growing home demand of a population with a rising living standard, but also by the existence of a local clothing factory and by the production of leather aprons, work gloves, and boots, for which there was a lively demand throughout the Donbass. The lumber trade was also important, serving housing construction and mine propping, and Iuzovka had two, and later three substantial lumber yards. Twenty-six shops listed in 1884 grew into over a hundred in less than a decade.⁹⁵ By 1891 Garshin noted that trade and repair of agricultural implements was carried on in Iuzovka, with the simplest types being manufactured there, but that most such work was carried on in Bakhmut.⁹⁶

Arthur Hughes submitted the following list of commercial, industrial and cultural premises existing in Iuzovka to the 1897 census, from which we can envision the nature of the town and its inhabitants' cultural and material demands.⁹⁷ Religious establishments consisted of one church, one chapel, three prayer houses, and two synagogues. The New Russia Co. ran three schools in addition to the church school, the Brothers' school, one private school, and two Jewish schools. In addition to the N.R.O. factory and mines there were: a horsebreeding enterprise (at the New Russia model farm, *Peski*), 3 soap factories, 3 baths, 3 kerosene storehouses, 3 lumberyards, 3 warehouses for sewing machines, one soda water factory, one print shop, 3 photo studios, 3 warehouses for agricultural equipment, 57 permanent stores, 155 temporary shops, 112 stands, 12 cobblers' shops, 2 cooperages, 5 inns, one wholesale vodka outlet, one hotel, 10 wine cellars and 4 beer halls. Hughes also notes a bazaar each Sunday and two yearly fairs, one held after Easter, the other on September 14. These

⁹⁵ *Volosti i vazhneishiaa seleniia evropeiskoi Rossii* (St. Petersburg: 1886), vol. 8, p. 25, although not mentioning Iuzovka by name, notes the existence of twenty-six shops, a bakery and a church seven-and-a-half versts from the village of Aleksandrovka. A list of commercial premises and their turnover in mid-1884 appears in *S.S.S.*, vol. 2, Bakhmut uезд, p. 248. The commercial activity of Iuzovka is noted here as serving the entire volost'. A list appended to census material for the 1897 census notes the third lumber yard. See TsGIAL, F.1290, op.11, ed. khr.612, folder 485, p. 734 ob. *Izvestia Iuzovskago soveta*, no. 28, September 16, 1917, p. 4, notes the same number of lumber yards.

⁹⁶ Garshin, "Poezdka," p. 13.

⁹⁷ The document is included in the raw data of the census in TsGIAL, F.1290, op.11, ed. khr.612, folder 485, p. 734 ob., and is dated June 28, 1896. Hughes' list must be considered incomplete for it does not include the Bosset Gennefeld factory, the Davidovich leather works (established in 1874 according to its commercial letterhead, and still in existence in 1919—see DOGIA, F.6, op.1, d.30, p. 119), the flour mill, or most of the numerous artisan enterprises then in existence.

weekly bazaars, we are told, had, some years earlier, attracted up to ten thousand visitors from the surrounding settlements.⁹⁸ Reading this list one can easily understand the awe and enthusiasm with which workers and travellers regarded this "metropolis" in comparison to the bare steppe, impoverished villages, and isolated straggling mine settlements encountered for dozens of kilometers around. Poor, mean, and dirty as Iuzovka was, it was clearly growing to be the de facto capital of the Donbass.

The commercial turnover of Iuzovka in 1884, excluding alcohol, was 347,400 rubles. By the turn of the century it was one million rubles, and in 1910–1913, years of considerable prosperity, annual commercial turnover averaged eight million rubles.⁹⁹ The Bosset and Gennefeld plant that had employed 50 workers in 1889, had 210 workers a decade later.¹⁰⁰ The two fairs, at which manufactures, leather goods, clothing, agricultural products, and livestock were sold, had a turnover of 315,000 rubles in 1904.¹⁰¹

With the onset of World War I a start was made at large scale retrieval of various by-products of the coking process—coal oil, benzol, creosote, etc. The Evans Koppe Co. set up such a plant in Iuzovka, and the South Russian Co. had a plant for lubricants.¹⁰² As was only natural, the New Russia plant expanded during the war, adding a plant for artillery shells that provided additional employment for the women in the settlement.

The zemstvo survey of 1884 had noted that Iuzovka had no banks or credit institutions of any sort.¹⁰³ But in the wake of commerce and industry came the banks, first the State Bank, then the commercial banks, so that by 1914 there were five banks in the settlement. In 1904, Iuzovka was taken out of the zemstvo system of justice, when, despite the settlement's undefined status, an urban court (*gorodskoi sud*) was established.¹⁰⁴

Communications advanced rapidly. A postal and telegraph office came

⁹⁸ TsGIAL, F.1405, op.93, ed. khr.8555, p. 36. Report of Rodzianko, August 1892.

⁹⁹ For 1884 see S.S.S., vol. 2, Bakhmut uezd, p. 248. Information on the turn of the century is from Brockhaus-Efron, *Entsiklopedichesku slovar'* (St. Petersburg: 1904), vol. 81, pp. 327–28. Figures for 1910–1913 are from DOGIA, F.6, op.1, d.7, p. 3.

¹⁰⁰ P. A. Orlov, and S. T. Budagov, eds., *Ukazatel' fabrik i zavodov evropeiskoi Rossii* (St. Petersburg: 1894), p. 362 for 1889, and *Istoria mist' i sil*, p. 81, for 1900.

¹⁰¹ *Vestnik Ekaterinoslavskago zemstva*, no. 17, 1904, pp. 524–25. See also *Istoria mist' i sil*, p. 81.

¹⁰² R. Arskii, *Donetskii Bassein* (Moscow: 1919), p. 23; Gudzenko, ed., *Robitnichii kontrol'*, pp. 673, 674, 676, document 577.

¹⁰³ S.S.S., vol. 2, Bakhmut uezd, p. 245.

¹⁰⁴ *Vestnik Ekaterinoslavskago zemstva*, nos. 2–3, 1904, p. 34.

with the railway, later bringing a branch of the postal bank that was the first bank in Iuzovka, and for many years the only bank. The railways became the main arteries of communication, and the "railway stations, so empty elsewhere in Russia, are like bazaars here [in the Donbass]. In 3rd class coaches the talk is of the latest strike, and of how the contractors and technical staff and the police rob the workers."¹⁰⁵ In the course of 1908, 32,205 workers disembarked from trains at Iuzovo and Mushketovo (to which a branch line from Iuzovka had been constructed), 15,641 at Gorlovka, and 30,000 at Enakievo.¹⁰⁶ For Iuzovka this was a movement equal to the whole population of the settlement, and for the other two stations it was far greater than the local population. Clearly the human movement and social communication generated by the Donbass' growth was a major move towards modernization of Russian society. A glance at a map of that time shows the particular density of the rail network around Iuzovka. In addition to the original link to the Konstantinovka line, a new four verst line was built to Mushketovo to the southeast. A 1902 report states that the New Russia Co. had 89 versts of branch railway for internal communication and connection to Iuzovo and Mushketovo. The company's own rolling stock included 25 locomotives and 250 platform and gondola cars as well as nine narrow-gauge locomotives in the factory. So heavy was the traffic in and out of the factory that the main lines leading through Iuzovo had to be rerouted to bypass the station and thus avoid the congestion caused by the New Russia's freight load.¹⁰⁷

The telephone also added to the improvement of Donbass communications. Many of the mines and factories had their own internal telephone systems, and by 1900 a comprehensive telephone network for Bakhmut uezd was being planned, into which these would be integrated. The 146 potential subscribers could be linked to each other and to Kharkov at a cost of 387,080 rubles and an annual maintenance fee of about 30,000 rubles—i.e., 1,736 rubles each for establishing the system and 134.50

¹⁰⁵ Levus, "Iz istorii," p. 44.

¹⁰⁶ V. P. Fialkovskii, "O dvizhenii rabochikh na promyshlennykh predpriatiiakh Bakhmutskago uezda," *Vrachebno-sanitarnaia khronika Ekaterinoslavskoi gubernii*, no. 8, August 1909, p. 295.

¹⁰⁷ See TsGIAL F.266, op.1, ed. khr.125, pp. 371–88. Somewhat more modest figures regarding the company's communications will be found in *Trudy*, XIV, 1899, Report of Commission on Railway and Port Development, pp. 4–5. *Trudy*, XXV, 1900, Report of Commission on Improving Freight Movement and decisions of session, p. 45, p. 9, give details of the rerouting of traffic.

per subscriber per year for operation.¹⁰⁸ Certainly this was an important step in breaking the isolation of the mining settlements and strengthening the network of social communication that had relied until then on the railway and telegraph. It should be noted, however, that the telephone served only the commercial and industrial classes of society and was as yet far from being a medium of mass communication.

Developed and diversified though it was, throughout this period Iuzovka remained essentially unchanged in its political, economic, and social structures. Its growth was subject to the will of the New Russia Co. and ultimately to the Hughes brothers. It was the conventional wisdom of the Donbass that personally-involved management and a local director with full decision-making powers were crucial ingredients for success in the volatile financial and political environment of Russia.¹⁰⁹ This is the type of management that the New Russia had. As Professor Time had noted in 1889, "The Hughes factory is typically English, and you get the impression that it was transplanted from one of the mining industry areas of south Wales. Business comes first with the English, and beauty and elegance are secondary."¹¹⁰ Anthony Wallace has suggested a general scheme of the social framework most conducive to innovation, consisting of three specific and two general characteristics.¹¹¹ The three specific characteristics are: (1) an institution surviving two or more generations with continuity of personnel permitting an accumulation of technical skills and information; (2) control of resources—capital, land, plant, and labor; and (3) a regard for investment in "best practice," involving support of innovation. The two general, or environmental, characteristics are: (1) a general ambience of technical innovation; and (2) a porous social structure within which the lower class can climb and the upper class can take part in innovation. Without a doubt the New Russia Co. existed within such a framework. The twenty years of Hughes' personal management of the company and the additional twenty-five years of his sons' active involvement were marked by a clear continuity of policy. As we have seen, self-sufficiency in resources and the creation of a skilled, stable labor force were primary goals

¹⁰⁸ *Trudy*, XXV, 1900, Chairman's report, pp. XLIX–L, report on postal and telegraph operations, pp. 56–61.

¹⁰⁹ McKay, *Pioneers for Profit*, p. 160. See also CL, 11850, note 214, du Maurais, *Briansk Factory*, December 1898, p. 11.

¹¹⁰ Time, "Ocherk," p. 4.

¹¹¹ Wallace, *The Social Context*, p. 151.

of Hughes in founding Iuzovka. As a pioneer in the Donbass, Hughes introduced technology, thus transforming the dominant mode of production in the region. Moreover, his support of innovation was not limited to production technology, but included the social framework of Iuzovka as well. As we shall see in the following chapters, where other industrialists hesitated, attempting to preserve something of the peasant framework of life while at the same time employing these peasants in industry, Hughes' practices in housing, health, and education laid the foundations for an urban culture. Though we will argue that many of the coal producers neglected technology, there can be no disputing the fact that the general atmosphere of Russia at this time was one of rapid technical advance. The railroad, a creature of coal and steel, was indeed displacing the flesh and blood of peasant labor. This change was all the more dramatic since it was taking place against the background of a concerted effort to prevent the kind of social change that Wallace postulates as necessary. Peasants by the thousands were becoming workers, and some were, indeed, climbing in society. Yet great efforts were made by the regime to hold them back, to preserve the old structure. The persistence of the values and structure of the old regime had much to do with the inadequacy of the higher classes in their turn towards industrial production. Too often they brought to this new realm of enterprise all the indolent narrowness of outlook that has been so harshly criticized in studies of Russian landholders. The rigidity of the social structure was the weak link in the chain of development of Donbass industry. Having examined the growth of Iuzovka's economy, let us now turn our attention to the social and physical structure of the settlement, the problems created by rapid growth, and the different approaches to the solution of these problems in Iuzovka in particular and in the Donbass as a whole.

CHAPTER 4

Iuzovka: The Settlement and Its Society

If Iuzovka's economy was an almost unqualified success, the building of the town and the creation of a society presented a much more mixed picture. Coal mining and steelmaking being the type of heavy industry that they are, Iuzovka was an alien and ugly industrial scar on an idyllic pastoral landscape. This was so not only from the physical point of view, but also from the point of view of the Russian peasants, who formed the overwhelming majority of its labor force and population. It was even more true of the surrounding Ukrainian peasants, who found their traditional livelihood and customs coming under pressure from a foreign population with alien ways of life. The speed with which the settlement grew created both physical and social turmoil. (See Table 4.1.) The heterogeneous nature of the population influx added to these strains. Together with these factors we must remember that this was a new town with no previously existing elites, institutions, customs, or social framework which might have absorbed the uprooted populations coming to live there. The high rate of turnover of population, particularly among the miners, also hindered the crystallization of a community. In addition, Iuzovka was a company town, totally owned and run by the Hughes family and the New Russia Co. All these interconnecting factors will be examined in this chapter.

"The initial population of the factory had, without a doubt, a negative influence on family, religious, and moral life in the times that followed. The good pay gave the worker the opportunity to satisfy every desire, and speculators of every sort served up the means of pandering to the lowest

CHAPTER 4

TABLE 4.1
Population of Iuzovka, 1870–1923
(Selected Years)

Year	Population	Year	Population
1870	164	1900	32,000
1880	4,000	1905	40,000
1884	5,494	1909	48,404
1889	15,000	1917	54,701
1892	20,000	1920	37,900
1897	28,076	1923	31,428

Sources 1884. *S.S.S.*, vol. 2, Bakhmut uезд, p. 242. 1897. TsGIAL, F.1290, op.11, ed. khr.615, folder 488, p. 573. 1909. N. M. Shvaitzar, "Assenizatsiia poselka Iuzovki," *Vrachebno-sanitarnata khronika Ekaterinoslavskoi gubernii*, no. 2, 1910, p. 320, citing police lists of population. 1917: DOGIA, F.10, op.105, d.5, p. 65. 1920: Steven L. Guthrie, "Ukrainian Cities During the Revolution and the Interwar Era," in Ivan L. Rudnitsky, ed., *Rethinking Ukrainian History* (Edmonton: Canadian Institute of Ukrainian Studies, 1981), p. 175. 1923: Bohdan Krawchenko, "The Impact of Industrialization on the Social Structure of the Ukraine," *Canadian Slavonic Papers*, vol. 22, no. 3 (September 1980), p. 351.

tendencies of the worker, who, even without this, did not have the most honorable code. In moral terms, these were Iuzovka's saddest years." So wrote the priest of the Iuzovka church in his journal.¹

In the beginning Iuzovka was formless and without plan. The factory was its heart and soul, and everything else clustered around it. From its inception Iuzovka had few aesthetic qualities, either physically or culturally. Visiting his brother, an engineer in a nearby mine, V. V. Veresaev wrote: "Unhappiest of places! Returning from work in the mines to the low-ceilinged miners' dugout. Breathing coal smoke . . . black earth, black roads."² G. I. Petrovskii, visiting the settlement shortly after the outbreak of World War I, reported that "Iuzovka is the smokiest city in

¹ DOGIA, F.2109, op.1, d.9, p. 1. Journal of the Preobrazhenskii Church in Iuzovka. The journal itself was either destroyed, as part of the archive's grievous losses during World War II, or is otherwise unavailable. I was able to consult only a file of copies of random passages from the journal, said by the archive authorities to have been collected from other archives and sources.

² Quoted in *Istoriia Mist i sil*, p. 82.

the south. The smoke and soot don't let you breathe." His characterization of the settlement included "mud, stench, violence."³

It was not only the physical aspect that was harsh. The society of Iuzovka was brutal as well. Recalling much later his year in Iuzovka in 1916, Konstantin Paustovskii related how the town's women would often get into fights. "Sometimes the fight spread and the whole street joined in. Men came out with leaded whips and knuckledusters, noses were broken and blood poured. Then from the 'New World' (*Novyi svet*), where the managers of the mines and factory had their flats, a cossack patrol would trot up and scatter the crowd with their knouts."⁴ One early survey of the settlement blamed the large transient population for the rising crime rate in the entire region.⁵ An Iuzovka worker recalls in his memoirs the settlement's leading criminal figure, Alexei Sibiriak, who commanded a gang of two hundred toughs, and who was thought to be a paid agent of the police for terrorizing and even murdering labor organizers or recalcitrant workers.⁶ In 1912 a visiting journalist wrote: "All the dregs of mining industry life gather here. Everything dark, evil and criminal—thieves, hooligans, all such are drawn here. You can't go out at night."⁷

The first four coal mines formed a rough south-west to north-east axis across the factory center, and each of these had its own cluster of housing, with factory, mines, and houses mixed in a single jumble. The bow of the Kalmius, trivial as the stream may have been, formed a natural border, surrounding the factory and mines on three sides, while the north lay open for the town to develop.⁸

³ I. T. Shcherbina ed., *Rabochee dvizhenie na Ukraine v period pervoi mirovoi imperialisticheskoi voiny* (Kiev: Naukova dumka, 1966), pp. 455–57.

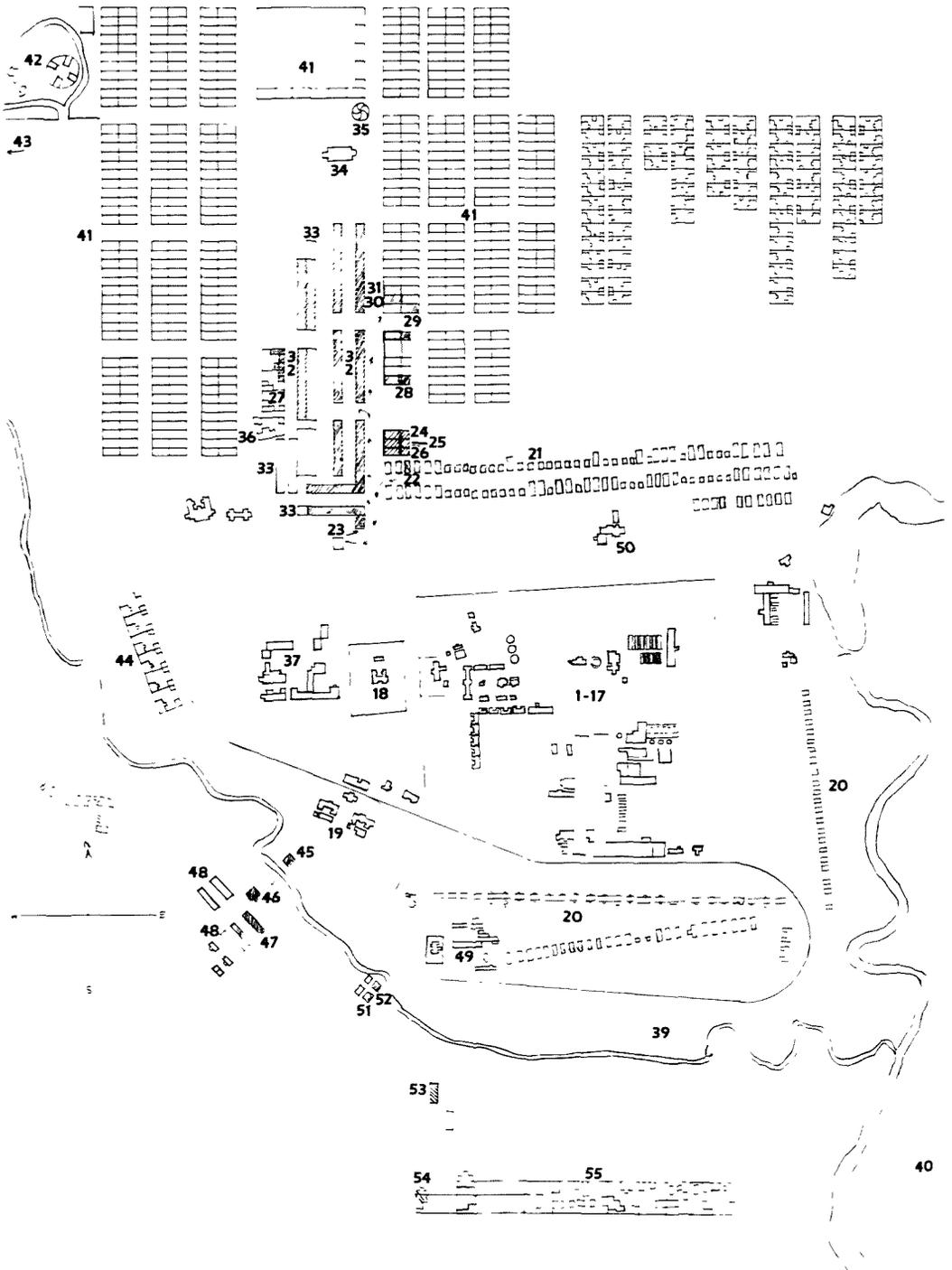
⁴ Konstantin Paustovsky, *Slow Approach of Thunder* (London: Harvill, 1965), p. 198. Hughes' Welsh miners might not have felt too out of place, for a nineteenth-century traveller's description of Merther Tydfil is as follows: "I went through a filthy slough, over a bridge and up a street from which dirty lanes branches [*sic*] off on either side, passed throngs of savage-looking people talking clangorously." Bowen, *John Hughes*, p. 13.

⁵ *Obzor Ekaterinoslavskoi gubernii za 1879 g.* (Ekaterinoslav: 1880), pp. 27–28.

⁶ TsGAOR, F.7952, op.6, d.120, p. 67. Memoirs of Zakharkin.

⁷ Surozhskii, "Krai uglia i zheleza," p. 300. It should be noted that Paustovskii's characters appear much less sinister—more like Somerset Maugham or Cannery Row than Dante's Inferno.

⁸ See the map appended to Time, "Ocherk," *Gornyi zhurnal*, no. 1, 1889, and the key to the map on pp. 22–23. An even more detailed map from 1892 is to be found in TsGIAL, F.1405, op.93, ed. khr. 8555, p. 141. It was prepared under the supervision of Kharkov Associate Prosecutor Rodzianko to show the damage caused in the 1892 cholera riots.



4.1 The Settlement of Iuzovka in 1892.

This map represents Iuzovka following the 1892 cholera riots. The sources are TsGIAL, F. 1405, op.93, ed. khr.8555, p. 141, as contained in Rodzianko's report of the riots, and the supplement to *Gornyi zhurnal*, no. 1, 1889. The cross-hatched areas represent shops and homes burned in the August 1892 cholera riots, and the arrows are Rodzianko's markings of the path taken by the rioters. The 1889 map, evidently drawn by the New Russia Co.'s resident architect, Moldingauer, shows only the rows of houses to the east, south, and west of the factory, and the two rows immediately to the north, with nothing of the great development of Novyi Svet further to the north. The rendering, from my sketch of the archival document, and a photocopy of the *Gornyi zhurnal*, was done by Mr. Everett Solovitz of Philadelphia.

KEY

1-17	Factory buildings	37	Factory hospital
18	Hughes' residence	38	Railway station
19	Railway workers' housing	39	Sobachevka
20	Factory housing	40	Rykovskii estate
NOVYI SVET		41	Private homes
21	Factory housing	42	Park
22	Pavlova's home	43	Dam
23	New Russia Co. tea house	44	Factory housing
24	Dronov's tavern	LARINSKII BAZAAR	
25	Zhivopinsk tavern	45	Dronov tavern
26	Divshitzer tavern	46	Perevich tavern
27	Davitsar's hotel	47	Burned shops
28	Gordin's home	48	Surviving shops
29	Synagogue	49	Zavodskaiia mine
30	Davidov's home	50	Tsentralnaia mine
31	Moiseev's home	51	Brusilov's tavern
32	Burned shops	52	Perevich beer hall
33	Surviving shops	53	Kleimanov's tavern
34	Church	54	Kaplun's beer hall
35	Church	55	Larin's Maslovka estate
36	Factory house		

Gradually the bazaar grew in the open quadrangle to the north of the factory and to the west of mine no. 4, filling the space between these and the rapidly growing "New World" (*Novyi Svet*) neighborhood that took its name from one of Iuzovka's early taverns.⁹ Here, from the early 1880s on, construction was regulated, and the houses began to form neat rows and blocks facing out onto sequentially numbered "lines" and had back alleys between them to facilitate the collection of night soil and refuse.¹⁰ *Novyi svet* was almost entirely populated "by artisans and other industrialists, and [had] hotels, a bazaar, post office and the police superintendent's office." In 1884 a church was built in this neighborhood, and Hughes' house was also there.¹¹ At this time virtually all the factory population and miners lived in the southern part of the settlement.

As the population of the settlement developed and new institutions grew up, the bazaar square became the commercial and geographic center. The British Church of St. George and St. David, the police station, the post and telegraph office, the Hotel Great Britain, all found places around the square, enlarging it and stretching it into the steppe. Beside them stood the grand new school and auditorium, which had been completed in the early 1890s to replace the two small schools, the one Russian and the other English, that had been housed by the factory offices since their inception.¹² In 1883 the workers had requested a church for themselves, and in a rare act of community solidarity the money was collected and the church built. Prince Lieven gave 5,000 rubles, an iconostasis and building materials. The factory management gave 5,000 more. The merchant Lobasa advanced 3,500 rubles to be returned from the workers' offerings. The workers each offered one percent of a month's pay (though some complained that they were docked four percent). Even the Jewish wine mer-

Unfortunately the archive authorities claimed they were lacking the technical equipment to reproduce the map photographically. A combined rendering of these maps is to be found on pp. 74–75.

⁹ Garshin, "Poezdka," p. 7.

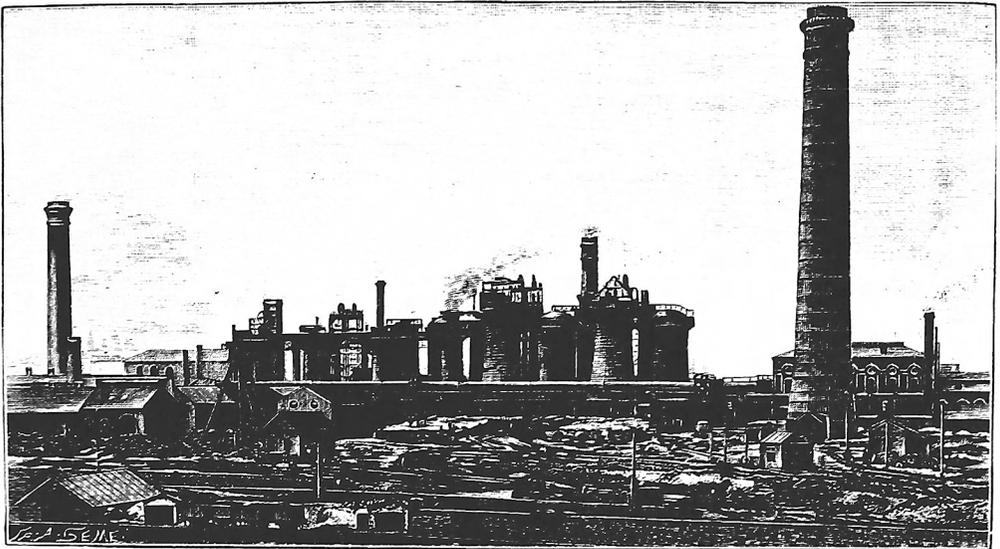
¹⁰ Fomin, *Gornaya promyshlennost'*, p. 450. See also Petro Grigorenko, *V podpol'e mozžno ustret' tol'ko krys* (New York: Detinets, 1981), pp. 86–87, which gives a detailed description of the layout of Iuzovka in 1923–24, when he was a young Komsomol member there, and Ragozin, *Zbelezo i ugol'*, p. 54, who uses a diagram of the arrangement of distinctly urban streets and alleys.

¹¹ *S.S.S.*, vol. 2, Bakhmut uezd, p. 232. This description would indicate that *Novyi Svet* was considered as starting at the northern side of the bazaar square.

¹² Garshin, "Poezdka," p. 7.

chants contributed. In the course of six months 17,000 rubles were collected towards the 28,000-ruble cost of the church.¹³

The town and the surroundings were dominated by the blast furnaces, eventually numbering seven, and by the great smokestack. The blast furnaces were 65 feet high and 16¾ feet in diameter. At night, the eerie sight of their flames and the glow from all the factory's various ovens and furnaces lit the sky for miles around, taking a near-mystical hold on travellers approaching Iuzovka.¹⁴ By day the sight was less impressive: "By day, a permanent cloud, formed artificially by the chimneys and blast furnaces, hangs over Iuzovka and the surrounding settlements." "Stinking, stifling smoke from the factory and mines mixes with the coal and lime dust and with a miasma of rotting organic materials lying in the squares and the streets, considerably spoiling the air." All this mixed with the steppe dust that was whipped over Iuzovka by the prevailing winds,



4.2 The New Russia Co. factory, circa 1895.

¹³ S.S.S., vol. 2, Bakhmut uezd, p. 237. The church, much enlarged and well-kept is active; people attend it to this day, including numerous young couples who bring their infants for a family photograph against the background of the ornate gazebo with its Orthodox cross.

¹⁴ See the descriptions in Time, "Ocherk," p. 12; Garshin, "Poezdka"; Ragozin, *Zhelezo i ugol*; Surozhskii, "Krai uglia i zheleza," *Sovremennik*, no. 4, 1913.



4.3 New housing, circa 1900. Note mine buildings at far right and church tower in background, left.

blighting all plant growth and painting the surroundings a uniform, sickly grey.¹⁵

Despite this outward ugliness, the rapid growth of the Donbass and of Iuzovka in particular conjured up images of a brave new world. "A new California"; "even greater than the Donetsk Chicago of Dimitrievka"; "purely American tempo"; "American tempo . . . never before seen in Russia."¹⁶ In this growth, Iuzovka stood out as a distinctively urban development. The migratory nature of Russian peasants, with their attachment to traditional agricultural work and their seasonal return to the village, created recurrent labor shortages, and, as we shall see, this was a persistent problem even into the Soviet period. Attempts were made to keep workers in the mining settlements by giving them something familiar for their environment. Repeated suggestions were made for "coloniz-

¹⁵ See *Time*, "Ocherk," p. 4, and *S.S.S.*, vol. 2, Bakhmut uezd, p. 234. A virtually identical description of Iuzovka's atmosphere in 1916 is given in Paustovsky's *A Slow Approach of Thunder*, p. 198.

¹⁶ Keppen, "Materialy," *G-z I*, no. 3, 1899, p. 3671, Surozhskii, "Krai uglia i zheleza," p. 396; *Iuzbnyi rabochii*, no. 1, June 1900, p. 35; G. B. Sliozberg, *Dela minuvshykh dnei* (Paris: 1933-34), vol. 2, p. 133.

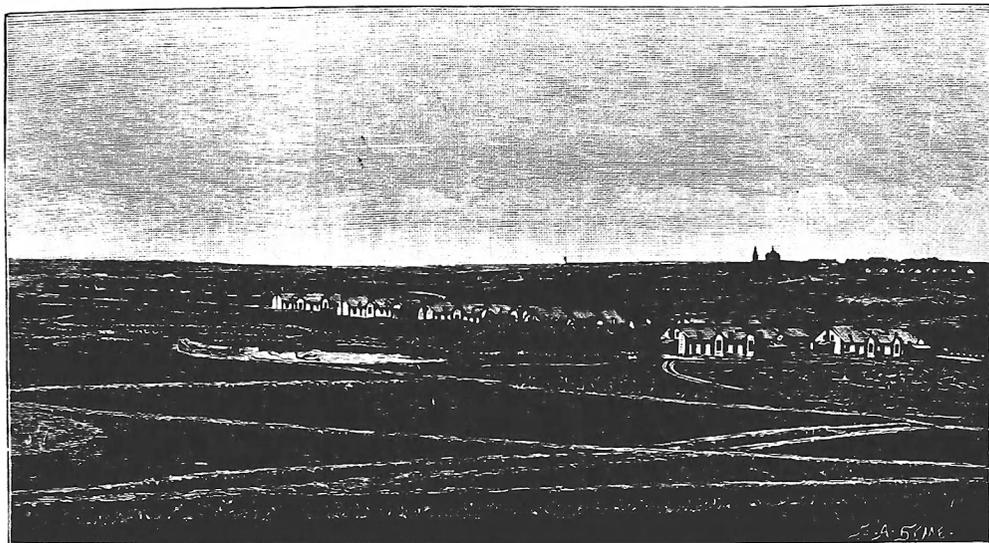


4.4 The first Luzovka church, built in 1875, as it is today.

ing” the labor force, providing them with some land, or at least a kitchen garden with outbuildings and livestock.¹⁷ In contrast to this, Hughes, among the many special regulations governing Luzovka’s population at work and at home, forbade the keeping of livestock in the tiny yards attached to company housing, pointing out that Luzovka was a factory settlement and that British industrial workers did not occupy themselves with secondary agricultural work.¹⁸ Hughes’ approach met with little understanding or acceptance. An early visitor to Luzovka noted: “A married man is not permitted to establish household economy that includes a pig, a garden and some chickens. He must buy everything in the bazaar, and on the steppe this is not always possible, and when possible, it is expensive.” This visitor recommended that the factory allot land and livestock to help stabilize the labor force, but concluded: “The English are not used

¹⁷ *Trudy*, XVIII, 1893, pp. 352–53; E. Taskin, “K voprosu o privilechenii i uderzhanii rabochikh na kamennougol’nykh kopakh Donetskogo Basseine,” *G-z I*, no. 6, 1899, p. 3776; V. Lazarev, “Za shakhterov,” *G-z I*, no. 3, 1899, p. 3665.

¹⁸ Gonimov, *Staraiia Luzovka*, p. 95.



4.5 Iuzovka, new housing construction in the steppe, circa 1895.

to such things. There are different conditions in England, and they are trying to implant those conditions here."¹⁹

The effect of Hughes' determination can be clearly seen in pictures of Iuzovka, with its crowded but orderly row upon row of houses, and those of Shcherbinovka showing scattered huts surrounded by wooden fences and sheds with animals in their yards.²⁰ Observers repeatedly noted the difference. Less than ten years after the founding of Iuzovka Islavin wrote: "The settlement takes on the appearance of a town. It has a bazaar market each Sunday . . . at prices no higher than Kharkov." In addition he notes the existence of an English hotel, a French *buvette*, a German *bierhaus*, and "the inevitable Russian tavern."²¹ Addressing the Congress of Mining Industrialists in 1893, N. S. Avdakov singled out Iuzovka for its urban appearance and amenities.²²

The zemstvo survey of 1884 divided Iuzovka society into three parts. The factory supported 1,163 families with 1,503 workers and a total of

¹⁹ Zilov, "Zavod," p. 50.

²⁰ See the numerous photographs in *Exposition Universelle de Paris, 1900: Charbonnages du Donetz. 45 vues photographiques* (Paris: 1900).

²¹ Islavin, "Obzor," p. 63.

²² *Trudy*, XVIII, 1893, p. 338. He was speaking specifically in the context of the problem of retaining labor.



4.6 The "First Line," Iuzovka's main street, circa 1910.

3,274 people. This included foremen, skilled workers, employees, and administration. The workers and administration of the coal mines were another 399 families, having 399 workers and 694 people. The third sector of Iuzovka's public, the merchants, contractors, artisans, officials, and domestic servants, numbered 393 families with 422 workers and 1,526 people.²³ First of all, it is interesting that the zemstvo survey separates the factory workers from the miners, grouping the former with foremen and administration. We will have reason to return to these distinctions in our later discussion of wages and family budgets. More directly pertinent to the substance of the settlement's society in its formative years is the predominance of the factory population over the miners, and the large part of the population engaged in services—more than a quarter of the total. Most of these, by the evidence given in the survey, were Jewish (e.g., see p. 248—"Almost all trade in Iuzovka is in the hands of Jews.>"). A Jewish

²³ *S.S.S.*, vol. 2, Bakhmut uезд, p. 242. The 1,955 families and 5,494 people account for the whole of Iuzovka's population at this time.

presence of between fifteen and twenty-five percent of the population was to remain until 1924.

The difference between the miners and factory workers was also noted earlier by Zilov, who wrote that over three hundred houses and *balagany*, long board houses, had been constructed in the settlement. He singles out the miners' quarters, however, as "leaving much to be desired. They have neither floor nor ceiling and so are unhygienic. They are also crowded. Families and single miners often live together."²⁴

The differentiation between factory workers and miners on the basis of stability of population and working conditions persisted through to 1917. During World War I, when the number of New Russia miners and factory workers in Iuzovka swelled to over 15,000 (with another 10,000 employed at the company's Vetka and Smolianinov mines on the outskirts of the settlement), a visiting journalist commented on the persisting fragmentation of society. His first division was between the miners and the factory workers. In addition, employees and workers in the factory were separate: the employees considered themselves a higher stratum and met with the workers "only on holidays, when the latter [wore] clean clothes." He called these divisions an artificial phenomenon testifying to the underdevelopment of civil society (*obschestvennost'*) in the settlement, caused by the absence of any organizations that might promote a general civic spirit or even a sense of unity among the workers.²⁵

Thus, as Iuzovka developed, so did its fragmented social and physical character. Some sectors of the population were already settled, others were in the process of becoming property owners, while still others, less rooted, failed to advance on the scale of wellbeing, education, and culture, and maintained their old patterns of life. Along the bazaar in 1892 there were modern street lamps, yet the crowds that burned the settlement's center that summer were still living in foul dugouts and reacted to poverty and famine with elemental prejudice and violence. As we will see, even in 1913 when electric street lights had spread throughout Novyi svet and along the first to tenth "lines" and Iuzovka boasted twenty-five versts of pavement, the arteli of miners living in Sobachevka and some of the other poor districts had advanced but little beyond the crowded primitive housing and dangerous labor conditions that had been the lot of Iuzovka's first

²⁴ Zilov, "Zavod," p. 50.

²⁵ A. Ko—v, "Ocherki Donetskiego basseina," *Utro iuga*, June 21, 1915.

workers.²⁶ In the 1870s, poverty and hardship might have been seen as the natural lot of the vast majority. By 1913, the migrant miner was the neglected fringe of a society that was making visible progress both economically and socially. Six hundred workers of the New Russia Co. owned their own homes, and thousands more occupied housing that Iuzovka's slum dwellers could only dream of.²⁷ It is only natural that we will find their political behavior diverging and their reactions to crisis markedly different.

Throughout this entire development, Iuzovka was not a town in a juridical or political sense. Neither was it rural according to Russian law. It remained, in fact, an administrative anomaly until August of 1917. Iuzovka was not alone in this situation; it characterized many of the new settlements of the Donbass. At railway junctions new settlements grew up around coal mines and factories newly established on the empty steppe. No laws directed or limited their growth. These attracted a population of new workers, industrial entrepreneurs, and, in their wake, all sorts of merchants, traders, artisans, and manufacturers.²⁸ When the inhabitants of Iuzovka sent greetings to the tsar or the government on some festive occasion, they were in the habit of signing as the population of the *mestechko* ("market town") of Iuzovka. But the settlement lacked two vital determinants of such status that would have made the settlement legally an urban settlement. It had no founding charter (*uchreditel'nyi akt*), nor did it have a burghers' administration (*meshchanskoe upravlenie*).

The Russian-Jewish lawyer G. B. Shiozberg, an active advocate of civic equality for Jews in Russia, investigated this question in the wake of efforts to expell the Jews from Iuzovka and several other Donbass settlements. He noted that neither the 1872 statute nor the 1892 statute on the status of towns contained clear instructions as to how new towns were to

²⁶ For the lighting in 1892 see TsGIAL, F.1405, op.93, ed. khr.8555, p. 103b, with Rodzianko's panoramic composite photos of the burned-out bazaar in the wake of the cholera riots. Electric lighting in 1913 is noted in the New Russia's report for that year in DOGIA, F.6, op.1, d.7, p. 1.

²⁷ For the number of factory workers owning homes see DOGIA, F.6, op.1, d.7, p. 9. Brief of the New Russia Co. against municipalization of Iuzovka. For evaluation of the difference between the living conditions of the "privileged" factory workers living in New Russia company housing and those of Iuzovka's slum dwellers see V. M. Stanislavskii, "K voprosu o sanitarnykh usloviakh zhilishch gornorabochikh Donetskago basseina," *Vrachebno-sanitarnata khronika Ekaterinoslavskoi gubernii*, no. 10, 1909, pp. 462-76.

²⁸ Shiozberg, *Dela minuvshikh dnei*, vol. 2, p. 132; Fomin, *Gornata promyshlennost'*, p. 448.

be formed.²⁹ Had Iuzovka been considered rural, the village association could have decided on municipalization, a decision which would be subject to confirmation by the Minister of the Interior.³⁰ But as we have noted, Iuzovka was emphatically and intentionally not rural. Garshin summed up the situation in 1890: "Iuzovka cannot be a municipality because it lacks its own merchant and manufacturing class. Yet administration here is too complex to be run in village style, so everything is dependent on the factory administration."³¹ Before the turn of the century Iuzovka had already outstripped the uezd seat, Bakhmut, a town later characterized as "an artisan, petty bourgeois, merchant small town, playing no political role, but serving as a convenient police center for the tsarist authorities."³² Nevertheless Bakhmut was a county seat with a zemstvo council and administration, a local newspaper, and even a branch of the State Bank at a time when the government refused to open such a branch in Iuzovka, despite its burgeoning economy. The absence of these political and social institutions was a fundamental factor in forming Iuzovka's character.

Hughes' complete control of the territory of Iuzovka included all commercial activity and construction. No business could be opened in the settlement without a contract with the company. Leases followed the local custom of twelve years maximum duration, though this limitation generally applied only to village association lands, while on private holdings leases were for as long as thirty years. Renewal involved a rent increase of at least twenty percent. Rents varied according to the centrality of the parcel rented. The company took 20 kopeks per square sazhen in prime locations, 15 kopeks and 10 kopeks in slightly less desirable locations. The average appears to have been a little over 8 kopeks per square sazhen. Sliozberg testifies to having seen accounts showing a desiatin of land for commercial purposes in the first decade of the twentieth century renting for 20,000 rubles per year.³³

²⁹ Sliozberg, *Dorevoliutsionnyi stroi Rossii* (Paris: 1933), Chapter 13, gives a survey of the features and limits of municipal government in Russia during the latter years of the tsarist regime.

³⁰ Sliozberg, *Dela minuvshikh dnei*, vol. 2, p. 132.

³¹ Garshin, "Poezdka," p. 9.

³² M. Ostrogorskii, "Stranichki iz istorii borby za Oktiabre v Donbasse," *Katorga i syylka*, no. 5 (90), 1932, p. 25.

³³ Sliozberg, *Dela minuvshikh dnei*, p. 135. This amount is the equivalent of eight kopeks per square sazhen. See also Gonimov, *Staraya Iuzovka*, p. 122. At the same time, Prince

At the end of the 1880s residential lots of 150 square sazhen were parceled and offered for rent to those who wished to build their own homes on them. Rent for these lots was twelve rubles a year for those not employed by the New Russia Co., and six rubles for company employees with the first three years free. Of course, when the tenant left Iuzovka, the house could either be sold to a buyer approved by the company or remained the property of the company at whatever terms it saw fit to offer. The first lots offered were in the southern Zavodskaja district on the slope facing the river. When it became necessary to use this area for development of the factory, Hughes offered to move the houses that had been built there to new sites in *Novyi svet* at his own expense, paying an indemnity of 20 percent of the houses' value in addition to this.³⁴ Rental income to the company amounted to 40,000 rubles a year by 1891; by 1905 it had grown to 600,000. By 1916 the value of the settlement alone—houses, commercial premises, etc.—apart from the land, factory, mines, and other assets of the New Russia Co., was estimated at 1.5 million rubles.³⁵ Apart from any personal convictions or motivations that John Hughes or his sons might have had regarding the company monopoly on the affairs of Iuzovka, there was a persuasive economic reason for maintaining it.

This state of affairs prevented the formation of any sort of representative institution that might have introduced the image or example of self-government into the consciousness of the population of Iuzovka. As we will see, the same principle applied regarding cooperatives, unions, cultural institutions, or any other autonomous groupings. The tsarist autocracy not only approved, but also insisted upon prevention of the spread of any form of politics into the broader strata of the population. But, according to Sliozberg, even the laws of Russia "applied only when one had business outside the limits of the settlement. Within it there ruled only one law:

Lieven was offering lots of 96 square sazhen at a rental of fourteen rubles per year, and had rented out 178 lots to 136 different tenants. See *S.S.S.*, vol. 2, Bakhmut uezd, p. 233. Pastukhov also had workers living in their own homes on land leased to them by the company. See *G-z I*, no. 13, 1906, p. 8453, claiming that even when one thousand workers were laid off by Pastukhov during the troubles of November 1905, they did not leave the factory settlement.

³⁴ Garshin, "Poezdka," pp. 3, 8. Sliozberg, *Dela minuvshikh dnei*, vol. 2, pp. 132–34.

³⁵ Garshin, "Poezdka," pp. 3, 8; the 1905 rentals are from CL, File 13599, study 1255–3, Geibel, *New Russia Co.*, January 1905. The 1916 value is contained in Banque Union de Paris (now Credit du Nord), File 228, "L'Affaire Hughes," letter of June 4 (17), 1916, to a shareholders' special meeting.

the law of Hughes."³⁶ In Sliozberg's opinion, "The most experienced jurist could not define, or find basis in existing law for the conditions prevailing in such settlements [company-owned settlements of the Donbass] in the realm of sanitation and urban amenities."³⁷

The government authorities took little real part in regulating the town itself, as distinct from the factory and mines, and any general laws regulating building practices, provision of services, street cleaning, paving, lighting, or sanitation came in the form of decrees of the "bazaar office" (*bazarnaia kontora*), a body appointed and financed by the company. Neither the weakness of the fiat of St. Petersburg's far-off authorities, nor negligence by the company was considered to be the source of Iuzovka's lagging services. Though the company was spending 50,000 rubles a year on sanitation in and around company housing (and more than twice that on its local police force), one observer concluded that "the root of the evil is not simply the absence of a basic refuse gathering system, but the absence in the settlement of Iuzovka of public institutions. It is with this that the lack of sanitation is so closely associated."³⁸

The New Russia Co. determinedly opposed any diminution of its absolute hold on Iuzovka. When a movement developed within the settlement to obtain municipal status in 1913, the company replied with a mixture of thinly veiled threats, self-congratulation, and appeal to prejudice. In its opposition to the move the company wrote: "Possessing no independent significance, the settlement can have no independent vitality. It exists only as long as the factory and mines of the New Russia Co. function." The anonymous author of the brief then sets forth the not inconsiderable activities of the company in the fields of housing, health, and sanitation, and states that of Iuzovka's entire population, the workers, employees, and contractors of the New Russia Co. number 43,000 persons, while the remainder number only 14,000. Of the latter, the brief points out that 12,000 are Jews. It is this minority that is said to be pushing for municipalization as it would give them firm rights of residence and property ownership, while the Russian workers of the company would

³⁶ Sliozberg, *Dela minuvshikh dner*, vol. 2, p. 135.

³⁷ Sliozberg, *Dorevoliutsionnyi stroi*, p. 210.

³⁸ N. M. Shvaitzar, "Assenizatsiia poselka Iuzovki," *Vrachebno-sanitarnaia khronika Ekaterinoslavskoi gubernii*, no. 2, 1910, p. 334. The sums spent on sanitation and on police are from 1913. On these, see DOGIA, F.6, op.1, d.7, p. 3. Shvaitzar, p. 320, n., calls the *bazarnaia kontora* "a unique product of Iuzovka's public life, substituting for any municipal self-government."

bear the burdens of local taxation. In closing, the author states bluntly that whatever the outcome of the discussion, the company has no intention of giving up any of its land holdings or rights.³⁹

The "open frontier" of the Donbass did not include self-government or even civic activism. As will be discussed in detail in a later chapter, *zemstvo* activity in the settlement appeared relatively late and was weak and intermittent. The pattern of company domination of all local affairs and the central government's blocking of any wider political development persisted virtually without interruption until 1917, despite the many social changes that took place, particularly after 1905. In addition, the more the factory population stabilized and children or youths grew into the labor force of the Donbass, the further this population was removed from even the limited self-government of the Russian village. As a result, when politics became public property in 1917, the Donbass population was virtually devoid of any civic experience. Whatever additional factors there were that compounded the fragmentation of Iuzovka's society, this denial of participation, compounded of local and central interests, must be seen as the central political fact of life in Iuzovka in particular as well as in the Donbass as a whole.

HOUSING THE POPULATION OF IUZOVKA

"Experience has shown us that to predict the coal production of an enterprise one must consider the number of workers available, or, more exactly, the number of lodgings set up. An important fact has emerged in 1900, that the northern provinces contain a work force that engages itself with astonishing ease if the question of workers' housing is well taken care of."⁴⁰ So wrote one of the most experienced and perceptive of the Credit Lyonnais' analysts. Two aspects of Donbass industry are highlighted here. The first is that Donbass coal mining was labor-intensive. The coal was there in abundance, waiting to be developed; the perception was that the road

³⁹ DOGIA, F.6, op. 1, d.7, pp. 1–11. Brief of the New Russia Co. against municipalization, 1913.

⁴⁰ CL, 11855, note 1195, M. Waton, *Rykovskii*, May 1901, pp. 13–14. See also Monin, *Notice*, p. 19. L. Vereshchinskii, *Rabochii shakhter v Donetskom Basseine* (St. Petersburg, 1893), p. 15, writes: "The South Russian Korsun mine has achieved a stable workforce by improving the workers' living conditions."

to development lay in applying greater amounts of relatively cheap manpower rather than in raising the individual miner's productivity through application of more scarce, and therefore more expensive, capital. We will have cause to discuss the sources of this approach at a later point, but it is pertinent to note here the resistance of the coal producers to mechanization of their operations. In 1914 the cutting of coal was still almost exclusively a hand operation, with only one half of one percent of coal produced by drilling. While the American coal industry employed 16,000 drills in 1912, Russian coal mines used only sixty.⁴¹ In a publication from 1919, the New Russia Co. found reason to make special note of the fact that in mine no. 4 two coal-cutting machines were in use, "doing in five or six minutes what one man can do in two shifts."⁴² The second point is that, given the industrialists' labor-intensive approach, the limiting factor on growth and improvement of productivity was the extent of the employers' willingness to invest in housing. Despite the fact that this was conventional wisdom long before Waton's memorandum, the lack of decent housing was for many years a central point of discussion among the mining industrialists, as well as among social reformers and revolutionaries. "It would be hard to find a question that has so strongly and deeply gripped public consciousness as the question of housing. It is the preoccupation not only of technical personnel, engineers, architects, landlords and merchants, but of hygienists, doctors, socialists and demagogues."⁴³ Not only was the question of housing prominent in the public consciousness, but there were few questions on which interpretation of the evidence differed so sharply. It was a classic case of whether the bottle should be seen as half full or half empty. This debate carries over into the Soviet period with both its social and economic aspects still discussed; and, as the author was able to see with his own eyes, has considerable relevance to Donetsk even today, despite the city's great achievements in this sphere.

⁴¹ Kondufor, *Istoriia*, vol. 1, p. 70; Ia. Boiarkov (A. Gol'tsman), "Reorganizatsiia Donetskoi industrii," *Metallist*, no. 3, 1918, p. 2.

⁴² *Novorossiiskoe obshchestvo*, 1919, p. 53. There is no indication of when the machines were put into use—there is no mention of them in the 1910 edition of the booklet—or whether they were actually in operation in 1919. Some of the information in the text evidently was prepared in 1915 or 1916. Publication was probably delayed by the revolutions and the early stages of the civil war.

⁴³ Mekhmandarov, "Zabolevaemost'," p. 59. Mekhmandarov's definition of the participants in the discussion, his placing them in separate camps of "practical people" and "visionaries," is interesting as he himself was a doctor.

Settled in a lone shepherd's cottage on the bare steppe, John Hughes could not but be aware of the importance of housing to the success of his plans. Only a few months after his arrival he wrote: "I may also mention that I have erected a sufficient number of suitable dwelling houses, offices, stores, workshops and stabling on the site of the works to accommodate the workmen, etc., required for the present operations and I shall increase these buildings as the necessity for them may arise."⁴⁴ In Islavin's 1875 review of the Donbass he singled out progress in housing as the symbol of what was to be a new relationship between employers and miners, a relationship marking the transition to the modern industrial development of the region. The coal producers, he wrote, "have begun to look upon the workers as human beings for whom, in place of filthy dugouts, they are now building solid, clean quarters—and in general they have begun to worry about their health and well-being."⁴⁵ All this occurred in the context of building a stable labor force, and should be seen against the background of the attempt fifteen years earlier to import Westphalian miners, an attempt that failed mostly because of inadequate provision of housing. If the growing coal industry was to create a professional labor force that would work year round and justify, by its productivity, the great capital investment that went into a modern mine, housing should have been a high priority.⁴⁶ Islavin's optimism notwithstanding, housing was neglected in much of the Donbass. For Selivanov, as he looked back from a fifteen-year perspective, the main reason for this was that "most of the private [coal] enterprises of that period had a very clearly temporary character and were unstable, and for these reasons such a type of housing developed."⁴⁷

The "filthy dugouts" (*zemlianki*) to which Islavin refers were the first standard accommodation for workers in the Donbass. Originally, the *zemlianka* was the temporary improvisation of small peasant miners and was used to stable horses, prepare food, or provide shelter during meal times.⁴⁸ The *zemlianka* had a number of advantages: it was cheaply and quickly built, required no special skills or materials, and could be tailored in size

⁴⁴ TsGIAL, F.37, op.53, d.746, p. 23. Hughes to Minister of Finance, November 7, 1870.

⁴⁵ Islavin, "Obzor," p. 83.

⁴⁶ See the discussion of this point in McKay, *Pioneers for Profit*, pp. 260–61.

⁴⁷ P. Selivanov, "Zhiliia pomeshcheniia dlia rabochikh," *G-z l*, no. 12, 1892, p. 1273.

⁴⁸ Shreider, "Ocherki," p. 65.

to fit the expected number of residents. Essentially, it was a trench dug in the earth to a depth of 25 to 35 centimeters, lined with stones or boards, and having three or four earthen steps leading down into it. A wooden framework supported a roof of earth spread on thin planks, and earth, slag, or mine tailings were piled up to form walls. Sometimes the zemlianka had a small window of 45 by 60 centimeters. If not, then the door, which was only 1.3 to 1.5 meters high, provided the only source of light. The floor was bare earth, and there was no ceiling under the roof.⁴⁹ In the mid-1880s at the Golubovskii mine in the north of the Donbass, a structure 21.3 metres in length and 6.4 in width housed eighteen persons in summer and sixty in winter: 7.5 square meters per person in the summer, 2.27 square meters in winter.⁵⁰ But even in the summer when the survey was taken the surveyor wrote: "During rain the walls run with water. The air is always damp and foul with the smell of sweat. Sitting there for an hour you emerge with a splitting headache." Other buildings of the same type ranged from a half square meter of floor space per person up to eight square meters in what was described as the barracks of the mine.⁵¹ To provide the minimum air space per person prescribed for sanitary housing, (1.5 cubic sazhen—14.6 cubic meters), at least 5.28 square meters of floor space was thought to be needed for each resident, given a height of something less than three meters for a workers' house.⁵² The standard for lighting was that the ratio of window area to floor area should be no less than 1:8.⁵³

⁴⁹ See the detailed descriptions of the zemlianki that were still in use in 1910 and 1911 in A. L. Smidovich, "K voprosu ob epidemiologii kholery," *Obshchestvennyi vrach*, no. 1, 1911, p. 16. See also I. I. Liashchenko, "Zhilishchnyi vopros na gornopromyshlennykh predpriiatiakh Donetskago Basseina i dannia obsledovaniia zhilishch rabochikh O—va Iuzhno-russkoi kamennougol'noi promyshlennosti," in I. D. Astrakhan, ed., *Trudy vtorogo vserossiiskago s'ezda fabrichnykh vrachei* (Moscow: 1911), vol. 2, p. 257.

⁵⁰ The international sanitary minimum standard adopted in the 1920s, and in use to this day, is nine square meters of floor space per person. In the medical literature in Russia at this time, the air space was considered of primary importance, as will be shown.

⁵¹ *S.S.S.*, vol. 3, Slavianserbsk uezd, p. 381.

⁵² AN, File 65AQ L386, *Mines de Rykovskii, Estimation d'Inventaire*, p. 36, lists workers' housing ranging from a height of sixty-five centimeters (evidently a zemlianka) to close to three meters. The mean is about 1.8 meters. These are the houses that were on the Rykovskii property when it was bought for development by a Brussels-based consortium.

⁵³ Liberman, *V ugol'nom tsarstve*, p. 77. The minimum of 1.5 cubic sazhen of breathing space per worker and a minimum of three cubic sazhen for a family were formally adopted by the Congress of Mining Industrialists in 1893. See Avdakov's report on the labor problem in *Trudy*, XVIII, 1893, p. 352. P. Pokrovskii, "Kak zhivet Donetskii shakhter," *Russkoe bogatstvo*, no. 12, 1913, p. 243 n. 1, writes that a draft law proposed in 1912 set a minimum of two cubic sazhen of air per person, as well as defining the lighting minimum

These were the formal standards, but even in 1914 a broad survey of Donbass workers' housing found that in terms of ventilation, conditions of crowding were considerably worse than in the flophouses (*kochno-kamerochnye kvartiri*) of Moscow, where in a somewhat earlier period the norm had been set at one cubic sazhen (9.7 cubic meters) of air space per person.⁵⁴

At the end of 1898, P. G. Smidovich, later a well-known Bolshevik, took a job in the Briansk metallurgy factory in Ekaterinoslav. There the metallurgy boom was rapidly swelling the working class population and outdating Lenin's as yet unpublished statistics. To facilitate his propaganda work Smidovich lived with the workers. Twelve people inhabited three rooms of a wooden house. The window was never opened, the air was thick, the heat intolerable, the walls damp. The mattress on the floor was dank and moldy. Within two weeks Smidovich developed a fever and was soon advised by the factory doctors to seek better living conditions in an easier climate. He moved to Mariupol, where he found a pleasant private room in a house, and commuted to the Nikopol-Mariupol factory that stood some kilometers outside the town.⁵⁵ This was two years after the factory had started. One-third of its 4,122 workers lived in factory-owned homes or barracks, while the rest are described as living in "other" barracks and dugouts.⁵⁶ In Robert E. Johnson's investigation of the lives of Moscow workers he finds that, in the 1880s, two-thirds of the workers of large factories lived in factory quarters, while in the smaller factories 57 percent did so. Diane Koenker, following Johnson's lead, writes that at the turn of the century the majority of Moscow workers lived in private, rather than factory owned, housing.⁵⁷ This meant that where the workers had previously been relatively isolated from urban life, they were now subject to the city's civilizing influences.⁵⁸

as a ratio of window or glass door openings to floor area of 1:8. A ratio of 1:14 was considered semi-dark, and 1:20 or less was considered dark.

⁵⁴ I. Liashchenko, "Usloviia truda na rudnikakh Donetskogo Basseina," *Obschestvennyi vrach*, no. 3, 1914, p. 431. For the Moscow norm, see Robert E. Johnson, *Peasant and Proletarian*, p. 85.

⁵⁵ P. G. Smidovich, "Rabochie massy v 90-kh godakh," *Proletarskaia revoliutsiia*, no. 1 (36), 1925, pp. 162-63.

⁵⁶ Pankratova, *Rabochee dvizhenie*, vol. 4, pt. 2, p. 678 n. 98.

⁵⁷ Johnson, *Peasant and Proletarian*, p. 84; Koenker, *Moscow Workers*, pp. 54-55.

⁵⁸ Johnson, *Proletarian and Peasant*, pp. 93-94, notes the workers' isolation from the city. Koenker, *Moscow Workers*, pp. 54-55, 92-93, emphasizes the influence of the city in the later period.

In the Donbass, this phenomenon took a particular form. In the first place, we must differentiate sharply between the coal miners and the metallurgy factory workers. The miners lived in smaller and generally more isolated communities. As we shall note, they also retained their migratory tendencies to a greater degree than did the factory workers. It is therefore not surprising that in his analysis of workers' living standards, Kir'ianov found that the percentage of miners living in company-owned housing, whether barracks or family homes, declined only slightly: from 90.8 percent in 1901 to 86.2 percent in 1913, leaving only 13.8 percent living in their own houses or in "freely" rented quarters.⁵⁹

The variations in the percentage of miners living in family quarters rather than in barracks reflect the rate of growth of the industry. By 1901, 38.5 percent of those miners housed by their employers lived in family homes set up by the coal companies. In 1904, after three years of recession and as construction slowly gained on a shrinking work force, 43.6 percent of these miners lived in family quarters. The renewed burst of growth in the coal industry in the last years before World War I brought thousands of new miners to the Donbass and put barracks back in the picture: in 1912–13 only 39.5 percent of the company-housed miners were to be found in family homes.

In contrast, metallurgy workers tended more and more to be housed in their own or rented quarters, rather than in company-provided housing. By 1905, the metallurgy companies of South Russia housed only 22.7 percent of their workers, with the rest finding their own housing; this shrank even further to 16.1 percent in 1913 and to 14 percent in 1915. Citing surveys of 79,000 and 87,000 metallurgy workers in South Russia, Kir'ianov finds over 58,000 in 1913 and over 68,000 in 1915 housed in their own homes or in independently rented quarters.⁶⁰ This reflects the stability of the factory work force as compared to the continued migration of the mine labor force, and has the social consequence of the emergence of rooted factory workers whose lives took on a dimension of independence from their employers.

In Iuzovka, by 1916, 71 percent of the New Russia Co.'s 12,944 factory and mine workers lived in their own or rented quarters, rather than in

⁵⁹ Iurii I. Kir'ianov, *Zhiznennyi uroven' rabochikh Rossii: konets XIX—nachalo XX v* (Moscow: Nauka, 1979), p. 235.

⁶⁰ Iurii I. Kir'ianov, *Rabochie tuga Rossii* (Moscow: Nauka, 1971), p. 88.

company housing.⁶¹ Yet in this particular case, the lack of company housing is to be considered a fault rather than a virtue. One Dr. Stanislavskii, sent to Iuzovka to help fight the 1908 typhus epidemic, was shocked by the housing conditions in the settlement, but noted that "the factory houses along the 12th to 17th lines are well-lit, airy and dry, an exception to the general filth and anti-hygienic state of workers' housing. If all the workers were housed like this, there would be no epidemic."⁶² A Dr. Sysin wrote in 1910 that those quartered in company housing in Iuzovka were the privileged part of the population.⁶³ He found 1,642 of the New Russia Co.'s 9,103 workers and employees living in factory housing. Together with their families they formed a population of about six thousand out of the fifty thousand then in Iuzovka. There were a few apartments for which no rent was collected, 207 rented for 75 kopeks to 1.10 a month, 176 for 1.50, 145 for two to three rubles, 256 for four rubles, 87 for four to eight rubles, and 23 rented for eight to sixteen rubles per month.⁶⁴ The New Russia Co. tended to build individual apartments and houses rather than barracks. The data presented by Postriganov show this clearly, though they are confusing as to the general trend of development, as they record a drop in employment, a drop in the number of company-owned housing units, but a considerable growth in the number of workers housed by the company. Referring to 1913, Postriganov writes that the factory employed 8,045 workers, of whom 2,648 were housed in 778 company-owned apartments while only 95 were quartered in barracks, with the remainder finding their own housing in the settlement.⁶⁵ Whatever the explanation of the differences between Sysin's observations and those of Postriganov, it is clear that the development of factory workers' housing had proceeded apace, and that the days of the zemlianka had been left far behind in an urban-type settlement such as Iuzovka. For the miners, by

⁶¹ *Istoria mist i sil*, p. 81.

⁶² Stanislavski, "K voprosu o sanitarnykh usloviiakh," pp. 464-65. On p. 469 Stanislavskii notes that the higher-paid workers are the ones occupying factory housing.

⁶³ A. Sysin, "K voprosu o vodosnabzhenii poselka Iuzovki," *Vrachebno-sanitarnaia khronika Ekaterinoslavskoi gubernii*, no. 6, June 1910, p. 444.

⁶⁴ Sysin, "K voprosu." Sysin offers no explanation as to why his list adds up to only 894 apartments plus "a few" free houses when 1,642 workers are quartered there. It seems unlikely that with an average of 3.6 people per family there would be nearly two workers in every family housed. The most likely explanation that suggests itself is that there were a considerable number of housekeeping arteli housed in these "family" apartments.

⁶⁵ Postriganov, *Metallurgicheskie zavody*, p. 411. The average number in an apartment in his calculation deviates only a little from that of Sysin three years earlier.

way of contrast, an animal-like existence in the dugouts and barracks was still the dominant form up to and through World War I.

As to how this affected the workers' acculturation to social or civic life, it should be remembered that a minority of the plants were in established towns like Mariupol or Ekaterinoslav. The majority were situated in settlements of their own making, settlements which had, started, like Iuzovka, from the bare steppe, and which existed, as we have already mentioned, as company towns, newly created islands in the empty plain, and in social terms largely sufficient unto themselves. Although owning or renting a house independent of the company might be an important factor in a worker's life, the settlement environment of Iuzovka, Makeevka, or Enakievo nevertheless lacked the established culture, elites, and institutions of Moscow or St. Petersburg, or even of Ekaterinoslav, Kharkov, or Lugansk.

The descriptions of the early burrows that served as workers' housing in Iuzovka are even more graphically repellant than those in Slaviansoserbsk uezd. "Visiting these well-known workers' dugouts for our survey, we, in most cases, could not remain in them more than two or three minutes, so thick and unpleasant was the air, even with the doors open; yet in that stinking atmosphere children lived, not only adults. Not infrequently in the dugouts we came across poor women somehow covered in filthy rags, sitting on the bare earth floor with some mending in their hands, and a nursing infant lying on an unclean bunch of rags. All round were dirty, wizened and half-naked little ones, thin as matchsticks and pale as maggots. . . . In most of the mines the dwellings are the same or little better, with poverty and drunkenness found in similar measure."⁶⁶ An 1882 description of one such dwelling, used as a common barrack as well as serving families, is quoted in Bowen's biography of John Hughes: "The walls were of stone without plaster of any kind, the roof was of reeds and the floor was of bare earth. Single men slept on common plank beds, perhaps fifty or sixty of them in tiers. Workers with families were given one room, no matter how many children they had, and there was a common kitchen with a fireplace and coal stove for six families."⁶⁷

In the same passage Bowen writes that Hughes looked down on the foreigners: "Anything would do for them." Yet Hughes was the first employer in the Donbass to provide individual houses for his workers. Writ-

⁶⁶ *S.S.S.*, vol. 2, Bakhmut uezd, p. 323.

⁶⁷ Bowen, *John Hughes*, p. 41.

ing for a Moscow exposition in 1882 Keppen notes that the New Russia Co. has already built more than three hundred houses and balagany housing 4,000 people.⁶⁸ It is significant that at this early date, Hughes had almost completely eradicated the zemlianka as a form of housing for his mine and factory workers. Three years later, a factory inspector praised Hughes' uniqueness in providing housing for his workers, at the same time noting the crowded and unsanitary conditions still prevalent in Iuzovka.⁶⁹

It was by no means uncommon to find families with children living in the communal barracks. The interior of such a barracks at the end of the 1880s is described as follows: "A long blank wall (24.5 meters) along which was a solid sleeping shelf. At the corners were cubicles for married workers. In the center, a stove, on both sides of which, and parallel to the sleeping shelves, were long trestle tables and storage shelves. On the opposite wall was the contractor's cubicle with a window, more sleeping shelves cut by a door by which stood a bucket holding slops for the contractor's pigs, and a small rack for drying the miners' clothes. Then came more shelves and another cubicle. In the corridor stood a water barrel supplied by a private water vendor. Over the window, and in the cubicles of the married workers, there were icons. Otherwise there was no decoration whatsoever."⁷⁰

One of the residents of this barracks, at one of the "model" mines of ROPIT, recalled his childhood living conditions for the interviewers of Pankratova's Donbass oral history expedition:

"Our family lived in a cubicle. There were seventy people, mostly seasonal, in the barracks. They were filthy. Coming from work, and undressing in the barracks, they left behind them piles of coal dust.

⁶⁸ Keppen, *Istoriko-statisticheski obzor*, p. 82. This would be virtually the entire population of the settlement at that time. The average of only thirteen persons per building indicates that a considerable proportion of the workers were already housed in family units rather than in barracks. The balagan was similar in construction to the zemlianka, but had the saving grace of being above ground in its entirety and of generally being divided into rooms, while the zemlianka was a single common hall. The walls of the balagan might be of board, smeared with a clay stucco, or of "sandwich"—two layers of boards with dirt fill in between. Some sources use balagan, zemlianka, and kaiuta virtually interchangeably, as well as pol-zemlianka and kaiuta-zemlianka for variations on the basic dugout. For a detailed structural description see Kir'ianov, *Rabochii tuga Rossii*, p. 90.

⁶⁹ Sviatlovskii, *Kbarkovskii fabrichnyi okrug*, p. 117.

⁷⁰ A. B. Zaks, "Trud i byt rabochikh Donbassa," in A. M. Pankratova, ed., *Istoriko-bytovye ekspeditsii 1951–1953* (Moscow: Kulturno-prosvetitel'naia literatura, 1955), p. 93.

They almost never washed. Even on a Sunday they didn't get to the bath.

Our cubicle was curtained round with bags and sacks holding the whole family's clothing. Mother and father slept on the sleeping shelf, the children beneath with bugs, spiders and coal dust. Mother washed us daily with water purchased at a kopek a bucket. The families tried to get out of these barracks with their drunkenness, fights, and even killings. After 1905 ROPIT built family barracks with a separate room for each family."⁷¹

In the mining settlements these conditions persisted well into the twentieth century. A visiting journalist wrote in 1913: "It is difficult to say where life is worse for the miners, in the mine or above ground. On the surface he is in a dugout, or in the best case in a barrack with dirt, crowding, poor food, drunkenness, an absence of any spiritual interests, nowhere to spend his free moments, no one with whom to converse in a civilized manner. Underground there are hard labor, low pay, cave-ins, explosions, flooding, cold, etc., etc."⁷²

One variant on the dugout was the *kaiuta* (shanty) that might be a small family dugout, or a board and canvas shelter, partially dug into the earth. Yet from contemporary descriptions the only advantage in such a structure was that it generally served a single family or *artel*. "The *kaiuti* are crowded and dark. The air in them is thick and stifling. The interior is not kept clean. In general these are totally unhygienic and incomparably worse even than the *balagan*. Yet not infrequently married workers with nursing infants are to be found living in these *kaiuti*."⁷³ Not all observers painted such a dark picture of the *kaiuta*. Selivanov found it the first step towards establishing some element of personal autonomy in the workers' lives. He noted that "where the miners live in their own *kaiutka* they clean inside and around, whereas in a barracks you may find four or five willing to clean a little, and you have to pay people to do cleaning."⁷⁴

⁷¹ Zaks, "Trud i byt," p. 93. See a similar description from 1899 with the addition of "scabby potatoes piled on the floor, bones and other refuse beside the cask of drinking water, a grimy *artel*' cook, and in the air an unprepossessing odor of noxious gases carried by the wind." Lazarev, "Za shakhterov," p. 3664. More such descriptions could be provided *ad nauseam*.

⁷² Surozhskii, "Krai uglia i zheleza," p. 297.

⁷³ *S.S.S.*, vol. 2, Bakhmut uezd, pp. 234–35.

⁷⁴ Selivanov, "Zhiliia," *G-z l*, no. 14, 1892, p. 1293.

For single workers, summer brought the possibility of setting up a *so-bachaia kopicha* ("doghouse") or *kuriatnik* ("chicken coop") as their living quarters. "Hardly had warm weather arrived when the workers fled their stifling hole-in-the-wall rooms for a peculiar sort of dacha. These were board shacks, like boxes, some seven feet long by 4¼ wide, and five to six feet in height. The entry was so low that you had to enter on all fours. A factory might have 150 such, serving two or three workers each."⁷⁵

With little to choose between the primitive physical conditions of the barracks, the balagan, or the *kaiutka* (the diminutive is often used in the literature to indicate a single-family dwelling of this type), the attempt to get away from the moral degradation of the filthy and brutal barracks was the motivation for a family or even for an entire *artel'* to seek independent housing.⁷⁶ This was a difficult decision for the family. There was generally no direct charge for the use of company barracks, but there might be for a separate house. There surely was additional expense when, as often happened, a family rented a *zemlianka*, a shed, a summer kitchen, or any shelter from a private householder, or when, as became more and more common, a worker took a corner or a bed as a lodger in some family's room or apartment.

Though the employers generally took no direct payment from workers for use of the barracks it was clear that this was not free housing.⁷⁷ I. Prokhorov, a textiles manufacturer who became active in the coal industry, anticipated Milton Friedman by several decades, noting: "No manufacturer ever gives free housing. If he says he does, it is because the cost of the housing supplied has been calculated directly into the value of labor."⁷⁸ When the compensation law of June 10, 1903, came into effect, the Nelepovka mine began charging thirty kopeks a month on what had been "free" housing to cover their liability to compensate workers for loss of housing should they have to cease work due to injury or illness.⁷⁹ Since

⁷⁵ K. A. Pazhitnov, *Polozhenie rabocheho klassa v Rossii*, 2d ed., rev. and enl. (St. Petersburg: Obshchestvennaia pol'za, 1908), p. 41. These structures probably gave their name to Iuzovka's *Sobachevka* (Dogpatch) slum, an area populated by "wild" workers, i.e., transients and new migrants awaiting permanent employment. The neighborhood was officially known as "The Happy Homestead" (*Veselyi khutor*).

⁷⁶ Zaks, "Trud i byt," p. 93.

⁷⁷ *Ibid.*, reports that ROPIT charged fifteen kopeks per month for those sleeping in the barracks described above.

⁷⁸ Cited in Kir'ianov, *Zhiznennyi uroven'*, p. 96.

⁷⁹ P. N. Iakovlev, "Rabochie Nelepovskago kamlenno-ugol'nago rudnika," *Meditsinskii zhurnal*, no. 6, 1905, p. 31.

there does not appear to have been any additional wage paid to workers who did not occupy company housing, the move to rented housing represented an economic sacrifice made for the sake of a better quality of life. As we shall later note, financial compensation might be found by utilizing the opportunity to take in boarders. It should be pointed out that workers who brought their families with them to the mines or factories were more likely candidates for permanent settlement and therefore less concerned with saving every kopek toward buying a piece of land or a horse. For such people, both their search for quality of life and their concern with present satisfaction over savings inclined them to find private housing despite the extra cost.

Rent of course varied over time and from place to place, as well as by the type of quarters occupied. In Iuzovka in 1890, Garshin found workers paying private landlords two to three rubles per month for housing with no private cooking stove. At the same time, the New Russia company was renting apartments in two-family houses, each apartment having two rooms, a stove placed to heat both the rooms, an entrance hall, and a ceiling, "not just a roof as in other workers' settlements of the area." The rental, calculated at six percent of the building's value, was no more than four rubles per month.⁸⁰ At that time a skilled worker in the New Russia factory made as much as five rubles per day, while lower paid categories might make 1.70 a day.⁸¹ Even the lower-paid workers made 34 rubles per month on a twenty-day work month, so that housing represented only about twelve percent of income, even if there was only one person earning money in the family.

On April 26, 1900, the Shtoffe commission, appointed by the government to investigate living conditions of the Donbass workers, visited Iuzovka. In the commission's journal it was noted that the company employed 11,000 factory workers and 2,500 miners within the settlement. Of these, 6,000 lived in company housing. The journal does not specify the number of units of each type, nor how many workers were housed in each type of unit, but notes three types of housing. There were barracks where twenty-

⁸⁰ Garshin, "Poezdka," p. 4. To this very day the remaining units of this housing along Prospekt Lagutenko in Donetsk are known as "the four-ruble houses" (*doma chetyrekh rublei*). None of the inhabitants with whom I spoke knew the provenance of the name.

⁸¹ These figures are brought by Garshin, "Poezdka," p. 7. He puts miners' pay at about one ruble per day. Avdakov, in *Trudy*, XVIII, 1893, p. 332, puts miners' pay in 1893 at about thirty rubles per month.

four men and a cook lived in one room, sleeping on crowded board shelves. There were also two types of apartments, constructed in two and four unit blocks. Some were two-room flats with a kitchen, shed, and cellar, with wooden floors and well-built outhouses in very small back yards. These were the four-ruble houses. A smaller apartment, renting for one-and-a-half rubles a month had only a room and a half plus a kitchen, and had a clay floor. There is no mention of a cellar, shed, or the quality of outhouse.⁸²

Just outside Iuzovka, a New Russia Co. mine with 2,300 workers had one-and-a-half-room houses with earth floors in which an *artel* of twelve workers shared six cubic sazhen of air, one-third the required norm. These rented for three rubles a month. Two-room houses in which eight people lived also rented for three rubles. There were also *kaiuty* with earth floors and no ceiling, housing fifteen people each, in which the commission made no attempt to register the air space.⁸³

In 1901 a company statement of housing policy noted an even broader range of housing choices. All workers were entitled to free housing, including heat and water. Those who so desired (and who could pay), could rent company housing for sums ranging from one to eight rubles per month. The eight-ruble apartments boasted indoor facilities, four large rooms, summer and winter kitchens, and all services, including daily removal of refuse and dirt from the streets.⁸⁴

We have noted how Hughes and Pastukhov both rented out land on which workers might build their own housing. Zaks writes of these as "a few who succeeded," but his footnotes give eleven such references out of fifty-nine life histories recorded, which indicates that this was not such a rare phenomenon.⁸⁵ As we have already mentioned, the New Russia Company's anti-municipalization memorandum in 1913 mentioned six hundred workers as home owners; the Shtoffe Commission report noted such homeowners at the New Russia mines outside Iuzovka without recording their number.

Although the houses in Iuzovka were of several standard types designed by the New Russia Co.'s resident architect, A. I. Moldingauer, small changes requested by the owners were allowed. Many persons preferred,

⁸² TsGIAL, F.37, op.58, d.299, p. 25. Shtoffe Commission journal.

⁸³ *Ibid.*, pp. 26–27.

⁸⁴ TsGIAL, F.266, op.1, ed. khr.125, p. 382.

⁸⁵ Zaks, "Trud i byt," p. 94.

for instance, to lower the ceiling, since the house would then be easier to heat.⁸⁶ In an established urban center such as Ekaterinoslav, the Briansk Co. offered loans to workers to build housing for themselves.⁸⁷

Several factors may be cited as influencing the industrialists' growing efforts to improve housing. Not the least of these was a certain measure of enlightened self-interest, promoted in particular by the largest companies. The shock of the 1892 cholera epidemic and the terrible riots that left the bazaar and the Jewish streets of Iuzovka a smoking ruin played their part. It was no secret that the lack of elementary sanitation in the mining settlements had facilitated the spread of cholera, and the fear of a new "Time of Troubles," coming just when the richest decade of development in Russia's history was getting under way, stirred the Congress of Mining Industrialists to action. The 1893 session of the Congress discussed and adopted a program that included not only the specifications for light and ventilation, but a decision that no more zemlianki were to be built—that henceforth all construction for living quarters was to be above ground.⁸⁸ On July 4, 1894, this was codified into a government decree ordering that all zemlianki be evacuated and out of use within two years.⁸⁹ There already existed local ordinances in various districts, among them the Don Cossack Territory and Slavianskerbsk uezd, governing housing and setting mandatory standards for air space, light, and other aspects of sanitation. It is quite clear that these were rarely referred to before 1894, and virtually never enforced even after.⁹⁰

Contemporary observers and later commentators agree that in the wake of the decisions and decree, the number of zemlianki dwindled, but that

⁸⁶ Garshin, "Poezdka," p. 4.

⁸⁷ CL, File 11850, note 214, p. 6.

⁸⁸ *Trudy*, XVIII, 1893, Avdakov report on labor force, p. 352.

⁸⁹ P. Ia. Ryss, "Uglekopy," p. 151. R. N. Shor, *Shakhtery* (St. Petersburg: Novyi mir, 1906), p. 27, writes that this law set standards for everything regarding workers' living conditions. A sleeping space was supposed to be $2\frac{3}{4}$ arshin (1.95 meters) in length, with four vershok (17.8 cm.) between sleeping planks.

⁹⁰ A. V. Pogozhev, *Obzor mestnykh obiazatel'nykh postanovlenii po fabrichnoi sanitarii v Rossii* (St. Petersburg: Ministerstvo vnutrennykh del, 1894), pp. 10–15. For comments on the nonobservance of these regulations see V. P. Fialkovskii, "Uchastie zemstva i promyshlennykh predpriatii v bor'be s kholernoii epidemieii," *Vrachebno-sanitarnaia khronika Ekaterinoslavskoi gubernii*, no. 5, May 1909, pp. 509–10. Fialkovskii, a zemstvo public health officer, claimed that with the exception of the very largest enterprises such as the New Russia Co., the Petrovskii works, and the mines at Shcherbinovka, the industrialists "totally ignored" public health regulations.

they were far from disappearing.⁹¹ The Shtoffe commission, noting that "housing is the weakest side of the whole mining industry of South Russia," found that the zemlianki were no longer the standard type of mine housing that they had been ten years earlier, "yet they exist more or less at all the mines visited by the commission—in the southeast fewer, in the south more."⁹² Four major surveys of Donbass housing between 1906 and 1912 all concluded that a significant proportion of mine and factory dwellings did not meet the minimum criteria set by the health professionals and the government. Pal'chinskii reported on a 1906 survey of 5,384 buildings which included both barracks and "family-type" units of from one to twenty apartments and which housed a total of 54,162 workers in Bakhmut uezd. Of these, 2,173 had both roof and floor of earth—generally a sure sign of substandard construction.⁹³ Of the 2,330 single-family dwellings inspected, three-quarters had earth floors and roofs. These were clearly zemlianki-kaiuti inhabited by families or by an artel' fleeing the ambience of the barracks. In contrast, only 27 percent of the two-family units, and two percent of the four-family units were of such construction.⁹⁴ Fialkovskii participated in a survey to determine the role of substandard housing in the autumn cholera epidemic that swept the Donbass in 1908. He noted that there were exemplary housing estates such as that at the soda factory near Bakhmut, with its clean apartments, good water supply, electric light, and indoor toilets. In contrast, the mines surveyed were uniformly bad in this respect, including numerous dugouts that "not even by a stretch of the imagination could be considered fit for humans. . . . They are damp, dark, dirty, airless and the roofs not only drip, but in places pass water in streams."⁹⁵ In 1911 Dr. Liashchenko reported on a survey of 1,638 dwelling units, the entire housing stock of the Donbass' largest coal producer, the mines of the South Russian Coal Co. at Gorlovka. Nearly half of these were zemlianki-kaiuti that he considered

⁹¹ See Ragozin, *Zhelezo i ugol'*, p. 114; *Trudy*, XXV, 1900, report of E. N. Taskin on labor conditions, p. 2; L. A. Liberman, "Usloviia truda gornorabochikh v Donetskom Basseine," *Vestnik fabrichnago zakonodatel'stva i professional'noi gigieny*, no. 1, 1905.

⁹² Surozhskii, "Krai uglia i zheleza," p. 297, writes that there are still numerous zemlianki to be found in the Donbass, "distinguished from animals' lairs only in that they have a window and a door."

⁹³ TsGIAL, F.37, op.58, d.299, p. 82. Report of Shtoffe commission.

⁹⁴ P. I. Pal'chinskii, "Zhilishcha dlia rabochikh na rudnikakh Donetskago Basseina," *Gornyi zhurnal*, no. 9, 1906, pp. 422–46.

⁹⁵ *Ibid.*, p. 440.

totally unfit for human habitation. Of the 9,658 workers living at the mines there, many with their families, only 16.7 percent were found to be in uncrowded quarters, while more than two-thirds lived with less than four square meters of floor space per person. "A miner's apartment abhors a vacuum" was a frequently heard witticism. Liashchenko's survey bore this out, for he found 9,658 persons sharing 3,253 sleeping places, and the 1912 survey found 18,624 people sharing 6,793 places with one mattress for every five.⁹⁶ Of the units inspected, 809 had a leaky roof, 541 a smoky chimney; 951 were considered cold; 497 were considered damp. Even when the norm for light was lowered to one-tenth of floor area, only 7.1 percent were up to standard.⁹⁷ Whether these conditions were a prime cause of the radicalism of Gorlovka both before and during the revolution cannot be proved absolutely, but they may certainly be considered a contributing factor. Two years later a survey of an additional 2,757 units of housing was carried out by the Ekaterinoslav zemstvo, and, to no one's great surprise, revealed almost identical findings.⁹⁸ Both Liashchenko's survey and the zemstvo survey were carried out at larger, supposedly well-kept mines, but the findings can only be regarded as dismal and depressing. What then were the conditions at the smaller, more primitive mines? According to Pokrovskii, the worst living conditions and the severest exploitation of the workers were to be found in the peasant mines, once worked by families or village associations, but by 1912 worked almost exclusively by small entrepreneurs using hired labor, with some of them employing up to fifty or sixty workers.⁹⁹

Legal and social norms pressed for eradication of these substandard conditions, better examples were present in the region, and enlightened self-interest should have coincided with morality. How then are we to explain their persistence? When a session of the Slavianserbsk uezd zemstvo dis-

⁹⁶ V. P. Fialkovskii, "Ocherki osennei epidemii kholery v Bakhmutskom uезде v 1908g.," *Vrachebno-sanitarnai khronika Ekaterinoslavskoi gubernii*, no. 2, 1909, pp. 98, 100, 105. The author does not give a quantitative analysis of the housing types.

⁹⁷ Pokrovskii, "Kak zhivet Donetskii shakhter," p. 245.

⁹⁸ Liashchenko, "Zhilishchnyi vopros," pp. 258–62.

⁹⁹ The details of the report are to be found in Pokrovskii, "Kak zhivet Donetskii shakhter," p. 248. Pokrovskii cites Dr. N. L. Kantorovich, a Bakhmut uezd health officer, whom we will encounter in 1917 as a Menshevik-Internationalist deputy in the Iuzovka Soviet. Surozhskii, "Krai uglia i zheleza," pp. 306–307, writes: "Debaltsevo is full of zemlianki long since prohibited by law, but found everywhere here." He gives Debaltsevo's population as twenty thousand at that time.

cussed anti-cholera measures during the 1910 epidemic, the suggestion was offered that it was time to eradicate all zemlianki still remaining in the district's mine settlements. The shocked district engineer replied that "this would be tantamount to closing the mines."¹⁰⁰ The most common reason given for the continuing use of the dugouts as habitation for the workers was that the rapid growth of the mining industry outstripped construction. In his discussion, published in 1906, Pal'chinskii estimates the growth of the mine labor force in Bakhmut uezd at 10,000 a year.¹⁰¹ When the Shtoffe commission had inquired as to the reason for the delay in phasing out zemlianki in the mine settlements a decade earlier, the owners had pleaded a shortage of construction workers.¹⁰² There are other explanations added by various observers. Fomin puts part of the blame on the absence of "class and professional self-consciousness of the workers," who still regarded their industrial occupations as temporary and looked back to the village as their true home. Taskin gives the other side of the coin. Coal producers whose mines were not expected to continue for many years were unwilling to lay out large sums for workers' housing.¹⁰³ It was the bane of the Donbass that both employers and workers saw themselves as temporary actors in what was a great drama of industrialization.¹⁰⁴ We will have occasion to examine the views of both sides more closely at a later stage. Here we may add that the outlook of both employers and government actively discouraged any development of workers' collective expression of opinions regarding living conditions. With the strike movement suppressed and illegitimate, an important way of applying pressure for reform was blocked. As it was in the general case of any attempt at political or civic activity in Iuzovka, so the coincidence of central and local interests blocked any autonomous effort of the workers to improve their living conditions.

The tsarist government arrogated to itself the exclusive paternal right to legislate conditions, but only some of its officials were willing to make serious attempts to enforce this legislation. These officials, however, even when reinforced by the strong social conscience of such an active group as

¹⁰⁰ A. L. Smidovich, "K voprosu ob epidemiologii kholery," *Obshchestvennyi vrach*, no. 1, 1911, p. 16.

¹⁰¹ Pal'chinskii, "Zhilishcha," p. 424.

¹⁰² TsGIAL, F.37, op.58, d.299, p. 82.

¹⁰³ See Fomin, *Gornaia promyshlennost'*, pp. 451-52; *Trudy*, XXV, 1900, p. 2.

¹⁰⁴ For commentary on this, see Surozhskii, "Krai uglia i zheleza," p. 296.

the doctors, were all too few to counterbalance the influence of the employers. The employers appeared caught on the horns of a dilemma. On the one side, it was common and conventional wisdom that housing was a key to a stable labor force, and that such a labor force was the key to professionalism, productivity, and profit. On the other, coal mining was an under-capitalized "boom-and-bust," disaster-prone industry. From the viewpoint of the mine owner, there existed no dilemma. The first consideration was abstract and theoretical. The second could be counted in the monthly balance sheet. A whole complex of characteristics of the mine owners came into play here, but above all it may be said that the short time-horizon that we have noted and the greater numbers of the smaller producers explain the difference between the lagging state of miners' housing, and the steady improvement of the housing for metallurgical workers that helps open up the gap between these two groups.

There was no thought or hint of impermanence in Iuzovka. Neither riot nor economic crisis stopped the town's steady growth for long. That rapid growth could and did cause housing problems was clear. The 64 families numbering the 164 people of Iuzovka in 1870 became 2,000 workers and a total population of perhaps 4,000 a decade later, and 1,752 families numbering 5,494 persons by 1884. Thirteen years after that, in 1897, 23,076 residents of Iuzovka were counted in the census.¹⁰⁵ In a single year, from 1889 to 1890, the work force of the factory nearly doubled, from 3,372 to 6,326, and nearly five hundred new coal miners joined the 1,300 previously employed.¹⁰⁶ In each case the growth of the work force was accompanied by growing numbers of family members and a growth of the service sector. All of these increased the demand for housing.

Although the building of individual houses for workers in Iuzovka had started early on and continued steadily, this rapid growth caused it to lag disastrously behind the settlement's needs. After the 1892 cholera epidemic and riots Hughes brought in an English doctor to recommend measures for improving sanitation. He found it necessary to recommend the doubling of the number of housing units at the disposal of the workers.¹⁰⁷

¹⁰⁵ 1870—Fomin, *Gornata promyshlennost'*, p. 448; 1880—Zilov, "Zavod," p. 50; 1884—Rashin, *Formirovanie proletariata*, p. 338, and *Istoriia mist i sil*, p. 81; 1897—*Istoriia mist i sil*, p. 81.

¹⁰⁶ Rashin, *Formirovanie rabocheho klassa*, p. 30; Kulibin, *Sbornik*, 1889, pp. 32–33; 1890, pp. 190–91, 235.

¹⁰⁷ Pazhitnov, *Polozhenie*, pp. 225–26.

By 1894 Ragozin could report that the New Russia Co. provided its workers with 797 family dwelling units with stone walls and slate roofs, 547 for which no charge was made, and 250 that rented for between 1.5 and 5 rubles per month, depending on the number of rooms. In addition there were 60 barracks for workers without families. These had replaced 700 zemlianki and kaiuty that had been torn down over the previous four years.¹⁰⁸ In the citation received by the New Russia Co. at the Nizhnyi Novgorod Exposition in 1896, improvement of workers' housing was one of the achievements mentioned.¹⁰⁹

Stanislavskii's report of early 1909 notes an additional 481 apartments owned by the company, making a total of 1,278. These ranged from one room renting for 75 kopeks a month to the "four-ruble houses"—which now rented for four-and-a-half rubles per month.¹¹⁰ These company units stood in considerable contrast to the 196 privately rented apartments in the settlement occupied by 2,100 persons. The rent in the latter was higher, for the tenants were charged per capita. Two-thirds of the apartments were being rented at a charge between eight and twenty rubles per month. Two-thirds of the units had earth floors, and 49 of them were zemlianki. The average occupancy was over ten persons per unit though only 55 of these 196 apartments had more than one room and a kitchen, and forty of them consisted simply of a single all-purpose room.¹¹¹ The average air space was half a cubic sazhen per person as compared with $1\frac{2}{3}$ cubic sazhen in the company-owned houses. Though a few workers were listed among the tenants of these apartments, most were miners, and many were employed in the nearby Rykovskii and Rutchenko mines rather than in Iuzovka itself.¹¹² The detailed information provided by Stanislavskii

¹⁰⁸ Ragozin, *Zhelezo*, pp. 52–54.

¹⁰⁹ *Vserossiiskaia promyshlennaiia i khudozhestvennaia vystavka 1896g. v Nizhnem-Novgorode, spisok eksponentov udostoennykh pokhvalnykh nagrad* (St. Petersburg: Ministerstvo finansov, 1897), p. 66.

¹¹⁰ Stanislavskii, "K voprosu," p. 465. Stanislavskii's account includes details of the size of rooms and windows. It would appear from his material that apartments listed previously as having earth floors now have wooden floors. Stanislavskii's list includes only the houses serving the factory workers. See *Novorossiiskoe obschbestvo*, 1910, p. 35. The company's railway workers and miners in and around Iuzovka occupied another 1,507 company-owned apartments.

¹¹¹ It was the custom of many householders to erect a shed or room in the small yard attached to the house and rent it out, thus converting the house into a source of income without sacrificing much in the way of privacy. It was very likely such makeshift additions that accounted for many of these single-room occupancies.

¹¹² Stanislavskii, "K voprosu," p. 471.

enables us to see once more the relative isolation and fragmentation in which various groups of Iuzovka's society lived. In each apartment, almost without exception, the great majority were from a single guberniia. Though they may have worked at different mines, relatively few had left the mines for the iron works. As an observer commented slightly later, "invalids leaving the [factory] work force are replaced by a young generation that has grown up in the factory, and outsiders have little chance to get into the factory."¹¹³ From this we may understand that a place at the New Russia factory, and probably at other factories as well, was considered to be something of value to be guarded for a son, younger brother, or some other close relative. Mobility between mine and factory labor forces was thus minimized, reinforcing the gap between them and doubtless tinging that gap with intra-class resentments. This was the impression of a journalist in 1915, when wartime conditions had created virtual full employment.

By 1912, Iuzovka's population had reached 57,834 persons, who were housed in 4,525 dwellings.¹¹⁴ The average of 12.78 persons per dwelling tells us that pressure on housing was unrelenting. The settlement had gained an average of over 2,300 residents each year for fifteen years, despite the fact that the Iuzovka population was extremely sensitive to recession, political disturbances, and epidemic, which characterized this period. Although the houses appear to have been mercilessly crowded, their quality was clearly much better than that revealed in any survey of the surrounding mining settlements. Iuzovka had only 246 zemlianki, and none of its other buildings had earth roofs. There were 2,589 stone and brick buildings, 900 of half-stone, 490 of wood, and 300 of straw. The settlement had achieved neither orderly form nor substantial structure. The greater part of the buildings had iron roofs, though 1,100 were tiled and 700 shingled.¹¹⁵ Iron roofs were considered a sign of prosperity in Russia and given the scarcity of wood were the type most favored in this region. Yes, housing in Iuzovka lagged behind any objective standard of need. Nevertheless, over the years it became increasingly substantial, and

¹¹³ A. Ko—v, "Ocherki."

¹¹⁴ The following statistics of housing and population are taken from DOGIA, F.2109, op. 1, d. 9, p. 13.

¹¹⁵ The count of roofs in the archive document comes to 5,155 and evidently includes non-residential buildings as well. Some iron roofs may still be seen on the old houses of Donetsk, although many have been replaced by the corrugated asbestos favored in new apartment buildings as well.

clearly stood roof and chimney above the living quarters provided in the mining settlements. For this, and for the other urban style amenities provided in the settlement, the Rykovskii and Rutchenko miners were willing to walk the three- or four-kilometer distance that separated their housing in Iuzovka from the mines where they worked.

How much investment was needed to provide decent housing for workers? The estimates vary both over time and according to the type of housing envisioned. In 1893 the South Russian Coal Co. at Gorlovka built 470 cottages for its workers, but these were sod-roofed earthen-floored *kaiuty* costing 300 rubles each. Five years later they built 769 improved cottages with ceilings 8½ feet high and galvanized iron roofs; these cost nearly twice as much.¹¹⁶ At the New Russia Co. iron mine in Krivoi Rog, the *zemlianki* and dirt-floored barracks had been abandoned in 1897 in favor of a brick-walled, cement-floored barrack with separate living space and washrooms for each eight people and nearly two cubic sazhen of air space per person. Two even newer barracks—providing central heating through steam radiators—were complete, although not yet in use in 1904, while two more were planned.¹¹⁷ The investment was quite clearly substantial. But it was the only way to hold the labor force. As the directors of the Rykovskii mines wrote in their report for 1900: “In order to reach the projected production, the question of lodgings is important. In the Donetz the workers are recruited from distant provinces and it is a major interest to stabilize the work force as much as possible with a view to both the quality of the working hands and the regularity of the work.”¹¹⁸

Estimates of the cost of housing construction at the start of the century might range from 150 rubles per worker for unaccompanied workers in barracks to 250 rubles per worker in family housing.¹¹⁹ An average of 200 rubles per worker was generally used in French calculations.¹²⁰ The great expansions of the 1890s thus demanded heavy investment in housing.

When, in the wake of sharp criticism from the government’s Shtoffe

¹¹⁶ McKay, *Pioneers for Profit*, p. 263. For the detailed description of the early cottages, which were still in use in 1910, see Smidovich, “K voprosu,” p. 15.

¹¹⁷ Mekhmandarov, “Zabolevaemost’,” p. 60. The description is confirmed in the report of the Shtoffe commission TsGIAL, F.37, op.58, d.299, p. 20, as are Mekhmandarov’s descriptions of the educational facilities.

¹¹⁸ AN, File 65AQ L386, Rykovsky Mines Report Meeting, May 19, 1900.

¹¹⁹ CL, File 11582, note 1607, January 1903, p. 12

¹²⁰ CL, 11852, note 1313, October 1901, p. 15; CL, 11852, Rykovsky, December 1901, p. 16.

Commission, the Congress of Mining Industrialists of South Russia discussed the matter of workers' housing, they used different cost estimates than did the French analysts. They allotted only eighty rubles per worker to construction for single workers, and 400 rubles per worker for family houses. They also calculated only thirty percent families rather than the half families and half single workers calculated by the French. Together with the costs for a school, hospital, and housing for all kinds of other extra workers, the outlay on housing was figured at 500,000 rubles, one-quarter of the estimated overall investment for developing a mine that would produce twenty million pud of coal a year.¹²¹ Pal'chinskii's survey published in 1906 found a wide range of costs, from 185 to 850 rubles per family, with an average of 300 rubles. In barracks the cost range was from 25 to 180 rubles per worker, with an average slightly below 100 rubles.¹²² The annual reports of two large mines, the Voznesenskii with over 3,500 workers and the Rutchenko with more than 4,000, include costs for housing. In 1911, the housing provided by the Vosnesenskii management cost 400 rubles per family and, in 1913, 450 rubles. At the Rutchenko mines the corresponding figures were 569 and 514 rubles.¹²³ The one consistent fact that emerges from this mass of statistical material was that there was enormous variation in the amounts coal producers invested in the living conditions of their workers. Social commentary of the times shows clearly that in terms of stability and productivity of the labor force the employers reaped only what they had sown.

Was such an investment worthwhile? To recover the entire sum spent on a house in a single year of its inhabitant's work would be quite clearly impossible. It would mean that out of the five to nine kopeks per pud paid for bituminous coal and up to twelve kopeks paid for anthracite in 1899, two-and-a-half kopeks would have to be charged against housing.¹²⁴ A more proper calculation, however, would be to amortize the houses over

¹²¹ *Trudy, ekstrennyi s'ezd, 1900*, Report of commission on life quality, p. 7. Lazarev, "Za shakhterov," p. 3665, writing in 1899, estimates that half the workers bring their families with them and writes that a well-appointed home for a family would cost an average of 200 to 220 rubles.

¹²² Pal'chinskii, "Zhilishcha," pp. 432, 436.

¹²³ TsGIAL, F.37, op.75, d.199, pp. 29, 35 for 1911, and op.55, d.199, pp. 41-42, for 1913.

¹²⁴ N. F. von Ditmar, *Sbornik statisticheskikh svedeniĭ o gornoĭ promyshlennosti iuzhnoi i ugo-vostochnoi gornykh oblasti Rossii v 1899g.* (Kharkov: Statisticheskoe buro soveta s'ezda gornopromyshlennikov ruga Rossii, 1901), pp. 2-24.

the expected period of their use. This would be between fifteen and twenty years, since we have already seen that the zemlianki built in 1893 in Gorlovka were still in use in 1911, and that the New Russia Co. charged 6 percent of a building's value as rent.¹²⁵ In such a case, housing costs only 0.16 of a kopek per pud—an entirely supportable amount when profits were ranging from 3.7 kopeks per pud in the boom year of 1896 down to 1.0 kopek in the recession year of 1902 (with production growing by 55 percent between the two dates, despite the recession.)¹²⁶

If the long-term financial burden of providing sufficient decent housing for the workers was supportable, and if the economic benefits of a stable and therefore increasingly productive work force were understood, why did the housing problem of the Donbass persist? Why do the findings of housing surveys in 1914 differ so little from those of 1884? One part of the answer is, as we have already indicated, the rapidity of the region's development. Growth of the labor force simply outran any conceivable construction program. But this is far from a complete explanation. There are additional factors involved. For some it was simply a result of bad management. The Rykovskii Company, formed when a Belgian and French consortium bought Col. Rykovskii's estate in 1898, was originally capitalized at eight million francs. Riding the crest of the boom of the 1890s, they invested 362,865 francs in housing during 1900, emphasizing the importance of this matter in the company's annual report along with management's intention to continue housing construction as the mines' production expanded.¹²⁷ Entranced by the prospects for almost unlimited expansion, the directors not only increased the share capital to fourteen million francs by issuing bonus shares, but also floated a bond issue of ten million francs. They thus not only raised expectations of larger dividends, but also assumed the legal obligation of paying large annual sums as interest on the bonds. The Credit Lyonnais analysts estimated that the mine needed a three-million-franc investment to bring it up to the projected level of production, and, of this, one-quarter would go for housing, as the state of the housing at the mine was considered "miserable."

¹²⁵ Garshin, "Poezdka," p. 4. With all the foresight and sense of permanence with which Iuzovka was endowed it is unlikely that anyone envisioned the continuing use of the settlement's early houses a hundred years after they were built.

¹²⁶ AN, File 65AQ K71-1, *Information* 31.10.1903, Makeevka. In 1898 the Alexeevka Mine earned 4.8 kopeks per pud gross profit on a 20.5 million pud production.

¹²⁷ AN, File 65AQ L386, Rykovskii mines, report for the year 1900, p. 8. CL, 11852, Rykovskii, December 1901, p. 16.

The result would be a one-million-franc annual profit. Of this, however, 650,000 would be earmarked for bond interest, leaving only 350,000 for share dividends and new investment.¹²⁸ Half-way through 1900 a recession began, turning into a full-fledged crisis in 1901. Profits dropped, and the amount put into housing construction dwindled to 9,303 francs. When the management tried to suspend payment of interest on the new bond issue, the bondholders sued. Although production grew throughout the recession, plans to expand the mine had to be postponed.¹²⁹

For the majority of medium sized coal companies, the central factor regarding investment in housing was their short-term view of their activities. Discussion of the need for better living conditions for the workers virtually always ended up in a discussion of the fact that those producers who leased lands for their mines held 12-year leases on peasant lands, and 36-year leases on private lands. In 1893 the Congress of Mining Industrialists petitioned the government to approve 90-year leases for all coal mines, or, alternatively, to promise expropriation of landowners who refused to renew coal leases. Otherwise, the coal owners saw no possibility of investing in housing.¹³⁰ In the debate on these proposals it was further suggested that the credits that the government was asked to provide for the building of workers' housing should be calculated on the basis of 500 rubles per housing unit built—an estimate far higher than any others, including those of the Congress seven years later.¹³¹ The same theme of the impossibility of building while mine prospects remained short-term was repeated periodically, although the mines of the medium and large producers generally continued operating despite these fears.¹³² The impor-

¹²⁸ CL, 11852, M. Bartholin, *Société anonyme des Charbonnages de Rykowsky*, December 1901, pp. 2, 16. The only exceptional buildings were "the grand hospital, and Rykowsky's home."

¹²⁹ CL, 11852. Bartholin, *Société anonyme des Charbonnages de Rykowsky*, December 1901, pp. 1–4, 16; AN, File 65AQ L386, Rykovski report for 1901, p. 12. The company's report for 1902 contains no mention of housing construction. Having missed the early years of the 1890s boom, the company had no chance to store up the kind of reserves that the Hughes brothers had. It therefore fell victim to the bad timing of its expansion and profit distribution plans while the New Russia Co. weathered the crisis with comparative ease.

¹³⁰ *Trudy*, XVIII, 1893, Avdakov commission report on labor problems, p. 340.

¹³¹ *Trudy*, XVIII, 1893, Part II, p. 308.

¹³² See E. Taskin, "K voprosu," p. 3730. *Trudy*, XXIV, 1899, stenographic report of the sixteenth session, p. 78. Avdakov repeats both the request for ninety-year leases and the complaint that short tenure prevents housing construction; he adds that "As far as housing for the workers is concerned, the demands of the mine and factory inspection are

tant point here is that the actions of the coal producers as a body revealed how little these people were industrialists in the sense of any dedication to the creation of a flourishing industry, and how poorly they judged the economic, social, and ultimately political results of their policy. Having adopted a labor-intensive development strategy, they neglected that sector of investment which would have maximized the stability and professionalism of the labor force and promised the success of that strategy. Yet, led by Avdakov, the most authoritative and prestigious spokesman the Congress had, the mine owners looked with satisfaction on what had been done rather than seeing what remained to be accomplished. There were all too few within the industry who challenged the strategy and policies of their leaders by arguing for more investment.¹³³

Perhaps because of their size, perhaps because of the more complex skills needed from a greater percentage of their workers, the metallurgical companies appear to have had a better record in housing. In 1913 the ten largest metallurgy plants of the Donbass had barracks with a capacity to house 8,733 workers with nearly two cubic sazhen of air space each. Yet only 3,796 lived there, while 11,936 lived in company-owned apartments. Married workers with their families made up almost two-thirds of this labor force, while single workers numbered 20,166. Assuming that all those in the barracks were single, this still leaves 16,370 single workers living in privately rented or company apartments, either as an *artel'* or individually as boarders.¹³⁴ The numerous doctors' criticisms of Donbass housing conditions on the eve of World War I all deal with mining settlements. There were some exceptions, although they were few. Even Surozhskii, whose picture of the Donbass mines is painted in an almost unrelieved black, notes that there did exist some few mines with good housing, hospitals, and schools, where the workers were permanent "and own their own bit of land, satisfying their instincts of ownership."¹³⁵ Yet these are so pitifully few that he does not even name them.

Neither can it be said that the workers in Iuzovka, Makeevka, or other steel mill settlements lived well. All testimony is that the physical con-

so strict that from that aspect, the miners are well taken care of." Also, *Trudy, ekstremnykh s'ezd, 1900*, p. 16.

¹³³ The situation is epitomized by the pseudonymous essay by K. "Sine ira et studio," *G-z l*, no. 35, 1913, pp. 7, 730, in which he writes that "even with workers, the existing coal enterprises are too weak to meet the ever-growing demand."

¹³⁴ Postriganov, *Metallurgicheskie zavody*, p. 412

¹³⁵ Surozhskii, "Krai uglia i zheleza," p. 308.

ditions and environment were miserable. In 1916 the Iuzovka church record shows the deaths of 700 males and 502 females. Of these, 52 males and 28 females died of old age. All the rest are recorded as having died violent deaths.¹³⁶ However nasty, brutish, and short life might be in Iuzovka, all observers agreed that something new was visibly emerging there, while too much of the old was persisting in the zemlianki and kaiutki of Gorlovka or Nelepovka. Two distinct populations, industrial workers and coal miners, were being formed. Before we leave the basic living conditions of the Donbass working class, let us enter with them into their homes, and see their living arrangements, their diets, and their family budgets through the pre-revolutionary period.

¹³⁶ DOGIA, F.2109, op.1, d.9, p. 4. Journal of the Preobrazhenskii church. It must be assumed that this includes deaths from such diseases as typhus and smallpox as well as work accidents, drunken accidents, and murder, but no more detailed breakdown of figures is given.

CHAPTER 5

Housekeeping, Diets, and Budgets

Within the barracks, the dugouts, and the slowly growing numbers of family apartments and houses in the Donbass, ordinary human beings carried on their lives. Whether they were lone workers or family units, the forms they chose for living together, the way they organized their cooking and eating, how they spent their hard-earned wages, all influenced the formation of Donbass society. In turn, many of these institutions of daily life were molded by the norms and customs that were traditionally accepted or created outside the Donbass. The changes in living standards and housekeeping patterns are signposts on the tortuous road of development of the Donbass miners and factory workers towards becoming a stable and healthy population.

HOUSEKEEPING: THE ARTEL', FAMILIES, AND BOARDERS

When the first Russian peasants left their villages to seek work in the mines and factories of the Donbass, or elsewhere for that matter, they did not generally do so as individuals, but as groups from a single village or from a cluster of villages. The economic, social, and psychological support derived from such a familiar group in a totally alien world was of some importance. The *artel'* was a legally recognized work organization that, as we shall discuss in some detail, took collective contractual responsibility for work. It was also a consumers' collective that shaped and eased the lives of its members outside working time. It is in this latter role that we will examine the *artel'* in this section, postponing discussion of its productive functions to a later point.

From its inception the *artel'* was an unstable institution. Based as it was on the concept of the seasonal migrant worker, it was incompatible with

the development of large-scale industry. The hiring of the *artel'* as a production unit was thus foredoomed to give way to other forms. The consuming or housekeeping *artel'* shared the same fate, although somewhat later. When Cheremukhin investigated the lives of Iuzovka workers in 1910, he found that of fourteen *arteli*, only two were mixed as to geographic origin. The almost immutable law was that one lived together with one's own. At the same time, these were not work-*arteli*—only in two cases did all the members of the group work in the same place. In all the other cases there was a mixture of miners from various mines in the district, or of miners and factory workers.¹ As workers became settled at a factory or mine, they either brought their families from the village or formed new families, and, as we have seen in our discussion of housing, their natural tendency was to structure their lives around the family unit. The miner who brought his family to his place of work and decided on permanent residence there, not only left the eating *artel'*, but generally preferred to be directly hired by the mine for monthly or piecework wages, rather than remaining within the work *artel'*.² Nevertheless, as a transitional form that eased the peasants' first sallies out into the world of the industrial proletariat, the *artel'* was a useful and much needed support.

Within the barracks that were the common living quarters in a Donbass settlement, the *artel'* slept, cooked, and ate—generally all in the same space. The *artel'* was most commonly eight to ten men, though it might run as high as twenty or thirty.³ Since the first factory and mine barracks often housed sixty men or more in a single room, and as separate cooking facilities for each *artel'* were difficult to arrange, there was a tendency for the *artel'* to seek its own living quarters in a *zemlianka* or *balagan* where the intimacy and economy of the communal structure could be kept intact. Yet the separate rented quarters of an *artel'* lacked any imposed framework of order such as might exist in a company barracks; life there was completely dependent on internal leadership or communally developed standards. All too often these were missing, and living quarters degenerated

¹ N. M. Cheremukhin, "Kak zhivut i kak pitaiutsia rabochie Rykovskikh kopei v poselke Iuzovke," *Vrachebno-sanitarnaia khronika Ekaterinoslavskoi gubernii*, no. 1, 1910, Appendix. The fourteen *arteli* surveyed ranged in size from four to sixteen members, with an average of ten.

² See the discussion of this point in *S.S.S.*, vol. 3, Slavianserbksk uezd, p. 392.

³ *S.S.S.*, vol. 3, Slavianserbksk uezd, p. 381 found six *arteli* of two to ten persons and four of ten to nineteen in one mine investigated. *Trudy. Ekstremnyi s'ezd. 1900*, p. 14, notes eight to ten as the most common size.

into "constant disturbance, quarrelling, fighting that on paydays comes to killing . . . along with filth in the houses and yards."⁴

Not only the aesthetic and cultural aspects of life suffered here. Where men lived alone in the *artel'* both the incidence of illness and the mortality rate in an epidemic were considerably higher. In the 1908 cholera epidemic in Iuzovka 102 men and only 18 women fell ill. The mortality rate of the men was 52.9 percent, while that of the women was only 38.9 percent. Fialkovskii relates these differences directly to the inferior living conditions of the *arteli* of miners who inhabited private housing in the settlement.⁵ Later barracks, such as those at the New Russia iron mines that we noted earlier, were divided into rooms of eight or ten places, providing the *artel'* with its community without resort to dugouts or other inferior housing.⁶

Where the work *artel'* and the housekeeping *artel'* were identical, it was the elected *artel'shchik's* prerogative to have his wife be the *artel's* paid cook, thus augmenting his income, while he took responsibility for both the productive and consumption functions of the *artel'*. Where the *artel'* served only for housekeeping purposes for workers hired by a contractor or for workers hired directly by a mine or factory, the cook would be hired from outside and the post of *artel'shchik* would usually rotate frequently, as often as once a month, or would devolve on all members of the *artel'* in turn, for terms as short as three days.⁷ The head of the *artel'* was responsible for purchasing and accounting, buying on credit from local shops or in the bazaar, keeping track of the expenses, and taking money from each member as he received his pay. Arrangements with the cook varied widely. Where an *artel'* had its own utensils the cook might receive only three rubles per month plus room and board. If the cook provided utensils, her pay might be six rubles: one *artel'* of eleven men paid their cook a ruble per man per month for cooking and utensils.⁸

Where workers signed with contractors, the contractor might provide a dining room and food. As will be noted in the case of hospitals, contractors' food did not enjoy a good reputation, for reasons needing no elabo-

⁴ Stanislavskii, "K voprosu," p. 470.

⁵ Fialkovskii, "Ocherki," p. 127. It will be remembered that at this time very few Iuzovka workers lived in company barracks.

⁶ See the recommendations regarding this in *Trudy, ekstrennyĭ s'ezd, 1900*, Report of the commission on quality of life for workers, p. 14.

⁷ Fomin, *Gornaya promyshlennost'*, vol. 1, p. 454.

⁸ *S.S.S.*, vol. 3, Slavianoserbsk uezd, pp. 244-45.

ration. Often the workers would stand on the right to have their own eating artel' and to provide themselves with the diet of their choice without paying the doubly inflated prices that contractors generally calculated into their workers' wages when supplying them with room and board.⁹

Yet the trend was away from communal housekeeping and towards private family life. As families moved into their own quarters life became more expensive; as we shall see, the margins of saving of the majority of Donbass workers were slim indeed. We have noted the extra expense incurred when families or individuals moved out of company barracks. It was only natural that during certain phases of the life cycle families were burdened with a greater number of non-working household members. In addition, families, settling permanently or for a longer term than the migrants, naturally tended to try and accumulate worldly goods that the migrant never thought of: furniture, household equipment, and all the appurtenances of settled life.

The answer to the pressures created by private life was to take in boarders. One survey of workers' budgets between 1908 and 1913 found that as much as 9.2 percent of family income was derived from this source.¹⁰ In 1905, Liberman's survey of 200 families found that 126 of them took in up to seven boarders; 103 of them took in up to three boarders each; and only two took in what was evidently an entire artel' each.¹¹ Liberman suggests that the families that did not take in boarders were higher paid workers: machine tenders, coal cutters, and gang bosses. There appears also to have been a tendency for those families with more children, and therefore with more expenses and less opportunity for the wife to work outside the home, to take in boarders, thus trading comfort and privacy for income. Renting to boarders was certainly one reason for the perpetuation of the crowded conditions we have noted in the Donbass. In a family apartment

⁹ See Avdakov's report on labor conditions in *Trudy*, XVIII, 1893, p. 335 for wages and charges under the contracting system. An earlier discussion is in *S.S.S.*, vol. 3, Slaviano-serbsk uезд, p. 381. According to Pazhitnov, *Polozhenie*, p. 121, it cost the worker more to buy food independently. The contractors' food was, however, sub-standard in both quantity and quality.

¹⁰ Kir'ianov, *Zhiznennyi uroven'*, p. 98. Ryss, "Uglekopy," p. 155, states that a boarder paid nine to twelve rubles per month for room, board, and laundry. Liberman, "Usloviia truda," p. 19, states that most families in his survey charged 10.5 rubles per month for room, board, and laundry. The calculation in his study sets expenditure for food, heat, lighting, and soap at 7.17 rubles per boarder, leaving a return of 3.37 per month per boarder on the housewife's labor.

¹¹ Liberman, "Usloviia truda," p. 20.

housing ten to twelve people, the air was stuffy, and each family member did not necessarily have a separate sleeping place. Some spent their nights stretched out on a floor—often a dirt floor.¹² The persistence and wide diffusion of the custom is evidence of the economic need of the workers' families. Yet one man's need is another's opportunity. In Iuzovka, where one might build a house on only the front corner of a lot that measured ten sazhen wide by fifteen deep, the homeowner often built a small shed in the back and rented it out. Homeowners thus became not only property owners, but also capitalists whose wealth created new sources of income. Well-settled factory clerks or skilled workers who had the good fortune to be allotted company housing in Iuzovka would often rent out their previously acquired inferior lodgings to less fortunate newcomers, charging them rent according to the number of people moving in.¹³

The Donbass miners' penchant for packing boarders into their apartments probably gave rise to one of the least understood regulations of the New Russia management. In describing Hughes' arbitrary rule over his workers, a frequent example is the ruling that a tenant occupying company housing was forbidden to take in guests "for any period of time longer than needed for a conventional social call." The penalty for transgression was a fine in the amount of three days' wages.¹⁴ It would seem perfectly reasonable to assume that Hughes used this ruling as part of his campaign to mold the habits of his workers into a form that seemed to him more cultured and to prevent them from making any independent trade-off between hygienic standards and economic advantage. The workers' needs were made all the more acute by the nature of the factory and mine settlements that offered little outside employment for women, and certainly not for women with small children. The newness of the region and the immigrant nature of the population meant also that the traditional peasant reliance on the three generation family to free young married women for income-producing work could not be applied widely in the Donbass until much later. In 1911 Liashchenko's survey of housing conditions in the Gorlovka and Shcherbinovka mines of the South Russian Coal Co. found that three-fifths of the families took in no boarders. Of those taking in boarders, half took one or two, another 27 percent took in three or four,

¹² Surozhskii, "Krai zheleza i uglia," p. 305. See also the statistics in Cheremukhin, "Kak zhivut," Appendix.

¹³ Cheremukhin, "Kak zhivut," p. 2; Stanislavskii, "K voprosu," p. 469.

¹⁴ See Potolov, *Rabochie Donbassa*, p. 159; Gonimov, *Staraya Iuzovka*, p. 64.

while 9.6 percent took in seven to ten boarders and one percent took in 11 to 15 boarders.¹⁵ What appears here in comparison with Liberman's survey some years earlier is that a smaller percentage of families is taking in boarders, and that, of those taking them in, a larger percentage is taking in larger numbers of boarders. This would appear to indicate a polarization of the mining workers: an established elite is able to support itself from its labor, while a depressed segment amounting to almost one-fifth of the families surveyed must take in three or more boarders, presumably because of economic need.

DIETS

Perceived need is elastic, however, and changes together with the norms of the immediate environment as well as by comparison with possible alternatives. Let us attempt to study the actual consumption by the workers, the allocation of their expenditure, and the way the consumption patterns and family budgets changed through the years. The early years of growth in the Donbass were difficult for consumers. Emancipation and the rapid growth of population had led to a surplus of labor in many places and to a general fall of wages. In the Donbass, however, wages were generally said to have been on the rise in the 1870s, because of the beginnings of rapid growth.¹⁶ Wages did vary seasonally and there were sometimes sharp differences in wages between mines. While the new mine workers might see labor costs from the point of view of a sellers' market, they were very much on the buyers' side as far as food consumption was concerned. This was a new experience for self-reliant peasants, and it was a difficult time to be in such a position. From mid-century food prices had started rising, and the price rises were accelerating as the years went by. This long-term inflationary trend continued, with only minor breaks due to the business cycle, right through World War I.¹⁷ Mekhmandarov shows food prices rising

¹⁵ Liashchenko, "Zhilishchnyi vopros," p. 263.

¹⁶ See engineer Shostak's 1870 report quoted in Keppen, "Materialy," *G-z 1*, no. 6, 1900, p. 4190. At the Golubov mine wages were said to be forty-five rubles per month plus room and board. Where two years earlier the cost of mining coal was 1.5 to 2 kopeks per pud, in 1870 it was 5 kopeks.

¹⁷ K. A. Pazhitnov, "Zarabotnaia plata v raznykh otriashliakh russkoi promyshlennosti," *Vestnik finansov, promyshlennosti i torgovli*, no. 32, 1908, p. 192, writes of price rises between 15 percent and 50 percent from the 1850s to the 1880s. Kir'ianov shows prices for agri-

between forty and fifty percent between 1897 and 1905 with a worker's total monthly food bill growing from 7 to 7.5 rubles to 10 to 11 rubles.¹⁸ A bachelor working as a hired laborer in agriculture might have earned 63 rubles a year at the beginning of the 1860s and could have hoped to save ten rubles of this income; the annual budget of a family of four at the end of the 1860s might amount to only 85 rubles cash expenditures. No such calculations could be made by a Donbass worker in the 1880s and 1890s.¹⁹ He both earned and spent much larger amounts of money, and had only marginal sources of self-sufficiency for his needs.

Inflation was not the only factor in the rising cost of living. The quality of diet improved over the years—if not necessarily from a strictly nutritional point of view, then at least from the workers' image of it. A survey of the mid-1880s noted the rise in the demand for wheat flour as factory workers became accustomed to eating white bread. Dr. Mekhmandarov noted that while iron miners' wages were falling because of the turn-of-the-century recession, their expenditures on food remained constant; he tried to help them economize by pointing out that rye bread was just as nutritious as white, but cheaper. The miners' response was that come what may they would not cut the quality of their food. What was the sense of working so hard if you could not enjoy good things to eat?²⁰

Hired laborers on a farm in Slavianskerbsk uezd in the summer of 1884 ate a diet that included no meat, potatoes, cabbage, or onions—only flour, grains, beans, and fat. The cost per worker was 2 rubles 69 kopeks per month.²¹ In a nearby coal mine that same summer, one thirty-person *artel'* surveyed consumed nearly a kilogram of beef per person per day, nearly half a liter of cabbage, and a kilo and a quarter of wheat flour. Their upkeep cost them 11.77 rubles per person per month, including payment for lighting oil, eight rubles to the cook, and eight rubles to two pony boys. In addition, each man had his private expenses for tobacco, tea, and sugar,

cultural produce in St. Petersburg rising 40 percent between 1867 and 1893. See Kir'ianov, *Zbuznennyi uroven'*, p. 118. On pp. 168–90 he presents a detailed developmental study of the cost of food consumption of workers in the Moscow region.

¹⁸ Mekhmandarov, "Zabolevaemost'," p. 64.

¹⁹ See P. Anatol'ev, "K istoriiu rabocheho dvizheniia v Rossii 60–kh godakh XIX veka," *Istoriia proletariata SSSRa*, no. 4 (20) 1934, p. 36 and n. 26.

²⁰ S.S.S., vol. 3, Slavianskerbsk uezd, p. 203; Mekhmandarov, "Zabolevaemost'," p. 63.

²¹ S.S.S., vol. 3, Slavianskerbsk uezd, p. 91.

etc., which amounted to another four to six rubles per month.²² Total expenses thus ran from sixteen to eighteen rubles per month. This appears to be a particularly generous standard of food; the diet of miners around Iuzovka at the same time was reported as: breakfast—wheat gruel with bread; lunch—borshcht, 200 grams of beef, kasha; supper—leftovers from the first two meals.²³ M. A. Pavlov, who was beginning his apprenticeship as a metallurgist at this time, recalls that the metallurgy workers who took him in as a boarder ate “no worse than Petersburg students.” For thirty kopeks he had a meal of borshcht with meat cooked in it.²⁴ At this time the average worker in the Kharkov factory district was paying sixty kopeks to one ruble per month for rent, and three-and-a-half rubles for a month’s full board if supplied by the enterprise.²⁵ Other accounts of miners’ food paint a picture of much more modest fare. Vereshchinskii writes of a diet within the mine of bread, dried fish, and water, and above ground much the same—the fish being fresh, dried, or salted according to season. “[The miner] allows himself meat, but will use tea or sugar only rarely, and then in small quantities.”²⁶ A decree of February 23, 1896, established a standard diet for the feeding of coal miners by their employers. It set the daily ration at 700 grams of rye flour, 136 grams of wheat flour, 204 grams of groats, 13.6 grams each of oil and of fat, 41 grams of salt, 27.3 grams of sugar, 8.5 grams of tea, and 614 grams of meat. The monthly cost was set at 10 rubles 45 kopeks.²⁷ The most costly item in this diet was the meat, at 6.3 rubles per month. Otherwise this diet is little different than that of the 1884 farmworkers mentioned earlier. Iakovlev found this pattern had persisted into 1905, with food supplied by the mine eaten only by the low-paid loading *artel’* while the other mine workers paid ten rubles per month for their own *artel’* food (compared with the five to six rubles paid by chemical and textile workers in the cities). He explains the difference

²² S.S.S., vol. 3, p. 380. According to S.S.S., vol. 2, Bakhmut uезд, p. 245, lamp oil cost about half a ruble per lamp per month at this time.

²³ Kir’ianov, *Zhiznennyi uroven’*, p. 174, citing the S.S.S., vol. 2, Bakhmut uезд, p. 330. Cf. Koenker, *Moscow Workers*, p. 56, for the diet and cost of food of Moscow workers.

²⁴ Pavlov, *Vospominaniia*, p. 74.

²⁵ Sviatlovskii, *Kharkovskii fabrichnyi okrug*, p. 40. Food for a woman was figured as half of food for a man. The monthly ration for a sugar mill worker was valued at 4.95 rubles per month, and included twenty-five funt of meat.

²⁶ L. Vereshchinskii, *Rabochii shakhter*, p. 6.

²⁷ Ryss, “Uglekopy,” p. 154.

by the large quantity of meat consumed by the miners.²⁸ Leaving aside the difference in value received, we may note that the higher cost of living for mine workers could have been one of the factors, along with some of the other particular characteristics of Donbass work, that caused many migrants to choose jobs in the northern cities rather than travelling south to New Russia.

Liberman presents a hypothetical diet planned to provide a worker with proper nutrition, and compares this with the actual consumption of a Donbass *artel* in the first years of this century.²⁹ The differences are enlightening with regard to the preferences of the workers. (See Table 5.1.) The minimum diet gives 3,062 calories per day, the actual diet 4,324. At

TABLE 5.1
Hypothetical Minimum and Actual Diet
of Donbass Workers
(In Grams)

Item	Minimum	Actual
Rye bread	460	1170.0
Meat	230	238.0
Flour	115	—
Fat	23	—
Oil	46	7.5
Potatoes	115	585.0
Sugar	25	30.0
Milk ^a	33	15.0
Cabbage	—	100.0
Cucumbers	—	75.0

Source: L. A. Liberman, "Usloviia truda gornorabochikh v Donetskom Basseine," *Vestnik fabrichnago zakonodatel'stva i professional'noi gigieny*, no. 1, 1905, pp. 17-18.

^a Unit of measure = milliliter.

²⁸ Iakovlev, "Rabochie," p. 32. The food supplied by the mine was bread and gruel with lard or oil for breakfast; borscht of pickled cabbage with a small piece of meat and kasha with pork fat for lunch; gruel for supper.

²⁹ Liberman, "Usloviia truda," pp. 17-18.

norms accepted today, a 75-kilo (165-lb.) adult engaged in heavy physical labor should get 3,700 calories. The miners quite clearly preferred to eat heavily and derived their extra calories from bread and potatoes.³⁰ They also varied their diet, taking in cabbage and pickled cucumbers that were not included in Liberman's proposal. The milk noted here is evidently for coffee and is included by Liberman in the "miscellaneous consumption" category of his study. This is the first mention of consumption of dairy products in Donbass diets, although later studies will show them winning a place. Mekhmandarov's study of the New Russia Co.'s iron miners at about the same time describes an even richer diet. Half-a-kilo of beef per day, a kilo-and-a-half of white bread (as noted above, the miners spurned rye bread), barley or wheat kasha with lard or beef drippings, both beef and lard in the borshcht, "lots" of potatoes and cabbage, tomatoes in the borshcht in the summer, and seasonal fruits and vegetables.³¹

The earliest revolution in the Donbass—and the first clear signal of improving standards of life in industrial society—occurred in the realm of diet, the one area of life that due to the combination of the *artel'* system of housekeeping and the emergence of the family household, was completely within the workers' own control. This change occurred earlier and affected the Donbass workers' and miners' lives more consistently than improvements in housing—which, as we have noted, were slow and partial in reaching the miners—or the spread of education and health care to which we shall soon turn, both of which, as was the case with housing, the factory workers enjoyed sooner, and in much larger measure, than did the miners.

³⁰ The minimum diet derived 46 percent of its calories from carbohydrates, 40.7 percent from fat and 13.3 percent from protein. In the actual diet, 66.5 percent of the calories are from carbohydrates, 18.3 percent from fat and 15.4 percent from protein. Cf. Koenker, *Moscow Workers*, p. 56, noting that 55 percent of caloric intake in the study she presents was from bread (presumably meaning all grain sources). The current concept of a balanced diet is that 15 percent of calories should come from protein, 30 percent from fat, and 55 percent from carbohydrates. The miners' actual diet was thus too low, and Liberman's proposed diet too high, in fats. The actual diet of the miners supplied sufficient calcium, iron and vitamin C. I am indebted to my wife, Rivkah, for the detailed dietetic analysis. The dietetic standards that she applied are the 1980 recommended requirements of the World Health Organization and the American National Academy of Sciences.

³¹ Mekhmandarov, "Zabolevaemost'," p. 63. The food was bought by each *artel'* on its own. In contrast see Iu. I. Kir'ianov, *Zhiznennyi uroven'*, p. 175. In 1909 the diet of miners at the Rykovskii mines just outside Iuzovka consisted of potatoes and kasha (sometimes with fat), borshcht with meat, bread, and tea, combined in various ways at all three meals.

BUDGETS AND SAVINGS

The cost of workers' food was a matter of prime interest to all those investigating conditions of work and life in the Donbass. Calculating workers' budgets and the resultant standard of living was not easy. Wages, as we shall see, varied sharply even within a small region, and the actual buying power of any given nominal wage depended on whether it was paid in cash or in store coupons that might be discounted by merchants. The calculation of family budgets appears to have been made on the basis of nominal wages applied to cash prices for commodities calculated in the workers' hypothetical market basket. The budget derived would represent the maximum level of welfare that the worker might be expected to attain. The reality for many families was decidedly less rosy. The zemstvo researchers who visited Iuzovka in the summer of 1884 put the food cost for a miner living in an *artel'* at 8.2 rubles per month, while a family-based man spent between 4 and 5 rubles. Neither calculation included tea or sugar. Outlays for tea, sugar, and tobacco came to 2 rubles per month; another 2 to 3 rubles went for tools and lamp oil. Basic living expenses for an *artel'* member thus amounted to about 13 rubles per month, half of the average wage of 26.5 rubles then paid in the New Russia factory. The single worker could thus put aside money for clothing and savings.

The situation of a family was more difficult. A budget of 22.5 rubles was considered adequate to meet the food needs and immediate expenses of a family of five.³² However, if a single average wage was the sole income of the family, this would leave little for rent, clothing, or savings. An average wage might somehow support a husband and wife, but to feed and clothe children, and to live in half-decent rented housing rather than in the common barracks, it was necessary to have an above-average wage or an additional breadwinner in the family.

Calculating from official prices approved by a district mining engineer for October 1903 and in actual force at the Uspenskii mine, Liberman finds the monthly ruble cost of his proposed minimum diet plus salt, coffee, condiments, vodka, and tobacco to be 10.66, and all that cost the miner 46 percent of 23.17 rubles, the average monthly wage earned at that mine. The actual diet of the miners was somewhat cheaper and cost

³² The calculations are from *S.S.S.*, vol. 2, Bakhmut uezd, p. 320.

only 9.33 per month. Adding clothing and other miscellaneous outlays into the picture, a worker's expenses came to 15.33, leaving him 7.84 a month in savings.³³ While many workers lived below this level, the possibility of an average saving rate of one-third of wages indicates that the miners enjoyed a tolerable standard of living—provided they were single men who did not have to support a wife and family from their monthly wage. Several years later Cheremukhin investigated the living costs of 141 miners and workers living in fourteen arteli. The monthly wages of the men ranged from 12 to 35 rubles, with an average near 25. Food and rent generally cost 13 rubles though one group spent 15 rubles and several 11 or 12. Their meals were simple; they consisted of bread, kasha, potatoes, meat, and borshcht, with tea twice a day, and some fat at breakfast. Each man's portion of meat came to about 100 grams per day.³⁴ Even with extra expenses for clothing, tobacco, vodka, and other personal needs, the average worker could put money away as long as he had steady employment. Judging from their style of living, crammed together in small, substandard, rented quarters, and from their simple eating habits, these were people looking to save money. Nevertheless, as we shall soon see, relatively few of them appear to have actually sent money home on a regular basis.

For the newcomer or the unemployed worker, who might find it impossible to gain acceptance in an artel', "the wandering, homeless, and unemployed of Orel, Penza, Chernigov, and Kursk," Iuzovka had a dozen establishments, licensed and unlicensed, that provided meals of bread and borshcht or potato and jellied calves' feet for thirty to forty kopeks a day, and a place to sleep if you did not mind huddling with a mass of twenty or more similar unfortunates.³⁵ Although some of these places bore such grand titles as "The Petersburg Coffee House" or "The Russian Court Eat-

³³ Liberman, "Usloviia truda," pp. 16–18. Most estimates of Donbass miners' food cost at this time fall within the range of nine to eleven rubles per month for workers eating in an artel'. Cf. Mekhmandarov, "Zabolevaemost'," p. 64; Pazhitnov, *Polozhenie rabocheho klassa*. Kondufor, *Istoriia*, p. 79, puts the cost of artel' food at twelve to thirteen rubles per month in 1909 and fourteen rubles in 1913.

³⁴ Cheremukhin, "Kak zhivut," derived from Appendix. The average wages cited by Cheremukhin have such a wide range because they varied from season to season and from year to year as the business cycle rose and fell, as well as from mine to mine. It would seem that comparatively few workers could count on a steady, predetermined level of wages.

³⁵ Fialkovskii, "K voprosu ob organizatsii deshevoi stolovoi v p. Iuzovki," *Vrachebno-sanitarnaia khronika Ekaterinoslavskoi gubernii*, no. 1, 1909, pp. 28–30.

ing House," they were known centers of epidemic, and were allowed to continue simply because there was nowhere else to house the ever-present mass of migrants in the settlement. Fialkovskii sought in vain for places that could offer inexpensive food, decent accommodation, and hygienic surroundings to sixty or seventy persons daily; his efforts foundered on the reluctance of the zemstvo to meet the cost of such an establishment.

When we apply the prices observed by Liashchenko at five Donbass mines in the spring of 1913 to the diets described by Liberman, we find that the cost of living had soared. The food component of Liberman's hypothetical minimum budget had increased from 19.22 kopeks per day to 34.5 (10.35 rubles per thirty-day month), and the actual diet of the *artel'* has increased even more—to 60 kopeks per day (18 rubles per month).³⁶ But, as we shall see later, by 1911 the average miner's wage in the Donbass had climbed to 24.50 rubles per month: the hypothetical minimum diet had declined to only 42 percent of actual wages, while the actual diet consumed almost three-quarters of an average wage, leaving less than ever for savings or for family support.

An analysis of the cost of living in 1914, based on materials supplied by the New Russia Co., gives a monthly cost of 11.34 rubles, but the diet has changed considerably. The workers now consume half a bottle of milk per day (the size of bottle is not specified, but the outlay is 1.06 rubles a month, nearly ten percent of total food cost). The diet includes nine eggs a month, herring, mushrooms, and a variety of vegetables—not only cabbage and cucumbers, but beets and eggplant as well. Sugar consumption has nearly doubled since 1905, having risen to 50 grams a day, but meat consumption has dropped from 238 grams to 100 grams.³⁷ Once again we see a differentiation in development separating factory workers and miners.

Sources other than food budget surveys frequently convey a picture of rising living standards, beginning with the seasonal return of the miners to the village, in "store bought" clothing, and with cash jingling in their

³⁶ The 1913 prices are noted in Liashchenko, "Uslovia truda," pt. 2, p. 430. Average pay for a miner at this time was 24.5 rubles per month, with the minimum for coal sorters 14 rubles, and the maximum 35 rubles. A detailed discussion of wage rates and their changes throughout the period will be presented at a later point.

³⁷ Kir'ianov, *Rabochie*, pp. 74–75. This diet had ballooned to 5,664 calories per day, far beyond the miners' requirements. The sources of calories are approximately balanced—proteins, 13 percent; fats, 27.8 percent; carbohydrates, 59.1 percent.

pockets.³⁸ The criteria applied by the Congress of Mining Industrialists in 1900 were that “most families” now owned a cow, and that tea drinking had spread widely.³⁹ Zaks notes the changing styles and improvement in quality visible in family or *artel'* photographs of workers and miners in their holiday clothing. But those wearing derby hats, fur-collared jackets and city-style suits with elegant cravats are sometimes identified as contractors and foremen, rather than rank-and-file workers.⁴⁰ Although originally intended to propagandize the achievements of the Donbass, a collection of photographs printed in 1900 shows rather less change than noted by Zaks, and a visitor to Iuzovka in 1917 notes a change only since the beginning of the war: the miners' wives now dress like city women with hats and high heels, and the men go about shaved and clean.⁴¹ In the expanding economy of the Donbass there was opportunity for advancement, and those like Kolodub who by skill or initiative launched themselves on this flood tide soon rose above the subsistence level, and above the mass of their fellows. Not infrequently, as we have shown in the case of worker-landlords, and as we will soon see in the case of workers turning *artel'shchik* or contractor, they advanced at the expense of other workers. For every one who succeeded, there were, at the bottom of the ladder, several new entrants whose health, housing, and diet remained substandard.

The question of savings was central to the lives of most miners, in the early years in particular. Not all succeeded by any means. The miner Kasikhin, included in an 1884 survey, had been in his *artel'* for eight months. In January he had earned ten rubles, in February, thirteen. Because of illness he earned nothing in March and April. In addition to his payments to the *artel'* he had spent a total of thirty kopeks on tobacco, a ruble on tea and sugar, six rubles for vodka (one-quarter of all his earnings!), and three to five rubles on “bachelor's expenses.” As a result he sent

³⁸ E. S. Kogan, “K voprosu o formirovanii proletariata v Donbasse,” in A. M. Pankratova, ed., *Istoriko-bytovyie ekspeditsii 1951–1953* (Moscow: Kulturno-prosvetitel'naia literatura, 1955), p. 71.

³⁹ *Trudy, ekstremnyi s'ezd, 1900*, Report of commission on workers' quality of life, p. 11.

⁴⁰ Zaks, “Trud i byt rabochikh Donbassa,” p. 95. Compare the picture of the *artel'* with that on p. 15, fig. 41, of three evidently close friends, identified as an *artel'shchik*, a store owner, and a foreman from the Hughes factory, in their fur-trimmed hats, fur-collared coats and shining leather boots.

⁴¹ See *Exposition Universelle*; Iu. Volin, “V tsarstve chernoī zoloty,” *Birzhevyie vedomosti*, January 31, 1917, p. 7. Volin attributes the improvement to the banning of alcohol.

no money home. Of the four Selin brothers, two had been coming to the mines for ten years, one for four years, and the youngest brother had just joined them. They sat three weeks of March without employment then worked through April, sending home 7 rubles, the amount they had managed to save after paying *artel'* costs and 1.20 for tobacco, 3.96 for tea and sugar, and 8 rubles for vodka.⁴² These were only two individual cases out of the 1,620 miners surveyed; there is no orderly attempt made in the *zemstvo* survey to calculate the level of saving. The average wage for a single worker was 22 rubles per month, and, for a worker accompanied by his family, 24 rubles. For those accompanied by their families, however, income per person from the miner's wages was only six rubles, which was not enough to provide any normal sort of life.⁴³

In calculating a family's needs, a woman's food consumption was generally taken as three-quarters that of a man, and children's were taken as half to three-quarters of that of a woman.⁴⁴ Liberman thus calculated the food needs of a family with two children as 30.81 rubles, while the average wage, as mentioned above, was 23.17. Ryss calculates the outlay for food of a family of four eating at home as 20.70—somewhat less than Liberman, but still an amount perilously close to swallowing the entire wage of the breadwinner.⁴⁵ Writing at the beginning of the 1890s, Garshin, however, notes that a normal family working for the New Russia Co. had two or three working persons, and so might have an income of close to 100 rubles per month.⁴⁶ A survey of the population structure of Bakhmut uezd in the initial period of industrialization does not bear this out. The size of family settling in the district between 1870 and 1884 declined steadily in each five-year period, from an average of 4 in 1870–74 to an average of

⁴² *S.S.S.*, vol. 3, Slavianserbsk uezd, pp. 380–81.

⁴³ *Ibid.*, p. 392.

⁴⁴ Kir'ianov, *Rabochie*, p. 72, estimates the male as taking 35 percent of the family budget, and a woman as equal to two children. This would indicate that he calculates almost the same expenditure for the wife as for the head of the family, rather than the lesser amounts attributed to women by Sviatlovskii and others.

⁴⁵ Liberman, "Usloviia truda," p. 19; Ryss, "Uglekopy," p. 155. Ryss is probably more accurate here as Liberman's calculations are based on the expenses of the *artel'* and include the cost of the cook, vodka, and tobacco that would not apply to an entire family unit.

⁴⁶ Garshin, "Poezdka," p. 7. In such a case, of course, there would also have to be expenses for two or three full eaters. While Garshin appears to exaggerate the average of workers in a family, the statistics show that most families did have more than a single income.

2.6 in 1880–84.⁴⁷ The process appears, however, to be different when we examine factory settlements and mine settlements separately. In 1884 the 1,870 families living at mines in Bakhmut uezd had 2,067 workers and a total of 3,820 people. In Iuzovka, the only factory settlement in the district at that time, the 1,556 families had 1,925 workers and numbered 4,800 people. Thus over one-quarter of factory families have more than one worker, as against about ten percent of mine families, and, as a result, the families are larger—over three persons on the average, as against only slightly over two persons per family at the mines.⁴⁸ Miners' wages, insufficient to maintain a family based on one wage earner, must be seen along with housing as a factor restricting the formation of a stable working population in the Donbass. As will be demonstrated in our detailed examination of wage movements, workers in metallurgy enjoyed higher rates, which facilitated the establishment of family units at the factories. In addition, once the family was established at a factory, youth could be integrated into the work cycle, which improved the family's economic situation and further rooted it in the factory society. Here once more we see a process of dividing the working class into two distinct populations.

As the two examples cited from the zemstvo survey show, the miner could anticipate losing work time due to travel, illness, accident, slack season, and vodka. In later years, strikes, lockouts, riots, and political upheavals might also take their toll. A stubborn peasant, alone at the mine, sober and single-minded about saving, might put aside enough money to improve the family farm in the course of many years of off-season mining. Such persons would appear to have been comparatively few. The rub came when a man dreamed of leading a decent life and raising a family as a coal miner living in a mining settlement. The money for this was hard to come by, and the Donbass miners remained to a large extent a migrant, unsettled population, neither peasant nor proletarian, frustrated, stripped of social cohesion and loyalties, and therefore highly unstable.

CREDIT AND COOPERATIVES

One of the chief stumbling blocks in the way of the workers' prosperity was the credit system and the employers' control of retail trade. These were

⁴⁷ *S.S.S.*, vol. 2, Bakhmut uezd, p. 277.

⁴⁸ *Ibid.*, p. 227. The larger family may also be regarded as an economic reserve; children provided working hands and extra family income from the age of thirteen on, if not earlier.

customary in the Donbass settlements, as, indeed, in company towns the world over. Our discussion here will explain why buying for cash or for credit made a substantial difference in the level of a Donbass family's welfare. In 1891, as the Russian famine grew in severity, grain prices rose, and commercial activity slowed. "The coal trade is at a standstill. The coal producers weep, and their tears are wiped away by the workers who toil two and three months without seeing a kopek except for credit at the tavern and at the company store."⁴⁹ The factory law of 1886 permitted the opening of a consumers' cooperative society with the factory owner's consent, but made any other store on factory property subject to supervision of the factory inspectorate.⁵⁰ Sviatlovskii's 1885 report testifies to the fact that such supervision was needed: it notes a spread of 25 percent to 100 percent between the "bazaar price" and the price in a company store. In Slavianskerbsk uezd in 1884 the price of wheat flour in a company store was 20 percent higher than the free market price, salt was doubled in price, and sugar had an extra markup of 20 percent.⁵¹ Given the slim margin of subsistence in the Donbass at that time, the difference between a cash outlay of 20 to 25 rubles on food for a family of five and the 35 to 40 paid when credit was used meant the difference between savings and debt.⁵²

The practice of paying part of the worker's wage in coupons redeemable at the company store or tavern was also noted.⁵³ This practice was outlawed by the June 1886 factory law, as was the practice of payment in kind rather than in money.⁵⁴ Nevertheless, such arrangements died slowly and unevenly—earlier in the more "europeanized" districts of the Russian empire, and later at its heart, disappearing only after 1905.⁵⁵ Within the factory system of the Russian empire in 1901 money wages were 89.7 percent of total payments to workers; by 1913 this had increased to 92.5

⁴⁹ *Syn otechestva*, September 27 (October 9), 1891, p. 3.

⁵⁰ "Pravila o nadzore za zavedeniami fabrichnoi promyshlennosti i o vzaimnykh otnosheniakh fabrikantov i rabochikh." Article 28. In *Trudy*, XII, 1887, p. 357.

⁵¹ *S.S.S.*, vol. 3, Slavianskerbsk uezd, p. 375.

⁵² For calculations of different costs for a family and an eating artel' see *S.S.S.*, vol. 2, Bakhmut uezd, pp. 240, 244.

⁵³ Sviatlovskii, *Kbarkovskii fabrichnyi okrug*, p. 124.

⁵⁴ "Vysochaishe utverzhdeniia 3 i iunia 1886 goda pravila o naime rabochikh na fabriki i na zavody." Article 14. In *Trudy*, XII, 1887, p. 343.

⁵⁵ G. Alexinsky, *Modern Russia* (London: T. Fisher Unwin, 1913), p. 127. Alexinsky cites Poland as more European and notes that in the Moscow region, payment in kind still made up close to 20 percent of all wages in 1904. On the ultimate disappearance of wage payment in kind see Kir'ianov, *Zhiznennyi uroven'*, p. 150.

percent. The remaining payments were made in housing, factory-supplied meals, and/or goods taken on credit by workers in factory stores.⁵⁶ Kir'ianov's survey of workers' complaints registered with the factory inspectorate from 1901 to 1913 shows that complaints about nonmonetary payments dwindled to a negligible level in this period.⁵⁷

The coupon system tied the worker to the company's own store, which often charged inflated prices, and which carried only a narrow selection of goods. Workers attempted to use their coupons at other stores, as they had little or no cash. The local merchants or peasants in the bazaar would then discount the coupons, thus cutting the purchasing power of the workers' wages.⁵⁸ Another form of this non-monetary exchange would occur when a worker would take goods from the company store, either on credit or in return for coupons, and trade them with merchants or peasants at the weekly market in Iuzovka or in other Donbass centers. Here, too, the worker generally lost a substantial percentage in the transaction.⁵⁹

The credit system widely employed by Donbass employers, although not identical to payment in coupons or in kind, was related to them. The primary object of the credit system was to keep the worker on the job. "It is all right to pay a sober worker ten days before the holiday, he'll use the money for his family. The drunkard, however, will just start drinking ten days earlier."⁶⁰

In the beginnings of the Donbass, pay was given to the workers only twice a year, at Easter and in October, when the wage rates changed. Although the 1886 law stipulated that wages be paid monthly for seasonally contracted workers, and twice a month for permanent workers, few if any enterprises appear to have followed this procedure. In the 1890s, Pastukhov's workers were paid on four holidays: *Maslenitsa* (forty days before Easter) and Easter in the spring, and St. Nicholas' Day (December 6) and Christmas in winter.⁶¹

⁵⁶ Kir'ianov, *Zbıznennyi uroven'*, p. 96.

⁵⁷ *Ibid.*, p. 144.

⁵⁸ Pazhitnov, *Polozbenie*, p. 120.

⁵⁹ Garshin, "Poezdka," p. 10; Zaks, "Trud i byt'," p. 92.

⁶⁰ *Trudy*, XII, 1887, Speech of Glebov of the Makeevka Coal Co., pt. 2, p. 235. See also speech of Mstikhovskii of the South Russian Coal Co., who notes that his company held off paying workers so that they would not take extra days off work. He was supported in this by Mevius and Karpov. *Trudy*, *Ekstrennyi s'ezd*, 1893, p. 79.

⁶¹ "Vysochaishe utverzhdeniia 3 iunia 1886 pravila." Article 12, in *Trudy*, XII, 1887, p. 343. Seasonal workers were hired for a specific period, and the dates listed in their paybooks. Permanent workers were those hired for an unlimited period. For Pastukhov,

In the long period between paydays the worker needed credit. If he earned an average of 22 rubles in the mid-1880s and had to pay perhaps 12 for his room and board and another 3 or 4 for clothing, shoes, etc., any expenditure on vodka or other unplanned commodities would put him into debt and tie him to the mine.⁶² This was all the more true for those who came from the relatively moneyless peasant economy, reached the Donbass without cash, and had to live on credit until their first pay. Even when pay was formally scheduled at more frequent intervals, it was very often distributed late—sometimes, as we have noted, deliberately, and sometimes inadvertently, or due to economic difficulties. Of 26 mines surveyed in Slavianskerbsk uezd only 2 were not guilty of late payment in the mid-1880s. At the turn of the century this was still the source of one-fifth of workers' complaints to the factory inspectorate. These complaints diminished only on the eve of World War I.⁶³

The New Russia factory formally adopted monthly payment in 1887.⁶⁴ The company used the system frequently found even today in many industrial firms: they held two weeks' wages back so as to discourage workers from disappearing without notice. The wages for the previous month were paid at the end of work on the second Saturday of the following month. As we have remarked, this practice was against the law, since most of Hughes' workers were non-seasonal. The Shtoffe commission, examining working conditions in the Donbass in 1900, criticized both the practice of withholding two weeks wages and that of paying only once monthly.⁶⁵ At the same time, Iuzovka took no part in the credit system that ruled the

see Zaks, "Trud i byt," p. 92. At the same time, the Hughes brothers were paying their workers monthly or once in two months.

⁶² See the discussion of this in *S.S.S.*, vol. 3, Slavianskerbsk uezd, p. 376. For a detailed discussion of what the credit system cost the worker in various areas of the Russian Empire, see Pazhitnov, *Polozhenie*, pp. 62–65. Kolodub, *Trud i zhizn' gornorabochikh* (2d ed. Moscow: 1907), p. 7, describes a contractor's calculations of his workers' pay and indebtedness (in which vodka is listed as "goods" to conceal its illicit sale) and the workers' surprise at finding themselves in debt after months of labor. The contractor then "generously" volunteers to advance the worker money for a winter jacket in return for signing on for an additional season in the mines.

⁶³ For the 1884 figures, see Pazhitnov, *Polozhenie*, p. 131. The complaints are analyzed in Kir'ianov, *Zhiznennyi uroven'*, p. 144.

⁶⁴ Potolov, *Rabochie Donbassa*, p. 204. The decision was taken by the Congress of Mining Industrialists at the annual meeting, in the wake of extensive unrest about wage payments in May and June of that year. See *Trudy*, XII, 1887, pt. 2, pp. 229ff., for the discussions.

⁶⁵ Pazhitnov, *Polozhenie*, p. 131 describes wage payment practices at the New Russia Co. *Trudy*, XXV, 1900, Chairman's report, p. LVI notes the Shtoffe commission criticism.

Donbass so harshly. Within the factory and the settlement all trade was cash and carry, and, as Islavin noted in 1875, prices were the same as in the big cities and thus lower than in most Donbass settlements. In a statement of policy a company spokesman wrote: "The company takes no part, direct or indirect, in provisioning the workers, or in procuring necessities for them. The workers' wages are paid fully and directly to them."⁶⁶ This wage and price policy, unusual for the Donbass, helps to account for the huge popularity of the Iuzovka bazaar. The surrounding mines were quite different. Garshin notes that some of them paid wages only twice a year, and that of a 750,000 ruble payroll in such a mine, 450,000 went to the company store to pay workers' debts.⁶⁷

The credit system was not a totally one-sided creation. When the mining industrialists discussed the question of monthly and bimonthly pay following the adoption of the June 3, 1886 labor law, it was said that many workers wanted their pay only once every three months, preferring that the company hold it rather than that they have cash at their disposal while in the Donbass settlement. The dangers of outright theft and of drinking the money away were clearly and continuously present. Some employers supported monthly wage payments as a way to free the worker from a credit system that lent itself so easily to price gouging and other forms of cheating. However, given the workers' mistrust of their own character, the application of the new legislative norms was not seen as a solution.⁶⁸ The introduction and free circulation of money, and its use as a universal measure of exchange, is a central feature of modernization. The provision of company credit and coupons in place of cash restricted this. Only when the worker received cash frequently enough to enable him to realize some measure of autonomous choice as a consumer or investor was he able to become a creature of the modern world in an economic sense.⁶⁹

One of the institutions that helped the worker overcome the stranglehold of company credit and merchant greed was the consumers' coopera-

⁶⁶ TsGIAL, F.266, op. 1, ed. khr. 125, p. 383. Report of N.R.O. 1902.

⁶⁷ Garshin, "Poezdka," p. 9; Islavin, "Obzor," p. 63.

⁶⁸ *Trudy*. XII. 1887, pt. 2, pp. 230-35. See the remarks of M. M. Zaslavskii and L. G. Rabinovich. The latter suggested that even if workers want their wages paid only once every three months, the money should be deposited to their credit every month at the company office, in effect turning the office into a sort of savings bank. Glebov questions whether monthly payment might not undercut the system of lowering wages between October and Easter, a result he considered definitely undesirable for the employers.

⁶⁹ See discussion of this point in Eugen Weber, *Peasants into Frenchmen*, pp. 37-38.

tive. The first cooperative in the Russian Empire was formed by German artisans in Riga in 1865.⁷⁰ At the end of the 1860s the movement began to spread through Russia, and branches appeared in Taganrog and Nikolaev in the south.⁷¹ The movement grew slowly, however, under the mistrustful surveillance of the authorities. There was a spurt of interest between 1865 and 1870, then few permits for new cooperatives were issued by the Ministry of the Interior for the next fifteen years.⁷² In 1870 the Kharkov consumers' association proposed the establishment of a regional congress of cooperatives to seek ways of increasing their effectiveness by such combined efforts as mass direct purchasing from manufacturers. The application was denied by the authorities on the grounds that "activity of a consumers' association is permitted only within the limits of its own city, and general connections between cooperatives do not exist, and need not exist."⁷³ Here again we have an instance of a central bureaucracy fearful of any autonomous social institutions blocking the creation of social cooperation and community networks.

Despite these limitations, the cooperatives in the south were strong. After the June 1886 labor law had limited company stores and put private shops on factory and mine properties under some supervision, cooperatives began to proliferate in the Donbass. The very concept of the cooperative at this time was philanthropic, however, and far from the autonomous workers' initiatives that were the basis of the mid-nineteenth-century British Rochdale movement that served as the model for contemporary consumer cooperatives. The employers often subsidized cooperatives to a considerable extent. In Druzhkovka the employers loaned the cooperative seed capital of 40,000 rubles without interest. As might be expected from both general concept and financing arrangements, management representatives dominated the executive boards of these cooperatives. As late as 1909, by which time organized groups of workers were claiming the right to run

⁷⁰ Gerald M. Kayden and Alexis N. Antsiferov, *The Cooperative Movement in Russia During the War* (New Haven: Yale University Press, 1929), p. 29. This volume contains a detailed history of the development of the cooperative movement throughout the Russian Empire.

⁷¹ K. A. Pazhitnov, "Ocherk razvitiia rabochei potrebitel'skoi kooperatsii," *Trud v Rossii*, vol. 1 (Leningrad: 1924), p. 206.

⁷² Kayden and Antsiferov, *The Cooperative Movement*, p. 28, display a table of the chartering of cooperative societies by type and by five-year periods from 1865 to 1905.

⁷³ A. V. Merkulov, *Istoricheski ocherk potrebitel'noi kooperatsii v Rossii* (Moscow: 1915), p. 64. The idea was finally approved in Kiev in 1910.

the cooperative stores, the Minister of Railways expressed the opinion that without management control, no cooperative could succeed.⁷⁴

A consumers' cooperative was started in Iuzovka in 1888.⁷⁵ During the 1892 cholera riots, the coop store, situated in the Larinskii bazaar to the south of the factory, was among the stores looted and burned.⁷⁶ By its 1893–94 business year the coop had rebounded: it now had a turnover of 225,000 rubles—forty rubles for each worker of the New Russia factory in that year.⁷⁷ At the turn of the century the Iuzovka cooperative had four stores, including one at the company's Vetka mine, and the shareholders were said to be almost exclusively workers. The company claimed to have no material interest in the cooperative, although it extended support and assistance.⁷⁸ The Shtoffe commission noted this assistance to the workers and employees who were members of the coop. It took the form of free premises for the cooperative and extension of credit for railway transport of the cooperative's goods. In keeping with longstanding policy, the company did not dock workers' wages for their debts to the cooperative.⁷⁹ In February 1909, however, the cooperative had to be disbanded and reconstituted after having accumulated a 150,000 deficit.⁸⁰

The initiative for the founding of the cooperative appears to have come from the management, and management personnel are said by Balabanov to have dominated the society's executive at least until 1912, although he notes that workers "holding a privileged position in the factory" were represented on the executive from the beginning. In that year, the cooperative included ninety percent of the workers of the factory, and, after what is described as "a bitter struggle," control of the executive passed into the hands of the workers.⁸¹ Balabanov comments that despite management's dominance "the pressure of that portion [of the workers] that had a principled [*ideinoe*] mood was so strong that the association's life went in a

⁷⁴ Pzhitnov, "Ocherk razvitiia," p. 208. See also M. Balabanov, *Istoriia rabochei kooperatsii v Rossii* (Kiev: Sorabkoop, 1923), pp. 47, 56–57.

⁷⁵ Ragozin, *Zhelezo i ugol'*, p. 55. *Vestnik finansov, promyshlennosti i torgovli*, no. 40, 1915, pp. 2655–56 carries the balance sheet for 1914, its "26th year of operation."

⁷⁶ *Russkiiia vedomosti*, no. 327, November 26, 1892, p. 3.

⁷⁷ Ragozin, *Zhelezo i ugol'*, p. 55.

⁷⁸ TsGIAL, F.266, op. 1, ed. khr. 125, p. 383.

⁷⁹ TsGIAL, F.37, op. 58, d.299, p. 97. Report of the Shtoffe commission.

⁸⁰ N. R. Donii, P. A. Lavrov, P. M. Shmorgun, eds., *Bolsheviks Ukrainy mezhu pervoi i vtoroi burzhuazno-demokraticheskimi revoliutsiiami v Rossii* (Kiev: Politicheskaiia literatura Ukrainy, 1960), p. 243, Document 123.

⁸¹ Balabanov, *Istoriia rabochei kooperatsii*, p. 97.

cooperative and democratic direction." Demonstrated economic advantage was evidently sufficient to engage the workers' attention and efforts.

In 1896 the New Russia Co. iron miners at Krivoi Rog established a cooperative that took the place of a private store operated by a mine contractor who charged outrageous prices. The cooperative succeeded in bringing the price level down considerably, but lasted only three or four years.⁸² Presumably the instability of the workforce at the mine was one cause of the lack of interest in the cooperative as well as of the difficulty in training an effective management board. The need for a cooperative certainly existed; Mekhmandarov notes that the three or four private store-keepers operating in the area were making a good profit, with their living on bread alone running to 10,000 rubles a year. A cooperative was formed at Enakievo in 1903; it operated seven stores and two bakeries, in addition to raising its own vegetables. It subsidized the education of members' children, ran a children's playground, carried on cultural and educational activities, and actively propagandized on behalf of the workers' cooperative movement.⁸³ The cooperative at the Voznesenskii mine served 3,315 workers and had a turnover of over 350,000 rubles, two-thirds of it in cheap credit to its members. This amounts to over 100 rubles per worker per year. At the same time the Rutchenko mine cooperative served 4,264 workers and did only 18,000 rubles business, also two-thirds in credit.⁸⁴ It may be suggested that the proximity of the well-developed Iuzovka bazaar, to which the Rutchenko miners had easy access, contributed to the poor development of the cooperative there. Nevertheless, credit appears to have remained an important function of the Rutchenko cooperative.

Following the 1909 crisis the New Russia consumers' cooperative flourished and was able to offer its members a fund of 2,000 rubles to subsidize their children's education. The profit for 1914 came to 29,792.39 rubles, more than 50 percent of the nominal share capital of 57,956.41. The thirteen-man management board evidently worked on a basis of incentive pay, for their remuneration came to exactly 10 percent of profits.⁸⁵ The coop-

⁸² Mekhmandarov, "Zabolevaemost'," p. 64.

⁸³ Kayden and Antsiferov, *The Cooperative Movement*, p. 35.

⁸⁴ TsGIAL, F. 37, op. 55, d. 199, pp. 41-42. Reports of the Voznesenskii and the Rutchenko mines for 1913.

⁸⁵ *Vestnik finansov*, no. 40, 1915, pp. 2655-56. Payment to the executive board comes to 229 rubles each. It should be presumed that the sum includes the salary of one or more full-time employees of the association, although in 1917-19 the company paid the wages of the sales and executive personnel of the cooperative.

erative also had a library and a book kiosk “where both legal and illegal literature was sold.”⁸⁶ The success of the Iuzovka consumers’ cooperative society in overcoming crisis and persisting as an institution—it apparently gained in autonomy in its last years (though there is no documentation of the use made of its autonomy)—is an example of what might have been done to provide societal strength and stability in the Donbass. Its potential is suggested by the comment that, despite an almost total absence of trade unions and of independent educational institutions, there were “hundreds” of consumers’ cooperatives active in the Donbass on the eve of the First World War.⁸⁷ This appears, however, to be a lone exception testing the local rule of the company and general rule of the Russian autocracy. We turn now to the social elements of Donbass living conditions, to health care and the provision of hygiene and sanitation for the growing population.

⁸⁶ Kondufor, *Istoriia*, vol. 1, p. 132. That this library was large is doubtful, for its total value on the 1914 balance sheet was 285.33 rubles.

⁸⁷ D. Nesterov, “Rabochie organizatsii iuga v 1914 godu,” *Letopis revoliutsii*, no. 5, 1926, p. 153.

CHAPTER 6

Health, Hygiene, and Sanitation

Housing may be said to have been the most prominent element in the workers' environment outside of their place of work. There were, however, other important elements that molded life in the Donbass. In an environment of dangerous professions and substandard living conditions, health care and hygiene were particularly sensitive issues. Equally salient as an influence on the life of workers and their families were the sanitation facilities provided in their communities. Examination of these elements gives us some insights into the values and expectations of employers and workers alike.

HEALTH AND MEDICAL CARE

On August 26, 1866, the Russian government passed a law obliging every industrial and mining enterprise to provide unpaid health care for its staff for work-related injuries and illnesses, and paid care for other cases. Enterprises employing more than one hundred workers were to have a doctor and a *feldsher* ("paramedic") available, and five hospital beds for each thousand workers.¹ In 1885, V. V. Sviatlovskii, chief inspector of the Kharkov factory district, visited 658 of the more than 2,500 enterprises under his supervision. Although 59 of these employed more than a hundred workers, the inspector found only 4 that fully satisfied the provisions of the law. Twelve others could be rated as satisfactory despite some minor defects,

¹ *Trudy*, VII, 1882, p. 234. See also Pazhitnov, *Polozbente*, vol. 2, pp. 151–52. Fialkovski, "Uchastie zemstva," p. 507, notes that the first Russian law demanding provision of medical services for industrial workers dates back to September 1741. He also claims that the 1866 law called for provision of one hospital bed per hundred workers employed.

while the others had either fictitious arrangements or no medical care whatsoever.²

The law of June 3, 1886, governing conditions of employment of workers repeated the prohibition on the taking of payment from workers for medical assistance.³ In the discussion of this law at the annual meeting of the Congress of Mining Industrialists, the chairman of the session, Evgenii Nikolaevich Taskin, noted that a number of mines known for their well-organized medical services deducted a small amount from miners' wages to cover the expense of this service. He voiced the opinion that there existed a general consensus in favor of continuing with such deductions so that the level of medical care might be maintained. Several of the coal producers disagreed. Anisimov, Rabinovich, and Sheierman—the latter a former mine doctor who with a partner had developed a rented mine—all spoke up for free care on the grounds that illness among the workers was a danger to industry and that it was in the employers' own interests to provide high-quality medical care without payment by the workers. They were opposed by P. A. Karpov who pointed out that the local zemstvo was charged with the task of providing health care, and that the mines were heavily taxed by the zemstvo. Karpov claimed that the zemstvo should construct, equip, and staff hospitals and that the mine operators did not have the means for such outlays.⁴ As Liberman wrote in 1905: "The hospitals and schools in most of the mines are in a very strange position. They are stepchildren, not loved, but tolerated because of necessity and because of the law that commands their existence."⁵

Here we have one of the most protracted quarrels of the Congress of Mining Industrialists of South Russia. The coal producers were non-residents developing a new economic interest in Bakhmut and Slaviansoserbsk districts of Ekaterinoslav guberniia. As we will discuss in detail in our second volume, they clashed with the existing elite over control of representation and taxation in the provincial and district zemstva, the incumbents insisting that the industrialists provide their own services.

The employers had neither the leverage to compel the zemstvo to build hospitals nor the autonomy to flout the law openly and demand that the workers pay for medical services. The furthest they could go in public—

² Sviatlovskii, *Kharkovskii fabrichnyi okrug*, p. 85.

³ See the draft text of the law in *Trudy*, XII, 1887, p. 344, Article 17.

⁴ *Trudy*, XII, 1887, pt. 2, pp. 238–42.

⁵ Liberman, "Usloviia truda," p. 26.

and this was no small matter—was to declare consistently that the Congress of Mining Industrialists of South Russia did not recognize the law of 1866 and therefore did not see itself as legally obligated to provide free medical service.⁶ The result was that many skimmed on medical facilities, distributing the services of a single doctor among as many as twenty-five mines.⁷

A mine doctor's days were rarely idle. In the Korsun and Novaia mines, which employed 1,252 miners in 1883 and the first half of 1884, there were 1,810 days of hospitalization recorded. Broken bones (25 percent of the cases) vied with typhus (22 percent) as the most common ailments, with rheumatic disease and infections of the throat or intestinal tract not far behind.⁸ A large part of the mine doctor's work was the medical examination of those who came to look for work. Dr. Mekhmandarov writes of having examined 5,423 candidates in the course of three years.⁹ Both the physical capacities of the candidate and his state of health regarding infectious diseases were checked. If he was found syphilitic either upon application or at any subsequent time, he was returned to his native village. This was even written into the labor contract.¹⁰

While the medical arrangements at a mine might be adequate for peaceful day-to-day work, there was no reserve of human resources or hospitalization facilities for emergencies, and crisis was very much a part of Donbass life, with mass injuries and epidemics recurring frequently.

When a cholera epidemic broke out in 1886, the government called on the factory and mine owners to provide adequate medical facilities.¹¹ Nevertheless, when the famine and cholera struck six years later in 1892, 40 out of the 72 mines listed by the Congress of Mining Industrialists had

⁶ See the statement of von Ditmar to an assembly of factory physicians in 1910. N. F. von Ditmar, "Neschastnye sluchai v iuzhnoi gornoi i gornozavodskoi promyshlennosti," in D. I. Orlov, ed., *Trudy pervago vsrossiiskago s'ezda fabrichnykh vrachei i predstavitelei fabrichno-zavodskoi promyshlennosti* (Moscow: 1910), vol. 2, p. 517.

⁷ See Aptekman's description of the arrangement of twenty-five Varvarapol' mines in *Trudy*, XII, 1887, pt. 2, p. 242. Liberman, "Usloviia truda," p. 26, writes bitterly of how mines that produce ten to fifteen million pud per year hire a doctor for only a few hours a week or share a doctor with other mines, thus saving themselves a few hundred rubles each year.

⁸ Bogutskii, "Polozhenie gornorabochikh," p. 460.

⁹ Mekhmandarov, "Zabolevaemost'," pt. 2, p. 32.

¹⁰ Liberman, "Usloviia truda," p. 27n.

¹¹ V. V. Modestov, *Rabochee i professional'noe dvizhenie v Donbasse do velikoi Oktiabrskoi sotsialisticheskoi revoliutsii* (Moscow: Profizdat, 1957), p. 14.

no medical facilities whatsoever, and the industrialists of the Donbass could boast of only eleven hospitals in the settlements of the region.¹² True, the larger mines had some facilities, and those mines with no facilities whatsoever employed only 7,900 of 60,000 coal miners working in the Donbass at that time, but even where there were hospital facilities these were on the whole woefully inadequate to the dangers of the cholera epidemic. V. V. Veresaev, who later became a well-known publicist, was at that time a young medical student and served as a doctor in a mine just outside Iuzovka during the summer of 1892. He described graphically the lack of health care and the unsanitary living conditions that turned the Donbass mines into centers of infection.¹³

In Iuzovka, the twelve-bed factory hospital was opened in 1870, even before the factory itself was in operation.¹⁴ By 1874 there was also a pharmacy and a sanitary commission to inspect foodstuffs.¹⁵ Nevertheless, it was not uncommon for British families to give up their advantageous salaries and return to Great Britain to avoid the frequent epidemics of cholera and typhus that swept the settlement.¹⁶ Vivid evidence of the need for medical care in Iuzovka is given in the report of the 1884 zemstvo survey. The twelve-bed hospital was divided into two wards, clinical and surgical. At the time of the survey there were eighteen patients hospitalized in these twelve beds, six in the surgical ward, and twelve in the clinical. During 1883 there had been 169 patients hospitalized, an incidence of 32 hospitalizations per thousand residents of the settlement. In addition, 2,690 persons connected to the factory and 1,634 non-factory persons had been treated on an out-patient basis. The total incidence of hospital visits was 538 per 1,000 residents of Iuzovka.¹⁷

By the time Garshin visited Iuzovka in 1891 the hospital had grown to 42 beds and was being enlarged to accommodate another 18 places, for the factory had grown to 6,754 workers, and there were also 1,399 miners employed.¹⁸ In addition, the hospital served the New Russia Co. employ-

¹² *Trudy*. XVII. 1892, pp. 235–40; E. N. Taskin, "K voprosu," p. 3778.

¹³ See letter signed V. V.—ev, *Russkna vedomosti*, no. 181, July 3, 1892, p. 3.

¹⁴ *Istoriia mist' i sil*, p. 82.

¹⁵ Westwood, "John Hughes," p. 567.

¹⁶ Bowen, *John Hughes*, p. 43.

¹⁷ *S S S.*, vol. 2, Bakhmut uezd, p. 236. Unfortunately, there appear to be no data regarding the average number of days of each hospitalization, so that we cannot calculate the percentage of hospital bed occupancy.

¹⁸ Kulibin, *Sbornik*. 1891, pp. 206–207, 251.

ees' families and the other residents of Iuzovka. At this point no other hospital facility was available, although private physicians later set up practice in the settlement. The senior doctor of the settlement had already eighteen years seniority in his job, and, according to Garshin's testimony, the doctor and his staff "had plenty of work."¹⁹

Whatever the facilities, they were inadequate when the cholera came in the following year and had to be expanded rapidly, even though those on Hughes' medical staff seemed to be doing well at containing the epidemic until the riots forced them to flee and destroyed any chance of containing the illness. The skill and dedication of Iuzovka's medical personnel received an unanticipated blessing at that time. When reports of the cholera riot came in, a district physician of the Bakhmut uezd zemstvo was sent from Aleksandrovsk to Iuzovka, with instructions to correct the unsatisfactory sanitary state of the factory and mines there. The doctor, a recent graduate of Kiev University, came to the settlement with an openly acknowledged prejudice against the factory. Later, however, this young Bil'am testified that from what he had witnessed on the spot, both in medicine and in public hygiene, "the ordinary and the extraordinary were being accomplished and nothing was left to be desired, as arrangements [in Iuzovka] far surpassed those at any other mines of the district."²⁰ Ragozin, visiting in 1893, found an 80-bed hospital in Iuzovka with an internal medicine department of 25 beds, a surgical ward of 31 beds, a 15-bed gynecological ward and 9 beds in an isolation ward for infectious diseases. There were then four doctors and a midwife employed by the New Russia Co. The cost of maintaining its health facilities, which were provided without charge to all company employees and their families, was 44,905 rubles in 1893—a little less than six-and-a-half rubles per worker per year, a sum that was to grow to ten rubles per worker by 1901, when the hospital had grown to 120 beds and the total staff to 61—including seven doctors, seven feldshers and two midwives. They continued to serve the entire settlement since there was still no zemstvo facility available. During the year 1,690 patients had been hospitalized and 34,329 outpatients treated. In addition, the pharmacy had compounded 110,568 prescriptions for its customers.²¹ If we compare this to the state of the

¹⁹ Garshin, "Poezdka," p. 8.

²⁰ TsGIAL, F.1405, op.93, ed. khr.8555, p. 101. Report of Rodzianko to Kharkov prosecutor, September 22, 1892.

²¹ TsGIAL, F.266, op.1, ed. khr.125, p. 383.

medical services in 1884 we will see that Iuzovka had grown to seven times its former size, but that the hospital had grown by a factor of ten, as had the number of in-patients; the number of out-patients seen and treated has grown to eight times its original count, with a number equal to virtually the entire Iuzovka population visiting its clinics in the course of the year. We can infer from this that at the very least there was a growing availability of medical services to the population. We may also infer a public response, a readiness of the Iuzovka population to turn to these services. This readiness is one of the threads of interconnection on which a modern social and political community is based.

Despite this growth of facilities, the Shtoffe commission judged the hospital facilities to be inadequate in size, crowded, and inadequately ventilated.²² While the medical facilities offered by the New Russia Co. met the provisions of the law, that law had never foreseen that the entire burden of a community's health care would be laid on an industrial enterprise, as was the case in Iuzovka. Although the factory and mine labor force was stagnant in the first decade of the twentieth century, the medical facilities continued to grow. In 1910 we find 153 beds as well as an X-ray unit and a large operating room. The Vetka and Novosmolianinov mines each had a local hospital and out-patient clinic as well. The medical staff in Iuzovka was still seven doctors, but they were now assisted by fourteen feldshers and four midwives. The pharmacy, now staffed by three people, was dispensing a quarter million prescriptions per year.²³ Since, as we have noted, the number of New Russia Co. workers was not growing, this improvement of medical facilities must be regarded as a company contribution to the welfare of the workers' families and to the general community. The facilities provided by the New Russia Co. were as yet the only medical facilities in the settlement, for despite Stanislavskii's emergency mission to open a typhus ward during the epidemic of 1908, the first zemstvo hospital began operations only in 1911. In 1916, when the zemstvo hospital was already well established, the New Russia hospital in Iuzovka had 200 beds and the Vetka and New Smolianinov mine hospitals had another 75 beds. In the Iuzovka hospital there were nine doctors, aided by twenty feldshers and seven midwives. This staff had treated 6,550 hospitalized patients during 1916 and had seen another 124,720 outpatients—nearly

²² TsGIAL, F.37, op. 58, d. 299, p. 80. Shtoffe report.

²³ *Novorossiiskoe obshchestvo*, 1910, p. 33.

two visits for every inhabitant of the settlement!²⁴ Whether compared with itself over time, or with the facilities available in the other mine and factory settlements of the Donbass, Iuzovka shows a steady development both in the availability and the use of its medical institutions. The health history of the settlement tells us that these facilities were never adequate, but, given the life experience of its inhabitants and the facilities offered by alternative places of employment and residence, the attractiveness of this crowded, filthy, brutal company town is indisputable. It should be emphasized once more that it is not only availability of facilities that is of importance. There were, in the history of the Donbass, libraries and tea houses that were completely ignored by the region's population. The growth of annual out-patient visits from one for every two residents in 1884 to two per resident in 1916 constitutes an important index of modernization. Against this background of acceptance of medical services as part of life, it is interesting to note that suspicion of doctors as malevolent outsiders, and attacks on them as well-poisoners and killers of innocent patients, continued as late as the cholera epidemics of 1902 and 1910.²⁵

Although keeping up the health facilities was evidently no great financial burden to the employers, some, as we have noted, nevertheless complained about the expenditure. The Hughes family, in contrast to this, maintained exemplary relations with their medical staff; the hospital chief asserted that they had begrudged him nothing of what was needed for the hospital.²⁶

Although all descriptions of Iuzovka up to the 1917 revolutions emphasize the dirt and the lack of sanitation, the data on spotted typhus gathered by the hospital over the twelve years 1893–1904 show a respectable record.²⁷ The hospital treated 138 typhus cases in that period, and one additional case remained at home. The death rate was 5.03 percent—seven cases. This was half the typhus death rate in St. Petersburg at the

²⁴ *Novorossiiskoe obshestvo*, 1919, p. 40.

²⁵ See Khrushchev's memories of such events in Nikita S. Khrushchev, *Khrushchev Remembers* (Boston: Little, Brown and Co., 1970), p. 287.

²⁶ Ragozin, *Zhelezo i ugol'*, p. 55. Mekhmandarov, "Zabolevaemost'," pt. 2, p. 28, writing of the New Russia Co.'s iron mines in Krivoi Rog at the end of the century, also mentions the company's open-handed policy in providing hospital equipment, medicine, and food for the ill, although he notes having had to use a cramped, cold, ill-lit building as a hospital for five years while awaiting the construction of a new two-storey facility.

²⁷ See the report of the records kept by the Iuzovka hospital staff in *Vestnik Ekaterinoslavskago zemstva*, no. 48, 1904, pp. 1459–60.

time, and lower than the general reported rate in the Russian Empire in the years 1887–92. Since most of this decade was a period of rapid growth, maintaining such a record was indeed admirable. The records of typhus illness showed that the migrants living in the *kaiuty* of “Sobachevka” or “Shanghai,” districts inhabited mostly by “wild” workers (migrants without steady employment), were the first to fall prey to the disease. The 1893 outbreak, thirty cases in all, preceded the cholera of that year. It began in a barrack crowded with migrants, where five residents fell ill in the course of four days before the epidemic struck at the settled workers. Of nine doctors who cared for typhus patients, two of the factory doctors and one doctor in private practice were infected by the illness, along with one *feldsher* and four other hospital workers. Despite the commendable record up to 1905, the number of cases of typhus rose sharply in subsequent years. Evidently the settlement had reached a point of growth that strained its water resources and sanitary facilities, and, as new residents were attracted by the economic expansion at the end of the decade, the incidence of infection rose. Typhus cases, numbering 408 in 1906, rose to 700 and to 961 in the next two years, and numbered 903 from January to mid-June of 1909. In addition to the *zemlianki-kaiuty* the main source was said to be the unsanitary flophouses that served the transient population.²⁸

Typhus, of course, was not the only health problem in Iuzovka. In the month of January 1909, while the settlement had 88 of 140 recorded cases of typhus in Bakhmut uezd, it also led the district in smallpox, with 22 cases recorded.²⁹ The crowded conditions in Iuzovka and its lack of sanitary facilities made it a center for all the infectious diseases that swept Bakhmut uezd annually: scarlet fever, measles, influenza, and all the rest.

Recurrent bouts of cholera were the most feared, and the 1892 cholera epidemic was Iuzovka’s first great crisis. Of 1,141 Donbass workers who fell ill with cholera that year, 524 were workers of the New Russia Co. factory and mines in Iuzovka. Of these, 234 died (45 percent).³⁰ Severe as

²⁸ N. A. Nosovitskii, “Otchet o tifoznoi epidemii v poselkom Iuzovke s 22 Okt. 1908, po 12-e Iul’ia 1909-ago goda,” *Vrachebno-sanitarnaia khronika Ekaterinoslavskoi gubernii*, no. 10, October 1909, p. 479. See the confirmation of Nosovitskii’s conclusions in *ibid.*, no. 1, 1909, p. 53. This source notes specifically that unhygienic as they are, Titov’s and Piatkin’s flophouses are the only place in Iuzovka where homeless, penniless workers can find inexpensive food and shelter.

²⁹ *Vrachebno-sanitarnaia khronika Ekaterinoslavskoi gubernii*, no. 2, 1909, p. 195.

³⁰ *Trudy*. XVII. 1892, pp. 266–67.

the epidemic was, this was less a medical crisis than a social and political upheaval. Our detailed discussion of this epidemic and its consequences will therefore be included in the second volume, together with discussions of other early strikes and disorders. The first wave of the epidemic was met by the local medical staff in an orderly fashion, but all planning and healing were totally disrupted by two days of rioting at the beginning of August, when the entire commercial center of the settlement and all its food stocks were destroyed by a drunken mob from the settlement and the surrounding mines and villages. For the next two weeks the incidence of illness and mortality rose sharply, falling only after mid-August. Despite these circumstances, the death rate in that epidemic was slightly lower than the average for the region as a whole.

During this entire crisis, the Bakhmut uezd zemstvo did nothing to aid the ill in Iuzovka. Bakhmut uezd, with Iuzovka as its largest populated point, was poor, despite the substantial taxes paid by the mining and metallurgy enterprises. At any rate, its medical services, existing entirely apart from those of the industrialists, were criticized for poor service to maternity cases, neglect of statistics, and general poor organization.³¹ In 1879, when the guberniia as a whole had one doctor for every 14,000 inhabitants, the ratio in Bakhmut uezd was one to 28,000.³² The apparent poverty may have been more of the spirit than of the pocket, for the Bakhmut uezd zemstvo was consistent in refusing doctors' applications for a broadening of medical services. In 1901 Dr. I. N. Kavaleroz suggested the systematic study of professional illnesses among miners. The zemstvo was reluctant to take up what was clearly a medical question of the first order for the region.³³ When the guberniia authorities suggested the sending of a doctor to train in ophthalmological surgery, the uezd authorities raised numerous objections, all of which proved to be unfounded.³⁴ In 1903 Dr. Khibchinskii, the Public Health Officer in Iuzovka (whom the uezd authorities refused to recognize as a zemstvo employee), requested serum to vaccinate the poorest population of the settlement in the face of

³¹ *Vestnik Ekaterinoslavskago zemstva*, no. 1, 1903, p. 21. The criticisms were leveled in the course of a regional conference of doctors.

³² Derived from *Obzor Ekaterinoslavskoi gubernii*, pp. 12, 34.

³³ L. T. Kurkin, *Zemskaia sanitarnaia statistika* (Moscow: 1904), p. 87. There may have been political motivations behind the refusal, for Kavaleroz was one of the few members of the Donbass professional class who consistently aided the revolutionary movement. He later suffered exile for his activities.

³⁴ *Vestnik Ekaterinoslavskago zemstva*, no. 8, 1903, p. 38.

growing numbers of smallpox cases. The zemstvo decided that serum would be provided only for those who did not qualify for care in the New Russia factory hospital, and that the providing of serum in this case would not constitute a precedent for future demands.³⁵

When Nosovitskii was sent to Iuzovka at the end of September 1908 to investigate the typhus and cholera epidemics raging there, he found the factory hospital full and unwilling to accept patients from the non-factory population. It took six weeks for the uezd zemstvo to approve the opening of a fifteen-bed typhus barrack, and another six weeks of urging by Nosovitskii to add much-needed additional facilities. By the start of January 1909, the zemstvo facilities were caring for 51 typhus victims in Iuzovka, the first zemstvo medical activities there since the founding of the settlement.³⁶

By 1916, when the population of Iuzovka had swelled to 70,000, there were eighteen doctors in the settlement, of whom five carried on private practice. Nine, including the Public Health Officer and a veterinarian, were employed by the New Russia Co.; the remaining four were presumably zemstvo employees.³⁷ The uezd zemstvo employed a total of 38 doctors at that time.³⁸ A zemstvo hospital had finally been opened in Iuzovka in 1911, and 275 hospital beds were then available to the settlement's residents.³⁹ Iuzovka must thus be considered both comparatively well-endowed with medical facilities as well as much in need of them.

Whether it was because of the shock of the cholera epidemics of 1892 and 1893, with their consequent exodus of mine workers, or the prosperity of the 1890s, or a combination of these, health care facilities in the Donbass increased steadily. In 1892 the industrialists supported only 11 hospitals. By 1896 this had grown to 34, with an additional 13 clinics at

³⁵ *Vestnik Ekaterinoslavskago zemstva*, no. 8, 1903, p. 39.

³⁶ See *Vrachebno-sanitarnaiia khronika*, no. 1, 1909, p. 53.

³⁷ The list of New Russia Co. doctors is in DOGIA, F.6, op.9, d.241, p. 6.

³⁸ *Narodnaia gazeta Bakhmutskago zemstva*, no. 2, 1915. There were thirty-five district physicians and three reserves. Each doctor had a month's holiday per year, and each year three doctors had the right to a three-month sabbatical (*nauchnaia kommandirovka*). As may be calculated from the above, the reserves were inadequate for covering both the annual leave and the sabbatical absences.

³⁹ *Istoriia mist i sil*, p. 82. This means 39.2 beds per 10,000 people. According to *Narodnoe khoziaistvo SSSR v 1978g.* (Moscow: Statistika, 1979), p. 511, the average for the entire USSR in 1940 was 40 per 10,000; the average in the Ukraine was 37.7. In 1911, the norm was 10 hospital beds per 10,000 people, and only three uезды in the entire south of Russia came even close to this. See *Obshchestvennyi vrach*, no. 1, 1911, p. 60.

HEALTH, HYGIENE, AND SANITATION

factories and mines. By the end of the decade, the 31 large mines that accounted for two-thirds of Donbass coal production ran 27 hospitals and 15 dispensaries, providing unpaid medical service to the 46,500 miners and their families. However, the total outlay of 232,000 rubles represented slightly less than five rubles per worker, half of what we noted the New Russia Co. as spending at the same time.⁴⁰ By the middle of the next decade, annual health expenditures in the Donbass mines had grown to nearly ten rubles per worker, and those of the metallurgy plants averaged fifteen rubles per worker.⁴¹ Table 6.1 gives us an understanding of developments in health care for workers during World War I, as well as some impression of relative levels of care in various types of establishments. From its data we can gain a sense of what was happening in the mining

TABLE 6.1
Donbass Medical Facilities, 1913 and 1915

Facility	Type of Enterprise					
	Metallurgy ^a		Coal Mines		Iron Mines	
	1913	1915	1913	1915	1913	1915
Number of workers ^b	45.6	62.4	93.3	103.8	24.2	17.8
Number of hospitals	10	11	33	43	9	10
Number of beds	510	928	831	1,076	243	288
Workers per bed	89	67	113	96	100	62
Number of doctors	23	34	52	50	34	28
Workers per doctor	1,961	1,834	1,806	2,076	713	635
Number of O.M.P. ^c	79	123	160	178	51	44
Workers per O.M.P.	577	507	587	583	475	404
Rubles per worker	11.1	14.7	8	10	8.9	12.7

Source: Iurii I. Kir'ianov, *Rabochie iuga Rossii* (Moscow: Nauka, 1971), p. 97.

^a Sample of nine factories for 1913, 12 factories for 1915

^b In thousands.

^c Other Medical Personnel

⁴⁰ See Taskin, "K voprosu," p. 3778; *Trudy, ekstremnyĭ s'ezd, 1900*, p. 17.

⁴¹ Von Ditmar, "Neschastnye sluchai," pp. 514-15. As the reader will note, the figures brought by Kir'ianov and noted in our Table 3.2 are considerably more modest, although these represent only a minority sample of the metallurgy firms of the Donbass.

and metallurgy industries during the war. Except for the iron mines, the number of workers employed rose considerably, although, as we will see later, the extra labor force was (particularly in the coal mines) largely made up of women, children, and prisoners of war. In the metallurgy factories this was accompanied by an improvement of all the indices of availability of medical services, with the growth in facilities outstripping the growth of the labor force. Here we may add parenthetically that the rise in expenditure per worker was probably illusory since the war brought with it an intense spurt of inflation. With the exception of the number of workers per doctor, all indices show that the metallurgy plants were already in a better position than the coal mines. The war served only to widen the gap between them, further reinforcing the difference in standard of living that we have already noted in connection with housing. In the coal mines the indices are mixed, and where there is improvement, as in the number of workers per available hospital bed, or in the number of workers served by one "other medical personnel," the improvement is less than in metallurgy. The iron mines are a particular case; they are only marginally relevant to our discussion since they were few, and concentrated in Krivoi Rog, outside the Donbass. They are included here so that we may note that their facilities improved even though the regime's policies of military mobilization had depleted the iron miners' numbers and had caused a crisis in that industry.

As we can see from the figures relating to the turn of the century, even some of the large mines still had no hospital of their own. In such cases, the workers had to make use of the nearest zemstvo facility. In 1900 in one section of Slaviansoserbsk district miners made up 25 percent of those who visited the zemstvo clinic during the year.⁴² This spillover of patients was caused by the inadequacy of the industrialists' investment in medical services and drew the attention of the zemstvo authorities to the fact that there existed in their territory two separate medical systems. M. V. Rodzianko, then chairman of the Ekaterinoslav guberniia zemstvo administration, suggested at a meeting of mine and factory doctors in August 1903 that the two systems be integrated under the supervision of the zemstvo authorities. The suggestion caused a walkout of sixteen of the doctors when Rodzianko called on them to vote on his suggestion.⁴³ In an inter-

⁴² Liberman, "Usloviia truda," p. 26. The specific arrangements for payment in such cases, if any existed, are not described in the article.

⁴³ *Vestnik Ekaterinoslavskago zemstva*, no. 4, 1903, p. 11.

view with the regional newspaper *Iuzhnyi krai*, a factory director, M. M. Urzhumtsev of the South Russian Co.'s Aleksandrovska factory, rejected all zemstvo allegations of unsanitary conditions at coal mines and claimed that the few existing imperfections could easily be remedied by the mine owners' own initiative, without governmental intrusion. Rodzianko was given a cold official answer some time later by N. F. von Ditmar, Secretary of the Congress of Mining Industrialists of South Russia and one of its rising stars. In a session devoted to the question of relations between zemstvo medical personnel and the mine and factory doctors he emphasized that in every case, "the arranging of medical care for workers and population must be the result of a freely reached agreement between the enterprise and the zemstvo."⁴⁴ The industrialists had no intention of surrendering their medical system to someone else's supervision as long as they were paying the bills. The doctors supported their walkout with a fiery debate in which they defended their professional competence and, while agreeing to the principle of a unified medical system, totally rejected any subordination of their hospitals and clinics to the zemstvo system.⁴⁵

The mine doctors' agreement with their employers does not appear to be due to any docility or complaisance on their part. Although few revolutionaries were to be found among them, they appear to have been a thoroughly professional group of practitioners and deeply concerned with the health of the populations they served. In October 1901 there was a meeting of the mine doctors of the Don Cossack Territory. At the meeting they drew up a nine-point program aimed at enhancing the status of the mine doctors and improving medical services.⁴⁶ The proposals included three-year contracts for doctors with only the head of the government's Mining Administration empowered to fire a doctor after his first year of service. The doctor was to be in sole charge of the hospital, with full hiring and firing rights over all persons working there, including service personnel. The doctor was also to have authority over hospital food standards, and it was specified that mine contractors' food services would not be used because of their general low quality. Provision was to be made for the care

⁴⁴ *Vestnik Ekaterinoslavskago zemstva*, no. 1, October 16, 1903, p. 19. *Trudy*, XXVIII, 1903, twelfth session.

⁴⁵ See the speech of Dr. V. V. Pravdoliubov and the ensuing debate in *Trudy pervogo s'ezda gornozavodskikh, fabrichnykh i rudnichnykh vrachei Ekaterinoslavskoi gubernii* (Ekaterinoslav: 1903), pp. 222-56.

⁴⁶ *Trudy, ekstrennyi s'ezd, 1902*, Journal of Assembly of Mine and Factory Doctors of the Don Cossack Territory, October 23-25, 1902, pp. 1-9.

of women and children as well as of the miners. A special point stipulated that certificates of disability were to be furnished to miners on demand. This was of particular importance to the workers, who had great difficulty establishing claims for compensation without such certificates. A special discussion was devoted to establishing sanitary commissions headed by the mines' doctors, commissions empowered to draw up, with the participation of the police, protocols of complaint regarding sins of omission or commission with regard to food and drinking water.

Engineer Wagner, then head of the Mine Administration, brought the doctors' proposals before a special session of the Congress. The meeting decided to study the proposals and bring them formally before the regular session of the Congress. Until the Congress had considered them, all the proposals were to be held in abeyance. Some of the industrialists, however, could not restrain themselves and, while agreeing that the proposals should not be discussed without full participation of all interested parties, they proceeded to stake out some guidelines. The doctors were to have no independent authority, for "the entire economy of the mine or factory is subordinated to a single person, the director, who is alone answerable to the owner." As for the idea of the doctor heading a sanitary commission with powers to call in police intervention, it was summarily rejected, for the doctor was "even without this, overburdened," and such duties would distract him from "other, more important, more direct, obligations."⁴⁷ These were rather reserved and mildmannered responses to what the industrialists evidently saw as an impudent and radical invasion of their prerogatives by a band of ungrateful employees. A much more biting reply was given by I. Ia. Drevnitskii, director of the large Bogodukhov-Kalmius mine. "The Russian mine worker," he said, "leads a generally drunken life, wallowing in filth. He sleeps in the most harmful places, doing great damage to his health, and spends his time in brawls where he also suffers blows that affect his wellbeing. The mine owner cannot change such a way of life as the worker leads—it is beyond his powers. I therefore suggest that asking the mineowners to construct homes for such invalids is both undesirable and unfair."⁴⁸ To Drevnitskii, the victims' guilt was self-evident.

⁴⁷ See the remarks of Dolgoi-Saburov, Krichevskii, Avdakov, and Zenovich, in *Trudy, ekstrennyy s'ezd, 1902*, Responses to Journal of Mine Doctors' October 1901 Assembly, pp. 14–17.

⁴⁸ *Ibid.*, p. 24.

It was perhaps natural that the mine and factory doctors of the Don Cossack Territory should have been active in improving the state of health care and their own status. As late as 1906 there were only three mining companies in the territory that maintained hospitals, and each hospital had to serve a group of mines.⁴⁹ The problem of doctors' autonomy as it related to job security was apparently also severe, for we find that in the Almazno-Iureev mine district, with sixteen large coal mines, two metallurgy plants and a total of 30,000 workers, five of the eighteen enterprises had fired doctors because of "differences of opinion."⁵⁰ However, the central reason for pushing for improved health services was simply that they were badly needed by the population. Whatever improvements there might have been in medical care, needs outran them by far: this was expressed in high illness rates, particularly in high child mortality rates. Among Krivoi Rog iron workers, most of whom were between the ages of 18 and 35, and who were selected for their good health, the illness rate was 300 percent.⁵¹ The highest number of annual illnesses recorded for a single worker was seventeen, and child mortality in a mine settlement was known to reach 55 percent by age seven.⁵² From September 1915 to January 1916 over 1,500 workers in Ekaterinoslav guberniia, most of them within the Donbass, fell ill with cholera. Almost half of them died. In this index there had been no improvement since the cholera epidemic of 1892.⁵³

Interestingly enough, in all the discussions of public health in the zemstvo bodies and among the mine and factory doctors, only in 1914 do we find in the Donbass an attempt at education of the public towards hygiene and sanitation. A travelling exhibition drew over 16,000 spectators in a number of mines and was considered a great success. It was inaugurated

⁴⁹ *G-z l*, no. 21, 1906.

⁵⁰ N. M. Naumenko, "Nastoiashchee polozhenie meditsiny i meditsinskago personala nedostatki i zhelatel'nyiia uluchsheniia v Almazno-Iureevskom raione Slaviansoserbska uezda," in D. I. Orlov, ed., *Trudy pervago vserossiiskago s'ezda*, vol. 2, pp. 44-48.

⁵¹ A. N. Vinokurov, "Vtoroi s'ezd gornozavodskikh, fabrichnykh i rudnichnykh vrachei Ekaterinoslavskoi gubernii, 21-24 fevraliia 1908 g.," in Orlov, ed., *Trudy pervago vserossiiskago s'ezda*, vol. 2, p. 431. This percentage means that the average for all workers was three illnesses per year.

⁵² Vinokurov, "Vtoroi s'ezd," vol. 2, p. 429; Liashchenko, "Zhilishchnyi vopros," p. 264. See also Rashin, *Formirovanie*, 1940, p. 202. He notes a mortality rate of 59 to 64 percent by age ten, due in part to children working and in part to health and hygiene conditions. Rashin writes that this is 11 to 12 percent higher than the general death rate for children in Russia at that time.

⁵³ Kir'ianov, *Rabochie tuga Rossii*, p. 94.

in conjunction with intensive programs of sanitation, disinfection, and vaccination against smallpox and typhus, but was delayed for over a month while awaiting approval of its content by the authorities.⁵⁴ If the broad public could be said to have been neglected as an object of education, its participation even in such purely local matters as community health was in almost all cases consciously blocked. We have seen the employers' reactions to doctors' attempts to gain some control of medicine. Only one attempt was made to have workers, doctors, and employers cooperate in a health project. This was the Ekaterinoslav Factory Hospital, founded in 1903, an experiment that Vinokurov calls the only attempt in Russia at democratization of medicine.⁵⁵ The hospital eventually had an administrative board consisting of six representatives of the employers, six representatives of the workers, and three doctors. The employers, however, were uncomfortable with this arrangement and, on the grounds that they deserved larger representation since they were paying the bulk of the money for the hospital, withdrew their support.⁵⁶ Perhaps closing the medical facility was in itself no great tragedy, but once again the failure to create a community of interest and contact within society was creating the basis for a disaster that was fast approaching the Donbass and all of Russia.

SANITATION

"In general the external sanitary conditions of the settlement encourage the rise and development of illnesses. The bazaar and streets are not clean."⁵⁷ Throughout its history Iuzovka drew such comments, and justifiably so. Sanitation issues focused around three main subjects: water, refuse, and general hygiene. As may be imagined from the descriptions of housing and health, none of these was a source of pride or comfort to anyone in the Donbass.

One of the basic facts of life on the steppes was the scarcity of water. This, as we mentioned at the outset, was a central natural feature of the region and had been largely responsible for the sparse population there. The water shortage defied all efforts by Donbass industrialists to alleviate

⁵⁴ *Trudy*, XXXIX, 1914, pp. 142–45.

⁵⁵ Vinokurov, "Vtoroi s'ezd," p. 432n.

⁵⁶ Vinokurov, "Ekaterinoslavskaiia bol'nitsa," pp. 23–24.

⁵⁷ *S.S.S.*, vol. 2, Bakhmut uezd, pp. 234–35.

its influence. Even when there was a source of water, the quality was often bad. Poor siting of the wells often made things worse. The Shcherbinovka settlement, with a population of 7,500 persons, had a main well that supplied 10,000 vedra a day. This means that there were only about sixteen liters (about 3.2 gallons) of water per person per day, for all personal and household needs.⁵⁸ In this case, however, not drinking too much water might have been a blessing, for the well was situated near the cemetery, the abbatoir, and a chemical plant.⁵⁹ In the Vlasov mines in the Grushevsk anthracite district, 30 percent of the 92 water samples taken during the year 1914 proved to be contaminated.⁶⁰ In 1911 only 6 of 44 large mines and metallurgical enterprises had piped water to their settlements. The rest made do with closed wells topped by pumps, or with open wells with buckets.⁶¹ The placing and maintaining of the well was important to public health, a simple fact that every villager might have been expected to know as part of his native folklore. Yet, as we have noted, the Shcherbinovka well was poorly located and considered a direct cause of 400 dysentery cases and 100 cases of typhus in a single year.⁶²

It is relevant to all our previous observations of the differences between miners and factory workers that Dr. Sysin, a public health official of Bakhmut uezd zemstvo, reports having seen few water containers in the mines and that many of those he did see were empty. For the most part the miners still drank the mine water that trickled or flowed down the walls. In the factory, by contrast, there was an abundance of clean water, boiling or cold, provided fresh each day.⁶³ Even the smallest details of daily life separated the cultures of the miners and workers.

Only in the late 1880s did damming the Kalmius alleviate Iuzovka's water shortage by creating a reservoir large enough to serve as a lake for boating and as the setting of a park that would provide a more cultured environment.⁶⁴ In 1910 when the settlement's population was approach-

⁵⁸ According to the *New York Times*, January 18, 1988, p. B1, New Yorkers today consume two hundred gallons of water per person per day.

⁵⁹ M. I. Retivov, "Organizatsiia protivokhlernykh meropriatii," vol. 1, p. 72.

⁶⁰ *Trudy*, XXXIX, 1914, p. 142. The taking of nearly two samples each week indicates, however, that someone was paying attention to the problems.

⁶¹ Kir'ianov, *Zhiznennyi uroven'*, p. 254.

⁶² Liberman, *V ugol'nom tsarstve*, p. 85.

⁶³ A. Sysin, "K voprosu," p. 446.

⁶⁴ Ragozin, *Zbelezo i ugol'*, p. 49. This park, vastly developed, remains one of the recreational centers of contemporary Donetsk. See also *Istoriia mist i sl.*, p. 81. McKay, *Pioneers*

ing 50,000, Iuzovka's water was supplied from reservoirs or wells with hand pumps, and water carriers made a living selling water door to door. Thanks to the conscientious observations of Dr. A. Sysin, we have a full description of the water system of Iuzovka as it existed then.⁶⁵ Both surface and underground water sources were used for the settlement's needs. The surface sources were three large reservoirs, the largest having a twenty-desiatin surface area used to catch rain, runoff, and the flow of the Kalmius, as well as waste waters. One of these had the disadvantage that it caught the runoff from the town itself, including water draining from the factory bath, the abbatoir, etc. It was therefore never used for drinking water. After mixing with mine water, it went through a settling tank, and was finally used by the factory for its boilers, by the fire station, and for the horse trough in the cathedral square. It was also used for the factory bath and the Jewish public bath.

Drinking water was supplied from twelve closed, stone-built wells, each with a watchman to guard it. These watchmen were invalids from the mines or factory who had been given watchman's jobs so that they might earn some sort of living. From the wells, steam engines pumped the water to three large reservoirs situated around the town, from which forty private water carriers and twenty factory-hired water carriers distributed it to the population, at thirty kopeks for forty veder (about 500 liters). Ninety percent of the settlement's inhabitants used the services of these water carriers. Additional wells served for watering livestock and for other purposes. Nonetheless, there was always a water shortage in the settlement during the summer, and the water sources, delivery system, and storage were blamed as the source of much of the intestinal disease chronically rampant in Iuzovka. Despite these observations, and the fact that Iuzovka had an incidence of intestinal typhus six times that of Moscow (though somewhat lower than St. Petersburg where the water supply to this day is notorious for its low quality), Sysin did not recommend transition to piped water and sewers. He contented himself with suggesting additional wells and reservoirs, carefully constructed and sited. A water and sewer system was recommended by Dr. N. M. Shvaitzar in the same year on the grounds that it was not only more economical than the prim-

for Profit, p. 246 writes that at Gorlovka the employers had planted over a million trees in a hundred-acre public park.

⁶⁵ The following description is from A. Sysin, "K voprosu," pp. 439-53.

itive system of cartage of water and refuse, but vastly more hygienic.⁶⁶ Only in 1915 were piped water and sewers first introduced to Iuzovka's residential neighborhoods.⁶⁷

The water shortage served as an excuse for the lack of baths and for the consequent poor personal hygiene that contributed considerably to the epidemics of typhus and cholera that were so integral a part of Donbass life. Yet there were places like the Nelepovka mines where, even with an unlimited source of water piped from a spring only two kilometers from the settlement, the bath was too small to permit more than one bath a week for the miners.⁶⁸ The regulations of the Mines Administration required that the bathhouse be large enough to accommodate one-twentieth of the mine's workers at one time.⁶⁹ Since the miners generally worked twelve-hour shifts, one would not expect a worker to wait more than one round or so for a bath after his shift. Clearly, a bath more than once a week was beyond all but the most determinedly clean workers. Even where a washing house with unlimited hot water existed beside the mine, the miners often preferred the facilities at their home, primitive as these might be.⁷⁰ But the problem was generally a lack of facilities. When the Shtoffe commission visited Iuzovka, it commented that the bath was well-built, but noted that it accommodated only forty persons at a time, allowing workers only one bath a week, and was too far from the workers living quarters.⁷¹ By 1909, when the settlement's population had grown to 48,000, the factory had two baths that could accommodate 375 persons, and there were two other commercial bath houses and a Jewish public bath house.⁷²

This was quite obviously still inadequate, particularly in the working conditions of the mines. Since the miners' barracks were noted for their lack of washing- and dressing- facilities, the degradation of living in dirt became a commonplace feature of Donbass life. Only when a worker

⁶⁶ Shvaitzar, "Assenizatsiia poselka Iuzovki," pp. 332-33.

⁶⁷ *Istoriia mist i sil*, pp. 22, 82.

⁶⁸ Iakovlev, "Rabochie," p. 32.

⁶⁹ *G-z I*, no. 7, 1899, pp. 3766-67.

⁷⁰ A. E. Vartminskii, "K voprosu o zhilishchnykh usloviakh gornorabochikh Donetskago Basseine," *Vrachebno-sanitarnaiia khronika Ekaterinoslavskoi gubernii*, no. 7-9, July-September 1910, p. 507. Vartminskii is writing of the Petro-Marievskii mines.

⁷¹ TsGIAL, F.37, op.58, d.299, p. 83. The bath was considered attractive enough that two pictures of its interior were included in the photo brochure prepared by the mining industrialists for the Paris Exposition of 1900. See *Exposition Universelle*.

⁷² Shvaitzar, "Assenizatsiia poselka Iuzovki," p. 326.

moved into one of the private homes, which were generally provided with a vestibule or a summer shed that could serve for washing and dressing, did this pattern of life tend to change, and, as we have seen, the miners remained in large numbers in the company barracks virtually throughout the whole period. Even when the employers noted that the thirty-one large mines had thirty-four baths and that the custom of providing bath houses both at the mine and in the residential neighborhoods was spreading, cleanliness still remained next to impossible.⁷³

Almost every account of the early Donbass notes the problem of garbage and excrement. The outhouses serving the barracks were foul and stinking. The paths leading to the outhouses were often no less befouled. As with washing and bathing, the key to a better culture of hygiene lay largely in the transition from communal to individual facilities, a transition that was slow in coming for the miners. Sanitary inspections of the barracks and their surroundings were part of the mine doctor's job, yet the doctor's comments, exhortations, or recommendations carried little weight. The doctor was caught between the company and the mine contractor or the workers, and none of them had much interest in investing capital or energy in improvements.⁷⁴ There were mine settlements where, despite provision of receptacles, piles of refuse accumulated on the streets and by the houses. "It seems that the population was disinclined to use them."⁷⁵ The interior of a miner's home might be kept as clean as conditions permitted, and, as we have noted, proprietary pride might even extend to the immediate vicinity of a family *kaiuta*, but the air of impermanence permeating the settlement's population, the lack of local roots and social ties, all bred a contemptuous neglect of anything beyond the family threshold.

Within the mines, where the workers spent twelve or more hours each day, virtually no sanitary facilities were provided until after the 1910 cholera epidemic. The doctors were then able to demonstrate that the spread of cholera at the Gorlovka mine could be traced directly to the fact that miners relieved themselves in the coal shafts, contaminating both the coal that was later handled by the coal sorters on the surface and the water that then percolated through to other shafts.⁷⁶ Only the Rykovskii mines, in

⁷³ *Trudy, ekstremnyi s'ezd, 1900*, Report of Commission on Life Quality, p. 16.

⁷⁴ Mekhmandarov, "Zabolevaemost'," pt. 2, p. 30.

⁷⁵ Vartminskii, "K voprosu," p. 507.

⁷⁶ Liashchenko, "Usloviia truda," pt. 2, p. 427.

keeping with a resolution of the Iuzovka sanitary commission, had installed portable outhouses with hermetically sealed receptacles in the mine tunnels. The New Russia Co. was planning such facilities in two of its mines, but had not yet installed them when the cholera struck in mid-1910.⁷⁷

We have already seen the descriptions of Iuzovka combining industrial pollution with the filth and sanitary shortcomings of the worst of early settlements. Yet, as we have already noted, Hughes brought with him an awareness of the dangers of such a situation and a determination to make his private awareness into public consciousness. From the beginnings of the factory there was a settlement sanitary commission with the task of supervising the cleanliness of foodstuffs in the factory.⁷⁸ The commission continued throughout Iuzovka's existence and was functioning even in 1919.

Sviatlovskii's 1885 report praising Hughes' innovations in housing also noted excrement lying about near the residential areas and commented on the inadequacy and filth of the communal toilets. In addition, his list of the enterprises that provided bathhouses for their workers does not name the New Russia Co.⁷⁹ None of these faults could have come as a surprise to anyone: they had all been noted by the zemstvo surveyors who had visited Iuzovka a year earlier.

After the trauma of the 1892 "Cholera riots" there was some acceleration of change. A new garbage dump and water reservoir were constructed that year.⁸⁰ Housing was now built with an outhouse in each yard, and waste was removed each day. One hundred wagonloads of dry garbage and 2,000 veder (almost 25,000 liters) of excrement and liquid wastes were removed daily. Garbage was incinerated, and liquids disposed of at a distance from the settlement.⁸¹ The New Russia Co. reported: "The management keeps the workers' housing as clean as possible. All refuse and dirt is removed daily from the streets and burned in an incinerator."⁸² Private housing was served by contractors who hauled garbage and night soil from

⁷⁷ Shvaitzar, "Assenizatsiia poselka Iuzovki," p. 326.

⁷⁸ TsGIAL, F.37, op.53, d.746, p. 298. Letter of Hughes to Minister of State Domains, February 19, 1879.

⁷⁹ Sviatlovskii, *Kbarkovskii fabrichnyi okrug*, p. 120.

⁸⁰ See Sysin, "K voprosu," p. 441; Shvaitzar, "Assenizatsiia poselka Iuzovki," p. 320.

⁸¹ Ragozin, *Zhelezo i ugol'*, p. 53. See also the description in *Vserossiiskaia khudozhestvenno-promyshlennaia vystavka 1896g. v Nizhnem-Novgorode*, p. 47

⁸² TsGIAL, F.266, op.1, ed. khr.125, p. 382.

the neighborhoods. The settlement had no paved streets at this time, but in summer the main streets and factory square were sprinkled with water to which disinfectant had been added in an effort to keep down the dust and the spread of disease. Nevertheless Shvaitzar complained that very little of the garbage of the public squares and streets was removed.⁸³ The figures regarding refuse removal appear impressive in the context of the general neglect of sanitation to be found in the Donbass. The measures taken were undoubtedly beneficial both substantively and as a consciousness-raising civic example. When we remember, however, that the population of Iuzovka was over 20,000 in 1892, and grew to over 30,000 by the century's end and to nearly 50,000 in 1910, we conclude that there must have been large areas of the town that did not benefit from these services, and that until they were extended to all sectors of the population, the effect was simply to deepen the divide that already existed. Shvaitzar concluded from his studies that only ten percent of the settlement's wastes were actually removed. Homeowners often simply dumped refuse and waste water in the yard, alley, or street, where it seeped into the ground or polluted the surface or air.⁸⁴ Somehow a tone of despondency and inadequacy echoes through this report as if the writer felt that whatever might be done, Iuzovka would still remain an Augean stable in the waterless steppe. Then, too, there was the question of priorities in the allocation of resources to the settlement's various problems. In 1912 the New Russia Co. allocated 50,000 rubles to sanitation, but spent 116,864 on police services.⁸⁵

While company housing was in general reasonably well cleaned by workers under the supervision of its housing office, the rest of the town was, as we have seen, less well served. Both the removal of garbage and the emptying of cesspits and portable outhouse cans was done by a private contractor under the supervision of the bazaar office. Although the contractor's eleven "honey wagons" toiled nobly, moving 15,162 loads of excrement and garbage in 1909, they were notoriously leaky and spread as much as they removed, adding nothing good to the ambience.

The first garbage dump had been badly sited to the northeast of the settlement, and the prevailing winds brought smoke from the incinerator onto the settlement's new neighborhoods and the nearby mine settlement

⁸³ Shvaitzar, "Assenizatsiia poselka Iuzovki," p. 320.

⁸⁴ *Ibid.*, pp. 326, 330–31.

⁸⁵ DOGIA, F.6, op. 1, d.7, p. 3.

of Semenovka. Then, too, the new zemstvo hospital was being constructed on that edge of the settlement; Shvaitzar concluded glumly, "If the proximity of the cemetery to the hospital may be objected to mainly because of the bad psychological effect it will have on the patients, the proximity of the garbage dump is altogether impermissible."⁸⁶

Meanwhile, Iuzovka remained notorious for typhus and cholera.⁸⁷ Not only did the pace of growth outstrip facilities, but the booming economy attracted a mass of the poorest possible people, looking for opportunity in the "new California" of the Donbass.⁸⁸ To cope with the health hazards created by this population, the Iuzovka Public Health Officer, Dr. E. S. Kastorskii, succeeded in setting up the first Board of Public Sanitation Trustees (*popechitel'stvo*) in Bakhmut uezd.⁸⁹ Generally the public health officer in Iuzovka was given little scope. His salary was paid by the company, and he had none of the autonomy that a zemstvo employee might hope for. Shvaitzar complained that his functions were more forensic than sanitary, and that he was used to serve police needs rather than to provide sanitation and hygiene to Iuzovka's population.⁹⁰ This, however, was an unusual case. In a manner remarkably similar to the workings of present-day Soviet community institutions, the board would try to enroll teachers, clerics, doctors, and any other persons capable of giving it public appeal. Lists of board members, with notation of the district or function for which each one was responsible, were to be pasted up all over the settlement. The job of the board was to identify sanitary nuisances or hazards and to ask the individual or body responsible for their existence to remedy them within a stipulated time. If the remedy was not forthcoming, a detailed statement of the case was to be drawn up and sent to the uezd zemstvo administration for further action. Whenever possible, meetings of the *popechitel'stvo* were to be attended by members of the zemstvo executive or by Dr. Kastorskii as Public Health Officer of the settlement. Unfortunately, the only specific activity of the board that our sources record is a successful

⁸⁶ Shvaitzar, "Assenizatsiia poselka Iuzovki," pp. 320–25.

⁸⁷ A. L. Smidovich, "K voprosu," p. 14, notes 875 cases of cholera in Iuzovka in 1910. *Russkoe slovo*, February 2, 1911, notes an epidemic of spotted typhus in Iuzovka.

⁸⁸ *Vestnik Ekaterinoslavskago zemstva*, no. 20, 1904, p. 641. This element—impoverished hangers-on highly visible in Iuzovka's population—figures in later accounts by Surozhskii and Paustovskii as well.

⁸⁹ The entire account of the board's existence and activities is in *Vestnik Ekaterinoslavskago zemstva*, no. 20, 1904, p. 641.

⁹⁰ Shvaitzar, "Assenizatsiia poselka Iuzovki," p. 329.

appeal to the *uezd zemstvo* to fund the supplying of feeding bottles and rubber nipples for the poor of *Iuzovka*. What is remarkable here is the appearance of a body accountable to the *zemstvo* rather than to the New Russia Co., and the inclusion in that body of a number of different elements of *Iuzovka's* society, although no mention is made of including workers' representatives. It should also be noted that the board had no statutory authority. It was founded on the principle of a moral persuasion based on the social and professional standing of its members and was backed by the ultimate (though distant and bureaucratic) authority of the *zemstvo*. All this occurred in 1904, when some first, tentative breaths of civic spirit were stirring over Russia.

There was most certainly a need for such commissions in the Donbass, for when the chaos and ruin of revolution was subsiding and the new Soviet society began to take stock of its needs, the following is what they found in the field of municipal services and sanitation: of 340 mine settlements surveyed in the Donbass in 1922, only 11 had any paved streets and six more surfaced their streets with mine slag. Dirt streets were to be found in 212, while 111 had no streets at all. Only 126 settlements had any electricity supply, and of these only 61 connected this supply to all the settlement's houses, and only 15 had electric street lighting. There were 128 settlements with a total of 52,000 workers that were served by piped water at that time, while 206 settlements with 29,000 workers had well water, and 15 settlements used mine pumpings as their main source of drinking water. Refuse was collected and stored in garbage dumps in 221 settlements, while 97 more both collected and buried their refuse, and 27 neither gathered nor removed any refuse.⁹¹ Clearly the task was not only to restore the productive capacities of the Donbass, but also to lay a foundation of public health services for a modern society, something that had proceeded in fits and starts before World War I and had retrogressed in the turmoil and breakdown of 1917–21.

ALCOHOL

In no small measure, alcohol was intimately entangled in the degradation, poverty, and ill health of Donbass workers' lives. Far more than religion it

⁹¹ Kir'ianov, *Rabochie iuga Rossii*, p. 83.

was the opiate that made life bearable for the masses. It dulled the terror of mine collapses and gas explosions that were part of daily work. It blinded the worker to the brutish filth in which he and his family lived. It concealed from him his lack of power and the dead end trap in which he was caught. Through the bottom of a vodka glass he could glimpse anew the faded vision of the piece of land on which he might one day be master. At the same time, however, drink undermined the worker's health, robbed him of his wages, and crippled his society.

Drunkness did not originate in the Donbass, nor was it unique to the region. Though Bogutskii wrote in 1890 that there were five or six taverns for each coal mine, other regions may have had more taverns per capita than did the settlements of the Donbass.⁹² Nowhere else, however, was the influence of the tavern as prominent and undiluted by other distractions as in the Donbass. Nor was alcohol a peculiarly Russian weakness. Merthyr Tydfil had a reputation as a hard-drinking town, and in his memoirs of the early days of the Donbass the industrialist Auerbakh wrote: "[The Welsh] had their own morals and customs. . . . From the Russians they took only one thing, the Russian cursing, and the drinking of vodka, which was much to their taste and which they so misused that Hughes had to send many of them home."⁹³

Rykovskii banned taverns from his settlement, and so, apparently, did Rutchenko, but their workers, even those who did not live within Iuzovka, had no difficulty walking the three or four versts into the settlement for a day of drinking. A visitor to Iuzovka might note how the settlement attracted drinkers from all over the district.⁹⁴ Perhaps because of his origins, Hughes did not ban the operation of taverns in Iuzovka, although he did try to keep them at some small distance from the factory itself. In 1876, Prince Lieven, in trying to get out of his agreement with the New Russia

⁹² Bogutskii, "Polozhenie gornorabochikh," p. 459. Zelnik, *Labor and Society*, p. 248, writes that outlying industrial districts of St. Petersburg had one tavern for every two hundred inhabitants in the 1860s. *S.S.S.*, vol. 2, Bakhmut uezd, p. 236, gives a figure of one drinking place for each 458 people in 1884, while in 1892, following the cholera riot in Iuzovka, Avdakov told the Ekaterinoslav governor that the Iuzovka district had one school for each 2,040 inhabitants, one church for 509, and a tavern for each 570. See TsGIAL, F.7952, op.6, d.119, p.95. Protocol of session of mining industrialists with the Ekaterinoslav governor, Iuzovka, August 8, 1892.

⁹³ A. A. Auerbakh, "Vospominaniia o nachale razvitiia kamenno-ugol'noi promyshlennosti v Rossii," *Russkaia starina*, April-June 1909, p. 457; see also Bowen, *John Hughes*, p. 47.

⁹⁴ Garshin, "Poezdka," p. 13.

Co., gave concessions for the opening of two taverns right at the factory. Hughes retaliated by sending a note to the Minister of Finance demanding that they be closed forthwith and that no other taverns be opened within a verst of the factory. "Otherwise it will be impossible to carry on, owing to the inducement to drunkenness and immorality which such a close proximity of the *kabacks* will cause."⁹⁵

Sunday was their day off, and workers would wander the bazaar square of Iuzovka, drunk and spoiling for a fight, under the watchful eyes of a reinforced police patrol. It was no mere chance that the 1874 strike, the first in the settlement's history and the terrible cholera riots of 1892 both took place on a Sunday. The incidence of drunkenness was a problem from the beginnings of the Donbass, and we find the employers' pattern of reaction taking shape as early as 1875 when the suggestion was raised that no tavern should be allowed within two kilometers of a factory or mine.⁹⁶ Early mine contracts with an *artel'* often specified the person responsible for keeping inebriated persons away from the working areas.⁹⁷ Where the *artel'* was a stable force in the workers' lives it could restrain them, both by emphasizing mutual responsibility for fulfilling the work contract and by turning drinking into a social ceremony rather than an escape. Mekhmandarov describes *arteli* that bought a half *vedro* (about 6.6 liters) of vodka per month, to be consumed communally, and only on holidays.⁹⁸ The contrast between such an *artel'* and the destructive influence of unbridled drinking serves to reinforce our consciousness of how necessary social frameworks were in this raw industrial environment.

Such social organization was rare, however, and the general perception presented in documents of the time is that of helpless workers preyed upon by malevolent forces. As in many parts of Russia, Jews were particularly blamed for the prominence of alcohol in Iuzovka's social economy. The 1884 *zemstvo* survey reported: "Workers tell us, 'We could live somehow, but Peniukov [sic] (Jew) interferes.'" ⁹⁹ A report of the gendarmerie com-

⁹⁵ TsGIAL, F.381, op.50, ed. khr.3, pp. 385–86. Hughes threatened to close the iron works if Lieven's taverns were not closed down, but this may be construed as pressure in the context of the litigation between them rather than as Hughes' outlook on taverns.

⁹⁶ "Gornozavodskoe delo v minuvshem godu," *Gornyi zhurnal*, no. 1, 1875, p. 10.

⁹⁷ S.S.S., vol. 3, Slavoserbiansk uezd, p. 389.

⁹⁸ Mekhmandarov, "Zabolevaemost'," p. 65. The *artel'* might have anywhere from ten to twenty persons.

⁹⁹ S.S.S., vol. 2, Bakhmut uezd, p. 248. The usual spelling given is Peniakov, appar-

mander in 1887 states that there exist eight taverns near the New Russia factory of which "six or seven are run by Jews," and another report two years later mentions eleven drinking places in Iuzovka run by "Jews and others."¹⁰⁰ To what extent Jews were actually dominant in the sale of alcohol is not the point here. Dronov, Brusilov, and Titov were all non-Jews prominent in the "hospitality industry" of Iuzovka, and the chief book-keeper of the factory, the Englishman Church, ran a brewery and pub. However, as we have seen in our earlier discussion and as the contemporary reports of governors and gendarmerie officials clearly express, the Jews were regarded as a foreign irritant, and were a convenient whipping boy for all the stresses and ills of the Donbass society.

The descriptions of workers' drinking bouts are nothing short of frightening. The industrialists regarded them with a kind of mystical awe as "a unique sort of natural force."¹⁰¹ Workers were described as drinking away not only their money, but also their shirts and boots. "Starting early Saturday evening, as soon as pay is received, and through until Monday evening, the taverns in Gorlovka are choc a bloc with people. The drinking goes on with shouts, din, songs, and cursing, never ceasing for a minute, day or night throughout this time. Later we were told by the workers that such drinking bouts go on every payday, and end up with some having spent their last kopek and others having managed even to go into debt to the tavern."¹⁰²

The economic impact was considerable. One official claimed that out of 15,000 rubles paid to the workers, 12,000 remained in the taverns. Bogutskii presented the calculation of 1,500 workers stopping work for three to five days after receiving their pay. This resulted in a loss of three rubles each on the average, totalling 54,000 rubles wages lost each year at a single mine.¹⁰³ Nor was the loss that of the workers alone. During these sprees the factory or mine either stood completely idle or worked at reduced capacity.

This mass drunkenness is presented not as a phenomenon involving a

ently a corruption of the Hebrew "Ben Iaakov" ("Son of Jacob"). There was a Peniakov print shop in Iuzovka at this time as well as a Peniakov tavern.

¹⁰⁰ TsGAOR, F. 102, Arkh. III, deloproizvodstvo 9, chast' 21, 1887, p. 50; TsGIAL, F. 37, op. 67, ed. khr. 305, p. 1, Report on the New Russia Co., February 1889.

¹⁰¹ *Trudy*, XVIII, 1893, p. 332.

¹⁰² S.S.S., vol. 2, Bakhmut uezd, p. 322.

¹⁰³ TsGAOR, F. 102, Arkh. III, deloproizvodstvo 9, chast' 21, 1887, p. 50; Bogutskii, "Polozhenie gornorabochikh," p. 459, citing Avdakov.

few derelicts on the fringes of society, but as the norm of behavior for the mass of Donbass workers. The only evidence casting doubt on the seriousness of chronic and unrestrained alcoholism is that of Kir'ianov who cites budget studies that set the workers' outlay on tobacco and alcohol together as reaching four to eight percent of total spending.¹⁰⁴ Drinking was of course accompanied by disorder, violence, and even killing. The 1892 cholera riot evoked calls for police vigilance against persons inciting the workers to drink and provided an opportunity for renewed calls for the banning of all drinking establishments from areas near industrial enterprises. In two meetings with the governor and in the annual meeting of the Congress of Mining Industrialists the mine and factory owners called for the imposition of the state monopoly on alcohol throughout the Donbass, as well as for stronger police control.¹⁰⁵ Only in the following year, however, did the Congress take up the subject in earnest. Condemnation of taverns and tavern keepers was general. While admitting that those who rented coal mining rights were helpless against the setting up of taverns near their mines, Avdakov expressed certainty that all the more or less serious coal producers were against alcohol, and he roundly condemned "the landowners, the distilleries, kulaks, Russian peasants, and Jews" whom he saw as responsible for the workers' drunkenness. In the debate it became apparent that exhortation and invective would not suffice to uproot the evils of alcohol. Nor was it possible to rely on the organized good will of the industrialists. A considerable number of them were renting out the right to open taverns, and since the business was a profitable one, the concessions and rentals were bringing a handsome price. This was undoubtedly the case in Iuzovka and in all the large, company-owned settlements.

There was general recognition that the workers had money to spend and were intent on spending it on drink, but that drinking had reached such proportions that it had to be curbed, whatever the cost. Uncurbed drinking, said engineer Wagner, and the continued unregulated operation of

¹⁰⁴ Kir'ianov, *Rabochie iuga Rossii*, p. 71. The studies, however, appear to relate to workers all over Russia, rather than just to those in the Donbass. Although comprehensive statistical evidence is scanty, the overwhelming evidence of Donbass behavior is that consumption of alcohol was a major social and economic problem.

¹⁰⁵ TsGAOR, F.7952, op.6, d.119, pp. 94–95, meetings of August 8, 1892, and October 16, 1892 between mining industrialists and Governor Shlippe. *Trudy*, XVII, 1892, pp. 233, 275.

taverns by the industrialists or their tenants, raised the specter of a repetition of the "August events."¹⁰⁶ The solution adopted was to have the government impose its spirit monopoly on the taverns as well, which would allow only state-run drinking establishments. These were to have limited hours, from noon to four P.M. each day, and were to operate only on a takeout basis, with no drinking in the tavern. The taverns would be closed on holidays and for three days after each payday. Such an establishment had already been tried out to the industrialists' satisfaction at a mine of the South Russian Coal Co., where it had replaced five unregulated taverns.¹⁰⁷ The government agreed to the proposal and imposed its monopoly on all of Ekaterinoslav guberniia. Three years later, in view of the booming bootleg trade in liquor from the adjacent Don Cossack Territory, the Congress petitioned the Ministry of Finance to extend its monopoly there as well.¹⁰⁸

Nothing could really quench the Donbass' thirst for strong drink. Eliminating drunkenness remained a hope and a goal, but was never achieved. Alcoholism was the disease of the men and the despair of the women. Wives would encourage their husbands to attend study and propaganda circles of the revolutionary movements to divert them from squandering their wages on drink.¹⁰⁹ The claim was made that it was not unusual for a worker to squander half his wages on alcohol if he was a miner, and particularly if he was without his family.¹¹⁰ In contrast, as we have already noted in our detailed examination of workers' budgets, the social framework of family or *artel'* helped limit the expenditure on drink. And alcoholism was not restricted to the lowest strata of the workers. It spread among all levels of employees in the region, much to the consternation of many proper folk. "At the mines one may find even among the unskilled workers, and certainly among the more privileged stratum, not a few with decent education, holding a respectable place in the administrative hierarchy, who, influenced by fateful circumstances have exchanged light for darkness. Many of these, not having completely forgotten their previous

¹⁰⁶ The reference was to the August 1892 cholera riots in Luzovka. So traumatic were they that, like cancer, their very mention was taboo.

¹⁰⁷ *Trudy*, XVIII, 1893, pp. 332–33; for the debate on Avdakov's report, see pt. 2, pp. 319–55.

¹⁰⁸ *Trudy*, XXI, 1896, p. 17.

¹⁰⁹ Gonimov, *Starata Luzovka*, p. 133.

¹¹⁰ Iakovlev, "Rabochie," p. 32.

proper life, could, by the force of good example, and given proper circumstances, be returned.”¹¹¹

Prohibition of alcohol, instituted at the outbreak of World War I, had such striking results that although it had originally been intended only for the period of mobilization, it was soon prolonged for the entire period of hostilities. The coal producers, encouraged by the increased productivity that resulted, soon began lobbying to retain the institution after the war on a permanent basis, particularly as first-class restaurants were exempted.¹¹²

The social improvements that came with prohibition were propagandized in the local press. The enhanced sanctity of an Easter celebration unmarred by rowdy drunks; the gentility of “tea weddings” that were a fashionable substitute for the traditional drinking bouts that had previously accompanied nuptials; even the increased availability of potatoes and the necessity of finding new uses for them—all these were discussed in the newspapers. The benefits of prohibition were so apparent and so widely appreciated that despite the fact that Bakhmut was a merchant town, a five-month campaign by local merchants to have the ban on wine lifted was defeated in the town council by a vote of 20 to 8, after the governor had refused to rule on the question, placing it within the competence of the local authorities.¹¹³

But the Donbass could not be completely dried out by administrative order. Kir’ianov cites the commonness of drunken behavior in 1916, despite prohibition. Cards and drink were still the workers’ main entertainment, and drunken brawls and killings were the rule at the mines every payday.¹¹⁴ The impression of Iuzovka was somewhat better. A visiting journalist in January of 1917 found its sobriety surprising, despite a multitude of “antisobriants” concocted on every side. “In every home, in every

¹¹¹ *Iuzhnyi krai*, September 11, 1893.

¹¹² *Gorno-zavodskoe delo*, no. 36, 1914, p. 9566. See also, *ibid.*, no. 3, 1917, p. 15124: “The steps taken at the start of the war to forbid the distilling of strong drink were dictated by a sense of state and national self-preservation. They must be regarded as one of the greatest factors in the improvement of the health of the popular masses, in the development and strengthening of the nation’s economy. They should be retained after the war.” On the wartime regulations governing the distilling and sale of spirits see Cherevanin, “Antialkogol’noe dvizhenie ego prichiny i ego perspektivy,” *Nashe delo*, no. 1, 1915, pp. 86–88.

¹¹³ Bakhmut *Narodnaya gazeta*, nos. 49–50, 1914, p. 6. For the report on the unsuccessful campaign against prohibition see p. 4.

¹¹⁴ Kir’ianov, *Rabochie iuga Rossii*, pp. 104–5.

miner's shack, in every bakeshop there is something brewing." Nonetheless the journalist remarked on the striking improvement in people's appearances, and on the fact that the local people themselves spoke of this.¹¹⁵

In the autumn of 1917, public order in the Donbass began to break down, and the authorities in Bakhmut became anxious as the population around the town became more and more unruly. On September 10, a joint decision of the local soviet's executive and the town's public committee decided to destroy over eight million liters of vodka and spirits that had been aging quietly in casks in a warehouse throughout the war. A trusted crew began smashing the casks, pouring their contents into the river. The operation was soon revealed, however, and crowds rapidly gathered to skim the river with buckets and pans.

An enterprising citizen ran to the local barracks where a battalion of cavalry had been mounted and equipped in anticipation of leaving town that day for a new assignment. When told that the people's property was being plundered and destroyed, they responded gallantly and in a heroic charge captured the warehouse and began selling off its contents to all comers at discount prices. The news spread rapidly, and within hours the roads to Bakhmut, and all arriving trains, were jammed full.

By the following day the food stores in town were being looted to provide *zakuski*, the town's Jews had fled in fear of a pogrom, and drunken soldiers were amusing themselves by shooting at the railway signals. A 200 man contingent of workers' militia recruited from Konstantinovka and Druzhkovka to restore order was accused of defending the *burzhui* and driven away. The Kharkov command looked for garrisons in the vicinity to put down the riots, but failed to find sufficient reliable troops.

Only on September 12, when rioters were exhausted and sated and 1,500 disciplined troops had been found to threaten the town with bombardment, was order restored. Aided by the Kharkov Soviet, and with Bolshevik and Socialist-Revolutionary ("S-R") agitators as reinforcements, the Twenty-fifth Battalion under Col. Kurilek imposed martial law, and Bakhmut returned briefly to some semblance of normality.¹¹⁶

Neither administrative decree, military repression, nor ideological blandishments could uproot this craving for strong drink fed as it was on social frustrations embedded deep in the region's cultural patterns. The

¹¹⁵ Iu. Volin, "V tsarstve chernoï zolotoi," *Birzhevye vedomosti*, January 31, 1917, p. 7.

¹¹⁶ G. Kuranov, "Sovety na Artemovshchine mezhdū fevral'em i oktiabrem 1917 goda," *Letopis revoliutsii*, no. 5-6 (26-27), September-December 1927, p. 187.

CHAPTER 6

Donbass had many deeply ingrained modes of behavior that changed little because the physical environment and so many of the basic social services were so slow in changing. If the workers and miners of the Donbass were to become a force for change, the younger generations would have to grow up in a different environment, acquiring different educational and cultural baggage for their life's journey. It is to this aspect of Donbass development that we now turn our attention.

CHAPTER 7

Education and Culture

The demand for education for children in Iuzovka was dictated by the structure of life there. At an age when in the village, they might already have been working, children in Iuzovka had no tasks. They lived in crowded, unsanitary conditions in the small dugout houses. Given the nature of its industries and population, the settlement was not one in which small children could roam freely with any degree of security. It was in the parents' interest that the child spend some part of each day in school, where there was safety, warmth, companionship, and cleanliness. Many children were turned away from the Iuzovka factory school for lack of space.¹ Provision of education for factory workers' children, aged eight to ten years and therefore too young to find gainful employment, was urged by socially conscious intellectuals.²

THE GROWTH OF EDUCATION IN IUZOVKA

"Following the opening of the hospital, a one room popular school with a single teacher was inaugurated in 1877. Though the school was totally inadequate for its situation, it was nevertheless a blessing, for it was a step towards the further development of the spiritual life of the inhabitants."³ The eighty pupils of the school paid fifty kopeks a month for their education.⁴ At the same time, there were thirty-five pupils in a separate English

¹ Garshin, "Poezdka," p. 11.

² See I. Abramov, "Obrazovanie i obespechenie byta rabochikh v Rossii," *Vestnik evropy*, no. 1, 1879, p. 344.

³ DOGIA, F. 2109, op. 1, d. 9, p. 2. Preobrazhenskii church journal.

⁴ Zilov, "Zavod," p. 50. See also T. S. Vlasenko, A. B. Zaks, E. S. Kogan, and E. I. Rozental, "Formirovanie proletariata v Rossii v kontse XIX, nachale XXv.," in *Iz istorii*

school at the factory, paying two rubles a month each. At first one teacher taught all three grades of the factory school, but by the time Zilov visited in 1880 a second teacher had already been hired. The school was of the type known as a popular school (*narodnoe uchilishche*) and followed the curriculum of the Ministry of Education, giving "great attention to hymns."⁵ The Iuzovka school was among the first in the Donbass industrial settlements, and one of only two factory schools in the whole of Ekaterinoslav guberniia in 1885.⁶

At this time Bakhmut uezd was not characterized by an educated environment. The zemstvo survey of 1884 revealed that only 4.44 percent of the population was literate (males—8.44 percent, females—0.35 percent). Only 2,395 boys and 193 girls—11.77 percent of the children between the ages of eight and fourteen—were actually studying.⁷ But these were the years when Russia was learning to read, and by 1897 literacy in the district had reached 44.5 percent. By 1890, Bakhmut uezd was spending 10,464 rubles (8.8 percent of its budget) on schools, while the contributions of villages and towns in the district, and "private donations" (presumably church funds and the money from coal and metal producers who received nothing for education from the zemstvo budget) amounted to an additional 12,420 rubles.⁸

By the time Garshin visited Iuzovka in 1890 there were three well-trained teachers, a head teacher (male) with a city teaching licence, and two assistants (female), one of whom had completed a St. Petersburg course of higher education for women, while the other was a graduate of a women's *gimnaziia*. The head teacher was paid 480 rubles per year, his assistants 300. The head teacher's wage was thus equivalent to that of a moderately skilled factory workman, while his assistants earned about the same amount as did coal miners.⁹ All three were provided with housing

rabocheho klassa i revoliutsionnogo dvizheniia (Moscow: Akademiia nauk SSSR, 1958), p. 284. In some mine and factory schools tuition payments were a percentage of wages.

⁵ Garshin, "Poezdka," p. 13.

⁶ Sviatlovskii, *Kharkovskii fabrichnyi okrug*, p. 65.

⁷ S.S.S., vol. 2, Bakhmut uezd, p. 381. The remainder of this account is based primarily on Garshin, "Poezdka," pp. 9–13. Garshin's main purpose in his trip was to survey the educational institutions of the area.

⁸ Garshin, "Poezdka," pp. 36–37.

⁹ Jeffrey Brooks, "The *Zemstvo* and the Education of the People," in Terence Emmons and Wayne S. Vucinich, eds., *The Zemstvo in Russia* (London and New York: Cambridge University Press, 1982), p. 254, notes a recommended salary of 250 rubles per year plus

and heat as part of their contract, as were many workers. By this time the school had grown to 131 pupils: 63 in the first grade (though only 52 completed the year), 46 in the middle school, and 22 in the upper school, of whom 21 (only two of them girls), took their final set of exams under the supervision of a member of the uezd pedagogical council. The imbalance between boys and girls in school characterized the whole district. In 1884, as we have mentioned, girls had been only 193 of 2,588 pupils (7.5 percent) in the uezd, and in 1890 they were only 692 out of 3,148 (21.9 percent).

The old, crowded school building with its three classrooms, each providing only thirty-six places, would in time be replaced by a grand new building located on the bazaar square. The facade of the new building faced south, and was 123 feet in length. At each end was a wing stretching 94 feet northward into the steppe. As designed by Moldingauer, it was to have an auditorium 72 ft. by 30.5 ft. and 24.5 ft. in height, in addition to six classrooms, leaving plenty of room for future growth.

In addition to the factory school there was by this time also a church school on the ninth line, with seventy pupils. Established by the Spasso-Preobrazhenskii Brotherhood, its building still served as a school in Donetsk in 1957.¹⁰ The English children had their own school, with a teacher who was a university graduate and who received two-and-a-half times the pay of the Russian head teacher. A number of the Russian workers studied English with him in the evenings, hoping to advance themselves in the factory. The eight hundred Jewish families in Iuzovka had their own religious primary schools with trained teachers. In addition there were a number of Jewish private tutors "of unknown educational standing," each with a small group of pupils.¹¹ The 1884 zemstvo survey had estimated the number of Jewish children studying with these private tutors at 30 to 35, and had noted that the pupils paid ten rubles for half a year of tutoring.

room and six bushels of grain for a teacher in 1870, with actual wages dropping to 32 to 39 rubles "per winter."

¹⁰ V. E. Vilisova, comp., et al., *Bor'ba za vlast' sovetov v Donbasse* (Stalino: Stalinskoe oblastnoe izdatel'stvo, 1957), p. 221. The location is mentioned in *Izvestia Iuzovskago soveta*, no. 30, September 21, 1917.

¹¹ Garshin, "Poezdka," p. 11. The *melamed*—the private Jewish tutor—was an institution in the Jewish community of Eastern Europe; sending him a few children for instruction sometimes served as an alternative to communal charity. Garshin is generous in classifying these tutors, nicknamed "grandpa" and "soldier" as being of "unknown educational standing."

There was also a private teacher who gave lessons in English, French, and German languages for either three rubles per month to those who studied in classes, or three rubles per lesson for private tutoring. His services were much in demand, for he was able to pay an assistant teacher 180 rubles a year to teach the Russian children sent to him, and his own annual income from 27 pupils was said to be 1,500 rubles, a very handsome income at that time.¹²

By the time Ragozin visited Iuzovka in 1894, there were 350 school-children, 100 of them girls. The rapid spread of education for girls was one of the bright spots of Iuzovka's development. The new school building was in use and had a sports hall as well as the large auditorium. The school sponsored a string orchestra to supplement the factory band in the musical life of the settlement. The staff had grown to seven, two male and five female teachers, paid from 600 to 800 rubles per year. This was a considerable jump in pay, not only absolutely, but in the relative scale of remuneration for Iuzovka residents. Teachers now ranked above miners, and above most factory workers. In addition to the school teachers, two priests offered instruction in religious subjects. Books were provided free of charge, although the pupils still paid fifty kopeks a month—except for children of the poor, for whom the charge was waived. The factory subsidy to the school amounted to 10,000 rubles per year, close to thirty rubles per pupil, far more than the subsidy for health services or sanitation at that time. A new church school was planned in the church that was under construction, "and needed, though the existing churches seat 5,000."¹³

The Iuzovka school was considered a model compared to the usual *narodnoe uchilishche*.¹⁴ There is no sign, however, that the curriculum as yet included those broad subjects in the sciences and humanities that had been proposed many years before.¹⁵ That development was to appear only a decade later. Meanwhile there was a more practical object at hand, as gradu-

¹² *S.S.S.*, vol. 2, Bakhmut uезд, p. 236.

¹³ Ragozin, *Zhelezo i ugol'*, p. 56.

¹⁴ *Trudy*, XXI, 1896, pt. 2, p. 261. Speech of V. A. Karpov, chairman of the Bakhmut uезд zemstvo administration and apparently brother of P. A. Karpov, a prominent coal producer. The school of the New Russia Co. iron mine at Krivoi Rog was also evidently on a high level and served not only the workers of the iron mine, but the surrounding population as well. The classrooms were described as roomy and light, with comfortable desks for children of various ages. The teacher gave singing and handicrafts lessons as well as the regular curriculum subjects. See Mekhmandarov, "Zabolevaemost'," pt. 1, p. 63.

¹⁵ See Zelnik, *Labor and Society*, pp. 316–18.

ates of the factory school were given preference in hiring into the local mines and factory. Towards the end of the century, vocational and technical education began to develop as well.¹⁶ In the 1901–1902 school year, Iuzovka could boast five schools, staffed by 24 teachers, including 2 for handicrafts and 2 for physical education. Of the 833 pupils, 308 (37 percent) were girls.¹⁷ By the end of the decade, the educational staff had been reinforced by teachers of art and of mechanical drawing, as well as by teachers of foreign languages.¹⁸ Education was becoming more available and more professional, as specialized teachers were hired. In addition, the trend toward equality of the sexes is seen to continue.

The full and dramatic growth of Iuzovka's educational system comes to light only from a compilation of sources that show all its dimensions in 1916 and 1917.¹⁹ Of the 9,379 school age children (here ages seven to thirteen are defined as school age) in Iuzovka in the summer of 1917, 5,327 (56 percent) were actually studying.²⁰ Education was not restricted to Iuzovka's upper classes, for we find 2,761 pupils (1,428 boys and 1,333 girls) in the factory schools, and an additional 1,002 (550 boys and 452 girls) in the Brothers' school. This alone would be sufficient to indicate the substantial improvement that had taken place in the forty years since the first school was opened. In and around Iuzovka the New Russia Co. maintained ten schools, serving all its outlying mines and the Peski farm, as well as the settlement itself. In addition, public and private education of every sort was flourishing. There were two church schools, an Armenian-Gregorian school, a Jewish public *talmud tora* (a religious school for boys), and a women's Jewish school, a higher municipal school, a commercial *uchilishche* for vocational and commercial education, and two private women's gimnazii. While many schools served only males or only

¹⁶ Vlasenko et al., "Formirovanie," p. 284.

¹⁷ TsGIAL, F.266, op. 1, ed. khr.125, p. 383.

¹⁸ *Novorossiiskoe obshchestvo*, 1910, pp. 32–33.

¹⁹ The sources for the following section are: DOGIA, F.2109, op.1, d.20, p. 14, gives the Preobrazhenskii church journal description of education in Iuzovka in 1916; DOGIA, F.10, op.1, d.5, p. 66, contains results of the July 1917 census of Iuzovka in preparation for municipalization; and *Novorossiiskoe obshchestvo*, 1919, p. 40, presents details of the New Russia Co.'s involvement in education in 1916.

²⁰ DOGIA, F.10, op.1, d.5, p. 32. The detailed count of pupils in *ibid.*, p. 66, lists 2,867 boys and 2,855 girls, totalling 6,287. Upon rechecking the census enumerator's addition I find 3,109 boys, 3,189 girls, and a total of 6,298. Jeffrey Brooks, "The *Zemstvo* and Education," p. 270, writes that in 1915, 58 percent of all school age children in European Russia, and 51 percent in the entire Russian Empire, were actually in school.

females, the total student body was almost precisely equally divided by sex. There is another important innovation to be noted. In 1916, the two private gimnazii, teaching a total of over 800 young women, were both almost equally divided between Christian and Jewish pupils. All kinds of social barriers appeared to be crumbling.

Expenditure on education did not grow evenly or simultaneously in all areas of the Donbass. Between 1896 and 1906 the allocation of the Don Cossack Territory for education grew from 445,846 rubles to 718,687, but the percentage of the territory budget allocated to education dropped from 13.6 to 10.6 percent. This was augmented by central government allocations of 836,519 rubles and by funds from local government units totalling 1,823,382 rubles. The total spent on public education in the Don Cossack Territory in 1906 thus reached 3,424,602 rubles—a sum larger than the entire budget of the Territory government.²¹ Nevertheless, the expenditure per capita dropped from 1.33 rubles in 1898 to 1.16 in 1906.²² Budgets were evidently not the whole story, for the number of schools grew steadily as did the percentage of schoolchildren in the population of the territory. Moreover, by 1906 the Don Cossack Territory could claim literacy for 73.7 percent of males and 54.6 percent of females over seven years of age.

In the coal mining settlements, as usual, the picture was somewhat blacker. At the turn of the century the 31 largest mines had only 27 schools among them, and only 2,440 children registered. Since these mines averaged 1,500 workers each, one might have expected more than ninety pupils per school, even with only three grades in the school, for the ratio was only one child in school for each nineteen workers employed.²³ This ratio evidently reflects the high proportion of single workers in the mines—bachelors and married miners whose families remained in the village. As might be expected, the schools were not as spacious or well-equipped as they were in a large settlement such as Iuzovka. In one coal settlement in Slaviansoserbsk uezd, at the turn of the century, sixteen and

²¹ AN, File F12, 7273, Report of the French consular agent at Rostov, M. Rene Michaud, 1906.

²² AN, File F12 7273, compare Michaud's report for 1896–98 with that for 1906. Unfortunately I have been unable to acquire comparable figures for Bakhmut and Slaviansoserbsk uezd.

²³ *Trudy. ekstrennyi s'ezd. 1900*, p. 18. In Iuzovka in 1896 the ratio between the number of workers in the settlement's mines and factories and the number of pupils in the factory and church school was 1:14.

twenty-five pupils were crowded into classrooms each with space for only six. In many cases the mine school did not supply copy books, ink, or pens. They were to be bought at a high price in the company store.²⁴ Complaints of such miserly neglect are legion.

Nevertheless, here, as in the Don Cossack Territory, the number of schools was increasing, and literacy was rising rapidly. In 1903 the Bakhmut uezd zemstvo prepared a plan to extend the popular school to four years and to implement a program of universal education in the uezd.²⁵ From 37 schools in the Donbass in 1900, the number rose to 51 in 1904, with 5,445 pupils. Yet the coal producers' allocations to education were miserly. The 23 largest coal firms, each producing over 15 million pud of coal annually, allocated less than 2,500 rubles per year each to their settlement schools. What is more, the ratio of schools to coal mined was falling steadily, from one school per 12.4 million pud of coal in 1902, to one school for 15.18 million pud in 1904.²⁶ It would appear that only after 1905 did education really take off throughout the Donbass, with the number of schools rising by 1915 to 120, with 24,000 pupils.²⁷

ADULT EDUCATION, CULTURE, AND RECREATION

Until now we have considered only the education of the workers' children. But what of the workers themselves? What provisions were there for adult education, for the evening and Sunday schools that were the focus of so much activity in Moscow and St. Petersburg? And what cultural activities were available for the interested worker in Iuzovka or in other Donbass settlements?

Although the movement for adult education in Russia had been suppressed at the beginning of the 1860s, the authorities had sanctioned its renewal by 1867.²⁸ In the Donbass, however, virtually nothing of this

²⁴ Liberman, "Usloviia truda," p. 27.

²⁵ *Vestnik Ekaterinoslavskago zemstva*, no. 7, 1903, p. 7. There is no indication of how this program was to be carried out, nor whether it was intended for implementation in the mine and factory schools as well as in the villages.

²⁶ *G-z l*, p. 8266.

²⁷ Kondufor, *Istoriia rabochikh Donbassa*, vol. 1, p. 130. Since there were 180,000 coal miners in the Donbass in 1915, the average number of pupils per miner had come down to one pupil for each 7.5 miners—a considerable advance over fifteen years.

²⁸ See the detailed discussion in Zelnik, *Labor and Society*, pp. 185–95, 296.

existed until close to the turn of the century. Garshin noted in 1891 that when the new school building was completed, evening classes for workers were planned, and that “forces for this are to be found in the local intelligentsia.”²⁹ Whether the intelligentsia was absent or whether the plan ran up against opposition from the authorities or management is not recorded, but the school was set up only at the end of the century and became one of two workers’ evening schools in the Donbass at the time.³⁰ There was most certainly a need for workers’ education in Iuzovka: figures of the Mines Administration were said to show that in 1902, 59 percent of the workers of the New Russia Co. factory and mines were illiterate.³¹

This tentative and late-blooming adult educational movement came in the wake of a February 18, 1895 circular of the Ministry of Education, recommending that such schools be set up. The schools were expected to follow a curriculum supervised by the ministry, and the industrial enterprises were to be responsible not only for the operation of the schools, but also for their political reliability.³² This set two obstacles in the way of establishing such schools: the reluctance of employers to take on responsibility and the absence, particularly in the mine settlements, of a large intelligentsia dedicated to the cause of education. Diane Koenker has emphasized the cultural and educational possibilities inherent in urban life—publishing, universities with their faculty and student bodies, the philanthropic activities of the well-to-do, and many more.³³ None of these was at hand in the Donbass, where owners were absentee, mine managers were often uneducated foremen, and little or nothing more was available even in such central settlements as Iuzovka. Moreover, if there was something available in a cultural sense in a settlement, it was completely under the control of the employers. Despite these formidable barriers, adult education, too, made progress over the years. By 1916 the courses offered to

²⁹ Garshin, “Poezdka,” p. 12.

³⁰ Kondufor, *Istoriia rabochikh Donbassa*, vol. 1, p. 131. Potolov, *Rabochie Donbassa*, p. 134. The other school was established at the Lozovaia mine of the Kalmius-Bogodukhov Co. in 1896.

³¹ A. N. Pasiuk, “Rabochee dvizhenie na predpriiatiakh Novorossiiskogo obshchestva (1872–1905),” *Letopis revoliutsii*, no. 3 (24), May–June 1927, p. 207. This evidently includes the workers in the iron mines and all other New Russia properties outside Iuzovka, for the number of workers is given as 9,968, while Kulibin, *Sbornik*, 1902, pp. 276–77, 447, gives the number of New Russia mine and factory workers in Iuzovka as 8774.

³² Vlasenko et al., “Formirovanie,” p. 284, n. 33.

³³ Koenker, *Moscow Workers*, p. 46.

adults in Iuzovka included not only the entire primary school curriculum, but history, geography, geometry, physics, mechanical drawing, art, French, and English.³⁴ Yet of the settlement's 70,000 inhabitants in that year, only 347 men and 27 women made use of these facilities. It would appear that by this time, supply was moving ahead of the demand for such courses. The imbalance between the sexes in adult education, compared with the equality of the young people, only emphasizes the sharpness of the change that had taken place in the education of Iuzovka's younger generation.

If we consider that at this time the New Russia Co. factory and mines in Iuzovka employed some 20,000 workers and add to that the employees of the other industrial and mining firms living in the settlement, it will appear that despite the considerable material changes that we have seen taking place, very few of the workers had the energy or interest to pursue education at the end of a day's work. For many, no doubt, a steady job at the factory and a comfortable company house represented the pinnacle of aspiration, a solid and satisfying achievement when compared with the poverty of village life. Others, particularly among the coal miners, lacked the self-discipline, the ambition, and the sense of identity needed for change, and were content with money for drink.

In this variety of outlooks and of life styles, the important point to be grasped is that the *possibility* of change had been introduced. Those workers, however few, who had the desire and the ability to better themselves through education had the possibility to realize their aspirations. For their children, such a possibility was becoming the norm.

For many years, however, the field of adult education remained almost entirely the monopoly of the revolutionary movements. And when investigations revealed illegal study circles or the presence of illegal materials in authorized study groups, the authorities felt that their instinctive mistrust of educating the masses had been confirmed, thus creating a vicious circle of reaction.

At the Shcherbinovka mines, an evening school with literacy courses, dramatic presentations, and poetry readings was organized in 1901, with the participation of S. V. Vasil'chenko, "later known as an outstanding Ukrainian democratic writer," the mine doctor, Kavalerov, himself a Social Democrat, and the future Bolsheviks P. A. Moiseenko, A. S. Gre-

³⁴ *Novorossiskoe obshchestvo*, 1919, p. 40.

chnev, and G. I. Petrovskii. The school was housed in the local church-supported elementary school where Vasil'chenko was a teacher and had a library that eventually grew to three thousand volumes. Three years later the Shcherbinovka example was followed in nearby Gorlovka, where the library soon had over five hundred steady readers.³⁵ When the Shtoffe commission visited Iuzovka it found that there was a four-thousand-volume library in the factory school, and another miniscule fifty-volume collection for the patients of the hospital.³⁶ Another library, for the New Russia Co. workers in Ekaterinovka, was opened in 1900.³⁷

Libraries were not a part of the organizational work of the authorities in Ekaterinoslav guberniia in the early part of the century, and they were a rarity. Where these were independently organized they had first to obtain a permit from the authorities or risk being closed pending the granting of a permit.³⁸

It was only through a change in the law in December 1905 that popular libraries were given the status of public libraries, "making it possible to put into the library many books that were previously forbidden."³⁹ The library at the mine in Makeevka had been opened in 1902, but had been housed in an inconvenient location. It had only a few hundred books—some very technical, some outdated, and many religious books for which there was said to be no demand. The change in the law, coming close on the heels of the building of a new, centrally located school building with a spacious room for the library, changed the course of the library's activities. A library improvement committee was formed, and two hundred library members were enrolled. Thirty to forty people visited the library daily to borrow books and to look at a variety of periodicals and thirteen different central, regional, and local newspapers.⁴⁰ As might be expected, the clerical and administrative staffs of the mines were the mainstay of these institutions. Nevertheless, we can see the growing availability of information to those workers who sought it. In smaller mining settle-

³⁵ See P. A. Moiseenko, *Vospominaniia starego revoliutsionera* (Moscow: 1966), p. 165; Kondufor, *Istoriia rabochikh Donbassa*, vol. 1, pp. 84, 131–33.

³⁶ TsGIAL, F.37, op.58, d.299, p. 25.

³⁷ Kondufor, *Istoriia rabochikh Donbassa*, vol. 1, p. 131.

³⁸ *Vestnik Ekaterinoslavskago zemstva*, no. 29, 1904, pp. 868–69.

³⁹ *G-z l*, no. 17, 1906, pp. 8496–97.

⁴⁰ *Ibid.* The periodicals listed are *Niva*, *Privoda i ljudi*, and *Vokrug sveta*. The central newspapers are *Russkiiia vedomosti*, *Russkoe slovo*, and *Birzhevyie vedomosti*. In addition the library received *Iuzhnyi krai*, and the Bakhmut *Narodnaia gazeta*.

ments where no school existed, the small library or reading room might be the only source of information and enlightenment available.⁴¹ The variety of sources and the breadth of horizons represented by these libraries stood in stark contrast to the parochial world of the villager. A foundation for modern citizenship was beginning to be laid.

These libraries and cultural facilities did not grow as steadily as did the schools. They were vulnerable in the extreme to changes in the social and political climate of Russia. In 1906, the *Rassvet* ("Dawn") library, set up by and for the workers and employees of the Petrovskii works, was denounced by the police as a source of revolutionary ideas and closed down. In addition, we find other factory and mine libraries being closed by the authorities during the early years of World War I, and also notices of new libraries opening in such places as Makeevka and Shcherbinovka, which earlier had been pioneers in the workers' library movement.⁴²

The demand for various subjects varied according to the region. In agricultural Pavlograd uezd books on agriculture constituted 25 percent of all books read, while in the coal and metal area of Slaviansoserbsk they were only 13.5 percent. Belles lettres formed 50 percent of the demand in the whole of the Ekaterinoslav guberniia, and history was 18 percent. Moral and religious themes ranged from 8 percent to 13 percent of all books borrowed. In urban settlements and cities women were half of all the visitors to libraries, while in the villages they were only nine percent.⁴³

In Iuzovka too the fate of libraries fluctuated with the times. In the years of reaction following the 1905 revolution, Grigorii Petrovskii characterized Iuzovka as being particularly closely watched by the authorities: no lectures, no cultural associations, and no professional organizations were allowed. He also declared that the library of the shop clerks' association had been raided and closed.⁴⁴ Despite this, in 1910 there were five private libraries in the settlement, all supported by donations from the population.⁴⁵ These, of course, existed in addition to the school library,

⁴¹ See *Izvestiia Iuzovskago soveta*, no. 28, September 16, 1917, with M. Gordienko's plea to workers to return books and papers promptly so that others may avail themselves of this scarce source of knowledge.

⁴² Kir'ianov, *Rabochie Iuga Rossii*, pp. 101-2.

⁴³ *Vestnik Ekaterinoslavskago zemstva*, no. 29, 1904, p. 869.

⁴⁴ M. A. Rubach, ed., *Rabochee dvizhenie na Ukraine v gody novogo revoliutsionnogo pod'ema, 1910-1915 gg.* (Kiev: Gosudarstvennoe izdatel'stvo politicheskoi literatury, 1959), p. 456.

⁴⁵ *Istoriia mist i sil*, p. 82.

which, with the beginning of adult education in 1900, became accessible to the workers. In 1913 only two libraries with reading rooms were known to exist in Iuzovka, to which in 1914 was added a *narodnyi dom* ("people's house") with a library and evening classes for adults. The New Russia Co. opened its great hall the following year, with a 2,000-seat auditorium, a large library, a stage, and moving picture projection equipment.⁴⁶

The Congress of Mining Industrialists had recognized fairly early on that a broader variety of cultural activity might keep the workers from seeking distraction in alcohol, a plague that then, as now, was devastating the population. In 1890, V. A. Wagner, director of the mine and salt department of the Mining Administration of the Don Cossack Territory, set before the Congress a proposal for Sunday readings and magic lantern shows under whatever supervision the government might see fit, in keeping with the December 24, 1876 decree regulating such public readings.⁴⁷ Unfortunately, these regulations specified that such readings could only be held, under proper supervision, in a guberniia or uezd city, or in a church or church school in the presence of a priest. In the majority of places in the Donbass, and even in Iuzovka, these conditions could be fulfilled with difficulty, if at all. When it was pointed out in the Congress discussions that many Donbass settlements had neither church nor school, and that where these did exist they were not appropriately equipped for such purposes, a number of substitute supervisors were proposed, ranging from appointees of the district mining engineer to the local police constable. It was generally accepted that the proposal was a good one and might help divert the miners from drink, but the mining industrialists also agreed wholeheartedly with P. A. Karpov's comment: "Very good—but there must be control. Without control it is unthinkable."⁴⁸ It took nine years before a joint decision of the Ministries of Education and the Interior authorized public readings at the Kalmius Bogodukhov mines under the direct supervision and responsibility of the priest Aleksandr Matveevskii.⁴⁹

Other forms of culture fared better in Iuzovka. The great auditorium of

⁴⁶ Kir'ianov, *Rabochie iuga Rossii*, p. 100.

⁴⁷ *Trudy*, XV, 1890, p. LXI.

⁴⁸ *Ibid.*, p. 102. See also Garshin, "Poezdka," p. 12, for enthusiastic support for the principle of public readings along with recognition of its legal difficulties as Iuzovka was neither town nor village.

⁴⁹ *G-z l*, no. 15, 1899, p. 3913.

the New Russia Co. was used for moving pictures, a form of entertainment that enjoyed great popularity in Iuzovka. By 1914 there was also an "electro-biograph" (a moving picture projector) at the company's Vetka mine. Films were shown on paydays and holidays, with the proceeds going to fund the staging of plays, "in large part, Ukrainian plays," which the workers themselves presented. In addition, a library and reading room were established alongside the movie theater. "Thus, for a small payment, workers enjoy wholesome entertainment, cutting down drunkenness."⁵⁰ Sports and gymnastics were popular. The New Russia Co. sports group had two hundred members in 1915, and the Sokoli, a gymnastic group, had eighty.⁵¹ The latter survived the war and the revolution and was still performing for Iuzovka's population in 1920.⁵² Although the journalist who recorded the existence of these groups in 1915 states that workers were participating neither in the cultural groups nor in sports, and although Kir'ianov supports this, Nikita Khrushchev once claimed that as a young man he was a member of the New Russia Co. soccer team.⁵³ Unfortunately, the evidence is too sparse to indicate whether such cultural groups played any significant role in providing points of contact and association between various social or ethnic groups. It would appear that such influences were at best marginal.

The factory orchestra was organized in the late 1880s, and as we have noted, a school orchestra was in existence at the beginning of the 1890s. A German named Pauli was the conductor of the factory orchestra, which in the summer played weekly concerts on the wooden open-air stage in the bazaar square. Garshin made specific note of the fact that the instrumentalists were all workers from the mines and factory. Some of them gathered once a week at the home of Arthur Hughes to play chamber music, and, when Hughes was abroad, the head bookkeeper of the factory would host the ensemble.⁵⁴ A musical dramatic group was formed by the factory workers in 1896 and continued for many years. In 1908 it had forty members and was said to present serious theatrical pieces, attracting many

⁵⁰ *Gorno-zavodskoe delo*, no. 34, August 31, 1914, p. 9,497.

⁵¹ A. Ko——v, "Ocherki."

⁵² See the notice of their performance in *Diktatura truda* (Iuzovka), no. 68, August 31, 1920.

⁵³ Kir'ianov, *Rabochie iuga Rossii*, p. 101. Khrushchev's statement is in the *Times* of London, May 20, 1961.

⁵⁴ *Istoriia mist i sil*, p. 82; Gonimov, *Staraya Iuzovka*, p. 133; Garshin, "Poezdka," p. 6.

workers.⁵⁵ In 1915, the drama group had two hundred members, although these are said to be primarily from among the administration and technical employees.⁵⁶ Visiting theater performances were held every summer: these included a circus, a Ukrainian folklore ensemble, and, in the summer of 1905, even a visiting troupe from St. Petersburg—testifying perhaps to the relative calm that reigned in Iuzovka through most of that stormy summer.

Theater stages were also popular at other settlements, and there were four such in the immediate vicinity of Iuzovka. At the Ovanosov-Arazov mine settlement the theater was the most popular event in the area. It was directed by the mine's bookkeeper and supported by company funds. Workers and employees of the mine appeared in a monthly performance to which the workers came with alacrity, but were admitted only if they were sober, bathed, and in clean clothes.⁵⁷

Newspapers came to Iuzovka only from the outside. Bakhmut and Mariupol had their own newspapers but the printing presses of Iuzovka produced only commercial work and visiting cards.⁵⁸ According to Moiseenko, the most widely read newspapers in the settlement were the populist *Syn otechestva*, the Kadet-inclined *Mir Bozhii*, *Nasha zhizn'*, and *Sotsial demokrat* from Poltava.⁵⁹ As we have seen, however, some mine and factory libraries might have an impressive range of regional and national publications.

Certainly there was no mass movement towards organized culture and education for the workers of the Donbass. As we shall see when we look into the development of the revolutionary movement in the region, the workers showed an interest in and strong desire for education, but the revolutionary study circles, though frequently successful, were usually too short-lived and irregular to do more than whet the appetite. Local officials, usually from the zemstvo system, would occasionally recognize the lack of serious cultural facilities and the workers' interest in such facilities. It was

⁵⁵ Kondufor, *Istoriia rabochikh Donbassa*, vol. 1, p. 132; *Golos truda* (Kharkov), no. 1, December 25, 1908, p. 13.

⁵⁶ A. Ko—v, "Ocherki."

⁵⁷ *Istoriia mist i sil*, pp. 82–83; *G-z l*, no. 21, 1906, p. 8,537.

⁵⁸ However the first of three issues of the *Vestnik siona*, a Zionist educational journal in Russian, edited by Dr. M. Z. Shliaposhnikov, was printed at the Peniakov press in Iuzovka in 1891. Subsequent issues were printed in Kharkov.

⁵⁹ Moiseenko, *Vospominania*, p. 183. He mentions neither *Donskaia rech'* nor *Iuzhnyi krai*, both of which were popular and influential regional newspapers.

rare in the Donbass, however, for such persons to rise above fear and suspicion, or at best a patronizing view of the workers as helpless and unfortunate primitives. The attitude exhibited by Dr. Fialkovskii was extremely rare: "The cultural needs and interests of the workers are undoubtedly on a significantly higher level than that grey, almost animal, passivity in which the conditions of mine and factory life place him."⁶⁰

The industrialists' approach ranged from hostile caution to indifference. Few were willing to invest capital or energy in more than a few innocent diversions to keep the workers away from the taverns. The result was that even on the eve of 1917, observers looking at the workers' culture saw it almost without exception in terms of the wildness and uncouth habits that surrounded workers wherever they sought companionship.⁶¹ Nowhere in the Donbass do we find the phenomenon described by Koenker and Bonnell: the relatively large numbers of workers studying and reading at libraries or taking part in the cultural and recreational societies that gradually provided a source for the creation of that missing stratum—the worker-intelligent.⁶² Whatever tendencies there were towards a better-housed, better-educated, and more cultured worker in the Donbass were too few and too recent to have any great influence in 1917.

TECHNICAL EDUCATION

Even the vital subject of technical education for those skilled workers who were to direct and develop the mines lagged sadly in the Donbass, as it did in all of Russia. At the beginning of the 1880s the Russian Empire had only one higher educational institute to train mining engineers. That institute had a total of 224 students, and rather than pursuing the technical improvement of the mines, its graduates were swallowed up into the government's supervisory bureaucracy.⁶³ When the Congress of Mining Industrialists began to look seriously into the subject at the turn of the century, it was found that Prussia had one student in a secondary mining school for every 336 mine workers, while in Russia the ratio was 1:

⁶⁰ V. P. Fialkovskii, "Uchastie zemstva," p. 518.

⁶¹ N. Cherevanin, "Antialkogol'noe dvizhenie," p. 94.

⁶² Koenker, *Moscow Workers*, p. 61; Victoria E. Bonnell, *Roots of Rebellion* (Berkeley and Los Angeles: University of California Press, 1983), p. 402.

⁶³ Khlystov, *Don v epokhu kapitalizma*, p. 154.

1,766.⁶⁴ Most youngsters, whether in mines, factories, or on the railways, learned technical trades on the job as apprentices. In his 1890 survey Garshin found twenty-five graduates of the elementary school at the Rutchenko mine employed, but only three of them continuing their education, studying geometry and technical drawing in the evenings.⁶⁵ Discussing the problem at the 1896 meeting of the Congress of Mining Industrialists, the engineer Mevius noted that an attempt to create a secondary school some years ago had failed, since neither teachers nor pupils were to be found.⁶⁶ The economic pressures on workers' children, and perhaps the narrowing of their aspirations as a result of the environment in which they and their parents lived, made them poor candidates for schooling beyond the two or three grades provided in the settlement schools. When the founding of a vocational school was discussed by the Congress in 1899 the draft proposal envisioned two groups as the source of the student body: children of the local commercial class and children of the mine and factory office and supervisory employees. The children of workers were not considered.⁶⁷

The apprenticeship system, traditionally practiced in crafts and manufacturing, provided the bulk of training for the factory workers. From the very beginning, the New Russia Co. was oriented towards training raw workers "in-house." As large-scale, highly mechanized, and specialized enterprises, the metallurgical factories could incorporate trainees into their labor force quite easily.

Schools preparing young people for skilled industrial labor were few. A railway school was opened in Lugansk in 1881, and a mechanical and technical school that trained industrial mechanics was founded in Mariupol in 1901.⁶⁸ A large industrial-vocational school was opened in Bakhmut in 1896 at the cost of 100,000 rubles. It was suggested that the same school might serve for both industrial and mine training, but this suggestion was rejected: it was felt that the rudimentary technical skills projected for this school were better taught at special courses at the mines themselves.⁶⁹ The

⁶⁴ *Trudy*, XXIV, 1899, p. 35, Appendix 4.

⁶⁵ Garshin, "Poezdka," p. 13.

⁶⁶ *Trudy*, XXI, 1896, pt. 2, p. 243.

⁶⁷ *Trudy*, XXIV, 1899, p. 25. A few years earlier, when discussing the proposal for a new school to train mine foremen, Avdakov suggested that the children of factory workers should be given preference over the children of miners. *Trudy*, XXI, 1896, p. 511.

⁶⁸ Kondufor, *Istoriia rabochikh Donbassa*, vol. 1, p. 130.

⁶⁹ For the opening of the school and the debate as to whether training for mine gang bosses (*desiatniki*) should be included, see *Trudy*, XXI, 1896, p. 271.

same difficulties that marred cooperation between the industrialists and the local authorities in the fields of health and general education were often obstacles in technical education as well. When in 1900 the Congress suggested a donation of 6,000 rubles towards the opening of a new technical secondary school on the condition that the local zemstvo provide the remaining 3,000 rubles, Slaviansk did not even discuss the suggestion, Bakhmut was willing to have the school, but not to meet the Congress' condition, and only Lugansk expressed complete acceptance of the proposal.⁷⁰ The zemstvo, however, gradually moved into the field of vocational education, spurred on both by the pressure of a growing population on the land and by the growing need for mechanical skills in the village itself. The creation of industrial vocational schools in rural centers in Bakhmut uezd was another recognized way of giving the village child a chance to get a job in a factory or railway shop, or to set up as a smith in his own locality, while "rarely can the school-leaver without a trade get even the simplest clerical job."⁷¹

The question of technical education was discussed on four different levels. Lowest was the level of the skilled mine or factory worker—the electrician, plumber, machinist, or maintenance worker. This level was little discussed, and was generally solved, as we have noted, by on-the-job apprenticeship. Then there was a need for training of gang bosses (*desiatniki*) for the mines. Above the gang boss was the foreman (*shteiger*), who, because of the lack of engineers, was often the person responsible for the operation of an entire shaft or mine. At the top of the pyramid was the mining engineer or the mine technologist, who with experience could attain the rank of engineer. By the second half of the 1890s, under the influence of the tremendous expansion taking place in the Donbass, the Congress began making concerted efforts to improve all these levels of technical education. Consistent with the dominating influence that the coal interests had in the Congress, its discussions of technical education focused primarily on the training of mine personnel, and as a result we have a much clearer picture of the development of technical education for mine-work than we have for the metallurgy factories. The industrialists both as individuals and as a group helped to set up new schools and sub-

⁷⁰ *Trudy*, XXV, 1900, Chairman's report, p. XCVII, von Ditmar's report, p. 78. See notice of Ivor Hughes' donation of 25,000 rubles on behalf of the New Russia Co., and the Belgian Co. of Mariupol's donation of 6,000 rubles to the committee for the Higher Institute of Mining in Ekaterinoslav, *G-z I*, no. 2, 1899, p. 3654.

⁷¹ *Narodnaya gazeta* (Bakhmut), no. 2, 1915.

sitize their students, urging the often reluctant state, zemstvo, and local authorities to participate as well. The latter, as we have seen, were not always responsive.

The earliest institutions for technical education in the Donbass were the schools for mine foremen at Lisichansk and Gorlovka. The Lisichansk school was established in 1872, and the Gorlovka school five years later.⁷² The Lisichansk school had a four-year course, while that at Gorlovka took three years. The Gorlovka school was founded by the owner of the Korsun mine, S. S. Poliakov, the nominal director, and was assisted by the mine's chief engineer, I. Knotte, who was thought by the Credit Lyonnais analysts to be the best mining engineer in the Donbass. The schools were intended for graduates of a two- or three-year *narodnoe uchilishche*, and entrants were required to demonstrate the ability to understand a Russian-language text, the ability to read handwritten Russian, and knowledge of the four basic arithmetical operations. Adherents of the Orthodox Russian Church were obliged to know the major prayers, the Creed, and the meanings of symbols of the faith.⁷³ At the Lisichansk school, government regulations set a *numerus clausus* of five percent on Jewish enrollment.⁷⁴ This condition appears to have been either waived or disregarded at Poliakov's Gorlovka school.

Enrollment in the two schools grew only slowly through the 1890s as mines proliferated and grew larger. Overcrowding affected the quality of their work, and yet the schools had difficulty finding enough qualified students, nor could they keep up with the demand for graduates. In 1894 the Lisichansk school had 72 students, of whom 14 graduated and 34 dropped out. The Gorlovka school had an enrollment of 32. The government encouraged the students by granting forty stipends of 88 rubles per year. The Congress of Mining Industrialists joined in supporting these two schools, offering first three hundred and later six hundred rubles per year in scholarships to each school.⁷⁵

Throughout the latter half of the 1890s, while the mining industry was

⁷² Kondufor, *Istoria rabochikh Donbassa*, vol. 1, p. 130. Garshin, "Poezdka," pp. 18–19, puts the opening of the Lisichansk school in 1876 and Gorlovka in 1878. S. A. An—skii (Rapoport), "Ocherk kamenno-ugol'noi promyshlennosti," *Russkoe bogatstvo*, no. 1, 1892, p. 5, dates the opening of the Lisichansk school as 1874.

⁷³ *Trudy*, XXIV, 1899, p. 18; Garshin, "Poezdka," pp. 16–17.

⁷⁴ Garshin, "Poezdka," p. 26

⁷⁵ *Pamiatnaia knizhka*, 1894, p. 38. See also *Trudy* for each year for the lists of scholarship awardees.

growing at an increasing rate, the two schools together maintained a steady average enrollment of 150 pupils, with about twenty graduating each year. As early as the mid-1880s it was noted that the rapid growth of the mining industry was creating a shortage of qualified supervisory personnel, and that while graduates of the Lisichansk foremen's school formed a majority of the foremen in the Slavianoserbsk district mines, many other foremen were *praktiki*, who had simply learned on the job and who lacked any formal technical qualifications.⁷⁶ In 1896, the directors of the Lisichansk school and two district mining engineers presented the Congress of Mining Industrialists with a comprehensive plan for training more mine foremen. This proposal involved enlarging the existing schools, establishing a third school at Grushevsk, and providing improved adult education to upgrade the quality and quantity of applicants to the schools for foremen.⁷⁷

By 1899 the proposals had crystallized into a uniform three-year curriculum offering more practical mine work and less theory than had been previously given. The title and pay of a foreman would be granted to graduates upon completion of one year's work after graduation. The existing schools were to be expanded to annual graduating classes of thirty at Lisichansk and twenty at Gorlovka, with a third school now proposed for either Bakhmut or Lugansk rather than Grushevsk and with a planned annual output of thirty graduates. Thus by 1906 the Congress hoped to have eighty new foremen graduating each year, the same number that was projected for the new Ekaterinoslav Higher Mining Institute, a fact that aroused questions from those who thought that a mine ought to need more foremen than engineers.⁷⁸ Expansion continued steadily, but never quite caught up to demand. In 1906 a mine foreman suggested that the training of foremen be further upgraded by reversing the trend toward an emphasis on practical mine work, (the author called it an "archaic" trend) and transforming the Lisichansk school into a true secondary school, locating it in an urban center such as Ekaterinoslav.⁷⁹ The reply, published before the

⁷⁶ *S.S.S.*, vol. 3, Slavianoserbsk uезд, p. 357.

⁷⁷ See the memo of Sachs, Abraam, Stempkowski, and Kurmanov in *Trudy*, XXI, 1896, p. 513; Avdakov's introduction suggesting the founding of industrial-vocational schools in Luzovka, Lugansk, and Ekaterinoslav as factory centers; and Avdakov's suggestion that schools to train *desiatniki* be based on the existing two- and three-year popular schools in the settlements, pt. 2, pp. 259–60.

⁷⁸ *Trudy*, XXIV, 1899, pp. 17, 21.

⁷⁹ T. Chervonetskii in *G-z I*, no. 5, 1906, p. 8343.

proposal was even made public, was from one of the few miner-memoirists, E. Kolodub, a proudly professional foreman with twenty years of experience in the mines. He fiercely defended the *praktika* in the school curriculum on the grounds that mine life had to be lived in order to be well learned.⁸⁰

One of the important concomitants of the Congress' enlistment in the cause of technical education was its decision to support all other forms of education, in particular the sadly neglected field of adult education. It was not that the industrialists had been suddenly converted to political liberalism or had espoused a more humanitarian view of the working population of the Donbass. On the contrary, although here and there in their debates we find liberal and humanitarian voices, the Congress of Mining Industrialists of South Russia as a whole remained to its last days a staunchly conservative, establishment body. It was clear to the mine owners, however, that what limited growth of the mines the most was the instability and non-professionalism of the population of miners. In the euphoria of the final years of Count Witte's "golden decade," the industrialists sought every means to improve that labor force and continue uninterrupted the expansion of production.

The proposals for adult education brought to the 1899 meeting of the Congress were carefully hedged about with all the bureaucratic controls that would make them acceptable to the authorities. They were couched in terms of moral improvement. Readings and magic-lantern shows (as we have already noted the Congress had first petitioned the authorities to approve such entertainment nine years earlier) were to be under the supervision of Mines Administration officials, as well as under the patronage of the local educational authorities. Books for workers' libraries would be selected in accordance with the lists of titles approved by the Ministry of Education, and supervised by the district mining engineers. The Council of the Congress of Mining Industrialists, the permanent executive body of the Congress, had prepared lists and procedural instructions available to any enterprise wishing to set up a reading room and library. The most radical departure in the 1899 proposals was, however, the suggestion for the large scale establishment of evening and Sunday schools for workers. The model for these schools was to be the curriculum laid down by the Imperial Technical Society under whose auspices Garshin had visited Iu-

⁸⁰ *G-z l*, no. 1, 1906, p. 8285. See also Kolodub, *Trud i zhizn'*.

zovka eight years earlier. The aim of this curriculum was to stimulate elementary literacy in technical subjects, and the Congress was willing to offer a prize for a text appropriate to these needs. Ultimately these schools were to include schools in which aspiring gang bosses could improve their qualifications without taking time off work. A dozen such schools were envisioned, including one in Iuzovka.⁸¹

When the entrance requirements and curriculum for *desiatniki* were elaborated in the 1900 meeting of the Congress there were some significant changes from the suggestions of the previous year. Instead of setting a minimum age of twenty-two years and two years' work experience in the mines, the age limit was lowered to sixteen and no experience was required. The earlier suggestion had noted that literacy could not be required until the effects of the adult education program were felt, and had proposed as substitute requirements a record of diligence at work and a certificate of good moral conduct from the local authorities. The final suggestion required literacy and the ability to write numbers and count to one hundred, as well as knowledge of the principal prayers and Creed.

Instead of a one-year course, with two years' additional work before the graduate could wear the blue-banded cap and stripe of the *desiatnik*, the final suggestion was for a two-year course of study. The changes reflected a realization of the growing mechanization of the mines and were certainly shaped to meet the needs of the larger and more modern mines. The additions included a course on physics and mechanics with practical application to pumps, steam engines, and ventilators and gave special attention to the prevention of steam boiler explosions. The studies in mining techniques, half of the entire curriculum, included drilling and blasting, and the storage, transport, and use of blasting powder and dynamite.⁸²

The establishment of a new higher school of mining had been first broached in 1896. The aim was to produce a technician somewhere between the level of a foreman and an engineer who, after two years' work experience, could sit for examinations for an engineer's licence.⁸³ Money for the construction of the new school was easily forthcoming from the mineowners in those days and so was governmental approval. Within the remarkably short time of three years the school was ready to open its doors.

⁸¹ *Trudy*, XXIV, 1899, Resolutions on expanding technical education, pp. 2–4, 14.

⁸² Compare *Trudy*, XXIV, 1899, report on expansion of technical education, pp. 10–11, with *Trudy*, XXV, 1900, report on establishing a school for *desiatniki*, pp. 19–20.

⁸³ See Avdakov's detailed exposition in *Trudy*, XXI, 1896, pp. 505–19.

At the preliminary examinations early in 1899, 177 of 349 applicants appeared, competing for the sixty places in the first entering class. In addition to passing both general and technical examinations, each candidate was required to produce a certificate of religious origin and a certificate of good conduct from the police.⁸⁴ The first class enrolled in the school had 60 pupils, of whom 47 were Orthodox Russian, 6 Catholic, 3 Jewish, 2 Lutheran and 2 Karaites.⁸⁵ The school was an immediate success, and for the 1901–1902 school year attracted 337 applicants, of whom 159 sat for the entrance exams and 115 passed them. Of those passing, only 75 were at first admitted but, after discussion with governmental officials, the school authorities received permission to admit all those who had passed the entrance exams, “providing that percentage norms for Poles and Jews were not exceeded.” In the end 105 students were accepted, including ten Poles and five Jews.⁸⁶ The remaining ten students were evidently excluded as they would have violated the ten percent limit on Poles and the five percent quota for Jews. The demands of Russia’s autocratic Orthodoxy and nationalism took precedence over the needs of industrialization.

Thirty years after the beginnings of the Donbass, the industrialists were wholeheartedly pursuing a policy that would adapt their workers to the demands and outlook of a modern industrial society. Evening courses and Sunday schools began to appear in the Donbass after the turn of the century, and the Russian peasant-turned-proletarian could develop a taste for culture and the professional identity that would aid him in improving both his *immediate environment* and his *social and economic mobility*. There remained, however, too few years for this change to root itself deeply in the mine settlements of the Donbass, despite the fact that the rise in cultural and educational levels was reinforced in varying degrees by similar improvements in other aspects of life. All that we have reviewed thus far deals with the fabric of life that was being woven in the Donbass. The core of that life, however, was labor in the factories and mines of the region. How the work force was formed, and under what conditions work in the Donbass was performed make up the final section of this volume.

⁸⁴ *G-z l*, no. 15, 1899, p. 3916; no. 18, 1899, p. 3965.

⁸⁵ *G-z l*, no. 20, 1899, p. 4000.

⁸⁶ *G-z l*, no. 21, 1901, p. 5261.

CHAPTER 8

The Donbass Labor Force: Origins and Structure

In this chapter we will address ourselves to the origins of the labor force of the Donbass: the skilled and unskilled laborers, and the technical and supervisory staff of the coal mines and steel mills. We will also attempt to contribute to answering one of the most vexatious questions of the formation of the Donbass working class: how long did it take for these workers to become a stabilized labor force, and to what degree did they do so? An accurate understanding of this problem is of great importance to the later analysis of the behavior of Donbass workers during 1917 and the years following. In addition we will examine the development of the age, sex, and skill structure of the Donbass labor force. Changes in this structure reflect the evolution of the Donbass economy and society along the twisting road towards industrial modernization.

ETHNIC STRUCTURE AND THE LABOR FORCE

The bare steppe with its sparse population could not provide the mass of workers needed to change Donbass coal mining from a seasonal peasant pastime to mass industrial production. Nor did it have the potential to populate the large settlements that were to grow up around the metallurgical giants a few years later. As had been the case in the first pre-capitalist attempts to industrialize the Donbass, people had to be found who could be coerced or motivated to move hundreds of kilometers from their place of birth, changing not only their locale, but also their entire way of life. The Russian village was ultimately to be the principal source, providing the human mass for a proletarian concentration second only to that in

Russia's central industrial regions around Moscow and St. Petersburg. In lesser measure, the Jewish concentrations of population and the surrounding villages of the Ukraine joined in. The process, however, was to take a full half century, lasting into the mid-1920s.

When ROPIT undertook its experiment of model mines and modern miners, it began by seeking foreign labor. In the autumn of 1860 a group of five hundred Westphalian miners and their families landed at Novo-cherkassk. Dressed in holiday costume, with banners flying and their own band playing, they made their way across the steppe to Grushevsk where they were to settle and work in the anthracite mines. When they saw the log huts and zemlianki in which they were to live and the half-open mines with horsedrawn equipment, they refused to work and "called something akin to the strikes of West European workers, necessitating the intervention of consuls and of administrative organs." They scattered immediately, most returning to their homes, a few remaining in Russia.¹ Only in 1867 was a permanent settlement formed at Grushevsk to try to assure a labor supply for the nearby mines. Unlike the people of Iuzovka, the Grushevsk settlers were formally recognized as urban residents.²

The initial labor force assembled by Hughes was heterogeneous and unstable, reflecting the difficulties he faced in creating his coal and steel kingdom. Hughes had brought with him "about seventy experienced and skilled workers from Great Britain, boilermen, blast furnace foremen, machinists, masons, miners and more."³ Although he paid them eighty rubles (ten pounds sterling) a month, a sum Shostak regarded as excessive, only three remained through the first difficult winter—a blast furnace foreman, a mechanic, and a mining engineer. Of the 451 persons reported by Hughes to be at work on the site in June 1871, "the greatest part . . . is Russian, from Smolensk, Tula and Kursk gubernii. The local population is unwilling to engage in factory work."⁴ Islavin reported that in 1874

¹ A. Keppen, "Materialy," *G-z I*, no. 5, 1900, pp. 4173–74. In 1874 Boos, a foreman at Ilovaskii's mine in Makeevka, was said to be the sole remaining person of this contingent in the Donbass. See Islavin, "Obzor," p. 51.

² Potolov, *Rabochie Donbassa*, p. 101. The settlement grew into the town of Alexandrovsk-Grushevsk and later reverted to the name by which it appears on the 1894 map of the Donbass in Ragozin's *Zbelezo i ugol'*, Shakhty, by which it is known today. (The full name on the map is "Grushevskoe gornoe poselenie Shakhty.")

³ TsGIAL, F.37, op.53, d.746, p. 9. Shostak report, 1870.

⁴ *Ibid.*, p. 84. Report of the commission of Zelentsev, Letunovskii and Roialkov, June 1871.

there were seventy foreigners, predominantly Britishers brought by Hughes, but that there were also some Germans and Italians in Iuzovka who had first come to Russia as tunnelers on the Lozovo-Sebastopol rail line. There were a few Finns, a number of Nizhnegorod, Moscow, and Petersburg workers, treasured by Hughes for their industrial experience, and 160 former workers of the Lugansk foundry, who despite their experience were to prove a problematic element. The remainder were of peasant origin, most of them from the various provinces of central Russia.⁵

The foreigners, the Lugansk contingent, and the urban northerners noted by Islavin as particularly valuable must have made up the core of the factory and mine workers. Their training was a particular problem for Hughes. Despite the background of the Lugansk people, Islavin states that none of the workers really knew metallurgy as Hughes intended to practice it. They were accustomed to using wood as blast furnace fuel, and it appears that although both the Lugansk and Lisichansk foundries used Donbass coal, neither had employed it extensively in smelting. Islavin considered that retraining them was more difficult than starting with totally "green" peasants who had never seen a foundry or coal mine.⁶ Zilov, on his visit to the plant in 1880, adhered to this view and blamed the workers' lack of experience with coal for the difficulties experienced by Hughes in producing high quality rails.⁷

The instability of the labor force was as much a problem as its lack of experience. Hughes had known that he would have to train his staff from scratch and had made preparations to do so. He does not appear to have anticipated the reluctance of the peasant to turn worker, nor what he interpreted as the peasants' capricious behavior. In the autumn of 1874, when production was well under way, Hughes complained to Valuev that the labor problem was impeding the development of the factory. "The command of labour in this thinly populated district is under the most favorable conditions very insufficient for works like ours. Especially as the inhabitants are not at all inclined to work, and this year, owing to the abundance of the harvest, our works have been almost deserted by the workmen during the summer months."⁸

⁵ Islavin, "Obzor," p. 82. See also Keppen, *Istoriko-statisticheski obzor*, p. 79; Potolov, *Rabochie Donbassa*, p. 137.

⁶ Islavin, "Obzor," p. 82.

⁷ Zilov, "Zavod," p. 52.

⁸ TsGIAL, F.37, op.53, d.746, p. 115. Hughes to Valuev, October 15, 1874.

Nevertheless, Islavin reported that summer that Hughes had 553 men working in various metallurgical trades, 370 in his mines, and another 883 in construction, haulage, and various auxiliary occupations, including 180 (10 percent of his labor force) in agriculture, providing the settlement with its own food supply from the New Russia Company's model farm.

There is no precise count of the population of Iuzovka in 1874, but the *zemstvo* survey ten years later lists a total of 378 families numbering 1107 people, of those living in Iuzovka in the summer of 1884, as having settled there in the first five years after the settlement's founding.⁹ Were we to assume that the families were predominantly based on a single breadwinner it would indicate that only 21 percent of the 1874 labor force remained on the job a decade later. However, remembering that the settled families of New Russia workers frequently contained more than one worker, and consequently that families with more than one breadwinner would have a greater propensity to settle permanently, we may estimate that perhaps as much as one-third of the labor force of the New Russia factory in 1884 had a seniority of ten years or more. This is a remarkable degree of stability for the factory labor force at this early date. As regards the mine labor force, the permanent population employed at the New Russia Co. mines in 1884 numbered 608 families with a total of 625 workers and 1,114 people.¹⁰ From this we may understand that few families had more than one worker, and that the families were much smaller than the average, fewer than two persons per unit.

In 1884 Hughes had 2,400 workers employed in his factory in addition to the 625 coal miners. These two categories made up just over half of the 5,494 persons living in Iuzovka. In this population there were 300 foreigners. Only one-quarter of the settlement's population originated within Ekaterinoslav guberniia (15.8 percent in Bakhmut uezd, and 8.6 percent in the rest of the province). The remaining 71 percent of those who came from within the Russian Empire were immigrants from other regions, two-thirds of them from the center and northwest, one-third from the southwest.¹¹ It was thus both an immigrant and a migrant population,

⁹ The number of workers and their division into various occupations is given in Islavin, "Obzor," p. 81. The number of families settling in each five-year period among those remaining in the summer of 1884 is given in *S.S.S.*, vol. 2, Bakhmut uezd, p. 231.

¹⁰ *S.S.S.*, vol. 2, Bakhmut uezd, p. 276.

¹¹ Rashin, *Formirovanie*, 1958, p. 30, gives the number of workers in the factory in 1884; Lukomskaia, "Formirovanie," p. 299, gives the number of miners. The geographical origins of Iuzovka's population are from *S.S.S.*, vol. 2, Bakhmut uezd, pp. 231–32.

although a settled population was beginning to form around the New Russia factory. The consensus of scholars is that the factory population stabilized more rapidly than did the mine population, a point on which we shall dwell at some length at a later stage.¹²

This migration of peasants was not unique to the Donbass by any means. Every industrializing country creates its industrial working class out of its peasantry unless it has a large immigration. In Moscow, at an even later date, in 1902, 93 percent of the workforce in factories was made up of migrant peasants.¹³ But the Moscow work force studied by Johnson was made up primarily of local, Russian peasants, 27 percent from Moscow guberniia and an additional 54 percent from the closest surrounding regions, most from within a radius of 160 kilometers. The result was, as Johnson notes, that they remained in a familiar surrounding that was Russian-speaking, Orthodox Christian in its faith, and based on a fairly uniform peasant sub-culture.¹⁴

This was not the case in Iuzovka. When Kozma Rusanov, a 23-year-old agricultural laborer who had saved only nine rubles from fourteen years of work, walked 840 kilometers from his home to the Donbass in January of 1884, he entered a very different environment.¹⁵ Although the changes were not constant, the secular trend of change in composition of Iuzovka's population was toward a dilution of the Russian presence. (See Table 8.1.)

Foreigners were to be found in significant numbers, and they experienced privileged living conditions, received large salaries, and wielded a great deal of authority. Their presence in the Donbass, as distinct from their influence on its development, has, however, generally been exaggerated. In 1884, foreigners made up only 5.6 percent of the administration of the mines in Slaviansoserbsk uezd, hardly a dominant proportion. In the mines of Bakhmut uezd there were 27 families of foreigners, numbering a

¹² Lukomskaia, "Formirovanie," pp. 305–306, and Kondufor, *Istoriia rabochikh Donbassa*, p. 37, both emphasize the rapid stabilization of the population in Iuzovka, while noting that the miners were more migratory. Both analyze the length of residence of the family units settled in Iuzovka, but do not include workers without families. Their analysis is thus biased towards stability since those bringing their families to the Donbass tend more to settle than do the lone migrants.

¹³ Johnson, *Peasant and Proletarian*, p. 31. Bowen, *John Hughes*, p. 55, notes that seasonal migration of miners and iron workers was a feature of Welsh society in the early stages of mine and foundry development.

¹⁴ Johnson, *Peasant and Proletarian*, p. 32.

¹⁵ Kogan, "K voprosu," p. 77.

CHAPTER 8

TABLE 8.1
Ethnic Composition of Iuzovka, 1884–1923

Year	Russians	Jews	Ukrainians	Others	Total
1884	4,752 (87%)	442 (8%)	n.a.	300 (5%)	5,494
1892	13,000 (65%)	6,000 (30%)	n.a.	1,000 (5%)	20,000
1897	23,822 (85%)	3,168 (11%)	n.a.	1,086 (4%)	28,076
1917	31,952 (58%)	9,934 (18%)	7,086 (13%)	5,729 (11%)	54,701
1923	16,974 (54%)	12,000 (38%)	2,199 (7%)	268 (1%)	31,428

Sources: 1884. *S.S.S.*, vol. 2, Bakhmut uezd, p. 362. 1892: G. B. Sliozberg, *Dela minuvshikh dnei* (Paris: 1933), vol. 2, p. 136. 1897: TsGIAL, F.1290, op.11, ed. khr.615, folder 488, p. 573. 1917. DOGIA, F.10, op.105, d.5, p. 65. 1923: Krawchenko, "The Impact of Industrialization," p. 351, for Ukrainians and Russians. JDC Archive, File 506, *Report on Uzovka* (sic), p. 1, for Jews.

Note: Population proportions are derived from available data in sources. Before 1917 the separate identity of Ukrainians was not acknowledged in Russian sources. It is most probable that Ukrainians are listed as Russians, e.g., in 1884 survey.

total of 76 people, and, as we have mentioned, there were about 300 foreigners among the 5,000 inhabitants of Iuzovka.¹⁶ The remainder were 86.5 percent Russians, and 7.9 percent Jews.¹⁷ When the settlement prospered, however, it attracted all kinds of people. By 1917, both their proportion in the population and their variety had grown greatly, and the population of 54,000 was composed of 34 different ethnic groups. Table 8.2 gives a full ethnic breakdown of Iuzovka's population in the July 1917 census.

We have already noted Professor Time's delight at the modest English presence in the Iuzovka factory in 1889, and from his 1891 visit Garshin commented that no new British were coming and that new technical specialists were being trained on the spot from the factory work force.¹⁸ In the mines, however, rapid expansion and Russia's backwardness in providing technical education facilities raised the percentage of foreign technical

¹⁶ *S.S.S.*, vol. 2, Bakhmut uezd, p. 276. Of the 76 foreigners living at the mines, 15 were English, 20 Prussian, 20 Italian, 7 French, 10 Swedish, and 4 Austrian.

¹⁷ *S.S.S.*, vol. 3, Slaviansoserbsk uezd, p. 362.

¹⁸ Garshin, "Poezdka," p. 35. His comment is disputed by Kotsovskii in the discussion of the report. John Hughes, Jr., however, reports in 1896 that when the works were started, and for some years thereafter, the number of Welsh residents in Iuzovka was "considerably in excess of its present number." See National Library of Wales, Ms. 3617E.

workers. In 1896 one of the telling arguments for the establishment of a new higher institute of mining engineering was the fact that 137 out of 267 technical personnel in the Donbass mines were foreigners.¹⁹

THE JEWS OF IUZOVKA

In addition, from the mid-1880s on both in Iuzovka and throughout the Donbass large Jewish communities made up 15 to 25 percent of the population, but were in no way integrated with the mine and factory workers. The few Jews employed in the mines and factories were administrators, bookkeepers, storekeepers, etc.—since “neither unskilled nor skilled labor is to their taste.”²⁰ In the early development of the Donbass few Jews were hired by non-Jewish employers, with the result that the limited Jewish presence in the mining industry was concentrated in a relatively few mines. Of 27 Jews employed in the Slavianoserbsk mines, 10 worked in the Golubovskii mine and another 7 in the Varvarapol and Vorobeichik mines.²¹ Jews, however, like Poles, were useful to the entrepreneurs, and in particular to the foreign entrepreneurs, in a supervisory capacity. Although conversant with the custom and language of Russia, they were still regarded as outsiders by the population and could be relied on not to join forces in theft or embezzlement by the local workers.²² Jews owned no land in the Donbass.²³ Those who engaged in coal production could do so only by renting a mine or by finding a non-Jewish partner who owned coal-bearing land. Nevertheless, as we have already noted, Jews took up every place available to them in the Ekaterinoslav mining school, and although

¹⁹ *Trudy*, XXI, 1896, pt. 1, pp. 516–17. Kondufor, *Istornia rabochikh Donbassa*, vol. 1, p. 35, writes that at the turn of the century there were “only a few hundred” foreign technical personnel in the Donbass. CL, 11852, note 301, p. 8, written in May 1901, notes that the Rutchenko mines have a good staff of Russian engineers and foremen, perfectly capable of directing their workers. Kozlovskii of the South Russian Dneprovskii metallurgical works stated in the debate of the Congress of Mining Industrialists that six years earlier half his factory’s technical staff had been foreign, but that in 1896 only 18 out of 219 were foreigners. *Trudy*, XXI, 1896, pt. 2, p. 287. The small number of technical personnel engaged in the mines as compared to the number working in metallurgy speaks volumes as to the backwardness of the Donbass coal industry.

²⁰ S.S.S., vol. 3, Slavianoserbsk uезд, p. 362.

²¹ *Ibid.*

²² McKay, *Pioneers for Profit*, p. 192.

²³ *Vestnik Ekaterinoslavskago zemstva*, no. 45, 1905, p. 1203.

CHAPTER 8

TABLE 8.2
Ethnic Composition of Iuzovka, July 1917

Ethnic Group	Number	Ethnic Group	Number
Russians	31,952	Georgians	31
Jews	9,934	Bulgars	23
Ukrainians	7,086	Spanish	19
Poles	2,120	Italians	13
Belorussians	1,465	French	13
Armenians	421	Chinese	12
Greeks	334	Swiss	6
Tatars	334	Kurds	6
Lithuanians	297	Turks	5
Cossacks	130	Slovenes	4
English	101	Serbs	3
Gypsies	96	Swedes	2
Latvians	86	Moldavians	2
Germans	70	Karaites	2
Austrians	50	Chuvash	2
Persians	41	Chechen	1
Czechs	39	Slovaks	1

Source: DOGIA, F.10, op.1, d.5, p. 65.

restricted to five percent of the student body at Lisichansk, they made up as much as one-quarter of Poliakov's Gorlovka school for mine foremen.²⁴ Over the years a growing number of Jews became active and even prominent in the Congress of Mining Industrialists, and a growing number of Jewish names may be found among the mining engineers.²⁵ The great

²⁴ *Pamiatnaya knizhka*, p. 38. What the graduates did is unclear, for although there were a growing number of mining engineers with Jewish names attending the annual meetings of the Congress, I have not encountered any mention of Jews working as mine foremen.

²⁵ B. D. Brutzkus, *Professional'nyi sostav Evreiskago naseleniia Rossii* (St. Petersburg: 1908), Table 7, gives the following figures, on the basis of the 1897 census, for the numbers of Jews (breadwinners and dependents) supported by various occupations in the Ekaterinoslav guberniia. They include 10 in metallurgy; 361 in coal and ore extraction; and 3,695 in trade in fuel and construction materials. Only 319 were supported by the trade in alcohol.

majority of the Jews, however, worked at mercantile and artisan occupations, dominating the provision of services for the rapidly growing settlements of the Donbass. They competed in this with those Russians who engaged in such occupations, and they stood apart from the mass of the Russian population engaged in mine and factory labor. Here, the Donbass was again unlike the central industrial regions in which artisans and service personnel were on the whole similar to the worker migrants in origin and culture.²⁶

We have already seen the tendency of numerous and widely varying local observers to focus on the Jews as the center of all evil in the social changes that were part of Donbass development, whether in business competition, subversive thought, the problem of alcohol, or any one of a dozen rough spots in the road of life. To the authorities the Jews were outsiders and, as such, suspect. "Jews, as has been expressed often in previous surveys, do not belong to the general Russian family. It is senseless to expect loyalty from them."²⁷ The coal industrialists and Russian merchants saw the Jews as competition, cornering scarce coal cars or hiring away needed workers. For the workers, the Jewish merchant and tavern keeper was seen as the direct source of their misery, whether he gave or refused credit. Yet it was the Jew as Jew and outsider rather than as merchant-exploiter that was the first object of the workers' frustration when they rioted. As Prosecutor Rodzianko wrote in his report on the 1892 cholera riots, the mob at first looted only the Jewish shops, and, where a merchant proved his Russian identity by displaying an icon, the rioters paid for all goods taken. Only after they were senseless with drink did the rioters burn and loot indiscriminately.²⁸

Were the Jews singled out as a target because their commercial practices were harsher or less honorable than others? Certainly nothing that we have noted in the rental practices of the Russian landlords and homeowners suggests generosity or compassion, nor are Dronov, Brusilov, Titov, or Church praised anywhere for being more enlightened as tavern operators.

²⁶ On this point see Johnson, *Peasant and Proletarian*, p. 34.

²⁷ TsGAOR, F.DP., III deloproizvodstvo, d.89, chast' 12, 1888, p. 3. Report of the Ekaterinoslav chief of gendarmes, Col. Bogutskii. Virtually identical phrases are to be found in his earlier and later reports, as well as in those of other officials. See for instance the report of the Bakhmut superintendent of gendarmes, TsGAOR, F.DP., III deloproizvodstvo, d.9, chast' 21, 1887, pp. 48-49.

²⁸ TsGIAL, F.1405, op.93, ed. khr.8555, p. 42. Rodzianko report of August 21, 1892.

Soviet historiography that attempts to explain the pogroms solely as popular resentment of Jewish merchants' exploitation, breaks down in the face of this question and in the face of patterns of mob violence in Iuzovka. The question is further obscured by the prejudice saturating every official reference to the Jews at that time. The attention paid to the Jews in reports by governors and gendarmerie commandants of the late 1880s and early 1890s appears surprising and disproportionately large. It is perhaps best explained as a reaction to the rapid growth of the Jewish community—a totally foreign phenomenon that appeared at a time of rapid and unsettling social and economic change. It has also been suggested that local officials were simply giving the response that they thought was expected of them. Sliozberg comments that copies of the governors' reports, with the tsar's notes in the margins, were circulated among high officials, who then patterned their own reports and instructions to their subordinates on the sympathies and antipathies expressed by their ruler.²⁹ And if the hypothesis we will soon present as to the origins of the majority of Iuzovka's Jews is correct, then the Jews arrived in the settlement already branded with the mark of Cain, and were being "punished" for some communal complicity in regicide. In all the reports from the mid-1880s to 1905, there is only one that takes a more sophisticated view of the Donbass Jews. Seeking the sources of the radicalism of Jewish artisans, Governor Keller writes: "The sources of such conduct are rather varied, and are, of course, at least partly connected to the abnormal situation of the Jewish question at present, whether in respect to material or civic conditions caused by the exclusionary policies of the government towards the Jews, as well as by the peculiarities and institutional structures of the Jewish population, which, however strange it may seem to be, are supported by our legislation."³⁰

Any understanding of the complexities of the Jewish question was further obstructed by the silence on and censorship of the subject in most official reports as well as in many contemporary journalistic accounts. Rodzianko's first report on the cholera riots expresses the Ekaterinoslav vice-governor's shock on seeing the extent of the damage, which had at first been reported by Iuzovka authorities as the smashing "of a few Yid shops [*neskol'kikh zhidovskikh lavok*]."³¹ His report on the first incident of

²⁹ Sliozberg, *Dorevolutsionnyi stroi*, pp. 168–70.

³⁰ TsGAOR, F.DP., OO, d.4, chast' 18, lit.G, 1898–1904. Governor Keller was later to be killed at the front in the Russo-Japanese war.

³¹ TsGIAL, F.1405, d.93, ed. khr.8555, p. 105. Report of V. P. Rodzianko, August

unrest and looting points explicitly to its anti-Jewish nature, yet this is reflected neither in the local news stories nor in the information passed upward by his superiors. That it was nonetheless widely known is shown by the reports from St. Petersburg published in the English press.³² The problem has been compounded by the fact that Soviet historiography of the region has totally ignored the subject. As we have noted elsewhere, Potolov, Kondufor, and Gonimov are all silent regarding the pogrom. Potolov used the Rodzianko report extensively in his work, and, as we have shown, that report emphasizes the anti-Jewish aspects of the cholera riots. None of this finds expression in Potolov's analysis of the events. Gonimov's manuscript was circulated among various personalities in the Donbass before its publication, and their comments are preserved in the archives. G. I. Petrovskii, one of the leading Bolshevik activists of the region, praised the work for its true reflection of Iuzovka life, but added: "It is only to be regretted that he put in so little about the Jews. In Iuzovka it was harsher."³³ At a later point in our discussion we will find additional expressions of this phenomenon.

The Jewish population grew rapidly in the Donbass. In 1869 the total Jewish population of the Bakhmut district was 2,476. By 1897 it had nearly quadrupled to 9,469.³⁴ The development of the Donbass came at a fortuitous time for the Jews. In the reaction that followed the assassination of Alexander II, a set of edicts of May 1882 known as the May Laws pushed the Jews out of the central provinces of Russia and reaffirmed the limitations of the Pale of Settlement. Between 1882 and 1891 some 700,000

4, 1892. For the censored and sanitized report of the riots, including notice of only twelve deaths, see *G-z I*, no. 16, 1892, p. 1317, which cites Moscow and Taganrog papers. A full discussion of the development and consequences of the riots, and of the ignoring of the pogrom aspect in both contemporary official reports and in Soviet historiography, will be found in Theodore H. Friedgut, "Labor Violence and Regime Brutality in Tsarist Russia: The Iuzovka Cholera Riots of 1892," *Slavic Review*, 46, 2 (Summer 1987), pp. 245-65. The article was written before the author had hope of access to the Soviet archives.

³² *Times* of London, August 30, 1892, p. 3, col. 5: "the violence directed solely against doctors in the other recent riots was in this case turned entirely against the Jews, and those supposed to be Jews. When the mob left the Hughesofka mills alone to go and loot the town, this, in fact, was one of the cries heard."

³³ TsGAOR, F.7592, op.6, d.120. Petrovskii review of Gonimov's *Staraya Iuzovka*.

³⁴ 1869—TsGIAL, F.1284, op.69, ed. khr.192; 1897—TsGIAL, F.1290, op.11, ed. khr.614, folder 487. In 1897 the census set Iuzovka's Jewish population at 3,168 of a total of 28,076. Various observers, e.g., Shiozberg put the total much higher, and since Jewish settlement in Iuzovka was nominally illegal at the time, many Jews may indeed have gone uncounted.

Jews were driven from central Russia back into the Pale.³⁵ It has been suggested that much of the Jewish population of Odessa dates from this movement.³⁶ The conjuncture of economic boom and a large Jewish population seeking a livelihood makes it likely that the same pertains to Iuzovka and the Donbass. No direct evidence has been found to support this theory of the origins of the Iuzovka Jewish community, but the fact that the Jews of Iuzovka tended to know Russian better than Yiddish argues for their "assimilated" origins.

When the active Zionist groups of the Donbass settlements corresponded with central representatives of the organization, the communications were generally in Russian, and, more important, these communications frequently specified that movement publications be sent in the Russian language.³⁷ An analysis conducted on the basis of the 1897 census showed the Jews of Ekaterinoslav guberniia to have a rate of literacy in Russian almost twice that of the Pale as a whole, ranging from 72.6 percent for males aged 10 to 19, as against 40.2 percent in the Pale as a whole, to 55.7 percent for males aged 50 to 59, as against 30.0 percent in the Pale as a whole.³⁸ An additional indication in this direction is found in a complaint that a Bund effort to organize Jewish workers in the Donbass, "far from Ekaterinoslav," failed because the workers did not know Yiddish.³⁹ The failure of the organizational drive does not seem to have been a matter of the Jewish workers' apathy, for as the governor stated in one of his annual reports: "The majority of the artisans are Jews, and from the point of view of political reliability and readiness to take part in strikes, demonstrations and street disorders, they are a source of anxiety."⁴⁰

³⁵ Martin Gilbert, *The Jews of Russia* (Foxton, England: Burlington Press, 1976), p. 19.

³⁶ Barbara A. Anderson, *Internal Migration During Modernization in Late Nineteenth-Century Russia* (Princeton: Princeton University Press, 1980), p. 174.

³⁷ See, for instance, Z.A., A24/9/13, letter of September 5, 1899, from M. M. Zagorodskii of Lozovaia requesting that the correspondence be conducted in Russian; A24/6/1/20 and 6/1/47, letters of November 1 and November 8, 1899, from R. I. Wakhter of Iuzovka to M. M. Ussishkin noting the demand for brochures in Russian and asking for "a collection of articles and speeches in Russian, as soon as it is printed." A24/9/1/48 notes the distribution of 115 brochures in Russian to the 124 Zionist group members in Nikopol.

³⁸ B. D. Brutskus, *Statistika*, Table 6.

³⁹ Grigorii Aronson et al., eds., *Die Geschichte fun Bund* (New York: Undzer Tzeit, 1962), vol. 2, p. 356.

⁴⁰ TsGAOR, F.DP., OO, d.4, chast' 18, lit.G, 1898–1904, p. 10. See also TsGAOR,

For most of the period we are studying, the Jews of Iuzovka and the Donbass lived a parochial communal life, isolated socially, culturally, and politically from the Russian workers who were their neighbors and from the Ukrainian peasants in nearby villages. As we have noted, the ties of commerce did not facilitate friendly relations. Only after the turn of the century does this begin to change at all levels of society. We have already noted the mixing of the younger generation in Iuzovka's private secondary schools, although Jewish parochial schools continued to draw the majority of Jewish pupils. On an entirely different level we will have cause to observe the increasing contact between Jews and Russian workers in the revolutionary movement. Economic advance helped integrate the Jews into Iuzovka. The settlement was, after all, primarily a center of industry and commerce, and supplying services to these activities was an entirely different affair than competing in petty merchandising or tavern-keeping. Management of and employment in the many agencies set up in Iuzovka put the Jews on a different economic and social footing than they had previously held. When the banks came to Iuzovka Jews were prominent in their administration, as they were in St. Petersburg as well.⁴¹ An examination of the list of participants in the 1912 meeting of the Congress of Mining Industrialists reveals a large number of Jewish names among representatives of coal firms, and particularly among representatives of the various coal bourse committees.⁴²

The Jews were subject to the same autocratic limitations of their political rights as the rest of the tsar's subjects within Russia. They did, however, have the advantage of autonomous community institutions. These had evolved in a tradition of full communal participation in discussion and decision regarding institutional and, in many cases, even individual actions.⁴³ In addition, the leaders of the Zionist movement in Russia insisted that the movement be registered and carried on legally, a privilege that

F.102, Arkh.III, d.9, ch.21, 1887, p. 3: "Jewish youth, with very few exceptions, is tainted with the ideas of socialism."

⁴¹ See the names of Jewish executives of the Azov-Don Bank in *Adres-kalendar i pamiatnaya knizhka Ekaterinoslavskoi gubernii*, 1912, p. 94. See also pp. 97-98 for Jewish commercial, financial, and philanthropic institutions in Iuzovka at that time.

⁴² *Trudy*, XXXVII, 1912, pp. 1-26.

⁴³ Yehuda Slutsky, *Haitonut hayehudit-barussit b'meah hatisha asar* (Jerusalem: Mosad Bialik, 1971), p. 26, writes that when in 1862 Eliahu Orshansky went to Kharkov to the university, rather than to a *yeshiva* (theological seminary), it was only after a public discussion in which the entire Jewish community participated.

was granted since the organization's aim was to remove the Jews from Russia rather than to make Russia more comfortable for the Jews.

A study of the activities of the Zionist circles in the Donbass region shows the extent to which this opportunity granted the region's Jews an experience in civic participation denied to the great mass of the population. Broad discussions of organizational policy and politics occurred frequently, with decisions voted upon and recorded in protocols signed by all those attending.⁴⁴ Such meetings often numbered a hundred or more participants, and other activities often involved many who were not formal members. These were ongoing activities, enjoying continuity and the responsibilities brought by continuity in a democratic context. The elected had to render account before reelection, financial statements were drawn up, audited, and debated, and committees had to complete their tasks and dissolve themselves.⁴⁵

The Zionists of Iuzovka first organized in 1887. By 1905 the members of the movement in the settlement numbered four hundred, organized into various factions and parties, liberal, orthodox, and socialist, and competing among themselves openly and democratically. There were separate groups of secular and orthodox, adults, youth, and children, male and female, as well as various ideological outlooks. The Zionist idea thus was represented by groups that were available to every segment of the Jewish public. Despite their diversity all recognized a common goal that brought them into a single overall framework of consensual contention.⁴⁶ They voted not only for local representatives but for delegates to regional, national, and international gatherings. At the meeting of the regional congress of Zionists in Ekaterinoslav, 1,658 delegates attended, casting their votes for those who would be sent from the region to the all-Russian Zionist conference.⁴⁷ Their participation in the Zionist movement thus served to break some of the parochial isolation of the individual communities and gave them a larger perspective on the world.

⁴⁴ See Z. A., A24/16/6/503, for a carefully written protocol dated February 24, 1902, of a meeting that debated Jewish education in Alexandrovsk and elected a school committee of the Lovers of Zion.

⁴⁵ See the various protocols of the Enakievo Zionists, Z. A., A24/17/2/104; A24/17/3/211; etc.

⁴⁶ A. Linden, ed., *Die Judenpogrome in Russland* (Koln and Leipzig: 1910), vol. 2, p. 213. See also Z. A., A24/14/85, for details of seven different adult and youth Zionist groups in Iuzovka in 1902. In this source the socialist Poalei Tsion group is characterized as "so-called intelligentsia, but in fact [*po prostu*] simply bourgeoisie."

⁴⁷ A report of this congress is in Z. A., A24/17/7/625.

The civic experience within the Jewish community ultimately weighed little in the scale of Russian politics. Yet when the numbers of persons involved, the type of political activity undertaken, and the educational effect of that activity is compared to that of the Russian inhabitants of Iuzovka, the political and cultural poverty in which the latter lived is thrown into sharp relief.

The illegitimate conspiratorial activities of the revolutionary underground could have relatively little continuity and could impart only a narrow range of political and social experience compared with that enjoyed by the Jewish inhabitants of Iuzovka. The economic and professional organizations permitted by the autocratic regime reached only individual narrow groups in society as compared to the broad cross-section drawn into the Zionist activities of the Jewish community. Although the Jews of Iuzovka experienced strains of economic stratification and all manner of communal conflicts, common, cross-cutting ties of several sorts had been created in the course of such shared experiences as the building of a Zionist movement. Such ties moderated conflict and prevented the disintegration of their society at a time of crisis. This is what was to prove lacking when Russian society came into crisis.

THE UKRAINIAN POPULATION

The nearby Ukrainian peasants were not on the best of terms with the mining settlements and viewed them as foreign both ethically and ethnically. Local peasants were said to be reluctant to rent space or structures to the immigrant miners, thus complicating the problem of housing.⁴⁸ When Gorlovka miners struck and rioted in the 1890s the local land captain, Rozalon-Soshalskii, armed peasants of a nearby village with clubs and set them against the miners.⁴⁹ Such incidents cropped up periodically through 1905. In addition the local peasants considered a miner to be "a man capable of any vileness. . . . The local population remained so estranged from the mine workers that mothers, wishing to discipline their children, threaten them with the bogey-man of the miners."⁵⁰ Another

⁴⁸ Pal'chinskii, "Zhilishcha," p. 423.

⁴⁹ Levus, "Iz istorii," p. 54. Another account of a worker-peasant brawl during a strike in 1895 is in Pankratova, *Rabochee dvizhenie*, vol. 4, pt. 1, p. 160.

⁵⁰ DOGIA, F.2109, op. 1, d.9, p. 1. Preobrazhenskii church journal.

source gives an almost identical picture of the peasants regarding miners as “filthy unthinkable creatures who knew neither God nor truth and in a dark place were capable of killing a man for a few pennies.”⁵¹ In the village next to the largest mine in Slavianskerbsk uezd blood was spilled over the miners’ nightly incursions trying to take up with young girls or with village women who had no husbands. It was not a rare occurrence for married men working alone in the mines to take “second families,” abandoning them when and if they returned to their villages or moved on to another mine. The abandoned woman, rejected by her village, then often became a “public woman.”⁵² The relatively few Ukrainians employed in the mines and metallurgy works were also embroiled in ethnic tensions despite their acculturation to the dominant Russian milieu of the region.

There was ample reason for the Russian migrants to seek employment in the south. In the central regions population pressures on the land were growing, and land prices rose sharply, outstripping the rise in agricultural workers’ wages. Surveys from the mid-1880s from Kursk guberniia noted that land costs had risen from 70 rubles a desiatin in 1870 to 150 in 1883 while the annual wage of a male agricultural worker had gone up only from 50 to 60 rubles between 1874 and 1882. At the same time, despite considerable variations in the size of landholdings and the strategies employed by families seeking to augment their incomes, the turning of labor to off-farm employment was a near universal phenomenon.⁵³ One of the strategies was to go to the Donbass for the winter. “From the villages of Karmanov and Voropaevka in Lgovsk uezd, many go to Ekaterinoslav guberniia to Mr. Hughes’ iron foundry. . . . They go there mainly in autumn and winter after September 15, when the grain harvest is done. After deductions for food, the worker may have 50–60 rubles left from 150 days work.”⁵⁴ By working in Iuzovka for the winter, a man, if he were

⁵¹ S.A. An—skii, “Ocherk,” 1892, p. 8. An—skii (S. A. Rappoport), the Socialist-Revolutionary who later gained fame as author of the Jewish theater classic *The Dybbuk*, spent nearly a year among the villages and mines of the Donbass, working with and reading to the population as part of the *Narodnaia vol’ia* movement of the 1880s, all the while under secret police surveillance.

⁵² An—skii, “Ocherk,” p. 13.

⁵³ *Sbornik statisticheskikh svedeniĭ po Oboianskomu uezdu (Kurskoĭ Gubernii)* (Moscow: Oboiansk uezd zemstvo, 1883), pp. 118, 126; *Sbornik statisticheskikh svedeniĭ po Kurskoĭ gubernii* (Kursk: Kursk Guberniia zemstvo, 1884), p. XXIII.

⁵⁴ An 1883 Kursk guberniia zemstvo publication, cited by Rashin, *Formirovanie*, p. 444. The calculation of how much a worker could save is roughly consistent with our calcula-

sober, diligent, and economical, could make twice as much in the mine or mill as he could in the fields or northern factories. In Moscow in the 1870s two hundred rubles a year was a high wage. Textile factories or wineries paid only twenty-five rubles a year.⁵⁵ The average factory worker's wage in the Russian Empire in 1900 was seventeen rubles a month, considerably less than an average miner or factory worker in the Donbass, and only about half the pay of a skilled coal cutter in a Donbass mine. Even were he to find five months' employment in the local sugar mills, a Kursk worker of the mid-1880s received only seven rubles plus room and board for a month of twelve-hour shifts.⁵⁶

These first mine workers were winter migrants who returned for the planting, the field work, and the harvest. At the same time there were those who left their home villages in the spring and went south seeking better pay; although it is not stated explicitly, the implication is that they went to do agricultural field work in the south, where a flourishing commercial agriculture based on hired labor was developing.⁵⁷

The very idea of entering the mine or the factory, dark and enclosed, with the smoke, the gas, the blinding heat of the furnaces, the dust of the mines, was foreign and repugnant to the peasant. He had to be coaxed, wheedled, or even tricked into entering the mine, and then into signing on for a winter season. As we shall see, the peasants' reluctance to commit themselves to long-term work in the mines or factory became an issue in one of Iuzovka's first strikes. Yet wages, living conditions, and the lack of culture in villages were said to be even worse than in the mines. Land was scarce, money even more so, and so the peasants went south.⁵⁸ Lenin,

tions in the previous chapter, although no allowance is made here for expenses other than food.

⁵⁵ Abramov, "Obrazovanie," p. 323.

⁵⁶ *Sbornik, Oboiansk*, p. 55.

⁵⁷ See the references to this phenomenon in *Sbornik, Oboiansk*, pp. 88, 107. In 1881 peasants travelling on the Kharkov-Rostov railway were asked why they were heading south. "All gave the same answer: insufficient land, a lack of grain, and low wages at home. Those from Kursk said they had only a quarter desiatin per family, an allotment that even in the best years did not meet their needs, and that if they had even one more desiatin, . . . then they would somehow get by. Rental payments went as high as three rubles per desiatin, and here they have already killed off iron haulage, just as the factories have killed off small artisan production, and neither has been replaced by another source of income. So now they have taken off for the Black Sea, even though they often returned poorer than they had gone out." *Kharkovskie gubernskie vedomosti*, September 30, 1881, cited in Kondufor, *Istoriia rabochikh Donbassa*, vol. 1, p. 36.

⁵⁸ On the reluctance of the peasant to enter the mines and factories see Gonimov, *Staraisa*

looking at new industrial centers that were growing up in some of central Russia's villages, wrote: "the muzhik is not allowed to go to the factory, so the factory goes to the muzhik."⁵⁹ This applied, perhaps, to some areas of the empire, but not to the Donbass. The migration of peasants to the new industrial region was a major social and political phenomenon.

Russians formed the rank-and-file of the labor force and only gradually rose to supervisory and executive roles. These, particularly in the Donbass' early years, and much more in the metallurgical factories than in the mines, were virtually an exclusive domain of foreigners. But even in production work foreigners were present and resented. In 1870 Shostak reported that Belgians from Liege had been working successfully in the Lisichansk mines. "They were paid eighty rubles a month, three times the wage paid to Russian miners. The employers were satisfied, and so were the Belgians, and many of their compatriots wanted to join them, but the Russian workers complained and at the end of the contract the Belgians were fired."⁶⁰ "The foreign worker is industrious and skillful—the Russians much less. The foreigners look down on the Russians, creating enmity. They also get higher pay than the Russians. The foreigners invite their friends and relatives to join them."⁶¹ Hostility to foreigners had numerous sources. In the Belgian steel factory at Kamenskoe the Russian Orthodox workers were hostile to Catholics and to foreigners (in this case mostly Catholics) who received privileges denied to the Russians.⁶² These tensions were felt by Hughes in his factory and mines. His devotion to the idea of training a local labor force was neither a public relations ploy to curry favor with the Russian authorities nor pure economic calculation, for the skilled foreigner earned his higher wages through higher productivity. In a letter to Valuev, Hughes remarks that he could easily bring out more English, and that it would be profitable to do so, but it might result in strikes that would be fatal to the factory.⁶³ The various groups that made

Iuzovka, p. 20. For the comparison of village and mine living conditions see Kogan, "K voprosu," pp. 73–76. The latter is based on interviews with early Donbass settlers regarding their motivations and experiences.

⁵⁹ Lenin, *Sochineniia*, vol. 3, p. 523.

⁶⁰ TsGIAL, F.37, op.53, d.746, p. 17.

⁶¹ *Iuzhnyi rabochii*, no. 3, 1900, p. 21.

⁶² Pankratova, *Rabochee dvizhenie*, vol. 3, pt. 2, p. 215. McKay, *Pioneers for Profit*, p. 257, writes of a 1900 riot at the Konstantinovka metallurgy plant during which sixty Belgian workers were driven out and part of their housing destroyed.

⁶³ TsGIAL, F.381, op.50, ed. khr.3, p. 3. Letter of February 25, 1874. It is worth

up the population were separated by different customs, lack of common language, and a very different outlook on the world, despite the fact that basically the foreigners, the Russians, and the Jews had all been attracted to the Donbass by the economic opportunities it offered. But most of all they were separated by the mutual reinforcement of isolation as ethnic and socioeconomic divisions coincided, hindering any creation of community in the heterogeneous population that was flowing into the Donbass.

There is another point to be noted here. In Europe the growth of the towns came as an assertion of independence against a ruling feudal aristocracy. "Town air makes a man free" was a rallying cry for people looking to change not only their mode of production, but their political environment. America, too, had this challenge of freedom. With all the similarities that we may find in working conditions and labor relations when we compare the lives of Russian and American coal miners, the sense of the open frontier in America created expectations and possibilities that were unthinkable in autocratic Russia. Moving to the Donbass, a Russian peasant carried with him his legal identification as to social and political position. However long Ivan might live as a miner or steel worker in Iuzovka, he was still registered as a peasant from a village in Kursk or Orel, and at the first misdemeanor he could always be deported to his home village. These were years when the tsarist regime felt acutely the challenge to its autocratic values and sought to renew itself without changing anything, when it resisted even many of the reform pressures generated within its own very varied bureaucratic organizations. It was a staunchly bureaucratic and interventionist regime, regulating every aspect of life from standard food to entertainment to residential rights. The belief in central authority and mistrust of the people repeated itself at every level down to the individual mine and factory.

The immigrant element of workers grew for many years, and remained substantial even when it began to decline. As we have noted, the 1884 survey in Ekaterinoslav guberniia found that 44 percent of the mine workers in Slaviansoserbsk district came from outside the guberniia. In the Bakhmut district at the same time, two-thirds of the population were immigrants.⁶⁴ At the New Russia mines, no more than five percent of the

noting that at the time of this letter there had not yet been any strikes in the New Russia Co. enterprises.

⁶⁴ *S.S.S.*, vol. 3, Slaviansoserbsk uezd, p. 384; Lukomskaia, "Formirovanie," p. 299. At

1,080 miners employed in February of 1889 were of local origin.⁶⁵ In 1893 Avdakov put the proportion in the Iuzovka district at seven-eighths immigrant and one-eighth local.⁶⁶ The 1897 census found that 70 percent of the workers in the Ekaterinoslav and Don Cossack territories were born outside these regions.⁶⁷ By 1909 the proportion had declined to less than half: Fialkovskii found that only 240,532 out of 546,619 residents of Bakhmut uezd were immigrants.⁶⁸ The reason for this predominance of immigrants was double. It involved the intense growth of the mining industry, in which, as we have noted, small mines, including many family owned peasant mines, were squeezed out of the market and taken over by merchant entrepreneurs or by large firms who were gradually developing a mechanized and more heavily capitalized mining industry. These large mines created a great demand for labor. The result of the migration was that the whole of New Russia, and the Donbass within it, took on a heavily Russian population and grew at a rate faster than almost any other parts of the empire. From 1863 to 1914, this whole southern area grew 3.09 times in population, with the Don Cossack Territory growing by 4.08 and Ekaterinoslav guberniia by 2.87.⁶⁹

The second reason for immigration cannot be overemphasized: the small local population was persistently reluctant to enter the mines.⁷⁰ Kolodub found the presence of an *artel'* of Ukrainian workers asking to work in the anthracite mines to be a sufficiently unique phenomenon that it was re-

the time of the *zemstvo* survey, Slavianserbsk district had more local peasant mines than did Bakhmut district.

⁶⁵ TsGIAL, F.37, op.67, ed. khr.305, p. 1.

⁶⁶ *Trudy*, VIII, 1893, p. 334.

⁶⁷ Cited in McKay, *Pioneers for Profit*, p. 259. M. I. Retivov, "Opyt statisticheskikh razrabotki travmaticheskikh povrezhdenii na Shcherbinovskom kamennougol'nom rudnike za 1907 i 1908 g.," in Orlov, ed., *Trudy pervago vserossiiskago s'ezda*, p. 171, finds only 17.5 percent Ekaterinoslav guberniia workers in the Shcherbinovka mines in 1907, and Iakovlev finds that close to three-quarters of the workers at the Nelepovka mines in 1905 are from outside the region. Iakovlev, "Rabochie," p. 27.

⁶⁸ Fialkovskii, "O dvizhenii rabochikh," p. 291.

⁶⁹ A. G. Rashin, *Naselenie Rossii za 100 let* (Moscow: Gosstatizdat, 1956), p. 55. In Rashin's usage, New Russia or South Russia is defined as the Don Cossack Territory and the gubernii of Kherson, Taurida, Bessarabia, and Ekaterinoslav.

⁷⁰ Potolov, *Rabochie Donbassa*, p. 106 n.46, p. 101 n.23, pp. 99–100 n.17, gives sources from the 1880s until after the turn of the century discussing the reluctance of the local Donbass peasants to enter the mines and factories; they often preferred agricultural work even if it meant accepting lower wages. Kolodub, *Trud i zhizn'*, p. 11, generalizes upon this, saying that the Russian, too, goes into the mines only out of desperate need, when all other options are closed to him.

membered and remarked upon.⁷¹ Both occupational preference and economic opportunity are involved here. In May 1902 Governor Keller explained to Interior Minister von Plehve: "The workers are almost to a man immigrants, the local people with rare exceptions not engaging in mine work, having the opportunity to occupy themselves profitably in haulage."⁷² In Aleksandrovsk volost' of Bakhmut uезд adjacent to Iuzovka five of the six village associations received only one desiatin of land per household after emancipation, while the sixth redeemed only its garden holdings. These were essentially landless peasants; when the New Russia factory and its coal mines developed and labor was scarce, it would have seemed natural that these people would have hired on. Yet fifteen years later it was found that 68 percent were still farming on rented land, despite the fact that a settlement of close to 6,000 people had grown up alongside them. Of those who were not still farming in the district, only a few had become workers. The rest, "unable to come to terms with the new capitalist order, fled 'down the line'—or to the Kuban, anywhere where there was open land."⁷³ Only slowly did this change. In 1871, 82.5 percent of the workers of the Donbass were Russians and 15.5 percent from the Ukraine. Ragozin notes 70 percent from the center and northwest, while 30 percent are from the Ukraine and Poland. In the 1897 census it was found that there were 73.1 percent Russians and 22.4 percent Ukrainians among mine and ore workers, and 59.9 percent Russians with 21.1 percent Ukrainians in the metallurgy plants of the Donbass.⁷⁴ In Iuzovka in 1912, the population was said to be 64 percent Russian and 24 percent Jewish, with no separate figure given for Ukrainians.⁷⁵ With the population past its peak in July of 1917, the pre-municipalization

⁷¹ Kolodub, *Trud i zhizn'*, pp. 57–58.

⁷² TsGAOR, F. DP., ed. khr.4, chast' 18, lit.G, 1898, p. 7.

⁷³ Shreider, "Ocherki," pp. 47–48.

⁷⁴ Sources: 1871—*Istoriia mist i sil*, p. 22; Ragozin, *Zhelezo i ugol'*, p. 113; 1897—L. M. Ivanov, "Pod'em massovogo dvizheniia gornozavodskikh rabochikh Donbassa, letom 1906," in *Iz istorii razvitiia rabochego i revoliutsionnogo dvizheniia* (Moscow: Izdatel'stvo akademii nauk, 1958), p. 356. Potolov, *Rabochie Donbassa*, p. 132, specifies using the census criterion of language to determine national identity and derives from the 1897 census data a figure of 69 percent Russians in the metallurgy and metal-working industries. Ivanov does not specify the criteria that he uses, but, as he gives only 60 percent Russians in the metal working industries, he would appear to have used the criterion of place of origin, thus augmenting the percentage of Ukrainians in his sample, in keeping with his thesis that the Ukrainian population took an active part in the industrialization.

⁷⁵ DOGIA, F.2109, op. 1, d.9, p. 13. Preobrazhenskii church journal.

census recorded 58 percent Russians, 18 percent Jews, and 12.9 percent Ukrainians.⁷⁶ Little by little the Ukrainian population was drawn into the industrial revolution, but it was also the population that could most easily return to the village when life in the mines and factories became dangerous or insupportable. In 1923 Ukrainians were only seven percent of the population of a Iuzovka ravaged by civil war and famine, with mines and industry barely working, and with a population cut to less than half of its wartime peak of 70,000.⁷⁷ In 1925, on the eve of the Stalinist industrialization, Ukrainians were only 19.1 percent of metallurgy workers and 19.4 percent of coal miners in the Donbass.⁷⁸ The revolution and civil war had set Ukrainian urbanization back by a quarter century.

MIGRATION AND STABILITY

The origin of the labor force, with the consequent Russian dominance in the population of the Donbass, is only one element in our investigation. The question of the migration of workers between village and industry, and from plant to plant or mine to mine within industry, is central. It had great influence on the industrialists, and it influenced the professionalization and self-image of the Donbass workers, as well as their attitude to the authorities and to the revolutionaries who came to recruit the workers into their movements. Among the Soviet historians of the Donbass there has been a lively debate as to the rate at which the population of the Donbass became a settled proletarian mass. Mainstream historians see a linear development of settlement from the beginning of the Donbass, a development which created a clear working class that had cut its roots with the village and that by the end of the 1880s dominated the scene, setting the tone for the newcomers.⁷⁹ Others carefully modify this thesis without

⁷⁶ DOGIA, F.10, op.1, d.5.

⁷⁷ Bohdan Krawchenko, "The Impact of Industrialization on the Social Structure of the Ukraine," *Canadian Slavonic Papers*, 22, 3 (September 1980), p. 351. The Ukrainian population of Iuzovka declined from 4,300 to 2,200 between 1920 and 1923. During that period the population of Iuzovka shrank from 37,900 to 32,100. See Steven L. Guthier, "Ukrainian Cities During the Revolution and the Inter-War Era," in Ivan L. Rudnitsky, *Rethinking Ukrainian History*, pp. 165, 175. In 1924 the population was said to be about 60,000, including 12,000 Jews.

⁷⁸ Guthier, "Ukrainian Cities," p. 171.

⁷⁹ See L. M. Ivanov, ed., *Rabochii klass i rabochee dvizhenie v Rossii. 1861–1917* (Moscow:

openly contradicting it, emphasizing the tentative and non-linear nature of the process and the persistence of the ties with the village.⁸⁰

Stability of the workers in the new industrial settlements was important to the employers for a number of reasons. Long employment meant skill, a greater degree of safety, and higher productivity. This led to increased profits from the mines, and, as McKay has emphasized, these entrepreneurs were in the Donbass for profit. Skill and heightened professional self-identification meant that the great amounts of capital that were being invested in the mines could become more productive. This was a necessary precondition for the development of the mines. In 1870 Shostak reported that the Lisichansk blast furnaces had shut down for seven weeks in the summer for lack of coke. The coal miners had gone to the village fields to work.⁸¹ When Islavin visited the Grushevsk mines in June of 1874 he found only 20 of 300 shafts being worked. The rest were idle because the peasants were in the fields.⁸² Less than twenty years later Avdakov explained that with the expansion of the coal industry and modernization of its equipment the producers could not afford to cut back or close the mines seasonally. He noted that in the large mines even a modest outflow of workers disrupted production schedules.⁸³ There was another good reason for the employers to seek a stable and settled work force. In the context of the violent disruptions and brutal society of the Donbass it did not escape notice that family life was one of the few moderating and civilizing elements, and that the family men were quieter, protested less frequently and

Nauka, 1966), p. 46; F. E. Los', *Istoriia robotnitskogo klasu Ukrainskoi RSR* (Kiev: Naukova dumka, 1967), vol. 1, p. 128, emphasizing the permanence of the workers.

⁸⁰ See, for instance, Potolov, *Rabochie Donbassa*, p. 143 n.67, criticizing Lukomskaia for exaggerating the percentage of settled miners and claiming that in the mid-1880s 60 to 70 percent of the Donbass workers were still migratory. His figures are not widely different from those of other historians, Los' for instance, but the emphasis of analysis is totally different. A. N. Atsarkin, *Zhizn' i bor'ba rabochei molodezh v Rossii, 1900—Okt. 1917* (Moscow: Mysl', 1976), p. 272, claims that during 1914 38.7 percent of Donbass miners were still linked to the village. L. M. Ivanov, "Pod'em," p. 355, writes that in 1904 only 21.1 percent of miners in the Donbass were seasonal; he then goes on to show that of the coal cutters, the most professional and highest paid category of miners, 24,370 worked in January 1904 but only 16,668 in August. This means that 31.7 percent of the coal cutters were away from the mines in the summer.

⁸¹ TsGIAL, F.37, op.53, d.746, p. 13.

⁸² Islavin, "Obzor," p. 78.

⁸³ *Trudy*, XVIII, 1893, p. 336. McKay, *Pioneers for Profit*, p. 247, writes that as late as 1901 the production plans of the Gorlovka coal mines were uncertain because it was not known how many workers would come to the mines at the end of the harvest season.

less vehemently, and came to terms with their environment more easily than did the unattached workers.⁸⁴

The problem of migration was complex, and there was no one policy that could provide a solution. Essentially there were three types of migration, perhaps even four. The first was the seasonal flow to and from the village of those peasants who were in the mines to save money in the off-season, but whose aspiration was to lead a prosperous life as peasants. They had come to the Donbass out of a sense of necessity and opportunity, but had no intention of making permanent lives and professions there. Many were disappointed in their hopes and reconciled themselves to the mines. Such was Sergei Khrushchev, a migrant from the village of Kalinovka in Kursk guberniia; his son, Nikita Sergeevich, was raised as a worker in Iuzovka rather than as a villager. The doctor-publicist, V. V. Veresaev, sketched the migrant villager in his "Underground Kingdom" (*Podzemnoe tsarstvo*), published in 1892. The stoker, Isaenko, is depicted as saying, "You couldn't manage. The land was rented, I have no house, and I have no tools. I'll just save up 500 rubles here, then I'll build me a house and get me a horse. . . . Otherwise how can one manage there? You must go out as a hired worker."⁸⁵

It was then necessity rather than choice that formed the Donbass working class. This is not to say that the young and aspiring peasants who came to the south did not want to come there. The question is one of their long-term goals. Though some scholars emphasize the willingness with which the peasants went to seek their fortune, it should not be forgotten that the predominant motive appears to have been that the fortune was to be used in building a prosperous life in their traditional village surroundings.⁸⁶ It

⁸⁴ Iakovlev, "Rabochie," p. 28. For a summary of the case for a settled work force see McKay, *Pioneers for Profit*, pp. 249–52. David Mandel, *The Petrograd Workers and the Fall of the Old Regime* (London: 1983), p. 41, citing two Soviet sources, states that it was almost axiomatic in the Russian labor movement that married life discouraged political activism.

⁸⁵ V. V. Veresaev, "Podzemnoe tsarstvo," *Nedel'ski*, July 1892, cited in A. F. Silenko, *V. V. Veresaev* (Tula: Tul'skoe knizhnoe izdatel'stvo, 1956), p. 16. L. M. Ivanov, "Preemstvennost' fabrichno-zavodskogo truda i formirovanie proletariata v Rossii," in L. M. Ivanov, ed., *Rabochii klass i rabochee dvizhenie v Rossii, 1861–1917* (Moscow: Nauka, 1966), p. 88, brings what may well be the source of an old chestnut that returns perennially to poke fun at socialism and human nature. He relates the story of Zheliabov, the *narodovolets*, who, after a fiery lecture on the collectivist principles of socialism to a group of workers, clapped one of them on the shoulder and asked, "So brother, if today someone were to give you five hundred rubles, what would you do?"

"Me? I'd hurry back to my village and open a shop there."

⁸⁶ For examples of such discussions see David Lane, *State and Politics in the USSR* (New

is not even clear that the most successful and skilled of the workers saw the village as an encumbrance, while the less skilled used the village as a lifebelt to tide them over slack periods.⁸⁷ As we have already noted, Ivanov has documented the summer 1904 migration of one-third of the coalcutters (*zaboishchiki*), whose job was the most demanding and highest-paid in the mines, a migration greater than the 21.1 percent for the mines as a whole in the same year.⁸⁸

Even years of experience in industrial work were not incompatible with seasonal migration. The zemstvo surveyors who examined the habits of miners in the northern Donbass in 1884 found that only 21 percent of them were spending their first year in the mines, but 60.5 percent had less than a year's service in their present mine. They came and went with the seasons, changing mines with the flow of their friends, the fluctuation of wages, or any of a dozen other causes.⁸⁹ Most certainly this seasonal migration waned over the years. First, the factories, with Hughes' New Russia as their example, provided comparatively steady work, high pay, and progressively more liveable conditions. Second, the concentration of capital in the largest mines spread some part of this improvement to the coal industry, although variations in the process are marked. Nevertheless, Kogan has gathered a number of cases of the workers' persisting ties to the village, ranging through as late as 1915, and An—skii presents the

York: New York University Press, 1985), p. 13. Lane emphasizes the attraction of the urban life, with its interesting pastimes and white bread. Though as we have seen, the Donbass workers did indeed eat white bread, there were few, if any, interesting attractions or pastimes of an urban nature for them. Diane Koenker, "Collective Action and Collective Violence in the Russian Labor Movement," *Slavic Review*, 41, 3 (Fall 1982), p. 446n., citing Tugan-Baranovskii, raises the point that youths were not "torn" from their native soil, but travelled eagerly to jobs in the city. This, however, ignores the question of motives and the ultimate goal of the migration. Ivanov, "Preemstvennost," p. 63, denounces as narodnik, S-R, and Menshevik the view that workers in many parts of Russia maintained their ties to the village to any appreciable extent.

⁸⁷ For this view see Bonnell, *Roots of Rebellion*, pp. 54–55. See also Koenker, *Moscow Workers*, pp. 52–53. The latter discerns two groups: those seeing the land as a burden of taxes and redemption payments, and those hanging on to it as an insurance policy. This approach appears better based than that of Bonnell, who determines the relation of the worker-peasant to the land on the basis of acquired industrial skills. Joseph Bradley, *Muzhik and Muscovite: Urbanization in Late Imperial Russia* (Berkeley: University of California Press, 1985), pp. 123–24 asks also whether the best and brightest went to work in the cities, but his criterion is the literacy of the migrant. In the end he claims that migrants came from both extremes of peasant society.

⁸⁸ Ivanov, "Pod'em," p. 355.

⁸⁹ *S.S.S.*, vol. 3, Slaviansoserbsk uezd, p. 391. On this point, see also Johnson, *Peasant and Proletarian*, p. 37.

testimony of engineer Mevius, a pioneer of Donbass industrialization, who, after observing an entire generation of industrialization, said of the workers in the Lugansk plant, "I myself was five years the director of the factory and may testify that these people continuously strove in every possible way to get out of the factory and occupy themselves with agriculture, and all this despite the many years they had lived in this place."⁹⁰

Evidently, the realization that the dream of landholding would never be fulfilled did not solve the problem of migration. In the wake of the seasonal pendulum of village to mine, a second type of migration appeared. Avdakov, reporting on this to the Congress, likens the workers to birds of passage: "their restlessness in spring is even stronger, and if they don't go off to the fields then they are drawn to drift from one mine to the other. 'Where are you going?' the workers' artel sometimes asks. 'To Golubovka.' 'And is it bad here?' 'No. It's even very good. They pay you your money. But perhaps over there it will be better.'" Avdakov adds that it is not really the search for betterment, but an innate restlessness and a lack of rootedness in any specific place that motivate the miners' migrations.⁹¹ A few years later the motivations for workers' migration were set forth as a somewhat more complex matter. Taskin explained the causes of the seasonal labor shortage felt in 1898 as: (1) the miners' habit of going to summer field work, not for pay, but as a fresh air holiday from the mine; (2) married workers going back to their family in the village even when the harvest there was poor, in order to claim the subsidies paid to peasants in poor years; (3) miners moving from the closed deep coal shafts to the open pits of the iron mines; (4) the reluctance of local peasants to enter the mines, particularly in a good harvest year; and (5) the continuous growth of the mining and metallurgy industries, which created a chronic labor shortage despite the great outpouring of population from the villages.⁹²

⁹⁰ Kogan, "K voprosu," pp. 72–74. An—skii, "Ocherk," *Russkoe bogatstvo*, no. 2, 1892, pp. 3–5. See also Liashchenko, "Usloviia truda," p. 272, who writes of many permanent workers who still dream of returning to the village.

⁹¹ *Trudy. XVIII. 1893*, p. 331. The Golubovka mine was one that was noted a few years earlier for high wages but poor labor relations. In 1884 it had the largest contingent of workers settled with their families of any of the mines surveyed in Slaviansoserbsk district. See *S.S.S.*, vol. 3, Slaviansoserbsk uezd, p. 363.

⁹² E. Taskin, "K voprosu," p. 3, 776. Similar characterizations of the miners' tendency to wander may be found in *Trudy. Ekstrennyi s'ezd. 1900*, report on workers' life quality, p. 4. Surozhskii, "Krai uglia i zheleza," p. 310, writes in 1913: "Our mine workers are a haphazard wandering mass going from one mine to the next, searching for something better."

Clearly there was powerful unrest within this population, fed by deep cultural roots: the strains of a transitional society, and the harsh physical and social conditions in which the Donbass workers lived. The restlessness of the workers was echoed by the anxiety of their employers. As the coal industry grew, the wandering miners were seen as "a wave of all sorts of working people, who, seeing themselves as newcomers, are an element little-disciplined and easily drawn into all sorts of disorders."⁹³ As our sources show, this unrest persisted among the miners with little diminution through to 1917 and contributed to the character of that fateful year.

Often, however, the instability of the population had clearer, more immediate roots. Plague, famine, violence, and political unrest all could scatter the Donbass workers. In June of 1910 there was a mass exodus amounting to forty thousand people from the Donbass due to the cholera epidemic. The number of miners in that month was only 76.7 percent of the annual average, and the number remained abnormally low for the next two months.⁹⁴ So great was this flight from the Donbass, and so great the weight of the Donbass in Russia's coal industry, that other areas could not take up the slack and the absolute number of coal miners in Russia declined during the Donbass epidemic.⁹⁵ In 1893, when the fear of a second consecutive year of cholera coincided with a good harvest, Avdakov complained to the annual session of the Congress that where there should have been 22,000 workers in the largest Donbass mines, only 13,000 had remained. Forty percent of the workers had abandoned the mines!⁹⁶ The cholera riots in Iuzovka in 1892 reduced the work force in the New Russia factory from 6,754 in 1891 to 4,938 in 1893. The previous level of employment in the factory was not surpassed again until 1896, although it should be remembered that the 1890s were from their beginning a decade of rapid expansion in mining and metallurgy, and only a few days before

⁹³ *Trudy*, XXIV, 1899, Discussion on problems of the labor force, pp. 7–8. The specific anxiety expressed by the employers was that there could be a repetition of "the disorders that took place some years ago in the New Russia factory." Again we see an avoidance of specific reference to the cholera riots of 1892.

⁹⁴ See Rashin, *Formirovanie*, 1940, p. 382. In June of the three other years checked by Rashin, the variation from the annual average is no more than eight percent. At mine no. 5 in Gorlovka, only 400 workers remained out of the 4,000 employed. See Surozhskii, "Krai uglia i zheleza," p. 305.

⁹⁵ Rashin, *Formirovanie*, 1940, p. 155 n.1.

⁹⁶ *Trudy*, XVIII, 1893, pt. 1, p. 337. The French consul at Odessa reported: "the workers left the mines en masse. . . In some mines work stopped completely and coal prices rose sharply through the autumn and winter of 1893." AN, File F12, box 7173.

the riots the factory had signed a large new contract for supplying rails.⁹⁷ Additional examples of the workers' healthy instinct for self-preservation will appear in our accounts of the 1905 revolution and the famine of 1922.

There was yet a fourth form of migration that perturbed the employers. This was a sort of "internal migration," a withdrawal from the labor market without the worker leaving the mines and factories. Ivanov characterized the workers' wanderings as a search for higher wages, but there is ample testimony that this was not necessarily so.⁹⁸ We have already noted Taskin's 1898 comment that the miner looked not for higher pay, but for a respite from the mine. This custom was general even in 1917. "For any worker it is no secret that in May each year workers, spending all their time in the suffocating shop, left for a while their hard labor to live a little outside the factory, and to rest a little, at least in the summer, from their heavy daily drudgery."⁹⁹ A series of similar observations can be found noting that the miner is not an economic maximizer, but that his leisure and observance of a multitude of religious holidays often took precedence over savings or the achievement of a higher level of consumption. Even before the advent of industrialization, Charles Gascoyne, the English expert brought in to set the Lugansk metal works on its feet, had found how unresponsive the Russian worker was to the offer of extra pay for Sunday and holiday work.¹⁰⁰ Keppen had noted this trait in his survey of the development of the Donbass.¹⁰¹ In Chapuy's journal we read: "One cannot

⁹⁷ See *Kontrakty zakliuchennye 27 iulija 1892g. S-Peterburgim komitetom s vremennym komitetom kazennykh zbeleznykh dorog* (St. Petersburg: 1892). The annual numbers of workers in the New Russia factory may be found in Kulibin, *Sbornik*. Rashin, *Formirovanie*, 1958, p. 30, has gathered the figures into a single table covering the years 1882–1900. *Syn otechestva*, July 15 (27), 1892, reports a movement of a thousand persons per day fleeing the cholera in the south even before the riots. On July 28 (August 9), 1892, a week after the riots, the same paper reports the arrival of a train on the Kursk-Kharkov-Azov line with 1,200 workers from the south, and notes that an extremely intense wave of exodus from the south was anticipated. In CL, 11855, note 280, *Houilleres de la Russe Meridionale (Gorlotka)*, M. Waton, January 1900, supplementary note, p. 2, we find that one of the reasons for workers leaving the mines in the autumn of 1899 was an apocalyptic prediction that the world would come to an end on November 13.

⁹⁸ Ivanov, *Rabochii klass*, p. 46: "Workers moved from mine to mine and factory to factory looking for higher wages as conditions changed. In a good harvest year many would work on the landlords' estates, where pay was no less."

⁹⁹ *Izvestia uzoivskago soveta*, no. 43, October 26, 1917, p. 2.

¹⁰⁰ Potolov, *Rabochie Donbassa*, p. 48.

¹⁰¹ Keppen, "Materialy," *G-z l*, no. 5, 1900, p. 4174: "wages and money play a secondary role for the peasants of South Russia."

pay the Russian worker by the piece, for having loaded one or two wagons he often feels that he has earned enough and goes off."¹⁰² In 1893 some of the coal producers attempted to hold the miners at their work by raising their pay sharply, but found that this simply lowered their productivity by increasing the number of days they took off work.¹⁰³ Avdakov returned to this theme some years later, pointing out that as a result of the high wages that miners earned relative to agricultural workers, drunkenness and absenteeism were widespread.¹⁰⁴ This trait asserts itself through to the war period, as a sort of miners' version of the "iron law of wages"—the worker will exert himself in the mines to earn only that minimum needed to keep himself and his family alive. In adhering to this trait the Donbass workers were demonstrating that they had not yet exchanged their peasant habits for the values of industrial capitalism.

How strong was the migration of workers, what influence did it have on the mining industry, and what changes were there in this process over the years that we are studying? The first point to be made here is that once the Donbass began to grow, the predominant situation was one of labor shortage caused by rapid industrial expansion. There were periods of layoff and lockout, but these were exceptions to the overall pattern. Workers' migration therefore aggravated what was a chronic limiting factor on the growth of industry. The outbreak of cholera in the Donbass in 1910, provoking a "general flight of miners," created a coke shortage that hampered the working of the blast furnaces, and held the growth of metallurgy to 2.8 percent in that year.¹⁰⁵

The variation in labor force in the Donbass mines in the mid-1870s was 72 percent according to Islavin's observations. He wrote that in the winter there were 3,500 miners working, but only 1,000 in summer.¹⁰⁶ The variation in labor force in the New Russia mines in 1884 was much less, but still significant, with 1,824 miners at work in the winter, but only

¹⁰² Chapuy, *Journal*, p. 131.

¹⁰³ *Trudy, ekstrennyi s'ezd, 1893*, p. XVI. The Credit Lyonnais analysts remarked on this characteristic as well. See CL, 11855, note 997, Waton, *Briansk Coal Mines*, April 1900, p. 4. "Increasing the wages of laborers effectively cuts down the number of work days, already low because of the numerous Orthodox holidays."

¹⁰⁴ *Trudy, XXIV, 1899*, pp. 77–78. Protocols of the sixteenth session.

¹⁰⁵ AN, File F12, Box 7274, Consular report of Vautier, December 30, 1911. On the chronic nature of the labor shortage see also *Rabochee delo*, no. 4–5, August–September 1899, p. 96.

¹⁰⁶ Islavin, "Obzor," p. 73.

1,250 in summer.¹⁰⁷ This was better than the average in the district as a whole, where 3,083 miners out of 5,150, (59.9 percent) were found to be seasonal migrants.¹⁰⁸ A survey of industrial workers in the Moscow region a few years later found only 14.1 percent of the workers leaving the factory for the fields in summer.¹⁰⁹

The survey in Slaviansk uезд in 1884 covered only a little more than 1,000 miners. In two different parts of the survey a considerable variance was found between years of experience in the mining profession and years of service in the mine where the worker was employed at the time that he was questioned. The results are recorded in Table 8.3.

It should be noted at the outset of our discussion that the survey was taken during the summer months when many workers had already left the mines, and that the figures obtained thus exaggerate the percentage of

TABLE 8.3
Years of Mining Experience and Years of Seniority in Current Mine

	Number	Percent
YEARS OF MINING EXPERIENCE		
Less than 1 year	268	21
1–5 years	520	42
6–10 years	275	22
Over 10 years	<u>186</u>	<u>15</u>
Total	1,249	100
YEARS AT CURRENT MINE		
Less than 1 year	642	60.5
1–3 years	305	28.7
Over 3 years	<u>113</u>	<u>10.8</u>
Total	1,060	100.0

Source: *Sbornik statisticheskikh svedeniĭ po Ekaterinoslavskoi Gubernii* (Ekaterinoslav: 1886), vol. 3, Slaviansk uезд, p. 391.

Note: There is no explanation of the different numbers of miners in the two samples.

¹⁰⁷ *S.S.S.*, vol. 2, Bakhmut uезд, p. 263.

¹⁰⁸ *Ibid.*, p. 254.

¹⁰⁹ L. Dement'ev, "Sviaz fabrichnykh rabochikh s zemledeliem," *Iuridicheskiĭ vestnik*, November 1890, pp. 399–421. Dement'ev surveyed 14,552 workers, of whom 2,054 were categorized as seasonal migrants.

long-term miners. Nevertheless, it is clear here that the predominance of miners with less than one year at their current mine indicates a migratory tendency of experienced miners. While a core group of 37 percent had more than five years experience in mining, less than one miner in nine had remained on a single job more than three years. Although those who carried out the survey claimed that miners with over five years' experience in the mines usually had broken their links with the village, they nevertheless found that 965 workers out of their sample either held land of their own or belonged to a family that was working land in a village. In 1899 Taskin estimated that no more than one-third of the Donbass work force had their families with them.¹¹⁰ This would indicate that there had been little diminution in the proportion of migratory workers since Islavin's observation nearly a quarter century earlier. Kir'ianov, using data from 1913, found an overall picture that was unchanged from the beginning of industrialization: 35 percent of the workers settled with their families, while 65 percent were alone. He finds, however, a clear differentiation between the mines and factories, with the factories showing a much higher rate of family residence. The Dnieprovskii plant had 80 percent married and settled, while at the New Russia two-thirds had their families in the settlement.¹¹¹ Writing of the paradox of a shortage of mine workers while peasants are landless and unemployed, Lazarev saw this partly as a spiritual phenomenon defying rational analysis. At the same time he pointed to a purely material element: "What is there here for the worker and what should there be? What can attract him from his irrational peregrination or culture of drunkenness? Indeed 'the God of the Russian land is great' if in conditions of isolation in the barracks a worker can maintain any image of himself as a person with an independent right to a human existence, and restrain himself from becoming a thoroughgoing communist-atheist tramp."¹¹²

¹¹⁰ E. Taskin, *G-z l*, no. 9, 1899, p. 3802. Taskin's evaluation is not the most extreme of that period. A German observer in the mid-1890s "found many establishments in which the work force changed on the average once a year." He considered that an enterprise with 10 percent permanent workers should be considered fortunate. A French consul noted in 1893 that "most workers are nomads, alternating between industry and agriculture, and this presents an enormous difficulty." At the same time four-fifths of the workers in Moscow were said to be working year round. All of these are cited in McKay, *Pioneers for Profit*, pp. 247, 250 n.29.

¹¹¹ Kir'ianov, *Rabochie*, p. 31, n. 12. The exception to this pattern was the Makeevka plant with only 30 percent family workers.

¹¹² Lazarev, "Za shakhterov," p. 3664.

CHAPTER 8

Basing his calculations on materials published by the Statistical Bureau of the Congress of Mining Industrialists of South Russia, Rashin compiled a table of the number of workers in Donbass coal mines in selected years between 1904 and 1913. We examine these in Table 8.4 to see what they reveal about changes in the stability of the labor force.

The predominating characteristic of these figures is that of the industry's rapid growth. Despite economic crisis, war, revolution, and industrial unrest there is a doubling of the labor force in the mines. Only the 1910 cholera epidemic produced a one-year setback to this growth. Along with this, it is clear that the mining industry remains seasonal. In all four years examined the peak of employment is in the winter months of November, December, and January, while the fewest miners work during

TABLE 8.4
Monthly Numbers of Donbass Miners; Selected Years

Month	1904			1907			1910			1913		
	A	B	C	A	B	C	A	B	C	A	B	C
Jan.	86.3	100	112	114.5	89	98	112.9	84	101	169.1	84	100
Feb.	84.0	97	109	122.5	98	104	116.4	87	104	165.1	82	98
Mar.	77.0	89	100	124.0	96	106	112.1	83	101	168.4	84	100
Apr.	78.3	91	101	112.5	88	96	114.8	85	103	145.7	72	87
May	78.3	91	101	122.6	96	104	110.0	82	99	157.5	78	94
June	77.0	89	100	112.5	88	96	85.5	63	77	156.9	78	93
July	69.0	80	89	113.0	89	96	86.2	64	77	152.7	76	91
Aug.	67.3	78	87	107.0	84	91	95.9	71	86	163.9	82	97
Sept.	71.2	83	92	114.0	89	97	108.4	81	97	158.2	79	94
Oct.	79.0	92	102	122.5	96	104	127.8	95	115	182.1	91	108
Nov.	78.5	91	102	128.0	100	109	133.1	99	119	200.6	100	119
Dec.	82.0	95	106	112.5	88	96	134.3	100	121	201.0	100	119
Aver.	77.3	90	100	117.4	91	100	111.4	83	100	168.4	84	100

Source: Derived from A. G. Rashin, *Formirovanie promyshlennogo proletariata v Rossii* (Moscow: Sotsekgiz, 1940), p. 382.

Note: A: No. of workers in thousands. B: Monthly number of workers as percentage of highest monthly number of workers during year. C: Monthly number of workers as percentage of average monthly number of workers during year.

August in 1904 and 1907, June in 1910 (due to cholera as we have noted), and April in 1913.¹¹³ The difference between peak and trough varies during the decade. The variance is only 12 percent in 1907, but 63 percent in 1910, while the 1913 variance of 24 percent is almost identical to 1904.¹¹⁴ While this is considerably diminished from the 67 percent observed by Islavin in 1874, there is certainly no secular trend towards diminution of the migration within the 1904–1913 decade as the labor force grows from a monthly average of 77,300 miners in 1904 to 168,400 in 1913. As to the extent of the turnover and the difference between factories and mines, Fialkovskii brings some partial figures from 1908. These are shown in Table 8.5 and reveal both a staggering rate of labor turnover and a substantial variance between enterprises. The Shcherbinovka mines show a turnover of well over two hundred percent, though this is balanced exactly by new hirings. The factories, in keeping with the generally accepted thesis that their workers were more stable than those in the mines, show a relatively low turnover rate of between two-thirds and three-quarters. It is the Alexandrovsk mine, however, that posts the best record for labor stability, with a turnover of “only” fifty percent in its labor force during the year. This mine also shows complete seasonal stability, with the same number of workers recorded throughout the year, although how this is done with those leaving exceeding the number hired by almost six hundred remains unexplained.

Although the figures for the New Russia plant do not differentiate between factory and mines, the number of New Russia miners surveyed by Fialkovskii was about one-third higher than that of factory workers.¹¹⁵ Nevertheless, the turnover of over one hundred percent recorded in this year indicates a substantial dissatisfaction on the part of Luzovka’s factory workers and miners. The conjuncture of cholera and typhus during that

¹¹³ Easter, in March or April, always marked a low month of activity; workers took a long Easter holiday even if they did not leave the mines. *G-z l*, no. 13, 1906, notes that at the Grushevsk mines, most of the workers (nearly all of them from Voronezh guberniia) went home for two weeks at Easter. The sharp fall in the number of miners working in April 1913 might be due to the coincidence of Easter and the celebration of the tricentennial of the Romanov dynasty, which was held through the first months of that year.

¹¹⁴ Rashin makes a comparison between the summer low and the average, thus diminishing the percentage of variance. If we want to know the percentage of workers leaving the mines, comparison of highest and lowest employment figures would appear more suitable.

¹¹⁵ Fialkovskii, “O dvizhenii rabochikh,” p. 293. He writes of 6,294 factory workers and 8,249 miners.

CHAPTER 8

TABLE 8.5
Labor Turnover in Selected Donbass Mines and Factories, 1908

Enterprise	Number Employed	Number Hired	Number Leaving
MINES			
Shcherbinovka	2,346	5,453	5,453
Nelepovka	815	648	1,042
South Russia—Gorlovka	5,613	6,208	5,695
Aleksandrovska	2,899	1,495	2,031
FACTORIES			
Druzhkovka	470	430	398
Gorlovka Machine Works	341	240	229
Konstantinovka	3,085	2,439	2,354
New Russia Co. ^a	14,543	15,914	16,291

Source: V. P. Fialkovskii, "O dvizhenii rabochikh na promyshlennykh predpriiatiakh Ekaterinoslavskoi gubernii," *Vrachebno-sanitarnaia khronika Ekaterinoslavskoi gubernii*, no. 8, August 1909, pp. 293–94.

^a Factory and mines.

summer and autumn must account for some part of the turnover, for as we have seen from the writings of various doctors about the health and sanitation measures, these particular epidemics were considered severe and aroused the attention and activity of the zemstvo authorities. The number of New Russia workers dropped by two thousand during the autumn (the period when the epidemics were at their worst) as compared with the preceding spring and following winter, a phenomenon not shown in the other enterprises surveyed by Fialkovskii.¹¹⁶

Fialkovskii's figures show that despite the overall continuation of sharp seasonal variation in employment in the mines there were enterprises that held a seasonally stable work force, with the numbers employed varying little with the seasons. However even these mines did so only by a considerable effort of recruitment, for as Table 8.5 shows, the overall turnover of labor remained extremely high.

¹¹⁶ Fialkovskii, "O dvizhenii rabochikh," p. 293. This represents a seasonal variation of fifteen percent in the employment level of the New Russia factory and mines. The highest variation in any of the other enterprises surveyed is about eight percent in Gorlovka.

The flood of new villagers coming to the Donbass perpetuated many of the old patterns and only slowly assimilated to new ones. While it is not easy to distinguish the number of miners who had no firm village ties and wandered from mine to mine from those who were still seasonal migrants from home village to winter work in a mine, the shifting nature of the labor force is still clearly considerable. Even in large, well-established mines on the eve of World War I, it was said to equal a turnover of up to three times yearly.¹¹⁷ In the course of 1901, at the Kalmius-Bogodukhov mines, which employed 1,500 men, 3,549 miners were hired and 3,683 left. Liberman calculates the average stay of a miner as five months.¹¹⁸

The professional consequences of this rapid turnover were set forth by the owners of the Alekseevskii mines in the discussion of a workers' insurance fund. They pointed out that the majority of their miners were "chance" (*sluchainyie*) employees, short-term and unprepared for mine work. They were therefore careless of their personal safety and caused frequent mine accidents.¹¹⁹ Retivov writes: "In the clinic card file we comparatively rarely saw evidence that a given worker lived and worked at our mine continuously for two or three years. Of 2,929 persons taken on in 1906, 2,498 (85.3 percent) had previously worked in another mine. Of these, 1,511 had worked at least one year."¹²⁰

In another article, Retivov saw the workers' character as the source of this migratory flow. "The experience of our mines, and of others as well, shows us that the huge mass of the workers sees itself as an eternally moving wave, washing up on the mines in autumn and ebbing home from them in the summer."¹²¹ There was, however, a more complex social and economic explanation for this phenomenon. The Congress of Mining Industrialists, deliberating in 1913 on the development of Donetsk coal and on one of the recurrent fuel crises, heard the report of a commission chaired by Engineer Priadkin:

¹¹⁷ Liashchenko, "Usloviia truda," p. 272.

¹¹⁸ Liberman, "Usloviia truda," p. 14. Levus', "Iz istorii," p. 60, gives the same length of employment in 1905, pointing out that this instability of the working class made revolutionary organizing a difficult task.

¹¹⁹ *Trudy, ekstrennyi s'ezd, 1902*, Appendix to stenographic protocols of the sessions, p. 74.

¹²⁰ Retivov, "Opyt," p. 171. In the New Russia Co.'s iron mines at Krivoi Rog Dr. Mekhmandarov found 3,004 former employees re-applying out of 5,423 miners examined for hiring over a three-year period. See Mekhmandarov, "Zabolevaemost'," pt. 2, p. 32.

¹²¹ Retivov, "Organizatsiia," p. 76.

The shortage of workers is a regular and chronic phenomenon, rooted in the socio-economic conditions in which our industry developed and is developing, as well as in the relative youth of the southern mining industry, that has not yet succeeded in forming sufficient cadres of permanent workers. The instability of the market for industrial products and the frequently recurring crises that shake the industry make coal mining on the whole unprofitable. There is also one last circumstance connected with regulations of land use that strongly affects the creation of conditions for the rapid formation of a settled working class.¹²²

This is, of course, a highly biased view, yet it gives us an insight into the perceptions of the members of the Congress. Had the coal industry been really "on the whole unprofitable," its rapid and long-term growth would be inexplicable. Recurrent fuel crises were a subject of frequent discussion in the Congress, and often proved to be manipulative attempts by the producers to raise prices. The reference to the regulation of land use concerns, of course, the problem of short-term leases that we noted in connection with the reluctance of many coal producers to invest either in housing or in production facilities.

Despite the persistence of workers' migration and the difficulties it caused, there was a new working class emerging, more rapidly in the factories, somewhat less rapidly in the mines. As early as 1884 observers had noted the beginnings of stability in Iuzovka which was said to encompass a large part of the settlement. The new kind of worker was said to be a "type of pure mining-industry worker," who remained in the settlement and lived on credit even when unemployed, because there was no similar highly-paid factory work nearby, and because he lacked the capital neces-

¹²² *Trudy*, XXXVIII, 1913, p. 25. Priadkin's report is very much reminiscent of an 1899 opinion presented by the Congress to the Minister of State Domains. This report, too, emphasized that there was a shortage of labor, but stated that it existed really only with respect to maintaining the growth rate of the industry, and that the industrialists could not be expected to provide facilities for maintaining a larger number of permanent workers than was justified by the increases in production. See *Trudy*, XXIV, 1899, p. 83. When literary embellishments are stripped away from this report one can "read" that the industrialists were unwilling to invest large sums in improving workers' conditions in view of what they regarded as the short-term prospects of the mines and the boom-and-bust nature of the coal industry. It was definitely a small minority of Congress members who argued that these two phenomena were almost entirely creatures of the psychology of the entrepreneurs.

THE DONBASS LABOR FORCE

sary to move himself and his family any considerable distance.¹²³ This observation, however, must be put in context, for we have seen that there were conditions that drove Iuzovka's population away from the Donbass—in particular, pestilence and politics. At the same time we must remember that five years after the above was written the Donbass metallurgy boom began and a comparatively large number of metallurgical enterprises opened, giving the Iuzovka worker nearby alternatives whenever he felt his conditions or treatment to be insufferable. Thus, even the progress in forming a proletariat with considerable experience, even a "hereditary proletariat," did not automatically ensure stability of the labor force. Nevertheless, it is clear that a new labor force was emerging in the Donbass, as is claimed in Ivanov's figures for the Ukraine, which are given in Table 8.6.

In Ivanov's discussion of these figures we are not told how he decided the character of family background. Was any person who had worked a year or five years in a mine or mill classed as a worker, whether or not he returned annually to his home village? Whatever the criteria, two points stand out. There can be no doubt that a larger number of people were engaging in industrial work at least as a supplement to their traditional agricultural occupation, and that the settlements of the Donbass were

TABLE 8.6
Social Origins of Workers in the Ukraine

Year Started Work	Miners' Family Background (%)			Metallurgists' Family Background (%)		
	Worker	Peasant	Other	Worker	Peasant	Other
Before 1905	33.3	64.3	2.4	41.6	53.8	4.6
1906–1913	37.9	59.5	2.6	43.8	52.4	3.8
1914–1917	45.0	52.1	2.9	51.0	43.7	4.6

Source: L. M. Ivanov, "Preemstvennost' fabrichno-zavodskogo truda i formirovanie proletariata v Rossii," in L. M. Ivanov, ed., *Rabochii klass i rabochee dvizhenie v Rossii, 1861–1917* (Moscow: Nauka, 1966), pp. 122, 127.

¹²³ S.S.S., vol. 2, Bakhmut uезд, p. 240.

swelling steadily, despite all difficulties.¹²⁴ In addition, whatever Ivanov's criteria, by the time of World War I half the factory workers and nearly half of the miners came from a background that included some component of industrial labor, and the percentage grew steadily over time. Transition was longer, slower, and more complex than has generally been noted up to now, but it was a clearly evolving process.

EMPLOYERS' POLICIES

What part did the policies of the employers play in this process? What programs did they advocate, how did their suggestions change over the years, and how effective were they in advancing the formation of an industrial labor force?

At the founding meeting of the Congress in Taganrog in November 1874, the labor question was one of two central issues on the agenda. A committee report set forth a program for resettlement of peasants from central Russia on Donbass estates earmarked for industrial development. Those peasants resettling on such estates would be given land of their own (surface rights only—the estate owner retained all underground mineral rights), would pay for this land over a thirty-year period, and during the first five years would be obliged to remain in the new settlement, working for the estate owner, as long as the latter chose to maintain a coal or metallurgy operation on his land. (The settlers were being brought in specifically as an industrial, rather than agricultural, labor force.) Those choosing to resettle in the Donbass would not require the permission of the *obshchina*—the peasant association that regulated the peasants' lives—in their home village, but would nonetheless remain nominally members of that village community until the end of their five-year “trial period.” This suggestion was based on the precedent of a program for resettling state peasants in the western provinces under a decree dated May 26, 1867. At the end of the first five years, the new settler would be free to choose his

¹²⁴ Potolov, *Rabochie Donbassa*, p. 119, presents a somewhat slower pace of formation of the Donbass proletariat. On the basis of the 1897 census he writes that “hereditary proletarians” make up 20 percent of the workers in metallurgy and metal working, 12 percent in chemicals and railways, and only 7 percent in the coal mines. Ivanov, “Preemstvennost’,” p. 67, shows an awareness of this position in discussing factors that hindered the formation of a working class.

place of work, but would still be obliged to keep up the redemption payments on his land for the remaining twenty-five years. A group of such settlers opting to leave their former village association would have the right to set up a new village mining association, to lease the mineral rights from the landowner, and to carry on a cooperative mining enterprise.¹²⁵ What we see here is a colonization attempt, bringing in and settling peasants in the Donbass region in order to augment the sparse population. The most prominent feature of this program is that essentially it seeks to retain the peasant essence of the population's living conditions, although the land allotments are minimal—a garden plot of 450 square sazhen, and pasture in the amount of 320 square sazhen for each adult worker.¹²⁶ There would therefore be no way for a family of settlers to make a living from agriculture under Donbass conditions. Economic realities, no less than their legal obligations, would turn them towards working in the mine or factory, while the kitchen garden and the bit of pasture for a cow would provide rootedness in property, an improved living standard, and gainful occupation for women and children. We have here, thirty-three years before Stolypin, a program that could, if implemented seriously, have created tens of thousands of smallholders, of workers who owned their own home and garden plot while working either as wage laborers or as members of a cooperative industrial venture with all the prospects of developing into large industrial capital.

Although this program was recommended by the Congress to the Minister of State Domains for his consideration, nothing came of it. One of the problems was the reluctance of the landowners to settle their lands with new population at prices determined well in advance, for the inflation in land prices was spreading rapidly to the south as industrialists began to show interest in purchasing promising coal properties. At the next discus-

¹²⁵ "Gornozavodskoe delo v minuvshem godu," *Gornyi zhurnal*, no. 1, 1875, pp. 8–10. The proposal also had an article forbidding the establishment of taverns by new settlers. New settlers were to have their period of military service shortened by two years, which was also the case for persons serving in the merchant marine. Additional, unelaborated suggestions included the urging of settlement on unoccupied crown lands and the settling of military coal mining detachments on lands in the Don Cossack Territory. See also von Ditmar, ed., *Kratkii ocherk istorii s'ezdov gornopromyshlennikov uuga Rossii* (Kharkov: Zilberberg and Sons, 1908), pp. 22–24. Chapter III of this history is devoted to von Ditmar's survey of the Congress' deliberations on the subject of the labor shortage.

¹²⁶ Twenty-four hundred square sazhen are equal to one desiatin or about 2.7 acres. The garden plot was therefore about half an acre per adult and the pasture somewhat less.

sion of the question by the Congress, in 1880, the previous program was dismissed as needlessly detailed; the resolution adopted at the meeting's end suggested only the settlement of new population on unoccupied crown lands and military lands in the Cossack territory.¹²⁷ The same basic suggestion returned perennially, and the Shtoffe commission included in its report a recommendation that the miners be given not just a small yard and an outbuilding, as was done in Luzovka, but a piece of land that might make them want to remain at the mines. The committee noted that implementing this suggestion would mean that all such landholders would have to be included in some village association or in another, similar, corporate body.¹²⁸ There was no intention here of changing the dominant institutions of society, but rather an attempt to bolster these institutions by grafting them onto a population that seemed to be breaking out of the existing structures. At the same time it was suggested that even a forced resettlement of surplus population from the central provinces of Russia would be justified. Those transferred would constitute a large low-cost labor force; they would produce competitively-priced industrial goods for Russia and would earn a decent living in their new occupations instead of starving in the village. The interests of society, of the industrialists, and of the resettled themselves would thus all be served at once: this end, in the eyes of those proposing the program, justified the compulsion that would be applied.¹²⁹

In subsequent discussions, a growing sense of the complexity of the labor problem is felt. Discussions began to revolve about details of the life of workers who had come to the mines. The Congress attempted to gather detailed information, although by the time of the 1882 session only 30 of 130 mine owners had replied to the questionnaires. The recommendations of the meeting focus on easing the mobility of prospective workers, perhaps even renouncing the system of internal passports that defined the status and residence of all members of the population. A second and rapidly growing area of discussion was the quality of life of the miners—living quarters, health care, food supply, education, and culture. A reso-

¹²⁷ Von Ditmar, *Kratkii ocherk*, p. 25. *Trudy*, VII, 1882, p. 68, repeats this program, anticipating the eventual formation of new village associations on the unoccupied state lands allotted to the settlers. A change in the passport regime and the establishment of a compensation fund for disabled miners are also incorporated in the resolution.

¹²⁸ TsGIAL, F. 37, op. 58, d. 299, p. 89. Report of the Shtoffe commission.

¹²⁹ See the discussion of Shteynfeld's proposal in Pazhitnov, *Polozhenie*, p. 119.

lution was passed urging the members of the Congress: to pay wages accurately and on time (the reader will remember that a survey two years later showed that only two of the twenty-six mines surveyed were paying on time); to supply consumer necessities of good quality at reasonable prices; and to provide a bath house, tea house, and similar amenities. Strangely enough, no discussion of medical care or schools appeared here, probably because these involved the already strained relations with the zemstvo authorities.

There was at this time the first discussion and approval of a compensation fund for disabled miners. In this discussion, a proposal that workers' representatives be included in the executive of the fund was turned down since they might see themselves "not only as participants but also as directors, and this, in some cases, might easily lead to strikes or other undesirable phenomena." Another suggestion raised during discussion of the compensation fund was that workers who were members for five years and longer should be offered better compensation terms in case of accident, thus giving them a vested material interest in staying on the job. This proposal was repeated two years later for miners remaining even one year, but one observer noted somewhat regretfully that he had found no one who could testify as to such a benefit ever having been granted.¹³⁰

By the mid-1880s the coal industry was growing rapidly and the takeoff of metallurgy was already in sight. The growth of the labor force and development of the mines had made the question of living conditions all the more pressing as a key to a stable and professional working class. The proposals put forward at the 1887 session of the Congress were new only in that blunt opinions were for the first time voiced regarding the inadequacy of provision for the workers' living conditions. "We cannot be unaware that the condition of our mineworker is not only far from the ideal, but from any modest mean."¹³¹ Deploring the lack of any cultural, sanitary, or domestic facilities for the workers, Zavadskii directly blamed these lacks for the instability of the labor force. In his opinion they created a situation in which the peasant was merely putting in free time in the mines and had no sense of identification or professional belonging. As long

¹³⁰ For the resolutions and their discussion see *Trudy*, VII, 1882, pp. 157–60, 232; *S.S.S.*, vol. 3, Slaviansoserbsk uezd, p. 384. The one solid link with all previous discussions of the labor problem is the unanimous condemnation of taverns as subversive of order and morals and a frequent cause of accidents.

¹³¹ See the impassioned speech of A. M. Zavadskii in *Trudy*, XII, 1887, pp. 362–69.

as this was so, he claimed, the only way to punish transgressions by the workers was to levy large fines. "Not nice, of doubtful legality, but the only way." Zavadskii's greatest regret in this situation was that such a policy left no prospect of educating the workers in the meaning of "obligation" and "duty".¹³² Not all those who were active in Donbass industry shared Zavadskii's fatalism. In a book that is almost entirely a bitter indictment of the outlook and policies of the Donbass coal owners, Vereshchinskii, for many years the director of a large mine in the Don Cossack Territory, wrote of a simpler solution. "After I introduced the system of improving housing and all other aspects of the miners' lives, the result was that we were never short of workers."¹³³

Up to the end of the 1880s it can hardly be said that there was any organized recruitment of labor for the Donbass. The seasonal flow of peasants was largely a stychic phenomenon. At times an *artel'* would organize in the village and set out together for the mines.¹³⁴ Often agents (*verbovshchiki*) would come to the village to persuade others to work, paying the travel and living expenses for each family member accompanying the worker. These advances were later deducted from wages, keeping the worker in debt from the beginning. Sometimes the agent would become the *artel'shchik* when he and his flock reached the mine.¹³⁵ Almost from its beginnings, the New Russia Co. would send agents out to the Kharkov, Chernigov, Voronezh, and other regions to recruit workers.¹³⁶ This appears to be an active attempt to solve specific problems of the labor force, rather than a passive reliance on the growing migration of northern Russian peasants. Late in 1874, when his labor force was as yet unstable and inadequate, John Hughes sent such an agent "together with one of our foremen puddlers, a native of the place," to Murom in the north, where a number of small iron works were closing for lack of fuel, to recruit experienced metallurgy workers who were unemployed there.¹³⁷ After the mass desertion that followed the riots and cholera epidemic in 1892, re-

¹³² Ibid. For a repetition, in a very different tone, of the workers' need to learn about duty and obligation, and to refrain from wandering shiftlessly about the Donbass, breaking their work contracts, see the speech of Andrei Nikolaevich Glebov of the Makeevka factory and mines in *Trudy*, XII, 1887, pt. 2, p. 233.

¹³³ Vereshchinskii, *Rabochii shakhter*, pp. 8–9.

¹³⁴ Kolodub, *Trud i zhizn'*, p. 110.

¹³⁵ Zaks, "Trud i byt," p. 90.

¹³⁶ Pazhitnov, *Polozhenie*, p. 125.

¹³⁷ TsGIAL, F.37, op.53, ed. khr.746. Hughes to Valuev, October 15, 1874.

cruiters were sent to bring one thousand Tatars as seasonal laborers from Kazan in the hope that they would prove more amenable to Iuzovka's conditions.¹³⁸

The first organized innovation in the field of labor recruitment after the abortive suggestion of settlement came at the 1889 session of the Congress. There Engineer Batalin presented a sophisticated scheme that was approved by the industrialists but stalled in the government bureaucracy, bogging down in disputes over railway tariffs, interdepartmental inquiries about responsibilities for implementation, and fears of the organized movement of masses of workers. The suggestion was for the establishing of a central government office in Moscow that would receive from employers requests for specific numbers of workers, listing the categories needed and the pay offered. These notices would be sent from Moscow to telegraph offices in regions having a labor surplus. There, for a commission of fifty kopeks a head, the railway authorities would recruit an organized *artel'* with a responsible elected chief who would sign a contract expressing the group's joint responsibility towards the mine owner and take them by the first available train to their appointed place of work.¹³⁹

Only in 1895, after seven years of discussion by representatives of three ministries—Agriculture and State Domains, Interior, and Railways—was an amended version of the Batalin project approved by the authorities. Each year, by May 15, the mine owners were to deliver lists of how many and what kind of workers were needed in each mine to a central office to be established by them in Kharkov. The land captain in each district in the overpopulated regions of Central Russia would gather figures relating to the number of peasants seeking employment. He would supply these figures to a representative of the industrialists in the Kharkov office who would be empowered to sign a hiring agreement with those peasants in their home village. Once the agreement was signed, transportation of the workers would be arranged through the agency of a railroad official in the

¹³⁸ *Donskaia rech'*, September 9, 1892. The Tatars still had their own prayer house in Iuzovka in 1909, and 334 of them were counted in the July 1917 census of Iuzovka's population.

¹³⁹ The full text of Batalin's "Project for the Supply of South Russia with Labor" is in *Trudy*, XIV, 1889, pp. 171–81. See Gonimov, *Staraya Iuzovka*, p. 122; See also Avdakov's repetition and discussion of the proposals in *Trudy*, XVIII, 1893, pp. 360–63, noting that since Congress' 1889 approval of the scheme and its presentation to the government for confirmation, it had not moved.

local station, on the basis of a compensation agreement to be made on a direct, personal basis between the railway official and the mine owners.¹⁴⁰

It is of interest to note the attitude of the government on this issue. The original suggestion of the Congress was for a government scheme that would arrange the labor supply. The counterproposal of the authorities puts the entire financial and organizational burden on the industrialists, except for one point. All contact with the peasantry prior to the signing of the hiring agreement would be in the hands of government officials—the local land captains—“so as not to arouse exaggerated expectations.”¹⁴¹ While maintaining its prerogative both to approve or reject the creation of any social or economic institution and also to control the movement and life style of the population, the authorities would not relieve the industrialists of the economic responsibilities connected to recruitment of their labor force. Yet another consideration emerges from the deliberations of the government’s inter-ministerial committee. Speaking for the Interior Ministry, A. S. Stishinskii expressed his ministry’s anxiety lest the simple folk prove unable to grasp the subtle difference between governmental supervision of or cooperation with the hiring offices, and direct intervention in relations between employer and employee. “For any hitches or unpleasantnesses they may blame the government, whom they will see as having sent them to work in unsatisfactory conditions.”¹⁴²

As regards the other facets of life at the mines, A. A. Sorokin, an official of the Mines Department of the Ministry of Agriculture and State Domains, suggested that if the migratory peasant was to be turned into a settled worker, “first of all we should mention the building of churches, then schools, medical services, baths, etc.”¹⁴³ Sorokin noted that the larger producers had, indeed, taken certain measures in this direction, thus assuaging the sensitivities of the industrialists while at the same time ignoring the proportions existing between these measures and the miners’ needs.

The expansion of the late 1890s and the increasing pressure for steady year-round work as the mines grew in average size brought the labor prob-

¹⁴⁰ *Trudy*, XX, 1895, pp. 567–68.

¹⁴¹ *Ibid.*, p. 567. An—skii, “Ocherk,” pt. 1, p. 16n., recalls having discussed the Batalin project at length with workers in a Donbass settlement. They expressed considerable scepticism as to whether it could improve the labor supply or change the peasants’ behavioral patterns.

¹⁴² Quoted in *Trudy*, XX, 1895, pp. 564–65.

¹⁴³ *Trudy*, XX, 1895, p. 563.

lem repeatedly to the agenda. Count Witte himself visited Kharkov in the summer of 1899 and addressed members of the Congress, suggesting once more the idea of central labor exchanges to recruit workers for the Donbass. (It would appear that even after the revised Batalin project was approved, it was not implemented.) In addition he pressed the industrialists to devote some part of their profits to bettering the living conditions of those workers who came to them, to make more generous provision for compensation, education, and hygienic housing.¹⁴⁴ The Congress, having met in special session to hear the Minister of Finance, appointed a commission of its own members to study the problem and report to the next regular session. In due course the commission reported that with a few possible exceptions, the standard of living of the workers of the Donbass was completely satisfactory. In the opinion of the commission, every more or less solid enterprise provided all the items suggested by Witte, and these "solid enterprises" accounted for 86 percent of the workers. Then, in a sentence that will evoke familiar echoes of every justification made by those in power for not sharing or relinquishing any of their prerogatives, the commission concluded: "And if something remains to be desired in improvement of the workers' living conditions, at any rate it cannot be denied that their lives are significantly better than in the majority of factories and workshops of the various branches of industry."¹⁴⁵

Although the recruitment of workers remained essentially a matter of the initiative of the larger mines and factories through their *verbouvshchiki*, by 1900 the reception of the masses of employment-seekers had become a matter of concern to the local authorities. This was particularly true in the summer of 1900 when the onset of recession created masses of unemployed wanderers in the Donbass. In Ekaterinoslav guberniia sixteen reception centers were set up providing shelter, food, and medical inspection for transients. In the debates of the Congress the opinion was expressed that if workers knew that such centers existed, they would be more willing to come to the Donbass independently; that the flow of workers from district to district could more easily be regulated by having such centers; and that creating centers where the workers gathered made it easier and more eco-

¹⁴⁴ *Trudy*, XXIV, 1899, pp. 4–5; See also *Rabochee delo*, nos. 4–5, September–December 1899, p. 96.

¹⁴⁵ *Ibid.*, p. 5. Congress' defensive response to Witte's suggestions should be seen against the background of ongoing government pressure on the industrialists. This pressure was to produce the Shtoffe commission in the following year.

nomical to recruit them. That the centers facilitated police supervision of the arrivees was also noted by the industrialists.¹⁴⁶

While Witte was talking to the industrialists, another, if less illustrious, government official was also in Kharkov. This was A. P. Salomon, Director of the Central Prisons Administration, who was chairman of a government commission to seek a substitute for exile as a punishment for various classes of criminals. He sought to discuss with the mine owners the possibility of directing Russia's prisoners to the coal mines of the Donbass. In view of rising labor costs and the chronic shortage of workers he thought that the offer of ten thousand prisoners might prove attractive.

There was, as we have noted, a precedent for the use of convict labor in the mines and factories. The jails had been one source of the workforce of the early Lugansk works. In 1869, when the first expansion of the coal industry was causing wages to rise, the suggestion had been made once again, and in 1881 A. I. Danilov had put the question of convict labor before the sixth meeting of the Congress of Mining Industrialists. He had pointed out at that time that Russian peasants would not be the source of a stable population in the Donbass as long as they were not given land of their own and a guarantee of steady employment, and that the prison population was the most promising alternative source of labor.¹⁴⁷ In 1888 the annual session of the Congress once again heard the proposal that convicts be brought to the mines, this time on the basis of equal pay with free workers and the prospect of remaining when their sentences had been served.¹⁴⁸

To their credit, the delegates attending the meeting of the Congress rejected Salomon's proposal. They saw themselves as responsible for maintaining the moral and cultural level of their workers, and felt that this would not be served by having convicts work and live with the free miners. They also felt that the presence of prison labor would hinder the formation of a professional identity that some of the discussants felt was beginning to emerge among their workers. These moral points were buttressed by two very practical considerations. It was felt that the low wages paid to the prisoners would be offset by a correspondingly low productivity. In addition, since the goal of the employers was to engage a permanent labor

¹⁴⁶ *Trudy, ekstremnyĭ s'ezd, 1900*, Stenographic Record, Third session, pp. 28–29, 31.

¹⁴⁷ An—skii, "Ocherk," pt. 1, p. 14n. Also in 1881 ROPIT had been offered three hundred prisoners for work in its mines. On the advice of the mine manager, the offer was rejected. See TsGIAL, F. 107, op. 1, d. 781, pp. 1–14.

¹⁴⁸ See the proposal of Vinogradov in *Trudy, XIII, 1888*, p. 18.

force, introducing an everchanging body of prison laborers was not considered to be the appropriate means to that end.

Ultimately the most effective means of creating a stable population was the one Hughes had adopted from the beginning, that of providing decent housing and steadily improving services. Increased pay was by itself no sure way of raising the workers' productivity. But prosperous living conditions, in the sense of being both above the subsistence level and better than the objects of comparison available in the village or in other enterprises, could be an attraction to the worker. In addition, it was realized that stability generated further stability through creating a culture of permanence and a caring consciousness of the surroundings. The unceasing turnover of workers had an opposite and deleterious effect on the aesthetics and hygiene of the surroundings and further emphasized the temporary and alien atmosphere of the settlements.

If we may judge from the declarations and discussions at their meetings, the employers were well aware of this, yet in too many instances they denied their own shortcomings and refrained from taking the large-scale initiatives that would have provided some more significant measure of solution to their problem. The one overwhelming reason for this was their unwillingness to cut their immediate profit margin by making the large investments that decent housing and services required. As our analysis of housing construction has shown, the burden was more apparent than real, and the subsequent profits would almost certainly have justified the investment. Beneath all the calculations lay the short-term views held by the majority of coal mine owners. The numerical dominance of the lesser coal producers makes this characteristic stand out even more in the deliberations of the Congress than it did in the daily life of the Donbass, but the weight of testimony of the mine doctors and the statistical surveys of the zemstvo authorities confirm the fact that the reality was sobering indeed. As a result, the labor force of the Donbass never quite became that rooted, solid, working class that both the industrialists and the revolutionary movements were seeking.

AGE AND SEX STRUCTURE OF THE LABOR FORCE

The workers of the mines and factories, whether migrant or settled, were not all of a kind. It may be of use here to look at the internal differences

and how they influenced the social and political development of the Donbass. We will investigate the phenomenon of passportless workers and the employers' attitude to them, the age and sex structure of the labor force, and the hierarchy of skills that was created within it.

One of the instruments by which the Russian autocracy attempted to control the population was the system of internal residence registration popularly known as the passport regime. A passport identified a person by social class and locality of residence. Issued for a limited period, the passport could be renewed only by the police authorities in the bearer's registered district of residence. Having settled in a new mining development in the Donbass, workers would find themselves in the anomalous position of being registered elsewhere, and involved in the bureaucratic tangle of trying to renew lapsed documents without necessarily returning to their home village. At the same time, the industrialists were not supposed to employ persons lacking a valid passport, with the exception of temporary day laborers.¹⁴⁹ A report presented to the Congress of Mining Industrialists in 1886 stated that most of the workers held short-term passports that had to be renewed frequently. A worker might send his passport back to his home village for renewal and change employers several times before getting it back. Both workers and employers thus found themselves in a position where observance of the law contradicted their most basic material interests. The employers suggested that the passport regime be revised to allow passportless workers to register with the police for periods of up to three months until they received a validated passport from their place of registration.¹⁵⁰ Many of the passportless workers were demobilized soldiers, who after the Russo-Turkish war had seen an economic opportunity in the Donbass and had become a distinct element in the local work force. Having come directly from the army to the mines, they were without home registration.¹⁵¹

The passport system was recognized by the mining industrialists as an obstacle to recruitment of the labor force; as we have noted, revision, if

¹⁴⁹ Zelnik, *Labor and Society*, p. 140, graphically describes the confusion that surrounded these arrangements in St. Petersburg. If such disorder could exist in the tsar's backyard, one may easily imagine how things were done in the Donbass, far from any central authority.

¹⁵⁰ *Trudy*, XII, 1887, Committee report on employment law, pp. 332–35.

¹⁵¹ Kolodub, *Trud i zhizn'*, p. 5. For the fear of the role of these demobilized soldiers in the 1892 cholera riots see V. Kolpenskiĭ, "Kholernyi bunt v 1892 godu," *Arkhiv istorii truda v Rossii*, no. 3, 1922, p. 112.

not total renunciation of passport regulations, figured in the early proposals of the Congress regarding the labor problem.¹⁵² The employers soon found themselves caught in a dilemma. Much as they needed and wanted new workers, the swelling numbers of the illegals began to be both a threat and an embarrassment. The growth of this phenomenon was noted in 1888 by Taskin, who emphasized how impossible it would be, from the industrialists' point of view, to remove all these workers.¹⁵³ One source of the growing numbers of passportless illegals was the restless migration of miners. A man would contract for an entire season in a mine and would deposit his passport in the mine office. If dissatisfied, he would leave on his first payday and present himself without papers at another mine, secure in the knowledge that no questions would be asked.¹⁵⁴ The shock of the Luzovka cholera riots, blamed by some on the passportless workers as the most unstable element in the labor force, brought on a sharp debate. Avdakov presented the Congress with a recommendation that accepting passportless workers should be actively prosecuted as a criminal offence. After considering the problem at length, however, the Congress resolved that this was "an inconvenient question" (*neudobnyi vopros*) and decided not to pass any resolution.¹⁵⁵

Passportless workers, unstable as they were, were a convenience to the employer. They were not inclined to complain about conditions lest they draw unwanted attention. They were easy prey for the venal clerks, foremen, and officials who would augment their miserable salaries by extorting money from the workers at every occasion. They were given the most dangerous work, for if there was an accident or a death, nobody inquired and nothing was known. No wonder they remained the epitome of everything negative in the Donbass, working at the heaviest of tasks for a short time and then going on a drunken spree in which they wasted everything they had, to the last thread.¹⁵⁶

The passportless workers, lone males all, were only the highly visible

¹⁵² See the report of the chairman in *Trudy*, VII, 1882, p. XVIII.

¹⁵³ See E. N. Taskin's report on the labor question in *Trudy*, XIII, 1888, p. 326. Kolodub, *Trud i zhizn'*, p. 5, writes that in 1890 in the Grushevsk anthracite mines in which he worked virtually all the workers were without passports.

¹⁵⁴ *Trudy*, XIII, 1888, p. 327.

¹⁵⁵ See Avdakov's proposal in *Trudy*, XVIII, 1893, p. 358. The decision not to decide is in *ibid.*, pt. 2, p. 348.

¹⁵⁶ See the descriptions in Gonimov, *Staraya luzovka*, p. 42; Kolodub, *Trud i zhizn'*, pp. 5-6; Kolpenskiĭ, "Kholernyi bunt," p. 113.

tip of the Donbass' sharpest social problem, the unbalanced sex structure of the population. When the Slaviansoserbsk district mines were surveyed by zemstvo sociologists in the summer of 1884, a population of 1,948 people was recorded for the seventeen mines for which detailed information was available. Of these, 1,727 were men. The 116 families, totalling 441 persons, were quite naturally almost evenly divided by sex. Those living alone were 1,504 men and 3 women.¹⁵⁷ A larger sample covering twenty-six mines revealed an additional feature. In the population of miners males outnumbered females by six to one, while among the mine administrative staff the ratio was less than two to one.¹⁵⁸ The administrators settled with their families in the comparatively good housing provided by the employers, while the migrant peasant-miners left their families in the village.

The imbalance in the makeup of the Donbass labor force was sufficient to skew the entire population structure of Ekaterinoslav guberniia. In 1897, this region had 936 women for every 1,000 men—40th among 43 regions from the point of view of population balance.¹⁵⁹ Bakhmut uezd, with its heavy concentration of mines and metallurgy works was even more one-sided. The district as a whole had only 868 women per 1,000 men. This imbalance was focused in the industrial settlements, for the town of Bakhmut, a merchant and artisan center devoid of coal and metal, had a well balanced 9,659 men and 9,759 women.¹⁶⁰ The imbalance in the uezd had developed in the course of industrialization, for in 1875 the population of the district had been much more balanced, numbering 75,117 men and 73,674 women.¹⁶¹

The sexual imbalance was not only a matter of geographic focus, but also was concentrated in the age groups in which the migrant worker population was most represented. The census showed that in Bakhmut uezd in the age groups 17–29, there were 33,074 unmarried males and only 7,865 unmarried females.¹⁶² In Iuzovka in 1897, the population was listed as 16,706 males and 11,370 females. In terms of social development this

¹⁵⁷ S.S.S., vol. 3, Slaviansoserbsk uezd, p. 383.

¹⁵⁸ Ibid., p. 358.

¹⁵⁹ Rashin, *Naselenie*, p. 263. Rashin writes explicitly that this is due to the influx of migrant workers.

¹⁶⁰ *Pervaya vseobshchaya perepis naseleniia Rossiiskoi imperii 1897g.* (St. Petersburg: 1904), vol. 13, Ekaterinoslav guberniia, p. 31.

¹⁶¹ *Pamiatnaya knizhka Ekaterinoslavskoi gubernii na 1875g.* (Ekaterinoslav: 1875), p. 20.

¹⁶² *Pervaya vseobshchaya perepis*, vol. 13, p. 31.

global figure obscures the true measure of imbalance, for when we break the figures down by religion, we find that among the Orthodox Russians (the mine and factory labor force) males numbered 14,364 and females were 9,383. The Jewish community (the craft and service population), was much better balanced with 1,675 males and 1,493 females.¹⁶³ The great predominance of lone adult males is therefore very much a matter of the industrial workers' society.¹⁶⁴ Inasmuch as industry grew rapidly, the influx of a male population continued; Fialkovskii noted in 1908 that of the half million population in Bakhmut uezd, 135,297 men and only 83,422 women could be counted as newcomers.¹⁶⁵

The imbalance in Iuzovka's society was mitigated over time, but did not disappear. In July 1917, when a population of 57,838 was recorded, there were 29,705 males and 28,128 females.¹⁶⁶ This relatively mild imbalance is concentrated entirely in the working population aged 17–50, where we find 16,304 males and 14,473 females. While the age and sex structure of Iuzovka's 1917 population was to some extent distorted by the war, with many working age males absent, the labor force in the mines and factory was nevertheless close to normal in structure, men having by this time been granted deferment of military service for mine work. On September 1, 1917, out of the 11,799 total labor force only 349 women were employed at the New Russia mines, and all but two of these were in surface work.¹⁶⁷ Whatever the distortion of the population, its structure is nevertheless of considerable interest as an indicator of the direction of social development and of those potentials for change that were present on the eve of the revolutions.

Table 8.7 presents this information. The first thing evident from this table is the large component of young people in Iuzovka at this time. Nearly forty percent of the population is aged sixteen or less, and this group is almost evenly divided as to sex, with a very slight predominance of females. This component of young people testifies to the strong presence of families in Iuzovka. Perhaps even more surprising is the even division

¹⁶³ TsGIAL, F. 1290, op. 11, d. 615, folder 488, p. 573.

¹⁶⁴ A sample of representative mines in the Bakhmut district in the 1897 census showed males outnumbering females by ratios ranging from 2.1 up to 2.4:1. See TsGIAL, F. 1290, op. 11, ed. khr. 614, folder 487, various pages.

¹⁶⁵ Fialkovskii, "Ocherki," p. 91.

¹⁶⁶ DOGIA, F. 10, op. 1, d. 5, p. 32, gives this figure. The same source, in the listing of population by nationalities gives a total of only 54,701 population.

¹⁶⁷ DOGIA, F. 6, op. 1, d. 9, p. 10.

CHAPTER 8

TABLE 8.7
Iuzovka's Population: Sex Structure by Age Groups, 1917

AGES 0-16

	0-3	4-6	7-13	14-16	Total	%
Male	2,094	2,329	4,682	1,913	11,018	49.6
Female	2,127	2,368	4,697	2,006	11,198	50.4
Total	<u>4,221</u>	<u>4,697</u>	<u>9,379</u>	<u>3,919</u>	<u>22,216</u>	100.0

Ages 0-16 are 38.4 percent of total population.

AGES 17-50

	17-19	20-30	31-40	41-50	Total	%
Male	2,140	6,300	4,600	3,264	16,304	53.0
Female	2,323	6,119	3,608	2,423	14,473	47.0
Total	<u>4,463</u>	<u>12,419</u>	<u>8,208</u>	<u>5,687</u>	<u>30,777</u>	100.0

Ages 17-50 are 53.2 percent of total population.

AGES 51 AND OLDER

	51-55	56-60	61-70	71 +	Total	%
Male	887	737	557	202	2,383	49.6
Female	766	711	706	274	2,457	50.4
Total	<u>1,653</u>	<u>1,448</u>	<u>1,263</u>	<u>476</u>	<u>4,840</u>	100.0

Ages 51 and over are 8.4 percent of total population.

ENTIRE POPULATION

	0-16	17-50	over 50	Total	%
Male	11,018	16,304	2,383	29,705	51.4
Female	11,198	14,473	2,457	28,128	48.6
Total	<u>22,216</u>	<u>30,777</u>	<u>4,840</u>	<u>57,833</u>	100.0

Source: DOGIA, F. 10, op. 1, d. 5, p. 32. July 1917 census.

of the 20-30 year age group, a cohort fully engaged in the labor force, in which the male proportion is 50.7 percent—the barest of majorities. At its greatest, in the 41-50 group, male predominance reaches only 57 percent, significantly less than the proportion of males noted as migrating into the district a decade previously. The economic development of Iuzovka in terms of both diversification of production and development of

its service sector appears to have provided a living for working women.¹⁶⁸ Finally, we may note that after nearly fifty years of existence, Iuzovka was not a place in which many persons chose to spend their declining years. Persons over the age of fifty made up less than one-tenth of the population. Presumably all who could returned to the village after they became unable to work in the New Russia mines or factory. Indeed, as we will see almost immediately, the large component of people over the age of forty is an indicator of the changes that had taken place in Iuzovka. The sharp drop in numbers in the age group in the fifties, as compared with those in their forties appears to indicate that in Iuzovka in 1917, working life went on well into the fifth decade of life, although not beyond that decade. Those who remained show a slight predominance of males in the 50–60 age group, and then the demographically familiar predominance of women surviving beyond the age of sixty. The overall balance of the sexes in this non-working age group is exactly the same as in the pre-working age cohorts.¹⁶⁹ Except for the emigration of persons beyond working age, Iuzovka in 1917 appears to have established a normal modern urban structure of society, a far cry from its early days or from the patterns of the surrounding settlements.

The almost totally male labor force and predominantly male environment one encounters in investigating the development of the Donbass distinguishes it sharply from other regions. Johnson cites a 1902 study that found in the 15–39 year age group 39 women to 100 men in the migrating labor force in Moscow, an imbalance similar to, but less extreme than that in the Donbass. In 1911 close to 40 percent of the Moscow workers were female.¹⁷⁰ In the Donbass, through the entire pre-war period, adult males were close to 90 percent of Donbass miners, and nearly 95 percent of metallurgy workers.¹⁷¹ Only the exigencies of World War I brought women and children into the mines in significant numbers. The result was, as we have noted, that there was little if any gainful employment for women and

¹⁶⁸ Once again it should be noted that wartime mobilization removed men from the mines and put numerous women in their place. However, in addition, the opening of the artillery shell factory at the New Russia plant provided factory work for numerous women.

¹⁶⁹ The balance between the sexes and the fact that these people who were beyond mine and factory work ages remained in Iuzovka suggests that a large part of the elderly population of the settlement belonged to the Jewish community.

¹⁷⁰ Johnson, *Peasant and Proletarian*, pp. 55–56; for 1911 see V. V. Leont'ev, *Ob izucheniі položeniiā rabochikh* (St. Petersburg: 1912).

¹⁷¹ Kondufor, *Istoriia rabochikh Donbassa*, vol. 1, p. 77.

for children under the age of eleven or twelve, so women took in boarders, and children were sent to school to grow up safely to a working age.

While the above generalization holds true for the Donbass as a whole, there was some variation in the structure of the labor force correlated with the size of the mine. (See Table 8.8.) The smallest category of mine is identified by its meager output as a peasant mine or a small estate, worked by a local *artel'* or an extended family, with women sharing in this labor as in all the work of the family economy. The giant mines, more heavily mechanized than the less developed medium-sized commercial mines, use a smaller percentage of women and children in their work force, for they have less need of pony-boys and door-tenders, the traditional child-miner's transition from the surface work of lamp-filling and coal-sorting to full-scale underground work. It is in the medium-sized mines that the labor of women and children remains to the greatest degree, and these are the same mines that generally provided the worst conditions for their workers in every respect. The fact that the overall average is so close to the profile of the giant mines reflects the high level of concentration reached by the Donbass coal industry on the eve of World War I: 70 of the 1,200 existing mines were producing 89 percent of all the region's coal, and more than three-quarters of the 168,000 Donbass miners were working in mines producing more than ten million pud of coal per year.¹⁷²

TABLE 8.8
Structure of Labor Force by Mine Size—Donbass, 1911

<i>Annual Production^a</i>	Men (%)	Women (%)	Children (%)
Over 5	92.37	1.38	6.25
1–5	85.73	2.92	11.35
0.5–1	84.44	5.05	10.51
0.1–0.5	90.46	4.19	5.35
Less than 0.1	79.21	17.82	2.97
Average Overall	91.82	1.56	6.62

Source: I. I. Liashchenko, "Usloviia truda na rudnikakh Donetskago Basseina," *Obshestvennyi vrach*, no. 2, 1914, p. 273.

^a Unit of measure = million pud.

¹⁷² I. Sh. Chernomaz, *Bor'ba rabocheho klassa Ukrainy za kontrol' nad proizvodstvom*, mart

The miners' conditions of life and work were such that we should not be surprised to find the age structure of the work force skewed towards the lower end of adulthood. Few miners could continue working beyond the age of forty. In the first decade of the century, workers from 20 to 39 years of age were 73 percent of the Donbass mine labor force, while only 14 percent were older.¹⁷³ Within this group, Iakovlev found that the younger half, aged 21 to 30, was three times as large as the older. This means that mines such as those surveyed by him did not hold their labor force. Young villagers came, worked a short time, and moved on; new village youths replaced them. Iakovlev contrasts the situation in the Nelepovka mines with that found by Dr. Erisman among Moscow workers where the 31–40 age group was found to be slightly larger than the younger group. Similarly, Erisman is reported as finding 20 percent of the Moscow labor force older than forty, as compared with less than 5 percent of the Nelepovka miners.¹⁷⁴ In Krivoi Rog, where virtually none of the workers were accompanied by family, 88 percent were in the 18–30 age group.¹⁷⁵ Mekhmandarov found 94.6 percent of the population of the New Russia iron mine at Krivoi Rog under the age of forty, as compared with 40 percent for the population of Russia as a whole, with the 20–30 age group three times the size of the 30–40 group.¹⁷⁶ The metallurgical plants had a greater percentage of family men, and a slightly greater percentage of older workers than did the mines, although the only analysis found that gives the crucial breakdown between the younger and older ends of the 20–40 age range appears unreliable.¹⁷⁷

1917–*mart* 1918 (Kharkov: Izdatel'stvo Kharkovskogo universiteta, 1958), p. 3; Lia-shchenko, "Usloviia truda," p. 270.

¹⁷³ Ivanov, "Pod'em," p. 356.

¹⁷⁴ Iakovlev, "Rabochie," p. 29. Comparing these results to the age and sex structure of Iuzovka's population in 1917, we find that even after allowing for the large proportion of Jews and their influence on the age and sex structure, Iuzovka has moved considerably from the "Donbass model" towards the "Moscow model" of population.

¹⁷⁵ Rashin, *Formirovanie*, 1940, p. 238.

¹⁷⁶ Mekhmandarov, "Zabolevaemost'," pt. 2, p. 32.

¹⁷⁷ Ragozin, *Zhelezo i ugol'*, p. 114, whose work was published in 1895, notes the mines as having 10 to 15 percent workers with families, while the metallurgy plants averaged 44 percent settled. One example that he offers is the South Dniepr factory, with 3,376 workers, of whom 1,496 lived with their families at the factory, 564 were married but have left their families in the village, and 1,316 were bachelors. Kondufor, *Istoriia rabochikh Donbassa*, vol. 1, p. 77, gives an age breakdown that somehow manages to account for only 98 percent of the population of the mines, but 107 percent of the metallurgists and 104 to

The profile that emerges is one of a mine population dominated by young, unattached workers, while the factories tend more and more to settled families and consequently an older labor force. In Luzovka in the mid-1890s 19.5 percent of the workers in the New Russia mines settled with their families as compared with an average of 15 percent for the whole of the Donbass, while the factory had 55 percent of its workers living with their families as against a general factory average of 44 percent.¹⁷⁸ By 1905 the Hughes brothers employed 5,000 factory workers and 4,500 coal miners living with their families in individual houses. This represented three-quarters of the New Russia Co.'s total labor force.¹⁷⁹ Some years later, in 1913, only two-thirds of the 8,045 New Russia factory workers were said to be family men.¹⁸⁰ Expansion on the eve of World War I had evidently attracted new workers who had not yet settled. Given these developmental patterns, it should not surprise us that when we come to analyze the events of both 1905 and 1917, the factory population of the Donbass—and the New Russia workers as the paradigm of that population—prove far more conservative than the coal miners of Gorlovka or Shcherbinovka.

Although child labor was peripheral to both mining and metallurgy, there were close to 15,000 children under the age of fifteen among the 168,400 coal miners of the Donbass in 1913.¹⁸¹ Russia had a long history of legislation limiting the work of children in industry. A law of February 19, 1861, barred children under twelve from any work at the mines and made the work of those between twelve and eighteen years of age conditional on parental agreement. Those under fifteen were not to work underground or nights, and their work day was limited to eight hours.¹⁸² The ban on employing children under twelve was restated in a labor law of June 1, 1882, and the law of March 9, 1892, restated all the existing

108 percent of the labor force in metal-working factories. Since he gives no explanation for these strange percentage totals, it is difficult to rely on his data.

¹⁷⁸ Ragozin, *Zhelezo i ugol'*, p. 114.

¹⁷⁹ McKay, *Pioneers for Profit*, p. 262. The total number of employees is from Kulibin, *Sbornik*, 1905, pp. 286–87, 338–39, 476–77.

¹⁸⁰ Postrikanov, *Metallurgicheskie zavody*, p. 408.

¹⁸¹ For the number of miners see Modestov, *Rabochie i professional'noe dvizhenie*, p. 71. For the percentage of children employed in 1913 see Rashin, *Formirovanie proletariata*, 1940, p. 220. We may suggest that the growth, both in numbers and in percentage of children in the mine labor force between 1911 and 1913 (cf. Table 8.3), is again a product of the renewed expansion in the Donbass during those years.

¹⁸² The text of the law may be found in Keppen, "Materialy dlia istorii," *G-z l*, no. 22, 1899, p. 4031.

limitations on the work of children.¹⁸³ There was, however, a joint vested interest of parents and mine administrations in ignoring the restrictions of the law. Given the living conditions in the mine settlements, the drunkenness and violence, and the inadequacy of educational facilities, work might not have been considered the worst alternative for young children. Under the economic pressures affecting families in particular, the few kopeks earned by a child were of value. The cultural background of the village, in which children took on duties as soon as they were old enough to bear them, was also conducive to the acceptance of child labor in the factories and mines.

Liberman found numerous lamp tenders who looked to be about eleven years old, but invariably gave their age as fifteen. Their job was to clean and fill the miners' lamps at the pit head. This work went on in parallel to the twelve-hour shifts worked by the miners, so that the restrictions on night work and length of work day were often ignored. Children worked alongside women as sorters and cleaners and drove horses in mines with horse-run equipment. In factories, children, because of their size and agility, were given the job of scraping scale off the insides of steam boilers. In most of these jobs they were able to earn thirty to forty kopeks a day, earning the cost of their food and clothing.¹⁸⁴ At the same time, this rate was about half of that paid to an adult for the same work. The mutual interest of workers and employers and the loose nature of the factory inspection system particularly in the Donbass conditions of isolated mine and factory settlements explain why official statistics published in 1908 and 1909 find only 1.4 percent of the South Russian mine labor force under the age of fifteen, much less than the percentage noted by other sources.¹⁸⁵ The percentage of children in the labor force of the South Russian mines in the years 1909–1913 varied from a low of 6.62 in 1911 to a high of 8.76 in 1913. Of these, two-thirds were boys and the rest girls, who made up about half of the females employed in the mines.¹⁸⁶

The factories were preferable to the mines for children, because of the chance to learn a trade. At the Bosset and Gennefeld factory, where mine

¹⁸³ Rashin, *Formirovanie proletariata*, 1940, p. 209; Potolov, *Rabochie Donbassa*, p. 128. See also the discussion in Ryss, "Uglekopy," p. 141.

¹⁸⁴ See Liberman, "Usloviia truda," p. 22; Pazhitnov, *Polozhenie rabochego klassa*, p. 122.

¹⁸⁵ *Svod otchetov fabrichnykh inspektorov za 1909 god* (St. Petersburg: Ministerstvo torgovli i promyshlennosti, 1910), p. XIII.

¹⁸⁶ Rashin, *Formirovanie proletariata*, 1940, pp. 198, 220.

equipment was produced, apprentices were paid only twenty kopeks a day for their four-year term, with an additional five kopeks per day paid at the end to those successfully completing their training.¹⁸⁷ Although factory-employed children might be given a vocational apprenticeship, they were not encouraged to advance their educational level. This was the conclusion reported by Sviatlovskii in his 1885 report. Of 1,897 children polled (56 percent of the underaged workers in the Kharkov factory district), only 120 (6.3 percent) were found to be fully literate. Of these 79 were boys and 41 girls. An additional 250 (13.1 percent) had some knowledge of reading, but could not write. In this group, boys predominated by 196 against 54.¹⁸⁸

Child labor was thus a natural part of the Donbass environment. In 1885 the New Russia factory employed 112 children between the ages of twelve and fifteen in its staff of 2,600 workers.¹⁸⁹ One who had just graduated from this category was F. A. Serov. Born in a Smolensk village in the same year that Hughes began building the New Russia plant, he was sent at the age of seven with an older brother to Iuzovka. He was one of the fortunate few who were given a place in the school there, and he finished two classes in the church school. At the age of twelve he began working as a door-tender in one of the Iuzovka mines, continuing at that task until the age of seventeen, when he became an apprentice blacksmith in the factory. He continued there until his retirement in 1950 at the age of 81.¹⁹⁰ Serov was not unique. There are records of nine-year-olds working as pony boys in the Iuzovka mines, and of twelve-year-olds sorting coal. At the turn of the century the Iuzovka brick yards (which turned out an endless stream of material for the maintenance and expansion of the blast furnaces and smelting ovens) had numerous thirteen- and fourteen-year-olds carrying and piling hot bricks for a wage of 30 to 35 kopeks a day.¹⁹¹

¹⁸⁷ Zaks, "Trud i byt," p. 99. One such graduate was Nikita Khrushchev.

¹⁸⁸ Sviatlovskii, *Kharkovskii fabrichnyi okrug*, pp. 62–63. The literacy rate is little different than that found by Garshin in Iuzovka in 1891.

¹⁸⁹ Sviatlovskii, *Kharkovskii fabrichnyi okrug*, pp. 22–23. Kir'ianov, *Zhiznennyi uroven'*, p. 44, finds that no children were reported among the 4,700 New Russia Co. workers in 1888.

¹⁹⁰ E. S. Kogan, "K voprosu o formirovanii proletariata," p. 74.

¹⁹¹ Zaks, "Trud i byt," p. 98.

SKILL STRUCTURE OF THE LABOR FORCE

In addition to its differentiations of age and sex, the Donbass labor force was characterized by a distinct skill structure that found expression both in the living conditions and wages of the workers, and thus shaped many of their patterns of behavior. A number of basic characteristics were said to have formed this working force. Foreigners' views of the Russian worker were uniform and clear. Hughes claimed that a British worker outproduced the Russian by a factor of two or three because the latter had not yet acquired sufficient habits of working.¹⁹² The French entered a more detailed, if somewhat confused, bill of indictment. "The Russian worker, newly formed, lacks the experience that is genetic to the French worker whose parents were themselves workers. He is less adroit, above all more indolent, yet also vigorous. On the other hand, he is paid less. Holidays are numerous and 250 work days a year are counted as compared with 300 in France."¹⁹³ Culture, experience, traditions, economic motivation—all these worked against the formation of a skilled and efficient labor force in the Donbass. In the Dombrow coal basin in Poland production was 20,947 pud per worker per year, in the Donbass only 12,355 pud.¹⁹⁴ The difference was ascribed to the migrant nature of the Donbass miners. In addition to whatever other factors shaped his professional skills, the Donbass miner lacked the years of experience that would have encouraged the formation of smoothly integrated work teams.

The Donbass mines were a microcosm of the bureaucratic Russian Empire. For every two miners there was a supervisor or administrator. In this survey, the miners were 99.6 percent Russians and 98.3 percent peasants. "Other classes are not drawn to this work."¹⁹⁵ The occupational structure is broken down into numbers and percentages in Table 8.9.

¹⁹² TsGIAL, F. 381, op. 50, ed. khr. 3, p. 3. Letter of Hughes to Valuev, February 1874.

¹⁹³ CL, File 11582, note 1607, *Frais généraux*, January 1903, p. 1.

¹⁹⁴ Ryss, "Uglekopy," p. 57. His data relate to 1902. As we will see later this higher production was accompanied by a higher accident rate.

¹⁹⁵ S.S.S., vol. 3, Slaviansoserbsk uезд, p. 362. The occupational breakdown per hundred mine employees is as follows: 5 administrators, 1 engineer, 8 foremen, 17 supervisors and accountants, 5 contractors, 20 machine operators, 27 skilled workers, 17 unskilled workers.

TABLE 8.9
Occupational Structure in Donbass Mines, 1884

Occupation	Number	Percentage
Artel'shchik	26	1.6
Coal cutters	709	43.5
Coal clearers	346	21.2
Wagon men	197	12.1
Shaft loaders	42	2.5
Pit head men	131	8.0
Pony boys	61	3.7
Sorters-cleaners	19	1.2
Miscellaneous	<u>98</u>	<u>6.0</u>
Total	1,629	99.8

Source: *Sbornik statisticheskikh svedeniĭ po Ekaterinoslavskoi Gubernii* (Ekaterinoslav: 1886), vol. 3, Slaviansoserbsk uezd, p. 388.

The coal cutter (*zaboishchik*) was the source of productivity. For each two cutters, there was a clearer, or sled man (*sanochnik*), who dragged the cut coal from the face to a main gallery. There a wagon man would load it on a pushcart or a pony-drawn wagonette for transport to the shaft. It was then transferred to baskets and raised by the shaft loaders (*stvolovye*). Only after two or three years of assisting a cutter could a clearer hope to become a cutter himself. Understandably there were different levels of skill required, and different levels of danger in the various occupations, although none of them could be classed as safe. The artel'shchik often worked as a cutter, but would also work on the surface, organizing and administering. Essentially the same skill structure is to be found twenty years later in the Nelepovka mines where the cutters are 39.6 percent and clearers, drillers, and proppers together make up 23.7 percent of the mine's labor force. The division of 82 percent underground and 18 percent surface workers remained unchanged as well.¹⁹⁶ At the same time the ratio of underground workers to total work force might vary considerably from mine to mine—from 86 percent at the New Russia mine or 87 percent at the Shcherbi-

¹⁹⁶ Iakovlev, "Rabochie," p. 28. In the 1884 survey 26 mines totalling 1,629 workers were surveyed. Iakovlev's sample had 1,458 workers.

novka mines of the Salt and Coal Co. of South Russia, down to 52 percent at the least efficient mine. The smaller mines tended to have a larger proportion of surface workers, reflecting their lower efficiency.¹⁹⁷ As has already been mentioned, the mining process itself was almost entirely without mechanical aids and changed little in the course of the period. Steam engines, compressed air, and electricity, where introduced, were used for lifting, ventilation, and pumping, rather than for coal cutting, and there was thus little need or incentive for the great majority of the underground work force to upgrade work skills or learn new techniques. Something of a vicious circle had been formed between the nature of the work force and the production techniques.

In John Hughes' New Russia factory the situation was rather different. Of the 553 men working in the factory in 1874 the 45 blast furnace workers were the elite, although not all were highly skilled. Others had learned the skills of the puddling shop and of rail and sheet rolling. Forging smiths and foremen were mainly the experienced Lugansk workers.¹⁹⁸ In addition, the auxiliary corps of electricians, plumbers, and construction workers was used flexibly for either factory or mine as the need arose. Although the introduction of machinery into the coal-cutting process was slow and limited, the mechanization of the mines proceeded steadily in all the production procedures ancillary to coal cutting, and the skills demanded of the workers were commensurate to the equipment.¹⁹⁹ In metallurgy the heart of production was the skilled worker, who watched over the pouring of iron and steel or transformed raw ingots into rails, beams, and other finished or semi-finished metal products—all with the help of expensive and relatively complex machinery. Table 8.10 gives figures reflecting the evolution of the skill structure of the New Russia factory labor force between 1884 and 1901.

Since Rashin gives the number of workers employed by Hughes in 1884 as 2,400, we may assume that some were absent for the summer, while others were engaged in construction and agriculture, and were therefore

¹⁹⁷ Kulibin, *Sbornik*, 1899, pp. 353–78. In 1901, the NRO mines were reported to have 86 percent of their 5,571 miners employed underground. See TsGIAL, F.266, op. 1, ed. khr. 125, p. 382.

¹⁹⁸ Islavin, "Obzor," p. 81.

¹⁹⁹ *Trudy, ekstrennyi s'ezd*, 1902, memo of the New Russia Co. regarding the proposed workers' insurance fund. In the years 1908–1910 the horsepower per worker in the New Russia Co. mines increased from 1.5 to 2.16. See Kulibin, *Sbornik*, 1908, p. 430; 1910, p. 366.

CHAPTER 8

TABLE 8.10
Skill Structure of New Russia Factory, 1884 and 1901

Category	Number		Percentage	
	1884	1901	1884	1901
SKILLED				
Skilled metallurgists and machine operators	454	1,756	32	29
Riveters, brazers, and boilermakers	94	344	7	6
Electricians, pipefitters, carpenters, etc.	171	2,716	12	44
SEMI- AND UNSKILLED				
Semi-skilled and unskilled metal workers	83	—	6	—
Boiler stokers, blast furnace loaders, haulers	<u>603</u>	<u>1,307</u>	<u>43</u>	<u>21</u>
Total	1,405	6,223	100	100

Source: 1884: S.S.S., vol. 3, Bakhmut uezd, p. 242. 1901. TsGIAL, F.266, op.1, ed. khr.125, p. 382.

not counted in the factory labor force.²⁰⁰ The analysis of the zemstvo survey thus puts the skill structure of the factory in the best possible light, since we may assume that the summer migrants were predominantly drawn from the least skilled workers, and that auxiliary workers have been excluded. Despite this maximalization, the division between skilled and unskilled workers in the factory is not markedly different at this stage from that which we observed in the Donbass mines. By the turn of the century, however, the factory has changed a great deal. Although once again conjuncture plays a part in this, it is not, apparently, the entire story. It may be assumed that the recession that struck the Donbass at the turn of the century caused unskilled metal workers to be laid off and perhaps some of the skilled veterans to work in their place at lower pay. In addition, the two samples are not totally comparable, since in the later survey railway workers are included in the skilled labor force, and the construction trades are represented by over two thousand persons. Nevertheless, of those counted in and around the factory, almost four-fifths are skilled. The overall accuracy of this analysis is supported by Ivanov, who studied the structure of the Donbass labor force in 1905, and who remarks that the metal-

²⁰⁰ Rashin, *Formirovanie*, 1958, p. 30.

lurgy workers were in general more highly skilled than were the miners. Among the 36,737 metallurgy workers there were differences, with 14.2 percent, (including both highly skilled and unskilled workers) employed at the blast furnaces, 60.8 percent employed at other skilled production tasks, 16 percent ancillary workers of lower skill inside the plants, and 9.0 percent unskilled workers working outside.²⁰¹ Highly skilled workers thus make up over three-fifths of the metallurgy labor force in Ivanov's study. Kir'ianov's estimate from 1914 is that 64.9 percent of Donbass metallurgy workers could be designated as skilled.²⁰²

At the same time, skill was a relative matter, and the quality of the labor force had to be taken into account as a limiting factor in the choice and use of equipment. Machines were frequently damaged by improper use, and blast furnaces had to be shut down and refurbished more than in other European countries. Analysts never rated a factory at the full capacity of its machines, but deducted 20 to 30 percent.²⁰³ Nevertheless, when we compare the steady upgrading of the component of skilled workers in metallurgy with the relative lack of change in the mines, the growing difference between the two branches of industry and, consequently, between their labor forces is readily apparent.

Of the many problems involving the Donbass labor force through the years, the one most expressive of Russia's backwardness was the lack of supervisory cadres in the mining and metallurgy industries. This is one very particular facet of the general social and economic problem of Russia's "missing middle class." The paucity of engineers, technicians, and skilled supervisors affected not only such economic features as the workers' general productivity but also such specific features as the accident rate.²⁰⁴ The presence of so few skilled technical people meant that there was only a very limited group to serve as a bridge between the entrepreneurs and the workers. The employment of so few supervisors also limited the possibilities of

²⁰¹ L. M. Ivanov, "Pod'em," p. 355.

²⁰² Kir'ianov, *Rabochie iuga Rossii*, p. 44.

²⁰³ CL, 11850, note 208, *New Russia Co.*, Dec. 1898, p. 5. "The new rail producing unit is inferior to others in the area. At the time of our visit it had been used only three weeks and was out of commission because of a mishandling by an operator. . . . Its rated capacity in America is 800 tons every twenty-four hours, i. e., in Russia 500 to 600 tons."

²⁰⁴ In the discussion following Garshin's presentation to the Imperial Technical Society, N. D. Kotsovskii touches on this point, claiming that the gas explosion at the Rykovskii mine was due to the fact that the mine, with a production of six million pud of coal a year was managed by a shteiger, and not even a senior supervisor. Garshin, "Poezdka," p. 47.

upward mobility for workers. The general rigid compartmentalization of social structure, always a prominent feature of Russian society of that time, was maintained even when other social and economic features of Russian life were changing very fundamentally.

In 1881 there were in the entire Russian Empire 417 mining engineers in state service and another 17 working privately. Of this very limited engineering staff, only 127 worked in production or for private mine and factory owners, while the rest were administrators in various ministries and government offices.²⁰⁵ Up to the opening of the Ekaterinoslav Higher Mining Institute in 1899, the St. Petersburg Mining Institute, with its thirty graduates a year, had been the only domestic source of mining engineers for the Russian Empire. The various technological institutes (such as the schools for mine foremen in Lisichansk and Gorlovka and other such schools in other areas of the Empire) graduated another hundred trained supervisors a year.²⁰⁶

The problem was one not only of supply, but of demand as well. Criticizing the reluctance of the mine owners to employ engineers as needed, a Russian mining engineer wrote in 1874, "[The employers] regard [engineers] as doctors who need only glance at a patient to diagnose his illness. The ignorant executives call in an engineer only when the mine is in a hopeless state."²⁰⁷ So widespread was the norm of not employing engineers that Ragozin accepted as true the statement that in the New Russia Co. factory there were no graduate engineers and that all the Russian and British supervisors were *praktiki*.²⁰⁸

In the mid-1890s, in a memorandum supporting enhanced professional education, four district mining engineers listed the entire technical and supervisory staff of the Donbass. They recorded 80 native mining engineers; 67 technicians and technologists; 150 foremen; 1,150 gang bosses

²⁰⁵ Khlystov, *Don v epokhu kapitalizma*, p. 154.

²⁰⁶ *Trudy*, XXI, 1896, pt. 2, p. 299. There were also numerous Russians who trained abroad as mining engineers, as did the famous scientist and poet, Lomonosov. *G-z I*, no. 11, 1899, p. 3839, notes that Miss E. S. N——va recently completed her studies at the Dresden Mining Academy, had been awarded the title of graduate mining foreman (*uchennyy gornyy shteyger*), and was seeking employment in a Donbass mine.

²⁰⁷ V. Domger, "Sovremennoe sostoianie," p. 161.

²⁰⁸ Ragozin, *Zhelezo i ugol*, p. 52. As mentioned earlier, Albert Hughes, who was in charge of blast furnace operations at the plant, had a higher degree. Five years earlier, Time, "Ocherk," p. 12, had noted that Hughes had hired a number of Russian mining engineers for the factory and mines. This would appear to be one of a number of cases in which Hughes or his sons engaged in "mystification" of guests.

and senior workers in the mines; 400 shop bosses and foremen in the factories; and 137 foreign technical personnel.²⁰⁹ A study of the seventeen leading mines, each producing between one million and nearly forty million pud of coal annually, revealed widely varying levels of supervision, both in numbers and in levels of education of the supervisors. The numbers of foremen (shteiger) employed ranged between one for every half million pud of coal mined, to one for every 6.8 million pud. The average number of workers supervised by a desiatnik was 75, but the numbers ranged from 18 at the Rykovskii mine to 219 at the Berestov-Bogodukhov mine. Of the 381 desiatniki, only seven had a technical education. Six were illiterate; 185 were considered literate, although they had never completed any formal school course; and 183 were graduates of a village or uezd primary school.²¹⁰ The wide range in numbers of men supervised by a single gang boss makes it clear that if there existed any official norm, it was totally ignored. In addition, the minimal level of literacy and the virtual absence of technical training must have severely limited the distribution of responsibility for anything more than the basic process of cutting and hauling coal. Technical measures for safety, development, and improvement of efficiency would be totally beyond most workers' field of competence.

In 1899 the New Russia Co. operated eight mine shafts from which it produced 37.2 million pud of coal, almost all for its own steel mill. We have found no details of the administrative and engineering staff of the mines. We do know, however, the details of the lower supervisory and operating structure. There were 5,658 mine workers, supervised by 7 foremen and 75 desiatniki, one foreman for every 5.3 million pud of coal, and one gang boss for each 75 workers. Five workers were reported killed and thirty-nine injured in work accidents during the year. The fatality rate is almost half of that of the Donbass as a whole, and the number injured per million pud mined slightly lower than the Donbass average.²¹¹ Despite

²⁰⁹ *Trudy*, XXI, 1896, p. 512.

²¹⁰ The details regarding the qualifications and numbers of supervisory personnel and regarding the mines' production are to be found in *Trudy*, XXIV, 1899, note 4 to report on enlarging technical training schools, p. 37. The number of workers at each mine in 1899 is from Kulibin, *Sbornik*, 1899, pp. 353-78.

²¹¹ In the 258 Donbass enterprises that produced 562,799,000 pud of coal and anthracite in 1899, it was reported that 139 miners died and 550 were injured. The figures are from N. F. von Ditmar, *Statistika neschatnykh sluchai v gornoi i gornozavodskoi promyshlennosti*, 1899, p. 10.

the fact that none of the New Russia gang bosses had technical education, that three were illiterate, and forty-three others had never graduated from any school, the mine's safety and production record was creditable, in comparison with its neighbors.

The formation of the working class of the Donbass was, then, slow and complex, and was not by any means complete by the outbreak of World War I, for the problem of sufficient labor stability to prevent disruption of production had not been solved. Growth in the mines was labor-intensive, for the mine owners were reluctant to invest. The factories, on the other hand, were demanding a steadily greater degree of skill, taught in large measure within the factory itself over years of steady work. As a result of the half-century industrial boom in Russia by 1913 a quarter million workers had gathered in the Donbass. This was, however, a far from homogeneous body of workers. We turn now to examine how their work was organized, under what physical conditions, and the wages and benefits paid by the employers.

nosti tuzhnoi Rossii za 1903 god i za 1-oe polugodie 1904 goda (Kharkov: Statistical Bureau of the Congress of Mining Industrialists of South Russia), 1905, p. 22.

CHAPTER 9

Organization of Work, Physical Conditions, Wages, and Benefits

The organization of work began with the hiring of the mine or factory labor force. There were three main forms of hiring practiced: hiring by the *artel'*, hiring through contractors, and direct hiring of individuals by the employers. There was no clear-cut line in time or place separating the use of these forms. The proportion of each practiced in any place varied with the conditions in the locality, and often all three coexisted in a single group of mines or in a single factory. Before there was any considerable settled mine population, it was easiest to pay the migrant workers through the *artel'*. In certain clearly defined ancillary jobs involving little skill contractors remained on the scene longer. Where the mine was small, and work was intermittent and used a high percentage of local labor, direct hiring predominated.¹ In the commercial mines of Slaviansoserbsk uезд in 1884, there were 31 independent *arteli* totalling 798 workers; 262 individuals and 15 *arteli* totalling an additional 237 persons working for contractors; and 271 workers hired directly by the mine owners.² As a rough rule of thumb it may be stated that the *artel'* predominated early on, giving way to contracting and later to direct hiring as the capitalist ethos took hold.

We have already extensively discussed the *artel'* as one of the organizational forms of workers' consumption activities in the Donbass. The *artel'*, however, originated as a production group, and it is to this function that

¹ For a discussion of the coexistence of the three forms of hiring in the early Donbass see S.S.S., vol. 3, Slaviansoserbsk uезд, pp. 367–68.

² K. A. Pazhitnov, "Rabochie *arteli*," *Arkhiv istorii truda v Rossii*, no. 10, 1923, p. 66.

we now turn. The roots of the *artel'* as a cooperative work group reach back to fifteenth-century Russia.³ Although the phenomenon of the *artel'* is connected to the harsh natural conditions of central Russia in which cooperative effort was necessary for survival, it has other aspects as well that carried it through into modern times. Johnson has noted the importance of the support aspects of the *artel'* as a community of mutual aid and responsibility when labor migration began.⁴ The Russian authorities had an interest in workers remaining in groups linked by mutual responsibility and represented by authoritative delegates, since the concept of the free individual citizen was alien to their outlook on society. Both civic discipline and fulfilment of contractual obligations were thought to be better served by some group system of labor. Indeed, Zelnik notes a proposal at the beginning of the 1860s that the *artel'* be made a compulsory institution of urban association, analogous to the village commune.⁵

In the south, the mine *artel'* originated as a union of capital as well as of labor. In this it was sharply differentiated from the working *artel'* of the migrant laborers. Among peasants developing their own mining operations, investment of a share of the founding capital was a condition of membership. The capital was necessary for acquisition of tools, sustenance until the first coal was produced and sold, and other expenses unique to such an enterprise.⁶ Rarely was this capital easily acquired, and individual members or the *artel'* as a whole often went into debt to raise the necessary funds. The functioning of the *artel'* then depended primarily on its labor, rather than the power of its capital. This meant that the members had to be young and healthy, capable of the physical efforts involved in mining. Such groups tended to be small and rarely exceeded the minimum of five or six needed for operation of even the smallest mine. In Slavianserbsk uezd, a total of 541 *artel'* members and 27 hired laborers worked 107 peasant mines in this fashion. The mines were generally on lands worked

³ K. A. Pazhitnov, "Rabochie arteli," pp. 54–57.

⁴ Johnson, *Peasant and Proletarian*, pp. 69–73, gives the most complete discussion in the English language of the *artel'*. Bradley, *Muzhik and Muscovite*, p. 27 n. 53 gives extensive sources relating to the origins of the *artel'* in the pre-industrial period. In addition to Pazhitnov's article mentioned above, there is considerable analysis of the origins, structure, and functioning of the work *artel'* in *S.S.S.*, vol. 3, Slavianserbsk uezd, pp. 364–76. This source includes the text of an *artel'* contract. See also Shreider, "Ocherki," pp. 45–85.

⁵ Zelnik, *Labor and Society*, p. 106. See also Pazhitnov, "Rabochie arteli," p. 61.

⁶ Shreider, "Ocherki," p. 63.

by former serfs (92 cases), and only rarely on lands belonging to landowners (5 cases).⁷

The peasant mine *artel'* would thus appear to have been an incipient form of cooperative industrial enterprise that might have developed either into a large scale cooperative or into a capitalist industry (note the presence of hired labor in 1884). Neither of these developments took place, and peasant mines remained a marginal phenomenon as the Donbass was being transformed by industry.⁸

In the early stages of Donbass development, the *artel'* was the most frequently found form of work organization. The miners generally appeared on the labor market in larger or smaller groups which had "the object of lightening the difficult burden of physical labor, and of greater success in the struggle for survival."⁹ It met the needs of the mines as well as of the workers. The *artel'* might originate in the village, as a group of young workers bonded together to go south for the winter, and might as a group negotiate for employment in the mines. Conversely, an experienced worker, having completed one or more seasons in the mine, might contract to return to the same mine in the next season, bringing back an *artel'* of workers, thus guaranteeing ahead of time the place and conditions of employment.¹⁰ The initiative might come from the mine administration, who turned to a sober responsible worker settled with his family at the mine, asking him to recruit relatives and friends from his home village or from neighboring villages to provide the workers for developing a new mine or shaft. Both the settled miner and the mine administration could only gain by having a labor force that had mutual ties and responsibilities.¹¹

⁷ S.S.S., vol. 3, Slavianskerbsk uezd, p. 414. The remaining ten mines are not explained but are presumably on the lands of farmers who were previously neither privately held nor state serfs. The predominance of former serfs over free peasants in mining is another indication of the peasant's reluctance to take up mining of his own free will.

⁸ While a number of explanatory factors may be readily suggested, e.g., lack of capital, peasant preference for agriculture, lack of technical literacy, traditionalist mistrust of development, etc., no proper study of this phenomenon has yet been made.

⁹ S.S.S., vol. 3, Slavianskerbsk uezd, p. 364.

¹⁰ See S.S.S., vol. 3, Slavianskerbsk uezd, pp. 368–69, for the contract of Fedor Poliakov and Sidor Akimov from Tula guberniia with Ernest Schoenfelder of the Petromar'evskii Coal Co., signed September 30, 1882. Poliakov and Akimov contracted to bring a fifty man *artel'* for a year's work commencing one year from the date of contract. Kolodub, *Trud i zhizn'*, pp. 111–13 has the text of a contract signed by an entire *artel'*.

¹¹ Johnson, *Peasant and Proletarian*, p. 92, notes the phenomenon of employers initiating

The artel' contract carefully spelled out all the conditions of work and responsibility, the type of coal seam to be worked, provision of tools, materials, housing and food, the number of workers to be on the job at any given time, and the length of time for the completion of the contract. Often the artel' would be called on to post a performance bond for timely and proper execution of the assigned work.¹² The contract was binding on all the members of the artel' and specified their collective mutual responsibility (*krugovaia poruka*). From its signing to its completion, however, the responsibility for implementation lay mainly on the elected leader, the artel'shchik. He was charged with seeing that the workers all had valid passports, were sober, and worked to contract specifications. On the other side he had to see that the mine administrators lived up to their half of the bargain, that they provided necessary materials on time, recorded the work accurately, and paid the artel' the specified amounts. He also organized the living and eating arrangements of the artel', negotiating with merchants and peasants for the needed food supplies.

The artel'shchik was elected by his workmates, usually on the basis of experience in mining or knowledge and connections at a particular mine. He assigned the tasks and formed the work teams for the various shifts. Forming teams was a sensitive job, demanding personal tact and authority since the various jobs required different levels of exertion and involved different levels of personal danger. These latter problems were mitigated by the fact that the members of the artel' rotated tasks periodically, and that payment was shared equally by all. For his extra efforts, the artel'shchik generally received a monthly payment from each member.¹³

The artel' had a number of weak points that made it an unstable institution. First and foremost was the fact that the entire ethos of capitalist industry was based on individual relations between employer and employee through the medium of wages. The collective responsibility of the

and controlling the artel' in the Moscow region. P. Smirnov, "Pervaia zabastovka na Druzhkovskom zavode v Donbasse," *Katorga i ssylka*, no. 5 (78), 1931, p. 90, tells of the success of police superintendent Kozlov in keeping revolutionaries out of the settlement. His system consisted of recruiting the relatives of quiet, orderly workers, while rejecting all long-haired youths in black blouses.

¹² Pazhitnov, *Polozhenie*, p. 120. The contract in *S.S.S.*, vol. 3, Slavianserbsk uezd, p. 369, calls for two hundred rubles to remain in the hands of the mine office until the contract is completed. In addition, it specifies a schedule of fines to be levied in various situations.

¹³ A. B. Zaks, "Trud i byt," p. 89.

artel', rooted in Russian tradition, conflicted with the values that were coming into play in the Donbass. The rotation of tasks, easing the strain on the cutters and clearers, had originated with those groups that worked their own peasant mines. This custom broke down as the development of large commercial mines with specialized skills and large pay differentials tempted those miners who were stronger and more enterprising to try on an individual basis to improve their skills and their wages, thus conflicting with the levelling ethic of the artel'.¹⁴ The collective responsibility of the artel' for maintaining a full work crew meant that if one member left for any reason, another worker had to be recruited in his place. If relatives, friends, or neighbors were unavailable at that moment, a newly arrived worker or some local person might be taken in. Sometimes the mine office would direct a new worker as to which artel' he should join.¹⁵ Clearly such procedures weakened the internal bonds between the members. In addition, as we have noted, the progress in individual family housing, and the growth in the numbers of families, weakened the consumption artel'—although, as our discussion of Donbass housekeeping has shown, the latter appears to have persisted more widely than the production artel'.

The artel'shchik himself played a part in the erosion of the artel'. As keeper of the records and the person who negotiated with outsiders he was able to divert some part of the payments to his own benefit. Accusations of this sort on the part of some workers gave rise to the suggestion that every worker in the artel' should have his own paybook and have his wages registered individually.¹⁶ This, however, would have erased the greater part of the employers' interest in the artel'.

The employers had essentially three points of interest in this system. It saved them administrative efforts, since they had to deal only with the elected head and not with each individual regarding hours worked, production, or wages due. It mitigated the problem of labor instability, since the contract generally specified the number of workers or the amount of work to be done. In addition, the artel' members originally knew each other, took their collective responsibility seriously, and made efforts to

¹⁴ Shreider, "Ocherk," pp. 65–66.

¹⁵ *S.S.S.*, vol. 3, Slaviansoserbsk uezd, p. 378.

¹⁶ *Trudy, ekstremnyi s'ezd, 1900*, report of commission on workers' living conditions, pp. 20–21. This was one of the recommendations of the Shtoffe commission. See *TsGIAL*, F.37, op.58, d.219, p. 6.



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9.1 Coal miners at work, Luzovka, 1910.

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9.2 A "sled man" hauling coal to the main gallery.

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9.3 A coal cutter at work.

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9.4 Miners at the pit head.

persuade members not to leave in mid-contract.¹⁷ Last of all, the artel' reduced accidents because, as a group of friends and relatives, it worked carefully, with due consideration for each member's safety.¹⁸

The administrative duties of the artel'shchik, particularly in a large body of thirty or more workers, often brought him to stop work as a miner and become a full-time executive. Here he evidently had abundant opportunity for self-enrichment. An artel'shchik might make as much as two hundred rubles a month.¹⁹ One such person, without cheating his mates,

¹⁷ Mekhmandarov, "Zabolevaemost'," p. 59.

¹⁸ *S.S.S.*, vol. 3, Slaviansoserbsk uезд, p. 366, notes that with the artel' system the employers paid one ruble per month per worker in extra wages, but that they needed only one administrator per nineteen workers instead of one administrator per three workers under the system of direct hiring. See also Pazhitnov, "Rabochie arteli," p. 65, for a discussion of the employers' interest in hiring an artel'. He notes a number of Donbass coal companies that for these reasons hired only by the artel', and made no use of contractors or direct hiring.

¹⁹ Pankratova, *Rabochee dvizhenie*, vol. 4, pt. 2, p. 592.



9.5 Miners ready for work.

soon built himself a two-storey home. Another, holding back part of the wage payments, built a home costing 61,000 rubles.²⁰ "Iasha, literate, sober, considerate of his workmates, is a simple miner the first year, a deputy artel'shchik the second. In the third year he is artel'shchik, and is addressed as Iakov Ivanovich. He is, however, honest, except for the small bribes and kickbacks he receives from stores and from those supplying the artel' with meat, etc. The next year, half the artel' are not his mates. They simply work for him. He has become a contractor."²¹ Given the miners' penchant for wandering, the living conditions, and the chronic shortage of experienced miners, there is nothing astonishing here. The phenomenon of the artel' becoming an employer of hired labor to fulfill its contractual obligations occurred, as we have shown, quite early.²² Yet once the

²⁰ Zaks, "Trud i byt," p. 90.

²¹ V. Lazarev, "Za shakhterov," *G-z l*, no. 3, 1899, p. 3664.

²² See also *Trudy*, XIII, 1888, p. 338.



9.6 Miners in holiday dress.

artel' began to hire workers it undermined its own social and economic premises.

The contractor could be of use to the mine in that he took upon himself responsibility for the full range of the mine's needs. He not only undertook to maintain the number of miners needed, often housing and feeding them, but might provide horses for transport and even the foremen and gang bosses needed to supervise daily work. In such cases the contractor lacked only a promising coal property to become a mine owner himself, and the reluctance of some new industrialists to employ contractors was seen as based in their fear that the contractor might soon turn from servant to competitor.²³

Recruiting a work force through a contractor was an easy way to receive a large range of services, but it was also expensive, costing the employer 37 rubles per worker per month as compared to a total of 29 rubles by

²³ Gonimov, *Staraya Iuzovka*, pp. 43–44.

direct hiring and 22.5 rubles for an artel'.²⁴ The contractor did piecework and was paid a stipulated sum for every cubic sazhen of coal brought to the surface. He in turn paid his workers by the shift; pay rates varied by task, by season, and by the fluctuation of local supply and demand. The contractor's profit margin ran anywhere from 30 to 50 percent.²⁵ In 1875 workers employed by a contractor received twelve to thirteen rubles per month after deductions for food and lodgings. At the same time a coal cutter might earn a ruble per day and a clearer seventy-five kopeks per day if hired directly.²⁶

Workers and contractors tried to outsmart each other, although generally the contractor had the advantage. The worker could only threaten violence to obtain redress or extort drink from the contractor as a precondition for work. The contractor, recognized by the mine owners as the organizer of the labor force, was left unmuzzled to take what he could while seeing that the work was done.²⁷ The ways that a contractor might squeeze extra profit from his workers were many. Food, as we have noted, was inferior in both quantity and quality, and only the most desperate and disorganized of workers took contractors' meals. Wagons loaded with 50 or 55 pud were registered as 40 pud, with the contractor taking his cut of the unpaid excess. Pay was docked in every conceivable way, to the point that even the Congress of Mining Industrialists was moved to take action, suggesting that mine owners be made responsible for contractors' paying their workers in full, with payment to the contractor to be withheld until all workers' claims had been clarified.²⁸

²⁴ *S S S*, vol. 3, Slavianserbsk uezd, pp. 366–67. The same source, p. 324, gives examples of contractors charges ranging from 27 to 76 rubles per worker per month, evidently for different packages of labor and services, though this is not specified.

²⁵ *Ibid.*, pp. 371–72, notes contractors receiving 1,000 rubles and paying out 710. Smirnov, "Pervaia zabastovka," p. 97, recalls a contractor in 1905 receiving payment of 1.10 to 1.20 rubles per day for workers, and paying them only 60 kopeks.

²⁶ Islavin, "Obzor," p. 80. The contractor's people were most likely hired for such low-paid jobs as loading or transport, so that the figures are not truly comparable.

²⁷ Kolodub, *Trud i zhizn*, p. 115, describes how an artel' signing on for a new stint with a contractor found that the workers had little pay coming because of the vodka the contractor had sold them and the clothing sold on credit against the new contract. The artel' then extorted a few free drinks and a day's holiday in honor of the new contract. Kolodub sums up that ultimately the organizer was bound to get his payment.

²⁸ *Trudy* XVIII 1893, pp. 553–54. See Gonimov, *Staraja luzotka*, p. 136, for the short weighing of cars, a part of the folklore of every mine workers' history anywhere. Levus, "Iz

In light of all the above, it is not easy to understand why workers, and in particular organized *arteli*, would sign on with a contractor. One part of the explanation is undoubtedly connected to the nature of unskilled people in an unfamiliar environment. The long tradition in folklore of simple villagers being hoodwinked by confidence men probably gives the best answer. It is perhaps more understandable why absentee owners with little understanding of the mines and overburdened mine superintendents would look to a contractor as an easy solution to their production problems. When disgruntled miners demanded an end to the contracting system, the employers answered that they too wanted this, but that where contractors were eliminated, work suffered, for the contractors performed the indispensable service of providing a labor force, and therefore were of importance to the company.²⁹ The weakness of the contracting system was that it did nothing to provide a settled labor force for the mines, and therefore not only robbed and demoralized the workers, but also failed to serve the basic long-term interests of the employers.³⁰ However, as our discussion of housing policy has shown, the creation of a stable labor force drew more lip service than action. Short-term profits played a bigger part in the industrialists' calculation than did the long-term professional development of their industries. The contractors were an active and enterprising element, performing a valuable and needed service. They were totally egotistical and kept their eye on the main chance, hungrily aware of the opportunities opened to them by the industrial boom. Such people appear wherever there is rapid development. They differed from the industrialists only in that they usually came from the mass of workers and possessed neither the initial capital nor the veneer of cultured hypocrisy that characterized the mine owners.

In the New Russia factory and main mines in Iuzovka there was little activity of contractors. They might be hired for such jobs as transporting limestone from the quarries or removing slag from the blast furnaces, but, as we have seen, Hughes believed in shaping his labor force not only by close supervision in factory and mine, but also by controlling the provision of housing and services to his men. Direct hiring was the general rule, virtually from Iuzovka's beginning. The few *arteli* hired in the early years

istorii," p. 45, writes that in the third-class coaches of the Donbass railways the talk was all of how the contractors rob the workers.

²⁹ *G-z l*, no. 26–27, 1906, p. 8597.

³⁰ Ragozin, *Zhelezo i ugol'*, p. 114.

were small, numbering only three or four people.³¹ Outside Iuzovka the company's practice was evidently different; in 1889, the Semenov and Mushketovo mines were reportedly leased out to contractors.³² Hiring was carried out by the "Svintzov gates" of the factory. There, people seeking employment—sometimes as many as two thousand of them—would lie on the sand, waiting. When a *desiatnik* from the factory appeared, they would range themselves in two rows, to be inspected. Young men in village sheepskins and felt boots were taken first, to be set to work as blast furnace loaders, where great strength and endurance were needed more than acquired skills.³³ The few local peasants who came to the Donbass mines were from the beginning hired individually and paid promptly, in cash. It was understood that they were short-term workers who would not fit into an *artel'*.³⁴

Even in the New Russia's Krivoi Rog iron mines, contractors were hired only for the job of stripping the overburden from the ore beds. Mining was done by individually-hired workers. The contractors' men lived in *zemlianki* and were not even registered in the company's office. The only service they received from the company was medical care in cases of illness or injury.³⁵

In mines practicing direct hiring, the *desiatnik* took the place of the *artel'shchik* as the person who formed the link between miners and management, supervised safety and discipline, and kept track of production to be registered in the mine office. *Negrebitskii*, the chief engineer of the New Russia mines at the turn of the century, was said to have instituted

³¹ *S.S.S.*, vol. 2, Bakhmut uезд, pp. 243, 310.

³² *TsGIAL*, F.37, op.67, ed. khr.305, p. 1. Report on New Russia Co. mines, February 1, 1889.

³³ *Zaks*, "Trud i byt," p. 89. The description is from the recession period of 1900; it is the testimony of two Iuzovka workers, gathered in the oral history project on which *Zaks'* article is based. See also *Vlasenko et al.*, "Formirovanie proletariata," p. 282. In addition to the villager's strength, these authors note his docility as a reason for preference by the industrialists.

³⁴ *Pazhitnov*, *Polozhenie*, p. 120.

³⁵ *Fomin*, *Gornaya promyshlennost'*, vol. 1, p. 453. For Krivoi Rog see *Mekhmandarov*, "Zabolevaemost'," pt. 1, p. 54. *Gonimov*, *Staraiia Iuzovka*, pp. 134–35, writes that a number of Englishmen acted as contractors in the New Russia Co. mines, working with ten to fifteen workers each, and receiving ¼ kopek per pud for coal raised to the pithead. It is not clear from his description that they were actually contractors, for he makes no mention of their being responsible for hiring or housing the workers. Of the three names *Gonimov* lists, two are mentioned in *John Hughes, Jr.*'s list of Welshmen in Iuzovka in 1896.

a system whereby the workers chose their own *desiatnik*, as they had once chosen the *artel'shchik*, relied on him to represent them honestly, and covered his wages by raising daily production of a work gang from 120 to 160 pud.³⁶

The more the employers became involved with and responsible for their workers' welfare, the less the workers had to rely on the *artel'* or on the tender mercies of a contractor. When a compensation fund for injured workers was set up in 1884 by the Congress, it covered only directly-hired workers, and not even all of these, since some employers maintained their own compensation system. From discussions we learn that only about one-fifth of the Donbass mine and factory workers were covered in this early period. We may conclude that in the Donbass as a whole, direct hiring made only slow inroads into the system of *artel'*- and contractor-hiring.³⁷ The employer was thus able to combine the workers' responsibility and economy of the *artel'* system with the employers' control over the worker that characterized the direct hiring system. Both industrialists and workers gradually became more aware of the direct links between them, and this awareness grew steadily sharper as the questions of workers' wages, benefits, and compensation assumed growing prominence in the debates of the Congress of Mining Industrialists.³⁸

WORKING CONDITIONS AND THEIR EFFECTS

Nowhere in the world is coal mining considered a safe or easy task. Nor is the smelting of metal a pleasant pastime, involving, as it does, proximity to heat and fumes given off by the molten iron and to the sparks and flying slag of forging and rolling mills. The Donbass had its own peculiarities.

³⁶ *Trudy*, XXIV, 1899. Zbigniew Adamovich Negrebitskii is identified in the list of delegates as the representative of the New Russia Co. mines. Gonimov, *Staraja Iuzovka*, recounts details of the change in the mining system, claiming that this followed the ousting of all contractors from the New Russia mines. He also names Negrebitskii as generally thought to have been responsible for the gas explosion at the Rykovskii mines in 1891. CL, File 11850, note 151 of January 1899, p. 6, gives the productivity at the Rutchenko mines as 50 pud per worker per day. Other estimates run from 45.8 to 57 pud per underground worker. In this context Negrebitskii's proposal of the daily norm for a work gang appear modest, covering one cutter and two clearers.

³⁷ *Trudy, ekstremnyi s'ezd*, 1900, p. 10.

³⁸ See, for instance, the discussions in *Trudy*, XIX, 1894, pt. 2, p. 184, dealing with workers' savings and mutual benefit funds.

The primitive conditions of work at the beginning of Donbass development persisted in many mines into World War I, and the labor force remained in large part unskilled, lacking both professional supervision and a sufficient number of experienced cadres.

The cutting and clearing of coal took place under the most difficult of physical conditions. The coal seam might be nearly thirty feet wide, but only three to four feet high. The cutter—*zaboishchik*—worked his entire shift in a lying or crouching position. Rarely, even in the thickest seams, was a miner able to stand straight. Often he worked in water. In the deeper shafts the heat mounted to 30–35 degrees centigrade, and the miners often worked “in Adam’s costume” for the full twelve to fourteen hours of their shift.³⁹ The great effort involved in cutting loose lumps of coal either with a short-handled pick or with a hammer and steel-tipped chisel in such conditions can easily be imagined.

Ventilation was a particular problem in the early days of the Donbass. The oxygen content of the air was said to go as low as 8.6 percent, and the lamps smoked, adding to the miners’ difficulties.⁴⁰ When the lamps sputtered and died, work was stopped altogether. The miners tried not to interrupt work, for although their pay might be stated in daily or monthly amounts, these were dependent on the fulfilment of a daily norm (*pai* or *uprazhka*). Both norm and amount paid were dependent on the nature of the seam, its distance from the pithead, and other factors that affected productivity. Inadequate ventilation also raised dangers of gas explosions, the terror of miners everywhere, and a subject to which we will devote a separate discussion.

The coal was cleared from the face by a “sled man” (*sanochnik*). He would load anywhere from six to twenty pud of coal onto a sled four feet long and two feet wide. Having placed a padded collar on his shoulders, he would pull this load from the coal face to the main gallery, a distance that might be as much as two hundred meters. More often than not this would be done on all fours. Twenty such sleds were the norm for a twelve-hour shift.⁴¹ In the main gallery the load would be transferred to carts

³⁹ See the descriptions in *S S S.*, vol. 3, Slaviansoserbsk uезд, p. 382; Liberman, *V ugol'nom tsarstve*, pp. 55–60; Kolodub, *Trud i zhizn'*, p. 36. While each of these takes a different social and political approach to miners' working conditions, the descriptions are strikingly similar.

⁴⁰ The normal oxygen content of air is about 21 percent.

⁴¹ For descriptions of the clearer's task see Zaks, “Trud i byt,” p. 85; Shor, *Shakhtery*, p. 11; Liberman, “Usloviia truda,” p. 4. Kolodub, *Trud i zhizn'*, has photographs of miners

pulled by mine ponies or pushed by waggoners. When a cart had forty pud aboard it would be trundled to the shaft to be loaded into baskets. Shaft loaders, in constant danger of being struck by coal falling from carelessly overloaded baskets, would haul the coal to the surface. Although main galleries were eventually lighted by electricity and rails were laid to ease the passage of carts along them, the coal face was worked through the entire period by hand, in a crouching or lying position.⁴²

The factory was better than the mine only in that it was above ground and was spared the threat of gas explosions, flooding, and collapse. Unlike the mine, however, the factory ran seven days a week, twenty-four hours a day, and closed only for twenty-six holidays each year.⁴³ During the cold season of the year, the rolling mills of these factories, which had generally been set up as huge sheds open to drafts in many places, were exceptionally dangerous to workers' health. Workers wore a single set of clothing during work and shuttled endlessly from the fiery temperatures of the furnaces or rolling tables to the blasts of icy wind coming through the doors, ceilings, or unbuilt parts of the wall.⁴⁴ These working conditions prevailed throughout the Donbass, with the exception of the Mariupol, Kramatorsk, and Iuzovka factories.⁴⁵ Whatever the conditions and precautions observed by supervisory personnel, we must remember that the workers in Hughes factory were pouring molten metal or forming raw ingots into rails or other products. This involves the handling of high-temperature metal and work with forging hammers, presses, and rolls—all under high pressure and temperature. A moment's inattention, fatigue, or even simple bad luck could mean a broken limb, severe burns, or even death from a broken machine part, a splash of metal, or a patch of flying slag. One should remember that as ingots are rolled into rails, they seem to take on a life of their own, snaking back and forth through the presses; they must

at work opposite pp. 37, 44, and 48. He also has detailed descriptions of what a worker did in each of the different mine trades, and the 101 ways in which each worker might be injured or killed.

⁴² See Surozhskii, "Krai zheleza i uгля," p. 299.

⁴³ Sviatlovsky, *Kharkovskii fabrichnyi okrug*, p. 88.

⁴⁴ *Pamiatnaia knizhka Ekaterinoslavskoi gubernii, 1903g.*, cited in Rashin, *Formirovanie*, 1940, pp. 139–40.

⁴⁵ Smirnov, "Pervaia zabastovka," p. 90. Although Smirnov gives the credit for the better conditions in these plants to a workers' struggle led by Social Democrats, we will later see that in the period of which he is writing, up to 1905, the New Russia plant had virtually no revolutionary influences in it.

be restrained and guided by the agile strength of workers who resemble nothing so much as toreadors pitting their skills against the repeated passes of the red hot steel.⁴⁶ As our discussion of accident rates will show, injury was a norm of life, to be accepted as part of the natural order of things.

One advantage of the Iuzovka factory and mines was their geographical compactness. This made it easier for workers to get from mine or factory to home and also speeded up the delivery of medical aid in case of need.⁴⁷ This was not the case at the company's iron mines, where constant pumping was needed to empty the sixty-meter-deep ore pits. The steam-powered pump that stood in the pit raised the temperature to thirty degrees centigrade, and the wet miners, emerging from the pits, had to make their way through the winter frosts a kilometer or more to their barracks. The iron mine also had peculiar hazards linked to the use of blasting materials.⁴⁸

So protracted and debilitating was the industrial workday in the early years of the Donbass, that a peasant coming for a nine-month period rarely accumulated more than six months pay. After a month's work he was said to be in need of two weeks' rest.⁴⁹ It was even claimed that the weakness induced by mine and factory work was so great that the peasant was incapable of doing his summer field work properly, and that this was reflected in his crop yields.⁵⁰ While some part of this criticism may be seen as a populist reaction against the horrors of industrial development, the maximum working life of a miner was estimated at twelve years by Liberman. After that time, the constant sitting or lying at the coal face resulted in irreparable bone damage, the breathing of coal dust destroyed the lungs,

⁴⁶ The author, who still bears numerous scars from seven years' work at the furnaces and hammers of a steel-forging plant, has a particular empathy for the descriptions of Hughes' factory workers' experiences.

⁴⁷ See these points in the New Russia Co. memorandum on the proposed accident insurance fund in *Trudj. ekstrennyj s'ezd. 1902*, p. 40

⁴⁸ See Liberman, "Uslovia truda," pp 2-3; Mekhmandarov, "Zabolevaemost'," p. 55.

⁴⁹ K. A. Pazhitnov, "Prodolzhitel'nost' rabocheho dnia v razlichnykh otraslakh russkoj promyshlennosti, ran'she i teper'," *Vestnik finansov. promyshlennosti i torgovli*, no. 25, 1908, p. 466; Shreider, "Ocherki," pp 65-66

⁵⁰ An—skii, "Ocherk," pt. 2, p. 18. Whatever degree of exaggeration might be in this description, the factory inspector Gnedich, speaking to the Congress of Mining Industrialists, saw fit to propose that a brochure meant to assist in the recruitment of workers should also carry a warning of the physical difficulties and deleterious consequences of this work. See *Trudj. ekstrennyj s'ezd. 1900*, stenographic record of third session, pp. 22-23.

infections of repeatedly re-opened wounds on hands and arms resulted in ulcerations that deprived the miner of the use of his hands, and the long shifts of work in the cold and damp induced crippling joint inflammations.⁵¹ By the time the Congress of Mining Industrialists, prodded by the Russian government, began to discuss a comprehensive accident and disability insurance fund, it was noted that there was a significant and rapidly growing number of workers who were invalids not through any accident, but as a result of years of work: "it is time that the Donbass began to give this some attention."⁵² Given this general background, the signs we have seen earlier of numerous Iuzovka workers continuing their employment past the age of forty may be taken as evidence of considerably improved conditions, probably found more in the factory than in the mines.

SAFETY AND ACCIDENTS

Coal mines the world over have had the highest accident rate of any extractive industry. In France in 1897, 137 out of 185 mining fatalities occurred in coal mines. The remaining 48 were spread among all other types of mining enterprises.⁵³ In virtually the whole of Europe at the end of the nineteenth century a similar predominance of fatalities in coal mining prevailed. In Russia between 1886 and 1895 the number of fatalities per thousand workers in coal mines was more than double that in other types of mines.⁵⁴ Metallurgy was not far behind. Referring to the Druzhkovka factory in 1905 Smirnov writes: "Rarely a day passed without someone being scalded by the boilers, or singed by the gas furnaces, or when

⁵¹ See Liberman, "Usloviia truda," p. 1; Shor, *Shakhtery*, p. 8. N. F. von Ditmar, *Doklad soвета obshchestva posobiiia gornorabochim iuga Rossii XXIV s'ezdu gornopromyshlennikov iuga Rossii* (Kharkov: 1909), p. 11, reports that of 1,906 invalids receiving pensions, 42 percent suffered from lung ailments, 15 percent from rheumatism, and the rest from a variety of other illnesses.

⁵² See the New Russia Co. memorandum on the projected accident insurance fund, *Trudy, ekstrennyi s'ezd*, 1902, p. 42. The New Russia Co. attempted to solve the problem by granting a small disability pension to ill or disabled workers while still employing them in some work in keeping with their strength. See the statement of company policy in TsGIAL, F.37, op.67, ed. khr.305, p. 1. As we have noted, the watchmen at the wells of Iuzovka were all New Russia Co. invalids.

⁵³ Shor, *Shakhtery*, p. 5.

⁵⁴ A. Keppen, "Smertel'nye sluchai v kopiakh, rudnikakh i kamennolomniakh raznykh stran," *G-z l*, no. 2, 1899, p. 3644.

in the rail casting shop someone wasn't fatally burned."⁵⁵ As we shall see from the detailed statistics and descriptions of some of the accident patterns, the incidence of fatal accidents was lower in the factories than in the mines, but the opportunity for burns and broken bones much higher. Either way, the Donbass was a focus of high risk industrial activity. Even in 1924, 70.7 percent of all insured workers in Donetsk guberniia (as the Donbass had become at that time) worked in occupations ranked as entailing the highest degree of risk (category #4). The next highest region was Odessa with 7.3 percent of its workers in category #4, and the figure for the entire Ukraine, heavily influenced by the weight of the Donbass in its industry, was 27.9 percent.⁵⁶

Attempting to unravel the accident statistics of the Donbass is a thankless and frustrating task, something on the order of Alice's attempt to play croquet with the Red Queen. Not only did definitions of death and injury change over time, but the very numbers of killed and maimed sometimes underwent *post facto* revision. An accident was formally defined as an injury sustained at work that caused at least three days absence from work.⁵⁷ But to enter the statistics, such an injury had to be reported. Keppen wrote that only where the workers were insured and where an inspector learned of an accident and reported it were there any statistics of injury, and that the only accurate statistics were those of fatalities, which were always recorded.⁵⁸ But in the Donbass, not even death was sure. For some years there was discussion by the mine owners as to whether a miner dying of injury after an accident should be regarded as a mine fatality.⁵⁹ One doctor, attempting to analyze accidents according to shifts and to the part of the shift in which they occurred, found that there was less supervision in the mines at night, so that many injuries went unreported, creating the

⁵⁵ Smirnov, "Pervaia zabastovka," p. 89.

⁵⁶ M. Kaminskii, "Sotsial'noe strakhovanie na Ukraine," *Vestnik profdruzhbeniia Ukrainy*, no. 46, September 15, 1924, p. 45.

⁵⁷ Von Ditmar, *Statistika neschastnykh sluchaiev*, p. 3.

⁵⁸ Keppen, "Smertel'nye sluchai," p. 3643. Kir'ianov, *Rabochie iuga Rossii*, p. 81, cites a 1915 regional financial newspaper to the effect that 30 percent of the accidents in the Krivoi Rog iron mines went unreported.

⁵⁹ Keppen, "Smertel'nye sluchai," p. 3644. The earliest case I have found of "killed and died of injury" being included under the same rubric is N. F. von Ditmar, "Neschastnye sluchai v iuzhnoi gornoi i gornozavodskoi promyshlennosti," in D. I. Orlov, ed., *Trudy pervago vserossiiskago s'ezda fabriчныkh vrachei i predstavitelei fabrično-zavodskoi promyshlennosti* (Moscow: 1910), vol. 2, Table II, p. 502.

ORGANIZATION OF WORK

illusion that the night shift was safer.⁶⁰ A change in the reporting procedures in 1902 hiked the number of Donbass workers injured from 611 in 1901 to 3,349 in 1902 and 5,661 in 1903. This disrupted any attempt to follow long-term trends. Even the founder and longtime director of the statistical bureau of the Congress of Mining Industrialists admitted that the unusually high accident rates of 1905 and 1906 might not reflect the entire reality, "and the number of actual accidents may have been higher."⁶¹ Difficulties in reporting accidents during a revolution are understandable; it is harder to understand why the figures for accidents in 1896 and 1897, presented to the annual meeting of the Congress, should differ from those published a few years later by von Ditmar.⁶²

Despite these difficulties there is much to be learned from available data on mine accidents. We compare in Table 9.1 the fatality rate in the Donbass with that in Great Britain, Belgium, and the U.S., for two periods, 1897–1901 and 1904–1908. The two European countries are considerably lower in their fatality rate than the Donbass and the U.S., and the European rates are stable or are seen to have declined. The fatality rate in both

TABLE 9.1
Coal Mine Fatalities per Thousand Workers

Country	1897–1901	1904–1908
Donbass	2.599	2.89
Great Britain	1.304	1.29
Belgium	1.124	0.98
United States	2.360 ^a	3.60

Source: 1897–1901—N. F. von Ditmar, *Statistika neschastnykh sluchaiuv v gornoi i gorno-zavodskoi promyshlennosti iuzhnoi Rossii za 1903 god i za 1-oe polugodie 1904 goda* (Kharkov. Statistical Bureau of the Congress of Mining Industrialists of South Russia, 1905), pp. 22–23, 32–33. 1904–1908—N. F. von Ditmar, "Neschastnye sluchai v iuzhnoi gornoi i gornozavodskoi promyshlennosti," in D. I. Orlov, ed., *Trudy pervago vsrossiiskago s'ezda fabriчныkh vrachei i predstavitelei fabriчно-zavodskoi promyshlennosti* (Moscow 1910), vol. 2, p. 510.

^a Pennsylvania bituminous coal mines only.

⁶⁰ Retivov, "Opyt," p. 180.

⁶¹ Von Ditmar, "Neschastnye sluchai," p. 504.

⁶² Compare *Trudy*, XXIV, 1899, p. 28, and N. F. von Ditmar, *Statistika neschastnykh sluchaiuv*, p. 22.

the Donbass and the U.S. increased over the decade. In both cases, this was a decade of rapid expansion of coal output for the Donbass and the U.S., while the output of both European countries grew much less rapidly. Development of the coal mines in new areas involved the recruitment of new mining cadres and was paid for in blood.⁶³

Although the Donbass fatality rate varied greatly from year to year, depending on whether there was a mass disaster such as a gas explosion in some mine, it was consistently two to three times higher than the average for the Russian Empire as a whole, and higher than any other mining area in the empire except for the Dombrow Basin in Poland.

With the introduction of comprehensive accident compensation at the start of 1904, the statistics on injured workers in the Donbass mines and factories began to reflect something closer to reality. The figures for 1904–1906 revealed a growing Donbass casualty rate that reached 38 percent of the labor force annually. The French casualty rate at the same time was only two-fifths of that in the Donbass.⁶⁴ The large mines, producing 80 percent of the Donbass coal were only marginally better than the smaller firms: their casualty rate ran from six to nine percent below the rate for the entire Donbass.⁶⁵

The metallurgy industry recorded fewer casualties since it employed fewer workers. Although the death rate was lower, the injury rate was even higher than in the coal mines. Parasun'ko has attempted to gather accident statistics from a wide range of sources for the years 1872–99. She presents a total of 1,506 killed and 2,423 injured in the Donbass coal mines, and 340 killed and 1,688 injured in the metallurgical plants.⁶⁶ The general

⁶³ Shor, *Shakhtery*, pp. 14–15, claims that the accident rate in English and French coal mines dropped steadily over the years even in periods of rapid expansion of production.

⁶⁴ *Vestnik finansov*, no. 1, 1908, p. 11. Examination of all the statistical sources shows a consistent upward trend for the number of miners killed, but much more precipitous changes in the numbers of injuries reported beginning with 1902 and reaching through 1907 when the trend settles.

⁶⁵ Compare the statistics in *Vestnik finansov*, cited above, with Liberman, *V ugol'nom tsarstve*, p. 61.

⁶⁶ Parasun'ko, *Polozhenie i bor'ba rabocheho klassa Ukrainy* (60–90 g. XIXv.) (Kiev: 1963), pp. 184, 192. On p. 192 Parasun'ko's table of those killed and injured in metallurgy lists 3,267 in 1898—a figure vastly out of line with the general trend of casualties, and probably a typographical error. In calculating total casualties I have substituted for this the figure given by the Congress of Mining Industrialists, which counts 430 injured, since Parasun'ko's figures for these years are generally in close agreement with those of the Congress. See *Trudy*, XXIV, 1899, p. 31, Table 7.

casualty rate in Donbass metallurgy during the years 1895–98 was said to be 9.66 per thousand workers, while under the more comprehensive reporting procedures instituted after the turn of the century, the rate rose to 468.3 per thousand.⁶⁷ Nearly one half of the labor force was injured each year! This level of injuries evidently continued over the next fifteen years, for Kir'ianov reports the accident rate in South Russia's metallurgy plants as 450 and 435 accidents per thousand workers in 1913 and 1914 respectively, while fatalities were 1.2 and 1.5 per thousand. In the same years, injuries in bituminous coal mines of the region were 158 and 174 per thousand miners, and fatalities 2.6 and 3.2 per thousand.⁶⁸

The New Russia mines and factory in Iuzovka were not exempt from frequent tragedies. During 1881 and 1882 three workers in the factory were killed due to various equipment failures.⁶⁹ At the end of the century a dozen men were dying each year in accidents, and another sixty were reported injured. Statistics from 1907–1908, after reform of the system for reporting accidents and injuries, show 30 men killed yearly and 2,800 injured. There is no sign of a declining trend in either deaths or injuries, either in the mines or in the factory. In fact, the opposite is true: deaths per thousand workers showed an irregular rise and fall in the early period but were much higher in the later period. It should also be taken into account that this was not a period of rapid expansion for the factory, and its work force actually shrank from a peak of 11,000 in 1898 to 6,050 in 1908. The Iuzovka mine work force grew over the years, numbering 7,350 in 1908 and 7,891 in 1910. If the working population of the factory was more experienced and professional than in the mines, as claimed, this was not reflected in the accident statistics. It should be noted, however, that as bad as the situation appeared to be, the casualty rate in the New Russia factory in 1907–1908 was only 166.9 per thousand workers, one-third of the general casualty figures in Donbass metallurgy. During those same years, the New Russia mines suffered 262.8 accidents per thousand workers, twelve percent lower than the Donbass average of 299.4.⁷⁰

⁶⁷ Liashchenko, "Usloviia truda," p. 431. *Obshestvennyi vrach*, no. 4, 1909, p. 173, put the 1907 accident rate in Donbass metallurgy at 515 accidents per thousand workers.

⁶⁸ Kir'ianov, *Rabochie iuga Rossii*, p. 79. Kir'ianov's figures, based on factory and mine inspectorate reports, do not cover the entire mining and metallurgy industries of South Russia.

⁶⁹ TsGIAL, Fond Gornogo departamenta, 1882, Delo 145, list. 9, cited in Parasun'ko, *Polozhenie i bor'ba*, p. 189.

⁷⁰ New Russia Co. accident figures and averages are calculated from Kulibin, *Sbornik*,

To what were all these accidents ascribed? Various causes are given. Insufficient supervision and inadequate supervisory skill are frequently mentioned.⁷¹ Carelessness due either to ignorance or to haste and penny-pinching by management is cited by other sources. The sixteen miners killed in Slaviansoserbsk uезд in 1885 were said to have been for the most part victims of their own inexperience, while six others died some years later because of a contractor's attempt to save time and money by moving pit props from one section to another in contravention of a foreman's orders.⁷² The mine owners' parsimony and ignorance of mining techniques are a separate category cited by numerous critics. The Ekaterinoslav Chief of Gendarmes wrote that the accidents that killed or injured twelve miners in one month in 1892 were due to neglect of technical measures for workers' safety.⁷³ Reports in the weekly bulletin of the Donbass mining industry, the *Gorno-zavodskii listok*, covering the first half of 1892 list thirteen accidents involving two fatalities and fourteen injuries. As reported, they reflect workers' or supervisors' negligence in seven cases and equipment failures in the remaining six cases.⁷⁴ Kolodub, writing as a veteran miner-foreman, cited the poor construction of mines and of equipment as the greatest cause of those accidents that could be said to be the fault of the employers.⁷⁵ Engineer Negrebitskii, addressing a meeting of engineers in Ekaterinoslav, blamed the incorrect structure of the Uspenskii mine for

for various years. The Donbass averages for 1907–1908 are from von Ditmar, "Neschastnye sluchai," Table 2, p. 502. While the production of the New Russia factory fluctuated considerably through the boom and bust years between 1898 and 1908, production did not drop as drastically as did employment and reflected growth in the capital and efficiency of the plant. Production per worker was 1,471 pud of pig iron in 1898 and 2,063 pud in 1908.

⁷¹ *Trudy*, XXI, 1896, p. 513. In arguing for the creation of more technical schools for *desiatniki* and foremen, the case was made that the inadequate cultural and technical level of the supervisors was frequently the cause of accidents. Shor, *Shakhtery*, p. 10, supports this, but emphasizes the unwillingness of the mine owners to pay high wages to supervisory personnel rather than the unavailability of such persons.

⁷² For the 1885 deaths see *S.S.S.*, vol. 3, Slaviansoserbsk uезд, p. 382. The later disaster is noted in Liberman, "Usloviia truda," p. 10. Liberman, *V ugol'nom tsarstve*, pp. 70–72, cites a number of accidents due to postponement of mine maintenance work.

⁷³ Pankratova, *Rabochee dvizhenie*, vol. 3, pt. 2, p. 214. Shor, *Shakhtery*, p. 16, writes that cables are used longer than is safe, and that they tear; that pit props are too few and sub-standard.

⁷⁴ *G-z l*, no. 21, 1892, p. 1365.

⁷⁵ Kolodub, *Trud i zhizn'*, p. 56. He also notes that many accidents are caused by inexperience and lack of care on the workers' part.

the 1903 disaster in which fifty-nine miners lost their lives due to an underground fire.⁷⁶

In attempting to sum up the responsibility for work accidents in the Donbass mines, Liberman categorizes 80 percent as the fault of the employers and 20 percent as the fault of the miners themselves. When he goes into detail, however, he classifies 179 of the 252 accidents blamed on the employers as "an inevitable result of the work." Such, for instance, might have been considered the accidents in which blast furnace workers were burned or suffocated by sudden flares of hot furnace gas.⁷⁷ Only 20 accidents are blamed on insufficient safety measures and 35 on poor technical provisions. Of the 63 accidents blamed on the workers only 11 were said to have been caused by violation of rules or non-use of available safety equipment, while 34 were blamed on lack of skill or care.⁷⁸ Although these figures do appear to absolve the industrialists of any general and overwhelming venality or deliberate negligence originating in greed, they confirm the inadequacy of supervision that failed to screen out or direct the unskilled work crews. The law placed the responsibility for violation of safety rules on both the immediate and the higher-up supervisors.⁷⁹ How often legal sanctions were invoked is questionable, although some trials were publicized.⁸⁰

Eighty percent of the mine accidents occurred underground, and coal

⁷⁶ Liberman, "Usloviia truda," p. 10. In addition to the basic fault that the mine did not have any emergency exit there was also a total absence of rescue equipment, ladders, buckets, etc. There had been a fire in one of the New Russia Co. mines in March 1894, one serious enough that the company had to buy 1.5 million pud of coal in March and April, but apparently one without loss of life. See the comments of Avdakov, *Trudy*, XIX, 1894, pt. 2, p. 77. An account of the Uspensky mine fire appeared in the *Listok* printed by the Ekaterinoslav S-D group. See *Iskrovskie organizatsii na Ukraine* (Kiev: Gosudarstvennoe izdatel'stvo politicheskoi literatury, 1950), p. 138. Ryss, "Uglekopy," p. 145, writes that the Uspenskii mine fire upset the entire Donbass and provoked a proper investigation.

⁷⁷ *G-z l*, no. 6, 1899, pp. 3744-45.

⁷⁸ Liberman, "Usloviia truda," p. 8.

⁷⁹ Mekhmandarov, "Zabolevaemost'," pt. 1, p. 53. He notes that the supervisory staff at the New Russia iron mines were punctilious in seeing to work-safety, and that the workers responded in kind.

⁸⁰ See, for instance, *G-z l*, no. 9, 1899, p. 3800, noting the trial of a mine director and a contractor on charges of negligence in a fire that killed three miners. No charges were brought in the fatal Uspenskii mine fire. In the January 1898 gas explosion in the Makeevka mine of the Russian Donetsk Co. the investigatory commission found that the ventilation had been improperly regulated; it brought the foreman and chief engineer to trial. *G-z l*, no. 9, 1899, p. 3799.

cutters were the largest category of victims.⁸¹ The position in which the coal cutter worked and the dangers of his job of loosening the coal were the sources of his vulnerability. Half or more of the accidents were caused by sudden collapses as the cutter broke off blocks of coal.⁸² The moving and loading of heavy objects was the next greatest source of injury and death, as clearers and waggoners moved the coal to the pithead.

If a miner could safely complete his first season in the mine his chances of survival improved considerably: 70.5 percent of the mine accident victims were found to have worked six months or less, another 15.9 percent had a year or less of experience, and only 13.6 percent had worked more than one year.⁸³ The wandering of workers from mine to mine contributed to the frequency of accidents, for each mine had its own peculiarities of rock structure, gas, and flooding, and practices that were acceptable in one mine might prove fatal in another.

Long hours of work contributed to the high accident rate. Of 315 accidents investigated by Liberman, only 45 occurred in the first four hours of the shift, 135 in the second four hours (with the rate dropping after the mid-shift rest period, but rising again sharply soon after) and 135 in the final four hours.⁸⁴ A similar rhythm may be found in the weekly cycle of work. There were few accidents on Mondays—though this may have been due to few people working after the weekend spree. The accidents multiplied steadily through Wednesday, Thursday, and Friday as strength and attention waned.⁸⁵

On the whole, the question of accidents appears to have generated a fatalistic and passive response from the miners. The miner's lamp was

⁸¹ Liberman, "Usloviia truda," pp. 4–5, notes 85 percent accidents underground in the Kalmius Bogodukhov mine in 1901, and Retivov, "Opyt," p. 174, notes 78.1 percent and 80.5 percent in Shcherbinovka in 1907 and 1908. Retivov found that cutters were 25 percent of all accident victims, while Liberman found them 34 percent of all victims. N. F. von Ditmar, *Doklad obsbchestva*, p. 11, lists coal cutters as 71 percent of those receiving compensation for injuries.

⁸² Retivov, "Opyt," p. 178. Kolodub, *Trud i zhizn'*, p. 48, explains the structures of rock and coal that threatened the health and welfare of the miners by their propensity to sudden collapse.

⁸³ Liberman, "Usloviia truda," p. 11.

⁸⁴ *Ibid.*, p. 12.

⁸⁵ Retivov, "Opyt," p. 180. The statistical bureau of the Congress of Mining Industrialists does not appear to have published any comprehensive analysis of the factors of time or experience, nor of the types of accidents and the skill groups involved. The impression is created that the Congress' accident statistics were primarily a function of compensation, and there was no organized attempt to use them in aid of preventive analysis.

called "God help us" for the words "*Bog pomoch*" stamped on the back of the brass number tag left at the mine entrance when the miner took the lamp and descended to the coal face. The miners created something of a folklore of black humor and songs: "Deep in the mine our candle smolders, / Death is riding on our shoulders."⁸⁶ When a gas explosion in 1911 killed three hundred miners in the "Ivan" shaft of the Rykovskii mines, the remaining miners engaged in an enormous drinking bout and for several days refused to return to underground work.⁸⁷

Despite repeated accusations by the employers, there were few accidents that could be ascribed to willful negligence or bravado on the part of the workers. Apart from those accidents that were part of the natural occupational hazards, the lack of provision for safety and the lack of qualified supervision appear to have made the Donbass an unnecessarily dangerous place to try to make a living.

The most devastating of all mining accidents was (and remains to this day) the gas explosion. The first large explosion in the Donbass was at the Rykovskii mines on the night of January 5, 1891. It claimed 52 lives.⁸⁸ Between 1891 and 1912 over forty gas explosions killed more than 1,100 miners, as many as 300 dying in one disaster. Where *arteli* worked the mines, such explosions could often take on a particularly tragic aspect. P. P. Zavloveev recounted in his memoirs how 32 of those killed in the January 1897 explosion in the Ivan shaft of the Rykovskii mines were his compatriots from the village of Zvanovo in Kursk guberniia. He, as a survivor, was faced with returning to the village to bear the bitter tidings to his neighbors. Yet, only four years after one of these explosions had taken 270 lives, miners were directing a visiting journalist's attention to the bubbling of gas through the water in the same pit.⁸⁹

Mines varied greatly in their gas content. The New Russia Co. had little or no gas in its mines, while the nearby Rykovskii mines were the scene

⁸⁶ See also Surozhskii, "Krai zheleza i uglia," for how the miners teased him when he went underground.

⁸⁷ *Rabochaia gazeta*, no. 4-5, April 15, 1911, in Rubach, *Rabochee dvizhenie*, pp. 68-69.

⁸⁸ DOGIA, F.2109, op.1, d.9, p. 7.

⁸⁹ Surozhskii, "Krai zheleza i uglia," p. 299. Surozhskii writes that between the 1908 explosion and his visit there were fourteen explosions in the Donbass, leaving 600 dead. *G-z /* from November 12, 1908, is cited by Liberman, *V ugol'nom tsarstve*, to the effect that between January 1, 1903, and July 1, 1908, there were twenty-one gas explosions, leaving 347 dead. Chapuy, *Journal de voyage*, p. 125, remarks on the absence of gas from the Hughes mines.

of repeated explosions. In addition, from the beginning of the New Russia Co. attention had been paid to ventilation and to other safety features. One of the items specified in the 1896 certificate awarded at the international industrial exposition was its development of a panel system of ventilation that minimized the danger of gas explosions. The New Russia mines were almost the only ones in the Donbass in which mine shafts were reinforced with concrete and emergency exits were provided.

The earliest method of attempting to cope with mine gas was simply to burn it off, "a dangerous technique never used in Western Europe."⁹⁰ One reason for the proliferation of gas was the mining technique used by some employers: in winter, when wages were lower and labor more plentiful, they would open up numerous large galleries simultaneously, leaving the coal extraction until the summer, when the core of the labor force, the higher-paid *zaboishchiki* might stay on while others left for the fields. In a mine that had gas problems this was dangerous. Gas proliferated with each open gallery, necessitating special attention to ventilation.⁹¹ It was neglect of ventilation that was found to have caused 15 of 21 explosions between 1903 and 1908.⁹²

Writing after two mine disasters only a year apart had claimed 106 miners' lives, Professor Time blamed all sides: the miners whose desire to smoke overcame their sense of self-preservation (matches and tobacco had been found on the body of one of the dead in the Korsun mine despite the fact that the miners were routinely searched before descending into the mine); foreign experts, who reaped great economic benefits but taught the Russians little about such important problems as mine gas; and the poor supervision by the mine owners who neither made nor enforced adequate safety regulations.⁹³ Time suggested the establishing of rescue stations that would not only provide personnel and equipment to save lives in the

⁹⁰ Lecture of Professor Kotsovskii on mine gas in *Trudy*, XXIV, 1899, p. 3.

⁹¹ CL, File 11850, note 150, Makeevka, March 1899, pp. 6–7.

⁹² Liberman, *V ugol'nom tsarstve*, p. 73.

⁹³ I. Time, "Spasatel'nye arteli," *G-z I*, no. 8, 1899. For discovery of the matches and tobacco see *ibid.*, no. 7, 1899, pp. 3755–56. See also district mine engineer V. Wagner's remarks on the persistence of this practice in *Trudy*, XVII, 1892, pp. 495–96. I. Novosil'tsev, *Vzryvy gremuchego gaza i kamennougol'noi pyli* (Moscow: Biblioteka gornorabochego, 1923), p. 7, writes of the early Soviet period of the Donbass: "Of eight large gas explosions in our mines, which killed several hundred miners, four were caused by miners opening up a safety lamp (to light a cigarette, etc.), two were caused by smokers, and two were caused by incorrect firing of blast-holes."

case of mine disasters, but could serve as educational centers for the training of mine workers and supervisors in safety procedures. By 1912, the thirty-eight largest mines all had such rescue stations, there were four district stations, each serving a group of smaller mines, and there were four rescue stations operating under the aegis of the Council of the Congress of Mining Industrialists.⁹⁴

Education was apparently necessary on all sides. Two miners found smoking in a mine known to have gas were brought to court by their employer. They were found guilty, fined fifty kopeks—the maximum fine for smoking in a forbidden area—and left court laughing at the management. They could have been fined three rubles by the foreman, and discharged, but given the prevailing labor shortage that would be no punishment at all.⁹⁵ On the other hand, a leading official of the Congress regarded gas explosions as natural disasters, despite evidence that attention to ventilation could considerably diminish the risks, and the report of Professor Kotsovskii, the Congress' expert on mine gas, delivered after the Rykovskii and Korsun explosions, reads like a paradigm of contemporary Soviet bureaucratise apologetics. After his commission found that mine ventilation throughout the Donbass was unsatisfactory he concluded: "Our respected comrades strive with unfailing energy to correct the deficiencies, but for many reasons of a technical and economic character, they do not always achieve this with the desired speed."⁹⁶

The level and pattern of work accidents throughout the years reflects two of the characteristics that we have noted in the Donbass in earlier discussions. The continuing unstable nature of the work force appears reflected in the high level of mine accidents; the unwillingness of the mine owners to invest in long-term safety and health measures expresses both their attitude toward the workers and their shortcomings as industrial en-

⁹⁴ Chairman's report, *Trudy*, XXXVII, 1912, p. XVI. Von Ditmar, "Neschastnye sluchai," p. 500, reports that in 1909–1910, out of an annual budget of 641,731.35 rubles for the various institutions of the Congress, the equipping and maintenance of the rescue stations cost 116,162.25 and among items of expenditure was second only to the general administrative costs of the Executive Council and its various arms.

⁹⁵ See the letter of P. Kulibin, *G-z l*, no. 16, 1899, p. 3926.

⁹⁶ *Trudy*, XXIV, 1899, p. 4. The reference to gas as a natural disaster (*stikhnioe bedstvie*) is from von Ditmar, "Neschastnye sluchai," p. 510. The gas explosions were costly to the owners. According to AN, File 65AQ Box K69, pp. 4, 6, 14, the Rykovskii explosion of 1897 cost 200,000 rubles for repairs and 50,000 rubles compensation to families of the victims, leaving the mine only 106,238 rubles profit for distribution. Nevertheless no great urgency or disquiet is reflected in the Congress discussions of the problem.

trepreneurs. The high rate of injury and death in the steel mills, however, defies explanation on these grounds. Unfortunately, there do not appear to be any studies of the metallurgical industry similar to those performed by doctors at the coal mines, so that the data needed for any analysis of accidents in metallurgy is missing.

Perhaps of greatest significance to our analysis of the society of the Donbass is the absence of any conscious, organized reaction of the workers to their safety conditions, particularly in the mines. We have mentioned the one occasion on which miners released their fear and frustration in drink, refusing for some time to work underground. However, as will be shown when we look at the causes of early strikes, safety conditions figure little if at all in workers' demands. In the socialist press, too, there is little mention of workers' reactions to safety conditions. Only once, when eight workers in the New Russia factory and central mine were injured in a series of accidents on a single day, was labor unrest tied to the high accident rate.⁹⁷ It would appear that on this subject the workers and von Ditmar share the passive fatalism of traditional society in regarding work accidents as phenomena of nature about which little or nothing could be done.

COMPENSATION FOR ACCIDENT AND DISABILITY

Ten years passed before the Congress of Mining Industrialists took organized action to grant compensation to workers and miners injured on the job. It took even longer until the government understood that the Congress' compensation fund was inadequate and passed legislation making compensation for all injured workers and for all work-related illnesses the legal responsibility of the individual employer. This latter step, in force as of January 1, 1904, was a great stride forward in the welfare of the workers. The original motivation for a compensation fund resembled the impetus that had pushed the industrialists to provide services of any sort for the workers. Summing up the first fifteen years' operation of the fund, L. G. Rabinovich explained to the Congress that workers were upset seeing the families of the killed and maimed living in want. When they knew that there was decent compensation they came more willingly to work in the mines and factories.⁹⁸

⁹⁷ *Iskra*, no. 52, November 7, 1903, p. 5.

⁹⁸ *Trudy*, XXIV, 1899, p. 5.

Compensation funds, including mutual benefit payments, began in the mining industry of Russia in 1821. By 1904 there were thirteen such funds operating in Poland, covering 60 percent of the mining industry workers. These funds appeared in the mines and smelters of the Urals following the emancipation, but it took another twenty-three years until they appeared in the Donbass.⁹⁹ In the entire Kharkov factory region of the south, the Helferidge-Sade plant in Kharkov and the printing shops of that city were the only ones with established sickness and disability funds in 1885. These granted compensation to survivors for death of a worker, and half of the worker's pay from the fourth day of an illness. Illnesses that were the worker's own fault (the examples given are syphilis and alcoholism) were not covered by benefits. The funds were financed by workers' contributions amounting to one percent of wages.¹⁰⁰

The draft charter for a compensation fund for mine industry workers was drawn up by A. F. Mevius and presented to the seventh session of the Congress in 1882. The Congress approved it and passed it on to the Minister of State Domains for government approval. Approval was granted in July 1884 and the fund began its operations in November of that year when a three-member council was elected.¹⁰¹ Until that time compensation to the families of workers killed in accidents or to workers crippled on the job was entirely a matter of *ex gratia* payments by the industrialists or of individual law suits brought by the workers.¹⁰² In such cases, the widow of a worker killed in the New Russia factory might receive a one-time payment of fifty rubles for herself and her three children.¹⁰³

A sharp debate between two radically different conceptions of the com-

⁹⁹ Sviatlovskii, *Professional'noe dvizhenie v Rossii* (St. Petersburg: 1907), pp. 33–35.

¹⁰⁰ Sviatlovskii, *Kharkovskii fabrichnyi okrug*, p. 125.

¹⁰¹ Von Ditmar, *Doklad soveta*, pp. 5–6. The first executive council of the fund, mine owners all, consisted of I. L. Umanskii, M. I. Iashevskii, and P. A. Shipilov, the latter serving continuously until 1902.

¹⁰² Since the compensation fund covered only a small part of the Donbass work force, it did not eliminate lawsuits from injured workers. These became a common feature of Donbass life, and their elimination was one of the motivations behind the Congress' acceptance of the principle of a general accident compensation fund at the turn of the century. See the report and discussion in *Trudy*, XXIV, 1899, report on proposal of general accident fund, p. 3. See also, *ibid.*, p. XXIV, noting that the compensation fund covered only about one-fifth of the workers, and "had not developed as had been hoped."

¹⁰³ See the case in *S.S.S.*, vol. 2, Bakhmut uezd, p. 236. The factory management also found work for such a widow or for her children—though in what percentage of cases is unknown.

pensation fund preceded its adoption. The disagreement originated in the committee, chaired by Mevius, that had been mandated to produce a draft charter. Finding no way to bridge the differences in approach, the committee presented the annual session of the Congress with two different drafts. M. I. Iashevskii, an active figure in the Congress and its secretary from 1881 to 1885, suggested a fund financed (as were those in Kharkov) by workers' contributions at the rate of one percent of wages, as well as by contributions from industrialists graded in accordance with the additional services provided by each employer for his workers. Owners investing more resources in schools and hospitals would be asked to contribute less to the compensation fund. Iashevskii's proposal called for the fund to be run by a twelve-member executive including a doctor, a district mining engineer, and three representatives elected by the workers from their own ranks. The executive was to elect its own chairman.¹⁰⁴

Mevius' draft was based completely on employer contributions to be disbursed by an executive council drawn only from the ranks of the industrialists. Unlike Iashevskii's, it did not provide coverage for illness, but called for compensation only in cases of death or injury. Compensation was to be paid to wives (until remarriage), children (boys to age seventeen, girls to age fifteen) or parents incapable of working, if the dead or injured person had been their sole support.¹⁰⁵

After hearing the two proposals the delegates criticized Iashevskii's, and showed a clear preference for the proposals put forward by Mevius. At first the criticisms were on technical grounds. The fear was expressed that the one percent levy on wages would not cover the anticipated needs of the compensation fund. Iashevskii was ready with an answer, however, showing that a contribution of 25 kopeks a month by 16,000 workers would bring in 48,000 rubles a year, while Mevius's plan, based on a 10 kopek per carload tax on the producers would yield only 10,400 rubles. Support for Iashevskii's position came from I. F. Felkner, an engineer representing one of the larger mines, who remarked that a system somewhat like that proposed by Iashevskii had already been tried out at his mine without any difficulties. The real essence of the opposition was expressed by A. K. Alchevskii, from the Alekseevskii Coal Co. and one of the most conservative members of the Congress, both politically and financially. "As con-

¹⁰⁴ Iashevskii's draft charter is to be found in *Trudy s'ezda*, VII, 1882, p. 225–34. Note that Iashevskii's proposal leaves the executive with a 7 to 5 majority in favor of the employers.

¹⁰⁵ Mevius' proposal is in *Trudy*, VII, 1882, pp. 219–25.

cerns aid funds and the workers' own participation in them, I fail to see what good can come out of any such fund that grows from the initiative of, and in the midst of the workers themselves. To attach such a fund to the Congress will be most difficult. I don't see in what way the participation of the Congress in such a fund would find expression. The more such mutual aid institutions grow up among the workers, the less the Congress will be involved."¹⁰⁶

Here we have the expression of the prevailing outlook in the Congress. Employers and workers were held to be mutually exclusive categories between whom there could be no real cooperation. If the compensation fund was to have workers' participation there would be no place in it for the industrialists. His conclusion, and that of the Congress as a whole, was that in such a case there should be neither workers' initiative nor participation. Mevius' proposal was approved.

When the fund went into operation it began awarding one-time grants, temporary monthly pensions, and permanent pensions. Yet the rules of the fund were that no permanent pension should ever go higher than ten to twelve rubles per month. In fact, a check of all the permanent pensions still being paid in 1908 showed the average in the vicinity of six rubles per month, while only half a dozen of 463 workers listed received ten rubles or more.¹⁰⁷ Over twenty-five years of operation the fund paid 2,056 claims amounting to a total of 649,741 rubles, an average of 316 rubles each, including both one-time and continuing payments. Of these, only 485 were granted between 1884 and 1898, while 1,492 were approved in the years 1899–1903 and another 79 were approved retroactively after the government–legislated insurance law took effect at the start of 1904.¹⁰⁸ To supplement the payments by the Congress, the individual mining companies might pay as much as four times what the compensation fund paid.¹⁰⁹

As coal production grew, the capital of the compensation fund swelled, while the granting of pensions remained largely static in both numbers of claims approved and size of pension awarded. In 1887 Zhukovskii complained to the Congress meeting that despite the availability of funds, payments were often delayed as much as ten months without payment of

¹⁰⁶ *Trudy*, VII, 1882, pp. 236–39.

¹⁰⁷ See *Doklad i otchet soveta obschestva posobitva gornorabochim tuga Rossii* (Kharkov: 1908). A pension of six rubles per month might barely feed one widow or two small children.

¹⁰⁸ Von Ditmar, *Doklad soveta*, p. 11; Taskin, "K voprosu."

¹⁰⁹ See the statement by Ilovaiskii in *Trudy*, XVIII, 1893, pt. 2, p. 221.

interest, though the fund's regulations called for payments four times each year. He also offered the opinion that holding the capital of the compensation fund in the industrialists' mutual credit association was improper, and that such monies should be invested in government bonds held in the state bank, where the capital would be safe and would bear interest at market rates.¹¹⁰

The size of pensions became a chronic issue. It came to a head after the Congress financed its 1892 anti-cholera campaign with a loan drawn from the compensation fund and then extended the payback period while haggling over whether or not to pay interest. One member caustically noted that less than half the income on the capital was being distributed as pensions, from which he inferred that the fund's top priority was the increase of its capital. This was in response to P. A. Karpov's suggestions that the fund's goal should be to accumulate sufficient capital to pay all its obligations without a per wagon tax on coal shipments and that pensions should not be raised.¹¹¹ A review of the reports of the compensation fund shows that only in the 1897–98 financial year did the fund's disbursements reach more than fifty percent of its current income.¹¹² Mstsikhovskii suggested that the directors of the compensation fund be informed that the Congress was ready to increase the fund's capital, and instructed to raise minimum pensions above the level of three to five rubles per month that prevailed at the time. He was supporting Ilovaiskii who had claimed that a pension of three rubles a month simply discredited the employers' fund in the eyes of the workers. The question was referred to committee without a recommendation of the session.¹¹³

¹¹⁰ *Trudy*, XII, 1887, pp. 64–67. Zhukovskii was evidently upset by the decisions of the fund's executive in granting only 16 out of 25 claims, and not giving any pension larger than six rubles per month, while recommending that future pensions be smaller, since the pensions already awarded were expending 1,200 out of the 1,500 rubles interest for the year on the fund's capital. See *ibid.*, p. 240.

¹¹¹ Karpov's statement is in *Trudy*, XVIII, 1893, pt. 2, p. 221. The objections of K. L. Mstsikhovskii, a director of the South Russian Coal Co., are in *ibid.*, pt. 2, p. 223. Von Ditmar, *Kratkii ocherk*, pp. 18–19, presents the budgetary sources of the various institutions of the Congress. The deduction for the compensation fund was 3 kopeks per wagon (.005 kopeks per pud) until 1896, when it was raised to 5 kopeks per wagon, to 15 kopeks in 1899 and 25 in 1903. This latter amount still means only 0.04 kopeks on each pud of coal shipped.

¹¹² See *G-z l*, no. 8, 1899, p. 3778.

¹¹³ For Ilovaiskii's speech, see *Trudy*, XVIII, 1893, pt. 2, p. 220. Karpov was a member of the executive of the fund from 1887 to 1903 and served as chairman from 1900.

Since the fund paid out so little, many firms, among them Hughes' New Russia Co., simply did not belong to it and granted their workers higher and more comprehensive coverage. In the New Russia Co. a single worker, whether injured or ill, received half pay, and a married man with his family received his full pay for the entire period of his injury or illness. This was the standard maintained in railroad work as well.¹¹⁴ In the New Russia iron mines, pay continued for 1,000 days for a worker killed on the job, and 1,500 days for one who was totally disabled.¹¹⁵

It has also been claimed that the legal counsel of the factory, Glazunov, found a way to save compensation money by granting employment permission to underaged children of killed or crippled workers, enabling them to earn a wage and learn a trade in return for the family ceding its claim to other payments.¹¹⁶ As we have already noted, not only children but also disabled workers and the widows of miners and workers killed on the job were employed by the New Russia Co.¹¹⁷ In 1896, sixty-two women were listed as employed in the brick works of the New Russia Co. and an additional thirty-two widows of former company employees were employed as cleaning personnel.¹¹⁸ In a later New Russia Co. publication we read of the origins of the company's weaving shop, founded in 1905. "Since, in the course of the years, a large number of widows is left, the idea was raised of opening an enterprise that would give them employment. A skill was sought that would be familiar to the village women, yielding production that could be sold in the factory itself. It produced linens, towels, and table covers for the hospital, canvas and sail cloth for gloves and work clothing, and all kinds of fabric goods."¹¹⁹ True to John

¹¹⁴ *Trudy*, XVIII, 1893, pt. 2, p. 310. See statements of Iasukovich regarding the New Russia Co. and Presniakov regarding railway policy.

¹¹⁵ TsGIAL, F.37, op.58, d.299, p. 21, Shtoffe commission report. The typed copy of the report on p. 94 gives one hundred days compensation after death, but the handwritten copy referred to above has one thousand days.

¹¹⁶ Gonimov, *Staraya Iuzovka*, p. 127.

¹¹⁷ See TsGIAL, F.37, op.67, ed. khr. 305, p. 1, from 1898, for such a statement of policy. See also, Sysin, "K voprosu," p. 441 for employment of invalids as watchmen at the wells.

¹¹⁸ *Zavod Novorossiiskago obschestva* (St. Petersburg: 1896), p. 23.

¹¹⁹ *Novorossiiskoe obschestvo* 1919, p. 42. The shoe shop, producing 5,000 pair of footgear a year from work boots to ladies' evening slippers, was evidently of similar origin. Attention should be paid here both to the fact that the widows and children remained in Iuzovka rather than returning to their villages, and that creation of these shops is one of the factors (though nowhere have we seen any mention of the numbers employed in these two shops) that lengthened the working life of Iuzovka's population into the forties.

Hughes' outlook that earned money was inherently superior to even the most humanitarian of charities, the New Russia management found a way to accommodate conscience, principle, and thrifty economics all within the social framework of Iuzovka.

The inadequacy of the Congress' compensation fund was too glaring to be ignored, and the subject of a more comprehensive fund returned perennially to the agenda of the sessions. Germany had adopted a comprehensive workers' compensation plan in July 1884, and Bismark's social policies were presented as examples to be studied by the members of the Congress.¹²⁰ A draft plan with many similarities to Iashevskii's was discussed by the Congress in 1888. It included coverage during illness and an element of workers' participation, with the fund to be administered by the employers under the audit of the district mining engineer.¹²¹ It was not until 1895 that an agreed draft was sent to the government for approval, but by that time the bureaucratic mill was grinding away at other grist that was ultimately to emerge as the insurance and compensation law of June 2, 1903.

Reorganization of the principles of compensation was the central item of business at seven consecutive sessions of the Congress from 1899 to 1903—including the two special sessions in 1900 and 1902 that were devoted almost entirely to the subject. The 1899 session recognized that existing compensation arrangements were "insufficient, far from uniform both in size and in means, random in character, undefined and non-obligatory, and sometimes of no assistance at all to the victims."¹²² Step by step the industrialists moved towards comprehensive compensation, pressed by the knowledge that the government was taking an ever-increasing interest in living and working conditions of miners in the company towns of the Donbass. The commercial development of Russia, with private insurance companies beginning to offer coverage for all types of risks, was a factor as well, since some of the members of the Congress found it more convenient to sign contracts with these firms than to be part of the Congress' fund. A third factor appears to be the rise in the number of successful lawsuits

¹²⁰ See Karpov's speech in *Trudy*. XII. 1887, pp. 370–80, and the report by L. G. Rabinovich on a draft proposal for reorganizing the compensation fund on a more comprehensive basis, *Trudy*. XXIV. 1899, pp. 1–2.

¹²¹ The full proposal appears in *Trudy*. XIII. 1888, pp. 366–68.

¹²² Von Ditmar, *Kratkii ocherk*, p. 32.

brought by workers and their relatives against the industrialists.¹²³ When Shestakov came to Iuzovka in 1902 to organize the Donetsk Miners' Union, he posed as a lawyer's clerk dealing with workers' claims. This plausible cover allowed him to approach workers freely, since in Iuzovka at that time "there were many different sorts of lawyers writing briefs for crippled workers."¹²⁴ Even at a much earlier date, legal activity on behalf of workers was to be seen in Iuzovka.¹²⁵ These suits were the only remedy a worker had against a perceived injustice. It should be noted that these were purely individual efforts, for no legal workers' institutions existed nor were there industrial arbitration boards or any other neutral bodies to judge the validity of a compensation claim. The industrialists had consciously preempted workers' participation and had established total control of the accumulation and disbursement of compensation funds.

The first principles agreed to in the discussion of a new compensation association were that membership in it should be obligatory for all Congress members, and that the new fund would bear sole and full civil legal responsibility in any suit for compensation brought by a worker.¹²⁶ In a special discussion of Donbass conditions chaired by the head of the department, A. A. Shtoffe, however, this principle was struck down by the Mines Department of the Ministry of State Domains. The principle of individual responsibility (both civil and criminal) of each employer was stubbornly upheld by Shtoffe and found expression in the 1903 legislation.¹²⁷ This in turn undermined the interest of the larger firms in taking part in any Congress-sponsored compensation association, and the principle of obligatory universal participation was in danger of falling by the wayside.

As the government moved relentlessly towards its own legislative initiative the Congress called another special session, this time to discuss a new draft of Rabinovich's proposal for a compensation plan. Once again

¹²³ For oblique references to the dangers of lawsuits see *Trudy*, XXIV, 1899, Report on the proposed accident fund, p. 3.

¹²⁴ TsGAOR, F. 7952, op. 6, d. 120, p. 105. Memoirs of Shestakov.

¹²⁵ TsGAOR, F. 102, arkh. III, deloproizvodstvo 9, chast' 21, 1887, p. 47. The report of the Bakhmut uезд police inspector notes that one Nikita Breslavina, who had been exiled to the Caucasus for hostile political activity, was now working as a lawyer in Iuzovka.

¹²⁶ See the draft prepared by Rabinovich's committee in *Trudy, ekstremnyy s'ezd*, 1900, pp. 1-4.

¹²⁷ For the Shtoffe Commission's rejection of the Congress draft see *Trudy*, XXV, 1900, Chairman's report, pp. LXXXII-LXXXIV.

the industrialists put forward the principle of the proposed compensation fund as the sole legal entity liable to suit. Here the fear that the courts were tending to give more and more generous compensation to the workers found clear expression.¹²⁸ The question of obligatory participation in the compensation fund was then raised and confirmed in the committee by a 23–7 vote with 3 abstentions. It was later brought to a plenary session where once again the principle was confirmed by 16 members (with 39 votes) against 2 (with 6 votes) and 3 abstentions (9 votes).¹²⁹

The industrialists had attempted to make their draft proposal more appealing by emphasizing its comprehensive nature and raising the wage ceiling for compensation from five hundred rubles a year to six hundred. This, however, was insufficient, and the reason given by Zimovskii for his abstention was that a large proportion of the workers and employees of the New Russia Co. earned more than six hundred rubles annually and therefore would be hurt by the limit. In particular, whole categories of underground mine workers with the highest accident rates, cutters, proppers and blasters, earned eight hundred to one thousand rubles per year, according to his testimony.¹³⁰

Ultimately, the government preempted all the maneuverings of the Congress and issued its own legislation, structured according to the principles Shtoffe had laid before the employers three years previously. The law was comprehensive, covering all workers and employees, and confirmed the individual employer's legal obligation to compensate any injured worker, beginning from the fourth day away from work. The maximum payment for total disability was two-thirds of the worker's wage, and no upper limit on wages was set.¹³¹ The one exception to the employ-

¹²⁸ The draft charter is presented as an annex to Rabinovich's report in *Trudy. ekstrennyĭ s'ezd. 1902*, pp. 11–31. For the discussion of the danger of lawsuits see the remarks of Iasukovich on p. 50, and Rabinovich's report on the amendment of Article 8 of the previous draft, *ibid.*, p. 5.

¹²⁹ *Trudy. ekstrennyĭ s'ezd. 1902*, Chairman's report, pp. II–IV. Votes in the Congress were weighted in proportion to the level of production of each member, with the largest firms having three votes. Those opposed were P. A. Karpov of the Karpov mines and F. R. Fertner who represented Alchevskii's Alekseevskii mines. Alchevskii and Fertner composed a memo, appended as an annex to the committee proposals, explaining that since their miners were a migratory, "chance" (*sluchainyi*) population and highly accident prone, the employers did not see their way clear to joining the proposed fund. The abstentions were: Zimovskii of the New Russia Co., Songailo of the Krivoi Rog iron ore mines, and L. L. Elden for the Russian Donets Co.

¹³⁰ Memo of New Russia Co. in *Trudy. ekstrennyĭ s'ezd. 1902*, p. 41.

¹³¹ The full text of the June 2, 1903 "Law on Compensation of Workers and Members

er's liability was in the case of "ill intention of the injured, or gross negligence inappropriate to the circumstances and procedures of production." As we have already noted, Liberman classified only 13.7 percent of the injuries he studied under "lack of skill and care" or "violation of rules."¹³²

While the new law was undoubtedly a great step forward in providing a legal foundation for the social security of Donbass workers, it proved to be far from settling all the real-life problems in this area. Retivov found that in the Shcherbinovka mines 42 percent of the injury claims were rejected in 1907 and 52 percent in 1908. Liberman writes that in October of 1914 ten out of seventeen claims were disallowed at the Ivanov anthracite mine, and in November, four out of five. Altogether, from October 1914 to July 1915, 41 out of 63 claims were rejected.¹³³

One of the complaints in this connection was that the doctors, although employees of the companies, were nevertheless often retained as paid consultants for the insurance companies.¹³⁴ A second complaint against the functioning of the new law was that the workers were paid only a pittance for injuries, and that only in a few of the largest factories were "normal" sums of compensation paid.¹³⁵ There would seem to be some merit to this complaint, for the wage base on which compensation was based averaged 22.5 rubles per month in 1904, 23.60 in 1905, and 29.75 in 1906. These averages are slightly above the overall average wage of all Donbass miners, and below that of metallurgy factories.¹³⁶ They look particularly low when we recall that it was precisely the higher-paid factory and underground mine workers who were the most frequent victims of accidents. Despite complaints and apparent shortcomings, the employers were paying rapidly increasing sums of compensation as the insurance plan took hold. In 1904

of their Families for Loss of Work Ability as a Result of Accidents in Industrial, Mining, and Mine Industry Enterprises" may be found in *Vestnik Ekaterinoslavskago zemstva*, no. 8, 1903, p. 3.

¹³² Liberman, "Usloviia truda," p. 8.

¹³³ Retivov, "Opyt," p. 175; Liberman, *V ugol'nom tsarstve*, pp. 64–65. Liberman notes that only those accidents that were confirmed by the doctors for compensation purposes were entered into the accident statistics.

¹³⁴ See *Revoliutsionnaia Rossiia*, no. 27, 1903, p. 20, and Liberman, "Usloviia truda," pp. 6–7. The character of the doctors revealed in their discussions and activities as we have seen them hitherto casts doubt as to whether a significant proportion would be party to such dealings.

¹³⁵ Trofim Kharechko, "Nakanunie fevral'skoi revoliutsii v Donbasse," *Letopis revoliutsii*, no. 4 (25), July–August 1927, pp. 168–69.

¹³⁶ The wage base for compensation is in Pazhitnov, "Zarabotnaia plata," p. 193. The annual average for Donbass miners, 1904–1906, is given on p. 192.

the total paid was 765,700 rubles; in 1905, 1,359,800; and in 1906, 1,922,400.¹³⁷ These sums are to be compared to the total sum of 470,000 rubles distributed by the Congress compensation fund from 1884 to 1908.¹³⁸ The average compensation payment also grew from 14.95 rubles in 1904, to 23.75 in 1905, and 31.05 in 1906.¹³⁹

Frustrated in its attempt to stave off the burden of individual responsibility for accidents, the Congress opted for the only sensible course left open. As soon as the government promulgated its compensation law, the Congress set up a central insurance fund to protect the employers against mass disaster. A mass disaster was defined as any accident in which more than three workers were killed, or in which the total capitalized value of compensation amounted to more than six thousand rubles. In such a case, the firm would be liable only up to that amount, with the insurance fund covering anything beyond.¹⁴⁰

By the time both the compensation law and the employers' insurance fund were in existence a framework of state-regulated relations, one that had been growing slowly as laws on hiring and conditions of work had been passed, was almost complete. Within it, both sides had some measure of protection. The power relation between employers and workers had thus been altered. The change was small but important, a symbol of the possibility of mediated changes in relations between two groups that had not created any channels of institutionalized bargaining. The history of the adoption by employers of legal responsibility for their workers also marks a changed concept of society. One of the reasons given by Shtoffe in rejecting the Congress' draft proposal for a compensation fund in 1900 was that it represented a philanthropic, and not a commercial approach.¹⁴¹ Influenced by the growing trends in Europe, the autocracy was taking its first steps towards becoming a welfare state. It had found the paternalistic charity and personal morality of the industrialists wanting and installed

¹³⁷ *Vestnik finansov*, no. 1, 1908, p. 12.

¹³⁸ Von Ditmar, *Kratkii ocherk*, p. 12.

¹³⁹ Pazhitnov, "Zarabotnaia plata," p. 193. The average is calculated from *Vestnik finansov, promyshlennosti i torgovli*, no. 1, 1908, p. 12, for total of payments, and von Ditmar, "Neschastnye sluchai," p. 501, for numbers of accidents. It should be remembered that von Ditmar conceded that the reporting of accidents might be incomplete for 1905 and 1906. No alternative set of figures has been found for construction of a more accurate estimate.

¹⁴⁰ *Trudy*, XXIX, 1904, pp. 62–63.

¹⁴¹ *Trudy*, XXV, 1900, Chairman's report, p. LXXXII.

law as the conscience of society. It is important to note, however, that even though industrial workers were by now recognized by law as a corporate body with special needs regarding protection of their rights and wellbeing, this was not accompanied by any granting of organizational rights or even of a distinct juridical status. Formalization of rights and duties between two subordinate portions of the society was not intended by the autocracy to alter the society itself and most certainly was not intended as a weakening of the autocracy's right to absolute rule. The gap between the legal definitions of social structure and the realities of Russian life was thus widening steadily.

WAGES AND FINES

In our attempt to understand the forces that shaped the Donbass workers' lives, we have had a number of opportunities to refer to wages. A systematic examination of trends and differentials in wages is in order at this point to complete the discussion of the development of Donbass living standards. Wage payments took on a growing importance as the years went by. If, in the early years of the Donbass, wages were a seasonal supplement to peasant income from agriculture, they gradually became the main source of the worker's sustenance. In a settlement such as Iuzovka as in any urban-type environment they were virtually the sole source of livelihood, with backyard gardens providing only a marginal and seasonal melioration of diet. The autarkic peasant was changing into the market-dependent proletarian. Money wages linked the worker to the world around him; through the money wage, the worker became dependent upon an employer in a way that had not previously existed.

Wage payment practices reflected this change. In the earliest days of the Donbass wages were paid twice a year, in April and October, with the changing of the seasons and of the seasonal wage rates. In keeping with the general decision of the Congress of Mining Industrialists that followed the adoption of the June 3, 1886 labor law, Hughes instituted monthly pay in November 1887.¹⁴² Even after this decision, however, wages were paid in many places only once every two months. This increased the work-

¹⁴² Potolov, *Rabochie Donbassa*, p. 204. For the discussion in the Congress meeting, see *Trudy*, XII, 1887, pt. 2, pp. 230-32.

ers' dependence on the credit system.¹⁴³ The generally accepted procedure in the early twentieth century was that seasonal workers and those hired for specific projects were to be paid monthly, and all others, twice monthly.¹⁴⁴

Nominal wage rates can serve us only as rough signposts regarding trends of development. First and foremost they must be related to the cost of living, and, as we have noted, the beginnings of industrial development brought with them a period of inflationary pressures. Moreover, nominal wages expressed in terms of rubles per day or month, may not reflect the worker's true income, for even when they were so expressed, they were often tied to a daily norm, and a good worker with an easy coal seam might turn out more than one norm a day.¹⁴⁵ From the mid-1880s the majority of miners in the Donbass were working according to this piecework system, and by the first years of the twentieth century there were mines with up to three-quarters of the workers paid by the norm.¹⁴⁶ On the other hand, statistical calculations of monthly and annual wage rates were usually based on 24 days' work each month, 288 a year. During many periods, recession, illness, or other causes might cut down the number of days. In 1871 the actual working year in the Donbass was said to be only 250 days, and it lengthened only slowly, never quite reaching the standard of 290 days worked by Pennsylvania miners.¹⁴⁷ Liberman found that in October 1901 the general average for the Donbass was 23.2 days a month, and in January 1902, as the recession deepened, it dropped to 22.3.¹⁴⁸

Then, too, there was the problem of official or unofficial diversion of the worker's wages. The problem of fines will be discussed in detail at the end of this section. We should note here the problem of workers paying

¹⁴³ See the letter of Iakov Zalmaev in "Perepiska G. I. Petrovskogo s Donbasskimi i Ekaterinoslavskimi rabochami," *Letopis revoliutsii*, no. 5, 1926, p. 141. "It's a pity that we, like the Vosnesenskii mine, are paid only once every two months. . . . Everyone lives on credit from one payday to the next."

¹⁴⁴ See Iakovlev, "Rabochie," p. 30. Among his other demands from the employers in his program for promoting a stable professional labor force, Zavadskii had called for weekly pay for the workers. See *Trudy*, XII, 1887, pp. 362–69.

¹⁴⁵ Levus, "Iz istorii," p. 54, who is not a person to overstate the beneficence of the capitalist, writes that a smith in the New Russia factory could make forty norms a month.

¹⁴⁶ Kir'ianov, *Zhiznennyi uroven'*, p. 98.

¹⁴⁷ Tunner, "Otchet," p. 49. French analysts generally used this standard of 250 days work per year when calculating productivity. The comparison between Donbass miners and Pennsylvania miners is from *G-z l*, no. 23–24, 1906, p. 8557.

¹⁴⁸ Liberman, "Usloviia truda," p. 16.

bribes for all sorts of things, ranging from the ignoring of a lapsed passport to assignment to more productive coal seams. A portion of the seemingly high nominal wage of the worker was thus diverted into the pockets of clerks and foremen.¹⁴⁹ A particularly avaricious foreman in Iuzovka was nicknamed "Crocodile Shevchenko" for the deep bites he took out of the wages of those he supervised.¹⁵⁰

Although costs for food were rising steadily, wages of coal miners fluctuated irregularly from the 1860s through to the 1880s. At the beginning of the 1860s they ranged from 10 to 15 rubles per month plus room and board. In 1870 Shostak reported that the labor cost of mining a pud of coal had risen in two years from between 1.5 and 2 kopeks, to 5 kopeks. He claimed that in Lisichansk, miners were earning 45 rubles a month plus food.¹⁵¹ By the beginning of the 1880s wages were said to average 20 to 27 rubles a month in the larger mines, as compared with 22 rubles for a skilled worker in a factory in the provinces and 25 to 30 in a Petersburg metal-working factory. The crisis of 1882 lowered mine wages in some places to as low as 7 to 10 rubles per month, but they rebounded quickly and, in the mid-1880s, coal cutters were making 12 to 15 rubles in the mines at Makeevka while other underground workers there received from 8 to 12 rubles, with room and board provided by the employer.¹⁵² If we take a value of approximately ten rubles for room and board, the total wage would range from 22 to 25 rubles for coal cutters down to 18 to 22 rubles for other workers. As we have already noted, the 1884 zemstvo survey of the commercial mines of the northern Donbass found wages of miners to average 22 to 24 rubles per worker per month.

Wages could fluctuate widely from year to year as demand for labor changed. Bogutskii records the winter wage scale for coal cutters in the bituminous coal mines of the Donbass as averaging 1.30 rubles per day in 1884, dropping to 85 kopeks in the 1886 crisis, and then rising to 1.70 in 1888 when an abundant harvest created a strong demand for field

¹⁴⁹ TsGAOR, F.102, arkh. III, deloproizvodstvo 9, chast' 21, 1887, p. 47, notes that the police were taking bribes both from the passportless workers and from the small mineowners in exchange for granting the workers the right to work at the mine. "Some constables take not less than one hundred rubles a month." For the persistence of this practice see the 1916 police report cited in Kir'ianov, *Zhiznennyyi uroven'*, p. 139.

¹⁵⁰ *Iskra*, no. 50, October 15, 1903, p. 6.

¹⁵¹ TsGIAL, F.37, op.53, d.746, p. 15.

¹⁵² For the fall of wages in 1882–83 see Ivanov, "Preemstvennost'," p. 130. The Makeevka wage rates are cited in Pazhitnov, *Polozhenie*, p. 121.

hands.¹⁵³ Another of the features of the Donbass at this time was the great wage disparity between mines. These disparities persisted into the twentieth century. In three Donbass mines separated by only fifteen versts a coal cutter's wage in 1904 ranged from 90 kopeks to 2.5 rubles per day.¹⁵⁴ A survey that embraced 84 percent of Donbass coal cutters in 1900 found the range in their wages to be from 80 kopeks to 2 rubles per norm in winter and 90 kopeks to 3 rubles in summer.¹⁵⁵

Although the sources indicate the lowest adult wage as 90 kopeks per day, yielding at least 18 rubles on a twenty-day month, the frequent interruptions of work that took place in those years explain the very modest wages actually earned by many workers.¹⁵⁶ Coke makers, working in gangs of eight, received 12 rubles per oven for coke, an oven taking two days for the gang. They thus emerged with 75 kopeks for each oven for a day's work, but evidently worked three or four ovens at a time, for Islavin lists cokers as receiving 2 to 2.75 rubles per day.¹⁵⁷ There were mines in which a three-man gang might work a twenty-hour shift, earning 2 to 2.5 rubles each per shift, while others worked on a monthly basis with wages amounting to between 12 and 18 rubles. These great variations depended not only on the steadiness with which the mine was worked but with the number of norms that a miner could cut. A norm was generally one half cubic arshin—a volume approximately 35 centimeters in height and depth and 1.42 meters long.¹⁵⁸ It would seem that the mine worker who could earn much more than twenty rubles a month in those years was a rare creature, whatever the zemstvo survey found as an average for Slaviano-serbsk. Looking back at our survey of miners' budgets and diets we find

¹⁵³ Bogutskii, "Polozhenie gornorabochikh," p. 455. In the same summer it was claimed that a field hand in the Aleksandrovsk district commanded a wage of 4 to 5 rubles a day, and that a husband and wife team was paid seven rubles. See *Trudy*, XVIII, 1893, p. 361.

¹⁵⁴ *Iskra*, no. 73, September 1, 1904. It should be noted that such disparities reflect not only an imperfect market for labor, but also differences in working conditions. Actual wages earned might well have been much more equal than the nominal rates.

¹⁵⁵ Potolov, *Rabochie Donbassa*, p. 153. The seasonal jump of fifty percent in the maximum wage is unusual.

¹⁵⁶ See Pazhitnov, "Zarabotnaia plata," p. 192, for average wages in the 1860s and 1870s. Potolov, *Rabochie Donbassa*, p. 152, notes the frequent interruptions in work in the early years.

¹⁵⁷ Gonimov, *Staraiia Iuzovka*, p. 29. Gonimov's text refers to the mid-1870s. See also Islavin, "Obzor," pp. 81–82. *Iskra*, no. 50, October 15, 1903, p. 6, gives coke workers' wages in Iuzovka as one ruble for a twelve-hour shift.

¹⁵⁸ Pazhitnov, *Polozhenie*, p. 121. S.S.S., vol. 3, Slaviansoserbsk uezd, pp. 373–74.

expenditure running at 15 to 18 rubles per month, and this reinforces our conclusions that savings were achieved only by a determined and industrious few, and that those were single men, and thus generally working temporarily in the mines.

In Iuzovka the situation was rather better. Though coal miners' wage rates there, ranging from 1.10 to 1.50 rubles per day, were not significantly higher than at Makeevka or elsewhere, the virtually uninterrupted growth of coal production that we saw in Table 3.1, with only small setbacks in 1883 and 1889, meant steady if not continuous employment, with the result that actual earnings were much higher than in other Donbass mines.

When Islavin visited the Iuzovka factory in 1874, the lowest wage noted for those in smelting and forging work was one ruble per day; machine operators, rollers and other skilled workers were earning as much as 2.50 or 2.75 rubles a day.¹⁵⁹ Hughes' system was to base the workers' wages on piecework as an incentive to higher productivity. He wrote: "It is indispensable that the work should be done by the *pood* in every branch of the works, and it is with this object in view that I procured workmen from the North accustomed to iron works, but it is very doubtful how far such men are to be relied on."¹⁶⁰ The workmen to whom Hughes refers are those from Murom, and his attempt to fix pay rates by the pud foundered on the opposition of the Lugansk steel puddlers who went on strike and kept the Murom people from working. It would appear that Hughes' approach to the problem changed over time, and that there was a certain flexibility in the wage scales, for in the mid-1880s it was noted that the scale of pay for the rivet shop might be three rubles per thousand, twelve rubles per month, or forty kopeks per day, depending on the season and on the state of the business cycle. The unceasing flow of workers into Iuzovka at certain seasons also served to depress wages, and a slackening of orders might mean that ancillary day laborers had employment only fifteen to twenty days per month.¹⁶¹

When the zemstvo sociologists and statisticians visited Iuzovka in the

¹⁵⁹ For a detailed listing of the wages paid by Hughes in the mid-1870s see Islavin, "Obzor," pp. 81–82. Sviatlovskii, *Kharkovskii fabrichnyi okrug*, p. 39, reports that in metallurgy and metalworking industries a 24-day month was paid 18 to 25 rubles, while children working as apprentices were given either 5 rubles a month or room and board.

¹⁶⁰ TsGIAL, F.37, op.53, ed. khr.746. Hughes to Valuev, October 15, 1874.

¹⁶¹ S.S.S., vol. 2, Bakhmut uезд, p. 243.

CHAPTER 9

summer of 1884, they surveyed 1,405 of the 2,400 workers employed by Hughes. Categories, the wage spread in each category, and the annual average of each category are presented in Table 9.2. Of the 1,405 workers, only 625 in the top four of the nine categories presented in the survey were earning average wages of 25 rubles per month or more and thus enough to support a wife. Nevertheless, as we have mentioned, 1,077 of the 1,405 workers are recorded as having families with them. It would therefore seem that a large number of families would have had to have more than one wage earner. The highest-paid workers were making 3.7 rubles a day, while the lowest-paid assistants and hammer men earned only one ruble a day. In several categories there were evidently young trainees earning from 20 to 40 kopeks a day.¹⁶² Most of these were sons or younger brothers of

TABLE 9.2
New Russia Company Factory Wages, Summer 1884

Category	Numbers of Workers	Pay Range: Rubles/Mo.	Average Pay: Rubles/Mo.
(1) Master, machinist	69	35–120	60
(2) Caster, roller	317	8–80	40
(3) Fitter, turner	68	10–128	30
(4) Carpenter, plumber, smith, wheelwright	171	10–35	25
(5) Rivetter, welder, boilermaker	94	6–50	23
(6) Blast furnace, stoker	184	10–30	20
(7) Production, transport	419	8–40	17
(8) Modellers, rail straighteners	54	4–25	15
(9) Assistants, hammer men ^a	29		12

Source. *Sbornik statisticheskikh svedeniĭ po Ekaterinoslavskoi gubernii* (Ekaterinoslav: 1886), vol. 2, Bakhmut uezd, p. 242.

^a No monthly pay range noted. Daily pay range was forty kopeks to one ruble.

¹⁶² Gonimov notes that the “Glazunov children,” those youngsters given places in the

other miners and workers, and although their inclusion in the general table lowers the average of workers' earnings in any category and creates the impression that relatively few workers were earning a living wage, these apprentices' wages would, in reality, be added to their families' incomes, thus raising their general welfare. The combination of these two factors probably accounts for the high percentage of family units in the New Russia Co. factory population.

There was a wide variation in the number of days worked by each category of worker, with the higher-paid categories registering a larger number of days (or norms) each month. The range of daily pay for the first category is listed as 90 kopeks to 3.7 rubles. The range of monthly pay is given as 35 to 120 rubles. This means that the low-paid assistants or apprentices earned 38.8 daily norms each month, while their fully qualified colleagues earned 32.4 daily norms. In other categories we find a range as low as 11 norms and as high as 35 norms per month.

Although the zemstvo report gives all the wages in daily and monthly sums, Hughes' principle of piecework payment was evidently in effect. This may be understood not only from calculations based on the data of the survey, but by direct reference as well. The authors of this report, discussing the instability of wages, note that in 1883 and 1884 rail rollers were affected by the business recession and earned between 3 and 10 rubles per month instead of 25 to 30 and explain this by noting that they are paid five kopeks per pud, and at full production can produce fifty to sixty pud per day, but in current conditions were working much less.¹⁶³

By the time Garshin visited Iuzovka in 1891, the wages of the most skilled had increased by 50 percent, and a master mechanic was able to earn up to five rubles per day, although the increases were less dramatic in some other categories, and in a few cases there is no increase recorded.¹⁶⁴ With the factory growing, the settlement offering improved living con-

factory in lieu of compensation for a killed or maimed parent, were paid 30 to 50 kopeks a day. In addition he notes that children employed in the factory's brick works were turning out daily norms of 600 bricks a day at 10 kopeks per hundred. See Gonimov, *Staraya Iuzovka*, pp. 128, 162. *Iskra*, no. 50, October 15, 1903, p. 6, gives the same figure.

¹⁶³ S.S.S., vol. 2, Bakmut uezd, p. 239. Nevertheless, as will be seen from Table 8.7, the rail rollers averaged 40 rubles per month in 1884. The maximum daily wage given is 3.70 rubles, and the highest monthly earning is 80 rubles. This yields a result of 21.62 norms per month. The "apprentice" rates in this category show 20 norms per month. The average earning in the category of casters and rollers, as we have shown, was 40 rubles.

¹⁶⁴ Garshin, "Poezdka," p. 7.

ditions for the permanent workers, and the example of relatively highly paid work close at hand, both low-paid beginners in the factory and coal miners in the New Russia mines could be encouraged to see a future in industrial labor.¹⁶⁵

Pazhitnov claims that between 1885 and 1897 the wellbeing of Iuzovka's workers declined.¹⁶⁶ Examination of the data shows that his calculations are doubtful on several counts, although in a certain sense the conclusion can be supported. First of all, his wage figures are taken for December 1897, when the entire workforce was in the factory, and when the lower November-to-May wage scale was in effect.¹⁶⁷ He calculates 10,189 workers in the factory, 9,377 in production and 812 in construction.¹⁶⁸ The official figures for the factory in 1897, calculated on the basis of an annual average of workers, state that the New Russia factory employed 8,807 factory workers in 1897—some of those included as production workers by Pazhitnov were evidently seasonal.¹⁶⁹ This is borne out by Pazhitnov's own calculations in which he notes 2,866 of the production workers paid by piecework, earning an average of 37 rubles per month, while 5,454 were paid a daily wage, and averaged only 23 rubles a month. An additional 1,057 are listed as engaged in maintenance (*remont*) and have the same low wage as the day laborers.¹⁷⁰ As we have seen before, permanent workers were paid by the piece, while temporary or seasonal workers were paid by the day. Just as the 1884 survey may be seen as having an

¹⁶⁵ Pazhitnov, *Polozhenie*, pp. 249–50 shows wages of a pit propper in a mine in 1884 as 95 kopeks per day on the average. At the same time, Hughes was paying 1 to 1.10 rubles per day for the same work. He evidently calculated his wage rates just a little higher than the average in order to attract workers.

¹⁶⁶ Pazhitnov, "Zarabotnaia plata," p. 193.

¹⁶⁷ The lowering of wages in the fall was the cause of perennial discontent, but was still in effect in October 1898, when a brief strike by underground crews in the mines restored summer rates for the bulk of the miners and restricted the pay cuts to pony boys and other auxiliary personnel, many of them in the lowest paid categories. See Gonimov, *Staraya Iuzovka*, p. 137.

¹⁶⁸ The detailed figures from which Pazhitnov calculated are given in his *Polozhenie*, p. 251. Of the production workers, 2,866 do piecework, 5,454 work at a flat daily wage, and 1,057 maintenance workers are also paid at a set daily rate.

¹⁶⁹ Kulibin, *Sbornik*, 1897, pp. 232–33. According to these figures, which are used by Rashin in his *Formirovanie*, p. 30, there were 3,665 iron workers and 5,142 auxiliaries. The factory was evidently undergoing great expansion, with two new blast furnaces under construction and the prospect of enlarging the labor force by 1898 to 11,000, its prewar peak.

¹⁷⁰ Pazhitnov, "Zarabotnaia plata," p. 193.

upward bias, because those counted were the higher-paid, permanent, skilled workers while the lower paid were away in the fields, Pazhitnov's figures are skewed downwards, with a lower pay average than might have otherwise been calculated, thus artificially emphasizing his point of a declining standard of wages.

With all these differences, Pazhitnov's figures still reveal some interesting information. Where wages of the 1,405 highly-paid workers in 1884 had averaged 26.51 rubles per month, the much enlarged December 1897 production force of 9,377, working at winter rates, averages 27.35 rubles. This analysis does not give the spread of wages within any given category, which further complicates the attempt to compare. We know that the top rates paid were to senior workers at the blast furnaces, who might earn as much as 250 rubles per month, "but these were only a few, and primarily English."¹⁷¹

Pazhitnov notes that in 1897 the factory workers were putting in 25 days per month, whereas in 1884, few worked more than 20 days. Evidence of a longer working month may also be found in the fact that in 1888 the two existing blast furnaces worked an average of 183 days each, while in 1898 and 1899 each of the six furnaces averaged 308 days production per year.¹⁷² Workers were earning more, not primarily because wage rates were rising but because labor had become more intensive. The Luzovka workers were, however, earning about fifteen percent more at this time than the average Liberman found in the Donbass of 23.17 rubles in 1901. Given the New Russia Company's record for attempting to provide housing and supplies of good quality at reasonable cost, we can understand why the settled factory workers would feel themselves in a better situation than other workers, and particularly better than coal miners in the Donbass.

Intensification of labor was taking place not only in the New Russia factory, but also all over the Donbass. As the boom of the 1890s gathered momentum, the average size of mine and the amount produced per worker grew. In 1893, when a second consecutive year of cholera had caused a

¹⁷¹ Pazhitnov, *Polozhenie*, p. 252. Pazhitnov's observation is supported by a French observer. See CL, File 11582, note 1607, *Frais generaux*, p. 2: "Some skilled workers earn five and six rubles a day, but these are exceptional. They replace foreigners who delighted in boasting to the Russians how much more than the latter they were earning. When the Russians did this work, they demanded the same salaries."

¹⁷² See Kulibin, *Sbornik*, 1888, p. 231, 1898, pp. 276-77; 1899, pp. 292-93. The 1888 statistics are the earliest available to me.

large-scale exodus of miners, wages rose steeply; industrialists complained bitterly and in their annual meeting asked the government to ease their economic problems. Alchevskii submitted figures showing that wages had gone up by 15 to 50 percent depending on place and skill.¹⁷³ Avdakov calculated an average wage of 30 rubles per month for miners, noting that neither in industry in other sections of the country nor in any ordinary agricultural year could they earn as much as in the mines and factories of the Donbass. Other industrialists cited sums of 35 to 40 rubles as the monthly pay in some of the Donbass mines.¹⁷⁴ The government's representative at the meeting, Loranskii, agreed that wages had gone up by an average of 12 percent compared to the previous year, but pointed out to the industrialists that in 1892 wages amounted to 2.16 kopeks per pud of coal mined, while in 1893 this had declined to 1.93 kopeks per pud.¹⁷⁵

The growing productivity of the labor force in this period extended to metallurgy as well. Brandt gives figures for the Dniepr-Iureev factory from 1889 through 1895 showing both a steady drop in the cost of labor per pud of iron and steel produced and an almost uninterrupted rise in the productivity both in puds and in value per worker employed. According to these figures wage rates fluctuated slightly over the years, and at the end of the period piecework rates were only marginally higher than at the beginning (1.85 as against 1.77), and day rates were unchanged.¹⁷⁶

If the workers were suffering under this intensification of labor, it was hard to get them to realize their plight. A revolutionary writing from Ekaterinoslav blamed the movement's limited success at organizing the workers for economic struggle on their relative well-being. Minimum pay in a metal-working factory was one ruble per day, and most were said to get two to three rubles daily. When Ivan Babushkin appeared as an unskilled metal worker there in 1897, he was offered a starting wage of 1.20

¹⁷³ *Trudy*, XVIII, 1893, p. 34.

¹⁷⁴ *Ibid.*, p. 32, Avdakov's report, pp. 332–35. The differences of up to thirty percent and more between wages at different mines are striking. As we have noted, in the face of a labor shortage the industrialists were not shy in competing for workers, despite the law prohibiting the luring away of other employers' workers.

¹⁷⁵ *Ibid.*, pt. 2, p. 114. Ilovaiskii later revealed to the session that Loranskii had examined the records of his mine in some detail and that his figures were based on this study. We should keep in mind the 1870 figures given by Shostak that the labor cost of a pud of coal had risen from between 1.5 and 2 kopeks, to 5 kopeks over a two-year period. Twenty-five years later, labor costs per pud were roughly the same as in 1868.

¹⁷⁶ Brandt, *Inostrannye kapitaly*, vol. 2, p. 99.

per day for filing the rough edges off castings. As a skilled electrician, P. G. Smidovich received 1.50 per day, claiming that other skilled workers were paid 1.00 to 1.20 a day, while the unskilled received 60 to 80 kopeks.¹⁷⁷

There are two slightly different sets of figures for overall earnings of Donbass miners in 1900, both ostensibly from the same source. At the meeting of the Congress of Mining Industrialists, the average wage of a coal cutter was said to vary between 1.27 rubles in winter and 1.60 to 2.00 in summer, yielding an annual average of 350 to 500 rubles per year. Potolov, using archival sources of the statistical bureau of the Congress, covering from 70 to 80 percent of the mine labor force in the Donbass, writes that coal cutters' wages ranged from 80 kopeks to 2 rubles in winter, and 90 kopeks to 3 rubles in summer. He arrives at a year round average daily wage of 1.59 rubles and, on the basis of a 267 day working year, finds an average wage of 425 rubles—the mid-point in the Congress' calculations. In calculating the wages of underground workers other than coal cutters, Potolov reaches an average of 317 rubles per year while the Congress midpoint is 300.¹⁷⁸ Potolov's figures may thus be treated with confidence, and we rely on them as they give a more detailed breakdown of miners' income. On the basis of these figures, 22,340 coal cutters and supervisors making up 37.2 percent of the labor force could support a wife and two children, and have a very modest margin of reserve. The 28,416 other underground workers surveyed—47.3 percent of all Donbass coal workers—could support a wife and one child, but would have no reserve at all. The 6,306 sorters, loaders, and unskilled workers—15.4 percent of the labor force—could afford to marry, but could not support children unless there was a source of extra income for the family.¹⁷⁹ If we recall, however, the structure of the labor force in the commercial mines (Table 8.4), we will note that between 7.5 and 15.5 percent of their workforce was made up of women and children, whose wages generally supple-

¹⁷⁷ *Rabochee delo*, no. 1, April 1899, p. 84; Ivan Babushkin, *Vospominaniia I. V. Babushkina* (Leningrad: Priboi, 1925), p. 84; Smidovich, "Rabochie massy," p. 163.

¹⁷⁸ Compare Potolov, *Rabochie Donbassa*, p. 153, with *Trudy, ekstremnyi s'ezd, 1900*, report of committee on workers' living conditions, pp. 10–11.

¹⁷⁹ The size of each group is derived from Potolov, *Rabochie Donbassa*, Table 13, p. 153. The family budget is based on Liberman's calculations of 12.33 rubles per month for a man, 9.24 for his wife, and 4.62 for each child. As will be remembered, Ryss calculates a somewhat smaller budget that appears more accurate for application to the family framework.

mented those of the principal breadwinner of the family. As difficult as these circumstances appear, they should also be considered in the light of the situation a generation earlier when virtually none of the workers could support a wife or any children on their wages. Difficult, dangerous, and harsh as life in the coal settlements undoubtedly was, it was palpably improving.

The material improvement brought on by the "golden nineties" was, however, a fragile affair. In the middle of 1900 business slowed down, and by the end of the year the Donbass was sliding into a full-scale recession. In 1900 the New Russia Co. lit its seventh blast furnace, but the year ended with an average of only 260 days work for each furnace, and in 1902 three furnaces, working 365 days each, were able to handle the company's production, while the other four stood unused.¹⁸⁰ Although there were some partial improvements following the 1905 revolution, industry only recovered fully after 1910, with production, employment, and wages slowly rallying in a new wave of development interrupted by the outbreak of World War I. Only during the war itself did the New Russia Co. factory and mines surpass the employment peak that had been reached in 1898. In metallurgy, unskilled workers might now be paid the 600 rubles a year that only three years earlier had been considered a ceiling for compensation, while the skilled machine operators, furnace men, and the like might earn 200 rubles per month and their junior helpers 30 rubles per month.¹⁸¹

The annual average of all coal miners' wages in the Donbass shifted from 266 rubles in 1904 to 272 in 1905 and 328 in 1906.¹⁸² In mid-1906 the average wage at the Nikitovka coal mines had risen to 1.80 rubles a day (43.20 monthly on the basis of twenty-four days' work), and in the Grush-evsk anthracite mines, where wages were generally a little lower, skilled miners were paid 1.50 a day.¹⁸³ The labor shortage that plagued the Donbass following the violence of 1905 and the widespread unrest of 1906 was, however, a passing phenomenon, and with the return of civil peace the miners returned and wages settled back. The average Donbass miner's wage in 1911 was 24.50 rubles a month—294 per year. The range of

¹⁸⁰ Kulibin, *Sbornik. 1900. 1902.* pp. 310–11, 334–35. The total number of blast furnace days worked by the New Russia Co. was 1,825 in 1900 and declined to 1,025 in 1902.

¹⁸¹ Pazhitnov, "Zarabotnaia plata," p. 193.

¹⁸² *Ibid.*, p. 192.

¹⁸³ *G-z l.*, no. 18, 1906, p. 8508; no. 21, 1906, p. 8537.

monthly pay in the mines was 14 to 35 rubles, and the miners were working 260 days a year, 10 days less than they had a decade earlier.¹⁸⁴

We have seen how Donbass wages shifted in relation to levels of subsistence, and how they fluctuated with the changing economic environment. Where did the Donbass worker stand in relation to other groups in society? In the mines, a *desiatnik* earned little more than the miners themselves, but the manager of a mine, whether simply a *shteiger* or an engineer might receive 200 to 250 rubles a month.¹⁸⁵ The director or technical manager of a coal company, one with responsibility for a number of mine shafts, was, of course, a grand personage and generally a foreigner. He therefore earned a salary beyond the comprehension of the ordinary worker, ranging from 15,000 to 30,000 rubles per year, while the chief engineer of a coal mine producing 500,000 pud per year could earn 10,000 rubles per year.¹⁸⁶ The mine director or chief engineer also had the prospect of receiving performance bonuses from his employers and bribes from contractors.¹⁸⁷ At the founding of the New Russia Co., John James Hughes' salary was fixed at 1,000 pounds sterling per year (approximately 10,000 rubles).¹⁸⁸ In 1914 the general manager of the New Russia Co., Svitsyn, was paid 40,000 rubles, while his two chief assistants, Richards and Revilon, were paid 23,625 rubles and 8,333 rubles respectively.¹⁸⁹

And what of the more ordinary people around the mining settlements? The *zemstvo* survey of 1884 has left us a virtually complete picture of the income structure of Iuzovka, with the incomes of 518 people divided into 13 different categories. Table 9.3 presents this information. In evaluating

¹⁸⁴ Liashchenko, "Usloviia truda," p. 429. According to Iakovlev, "Rabochie," p. 30, the formal work year was 300 days a year.

¹⁸⁵ Ryss, "Uglekopyi," p. 145. His work refers to the early years of the twentieth century. In *Frais generaux*, CL, File 11582, note 1607, p. 7, written in January 1903, the author writes that a freshly graduated Russian engineer is paid 200 rubles monthly.

¹⁸⁶ McKay, *Pioneers for Profit*, p. 167, writes of the French director of the Russian Providence Co. who earned 30,000 rubles a year from 1907 to 1914, and the first director of Makeevka coal, who was guaranteed a minimum of 15,000 rubles in 1899. New graduate mining engineers from France or Belgium were paid 5,500 rubles a year, more than twice the wages of their Russian counterparts. The author of the Credit Lyonnais memo *Frais generaux* writes that a good Russian director is virtually a mythical beast, and therefore foreign engineers supervise the coal mines and are paid 10,000 rubles a year.

¹⁸⁷ Levus, "Iz istorii," p. 47.

¹⁸⁸ TsGIAL, F.7952, op.6, d.119, p. 50. In his play *Major Barbara*, George Bernard Shaw mentions one of his characters as having an annual income of eight hundred pounds, making it clear that at the time, this was a very considerable sum.

¹⁸⁹ DOGIA, F.6, op.9, d.241. p. 8.

CHAPTER 9

TABLE 9.3
Incomes of Various Professions, Iuzovka, 1884

Profession	Number of Persons	Income in rubles/yr.
(1) Factory engineers, dept. heads, cashiers, etc.	9	2,143.33
(2) Architects, chemists, etc.	3	1,160.00
(3) Office staff, <i>tabelshchiki</i>	16	475.63
(4) Supervisors, storemen, clerks	52	386.31
(5) Copiers, bookkeepers	16	359.68
(6) Teachers, doctors, pharmacists, priests	17	952.94
(7) Postal staff	6	246.67
(8) Police	17	218.24
(9) Butcher, baker, sausage maker	8	215.12
(10) Artisans: soapmakers, cobblers, leather workers, tailors, seamstresses	52	266.40
(11) Cab drivers and waggoners	16	230.25
(12) Merchants	136	444.85
(13) Commission merchants and contractors	9	672.22
(14) Cooks, cleaners, watchmen	161	174.62

Source. *Sbornik statisticheskikh svedeniï po Ekaterinoslavskoi gubernii*, vol. 2, Bakhmut uezd (Ekaterinoslav: 1886), p. 246.

its figures we should take into account that they are based on the declarations of the persons surveyed, and that the incomes of those engaged in trade exclude any income from the sale of alcohol. Thus actual incomes in several categories were probably higher than reported. In addition, the averages recorded in the survey obscure wage differentials within certain categories. Doctors, pharmacists, and teachers are lumped together, but the doctor received 2,500 rubles per year, and the pharmacist 1,000, putting them among the highest paid categories in the Iuzovka “Five

Hundred."¹⁹⁰ At the same time, the rank and file teachers, as we have noted, earned something less than one-third the pharmacist's wage, and less than the best paid third of the factory workers, yet still comfortably more than the butchers, bakers, and impoverished artisans who earned wages similar to the lower part of the middle third of factory workers.

The merchants earned a comfortable living, although on the basis of their declared income they are by no means a financial elite, and the highest-paid quarter of the factory workers earn more than they, as does the top quarter of the factory's administrative staff. Nevertheless, their families are larger than average, 4.7 people per family, while no group among the workers reaches even 4.0 people per family and the closest comparable group, the artisans, averages only 4.4 people per family.¹⁹¹ The cleaners and watchmen, whom, as we have noted, were usually invalids and widows, received a wage that left them below the lowest estimates of subsistence level. Even water carriers earning 21 rubles per month and coal men with 16 rubles per month earned more than these unfortunates. For such persons unusual energy and enterprise were needed to provide even a modest livelihood. The zemstvo survey notes two families totalling eleven people classified as melon growers and included in the category of butchers and bakers. One was a crippled former miner who worked as a waggoner in the winter, and whose wife was a laundress. In the summer they rented ten desiatin of land, paid anywhere from six to twelve rubles per desiatin, and grew watermelons and cucumbers to meet the local demand.¹⁹²

The law establishing local constabularies in Ekaterinoslav guberniia twenty years later, set the ordinary constable's wages at 300 to 400 rubles a year, which included 100 rubles to cover costs of housing and heat. This put the policeman on an economic level no better than the miner. A gen-

¹⁹⁰ S.S.S., vol. 2, Bakhmut uezd, p. 237.

¹⁹¹ The 136 merchants represented 136 families totalling 640 people. According to the survey, virtually all of them were Jewish. The same is true of the artisan group in which, of the 52 artisans, 50 have families totaling 228 people. Jerzy Gliksman, "The Russian Urban Worker: From Serf to Proletarian," in Cyril Black, *The Transformation of Russian Society*, p. 314, cites a 1908 budget survey which finds a direct correlation between income and family size. Certainly survival of children may, indeed, be related to income. We have previously seen that child mortality in the Donbass was high, and linked to poor living conditions. As has been noted, workers' families were consistently smaller than those of the artisans and merchants, and the lower-paid workers had still smaller families.

¹⁹² There is no indication in the text as to whether the husband's income as a waggoner and the wife's income as a laundress are included in the calculation listed under category 9.

darmerie report in 1892 commented that the ordinary policeman then was making less than 30 rubles a month, and that a petty clerk could take in as much in bribes for registering workers at the mines.¹⁹³ The police were not reluctant to engage in this practice as well. Gonimov relates that two Iuzovka constables, Babichev and Korobko, collected bi-weekly payments of three-and-a-half rubles each from the Kaznitskiis, who had settled in Iuzovka in 1903. He worked supposedly as a feldsher in private practice and she running a rag business, but, in fact, they were concealing an illegal printing press for the Donetsk Social Democratic Union of Mine Workers.¹⁹⁴ In 1903 it was proposed that a junior feldsher have his wages raised to 35 rubles per month and a senior to 50 rubles per month, while pharmacists' assistants were also to receive this amount.¹⁹⁵

Comparing these rates to those for the mining and metallurgy workers, we see that there is considerable overlap of the highest-paid blue-collar workers with the white-collar professions. A shteiiger with ambition, responsible for a mine shaft, could prepare himself for engineering certification and thus open the way to a salary well beyond that of a house physician. In 1915, when the pre-war boom and wartime inflation had already raised the general wage level, the post of administrator of the Bakhmut city lands, which demanded a secondary agricultural education, carried a salary of only 1,200 rubles per year, considerably less than a responsible mine foreman.¹⁹⁶ All in all, Donbass mine and factory wages, whether of workers or managerial and technical staff, compared well with other occupations. Even the perennial irritation of foreigners' high wages gradually disappeared as the foreigners became a negligible quantity on the production floor. As early as 1905 there were said to be only twenty to thirty foreign workers left in the Donbass at the production level, and in 1913 the wages of Russian and foreign foremen and skilled workers were formally equalized.¹⁹⁷

¹⁹³ *Vestnik Ekaterinoslavskago zemstva*, no. 3, 1903, p. 2. The gendarmerie report is cited in Daniel Brower, "Labor Violence in Russia in the Late 19th Century," *Slavic Review*, vol. 41, no. 3, p. 428.

¹⁹⁴ Gonimov, *Staraja Iuzovka*, p. 170.

¹⁹⁵ *Vestnik Ekaterinoslavskago zemstva*, no. 8, 1903, p. 6. Wages of zemstvo medical personnel had not been raised for 25 years, and a senior doctor in a hospital was receiving 1,550 rubles per year including calculation of housing, heating, and light. He was thus receiving less than a newly graduated mining engineer. As we have noted, the New Russia Co. paid the Iuzovka doctors considerably more. A feldsher working for Hughes received 800 rubles per year in 1884.

¹⁹⁶ *Narodnata gazeta*, Bakhmut, no. 2, 1915, p. 12.

¹⁹⁷ Smirnov, "Pervaja zabastovka," p. 89; Mckay, *Pioneers for Profit*, p. 256.

We noted earlier that because of the diversion of money through bribes and fines, nominal wages did not necessarily reflect the worker's true income. We also noted the way in which credit and company scrip systems diminished the buying power of workers' wages. In the case of fines, the diminution might in the extreme cases be as much as one-third or two-fifths of the net wage.¹⁹⁸ The paybook that was issued to every worker listed rules of conduct in the enterprise and fines that could be levied. One page listed all fines levied against that worker, purportedly to enable him to appeal against them.¹⁹⁹

The procedures for levying fines in the New Russia Co. cast some light on this phenomenon. A southern newspaper reported: "One must have an entire mountain of afflictions, one must be entirely desperate, one must be in a situation of choosing between life and death to accept the conditions of the Hughes factory."²⁰⁰ All this was because of the fines levied. The twenty-eight points listed in the factory's rules of conduct almost all dealt with infractions involving fines. A worker who was not in the factory by 5:30 A.M. for the 6:00 shift was fined. Every minute of tardiness up to a quarter hour cost him a kopek. If he arrived after 5:45 he lost a day's wages, yet he still had to put in his day's work, for missing a day's work without cause meant a fine of three days' wages. There were fines for not looking out properly for young assistants, for careless work, and for drunkenness on the job. The use of someone else's tools without permission cost three rubles. Insulting behavior to administration personnel made one liable to a fine of three rubles and discharge. Refusing to work where posted led to a ten-ruble fine and discharge. Sviatlovskii notes that "rudeness" included the singing of songs or whistling.²⁰¹

On the face of things, Hughes was bullying his workers unmercifully. We have already noted, however, the sanitary and educational motivation of his prohibition of long-term visitors in company housing—a transgression paid for by a three ruble fine—as well as the rationale for his ban on the keeping of livestock within the settlement's limits. In Luzovka the money from the fines did not go back to the company as it did in some

¹⁹⁸ V. V. Leont'ev, *Ob izucheni polozenia rabochikh* (St. Petersburg: 1912), p. 39, citing factory inspector I. I. Ianzhul. Pazhitnov, *Polozhenie*, p. 69, writes that at the Morozov factory fines reached 300,000 rubles a year, 40 percent of wages.

¹⁹⁹ Zaks, "Trud i byt," p. 105.

²⁰⁰ *Odesskii listok*, cited in Pazhitnov, *Polozhenie*, p. 68.

²⁰¹ *S. S. S.*, vol. 2, Bakmut uезд, p. 241. Sviatlovskii, *Kharkovskii fabrichnyi okrug*, pp. 34–35. The whistling to which Sviatlovskii refers was probably the loud two-fingers-in-the-mouth whistle used to jeer down unwanted speakers and officials.

other firms. Rather, under the supervision of a council on which workers were represented along with representatives of the factory administration, it was used for the needs of workers' families. In 1885, when there were 2,400 workers in the plant, the fines were levied at the rate of 3,000 rubles a year—1.25 rubles per worker on the average.²⁰² As we can deduce from the data of the 1884 zemstvo survey, the factory's payroll in 1884 was 447,096 rubles for the year, so that the levying of fines is nowhere near the abuse that was reported for the Morozov factory or other similar enterprises. In 1900, when the factory's staff and payroll had far surpassed what they had been in 1885, a regional revolutionary newspaper noted that the New Russia management was proud that few fines were levied, but attributed this to the success of "two great strikes."²⁰³ What may be deduced from this evidence, and from our general knowledge of the Hughes factory, is that its strictness succeeded in persuading Luzovka's workers of its serious intent and of the benefits of conformity so that the sanctions themselves did not have to be invoked. It may even be that the workers understood and accepted the fact that a punctual, disciplined, labor force was needed for the creation of a profitable and developing industrial enterprise. This, as we have seen from some of Hughes' early letters, was his explicit goal. In analyzing the discussions held by the Congress of Mining Industrialists we noted A. M. Zavadskii's comment that fines were not nice and of doubtful legality. These industrial pioneers, hesitantly feeling their way down the long and difficult way of transforming the shifting sands of the peasantry into a rock-like working class, thought fines to be the only way.²⁰⁴ Unsure as to how far the industrialists' own conscience could be relied on in bringing them to implement their half of the contract of a modern industrial society, Zavadskii also called for the government to require that industrialists provide their workers with good quality food at a reasonable cost, to outlaw the company store coupon system, and to build well-lit, airy living quarters. These were all things that Hughes did at his own initiative, early on and consistently. It can hardly be doubted that these policies had some measure of influence on his workers and were one

²⁰² Sviatlovskii, *Kharkovskii fabrichnyi okrug*, p. 34.

²⁰³ *Iuzhnyi rabochii*, no. 3, November 1900, p. 34. In 1900 the factory employed 7,150 workers. TsGIAL, F.266, op. 1, ed. khr. 125, p. 382, sets the factory payroll in 1900 at 4,243,059.05 rubles. Gonimov, *Staraja Iuzovka*, p. 122, writes that upon becoming manager of the factory after his father's death, Ivor Hughes both cut down on the fines and reformed the wage system.

²⁰⁴ See the speech of A. M. Zavadskii in *Trudy*, XII, 1887, pp. 362–69.

of the reasons why the New Russia factory had a generally good record of industrial relations.

This is not to say that the lives of Iuzovka's factory workers were a cloudless idyll or that they worshipped their employer as a benefactor. Workers in Iuzovka, as elsewhere in the Donbass and in the world, stole materials from the factory or made small articles out of factory materials and sold them for extra income. Hughes responded as most employers did, by building a stone wall around the factory to improve control of those entering and leaving.²⁰⁵ To the workers in some factories such thefts seemed a natural exchange for employers' charging the workers for lubricants needed for the machines or for supplies of tea, sugar, and bread for the clerical staff.²⁰⁶ The workers in general displayed a keen sense of their rights and of the just administration of the social contract. Social tensions were rife, but whatever tensions there were, a study of the conduct of the Iuzovka factory workers over the years shows that in consistent fashion they established "rules of the game" that precluded destroying the factory that gave them their living: as we shall see at a number of later points, when outsiders or Iuzovka miners threatened the factory, the workers defended it vigorously.

HOURS OF WORK

Wages were very much tied to hours of work, for as has been mentioned, even when they were expressed as a daily or monthly sum, the days were measured in norms. The hours of work were also of importance from the human point of view, as a major factor in the health, welfare, and culture of the worker. In the smaller mines of the Donbass the custom in the early 1880s was to work a single shift that might run anywhere from fourteen to twenty hours.²⁰⁷ It would seem evident that this would limit miners' productivity, particularly in light of the evidence we have cited regarding

²⁰⁵ See Smidovich, "Rabochie massy," p. 164, for a description of workers' pilfering. Also *Iuzhnyi rabochii*, no. 3, November 1900, p. 23, for a description of looting in the Briansk factory in the 1898 riots there, and p. 34 for the story on pilferage at the Hughes factory.

²⁰⁶ For a report of such deductions at the Dniepr factory see *Revolutsionnaya Rossiia*, no. 41, February 15, 1904, p. 19.

²⁰⁷ *S.S.S.*, vol. 3, Slavianserbsk uezd, pp. 373-74. See also Pazhitnov, *Polozhenie*, p. 466.

accidents. Where two shifts were worked, they were twelve-hour shifts, and the mine was worked around the clock. The shifts generally changed at six A.M. and six P.M., but the procedures of entering and leaving the mine often meant that the workers were spending an extra 1 to 1½ hours of their time on these technicalities. It was also the rule that nobody left the mine before the appointed time. The lift shafts were occupied with raising the coal, and, in addition, the gang boss was responsible for the entire crew and for the registration of its production and was therefore not inclined to have people coming and going in confusion. Since the norm of coal cut determined the measure of pay, each shift had to clear out and raise to the pithead all of its coal, leaving a clean mine for the following shift. In such an arrangement, the coal cutters would finish earlier than the clearers, and the clearers before the waggoners and shaft loaders. Then those who had finished early waited until the shift change to leave.²⁰⁸

During the twelve-hour shift there were two meal breaks, one of one hour and the other a half hour. These, however, were not the only non-working periods. Kolodub describes the procedure of registration and entry that took up to two hours. Then there was a slow procession of 300 to 400 meters to the coal face. The waggoners would wait for a wagon to be filled, the clearers and sled workers would wait for the cutters to cut a pile of coal, then the cutters would finish two or three hours before the end of the shift and wait for the clearers to remove the backlog. His estimate is that the net working time was not more than eight or nine hours.²⁰⁹ Even so, there is ample evidence that in the physical conditions prevailing in the mines, this was too much for the human body and the miners were literally destroyed by their hours of work. Kavraiskii attempted to apply French research and experience in suggesting norms that would not exceed the physical capacities of the miner, taking into consideration the distances, the equipment, and the mine personnel. His calculations used an eight-hour day as a rational basis for norms of moving coal.²¹⁰ His attempts appear to have aroused little response.

In metallurgy, as we have seen, the situation was much the same. The Hughes factory worked two shifts, around the clock. From the beginning

²⁰⁸ See Ryss, "Uglekopy," p. 141; also Kir'ianov, *Zhiznennyi uroven'*, p. 70. Chapuy, "Journal de voyage," p. 130, describes the changing of shifts at the Rutchenko mine in 1897.

²⁰⁹ Kolodub, *Trud i zhizn'*, p. 117.

²¹⁰ Kavraiskii, "Rudnichnaia rel'sovaia otkatka," pp. 191–92.

however, the working day was influenced by the business cycle; Sviatlovskii found that by 1885 there was already a range of 8½ to 12 hours for different workers.²¹¹ In the winter of 1883–84, as the rail production of the New Russia Co. was being cut in half, rolling mill hands were on short time and earnings per worker were cut severely as the factory tried to spread the work and maintain the labor force that had been assembled with such difficulty.²¹² This was not the first time that Hughes had employed such a tactic. In 1877 hours had been cut back to keep men engaged and to stretch rail production to the maximum time allotted in the contract so that the production team would not disperse.²¹³ Individual workers lost by this, but while the New Russia was the only metallurgy plant in the Donbass, they would have lost even more by leaving for other work. Meanwhile Hughes was able to keep his increasingly skilled workforce intact.

A law of June 2, 1897, restricted daytime work to eleven hours and night work to ten hours, and stipulated that the time spent checking in and out of the mine be counted as working time. It also stipulated that on the eve of five of the statutory holidays work would continue until 5 P.M. instead of 2 P.M. as had been the custom up to that time.²¹⁴ By 1905 much of the underground work in the mines had gone on a three-shift, eight-hour-a-day basis. The first all-Russian Congress of Metal Workers, held in February 1907, found that the average Donbass worker was working a 9½ hour day—less than industrial and mine workers in most areas of Russia.²¹⁵

It seems clear that the limited working hours were not motivated solely by restrictive legislation and enlightenment, but by strong economic in-

²¹¹ Sviatlovskii, *Kharkovskii fabrichnyi okrug*, p. 27.

²¹² Pazhitnov, *Polozhenie*, p. 125. Fomin, *Gornata promyshlennost'*, vol. 1, p. 452, notes that some of the coke makers and blast furnace stokers had no work at all in the winter and were unable to find alternative employment in the area. Rashin, *Formirovanie*, 1958, p. 30, shows the factory's manpower stable at 2,400 from 1882 through 1885.

²¹³ See the report of Engineer Taskin, TsGIAL, F.37, op.5, d.990, pp. 64–65, from January 1877.

²¹⁴ Pazhitnov, "Prodolzhitel'nost'," p. 466. Implementation of this law became the subject of one of the unique strikes in Iuzovka, as will be discussed at a later point. The lengthening of pre-holiday work is mentioned in *Rabochee delo*, nos. 4–5, September–December 1899, p. 99. The text of the law may be found in Pankratova, *Rabochee dvizhenie*, vol. 4, pt. 1, pp. 826–28.

²¹⁵ F. Semenov-Bulkin, "Ekonomicheskaiia bor'ba rabochikh metallistov v 1905–1906gg.," *Trud v Rossii*, no. 1, 1925, p. 8. Liberman, "Uslovia truda," p. 2, writes that the mineowners themselves had created the eight-hour day. See also Pazhitnov, *Polozhenie*, p. 466.

terests as well. Both coal and metal were undergoing difficult years in this period. In the New Russia factory the blast furnace workers, who should have been limited to an eight-hour shift, were putting in a full twelve hours, even eating on the job. The rest of the factory was on a 10½-hour work day, except for machine operators and their helpers, who worked on a schedule of three eight-hour shifts.²¹⁶ During these same years, Iakovlev found that in the Nelepovka mines the shaft loaders, pump men, and drillers working underground had eight-hour shifts, while the remaining underground workers had a twelve-hour shift.²¹⁷ By the end of the first decade of the twentieth century Liashchenko, whose work covered the Donbass as a whole, found stokers and machinists in mines and factories working an eight-hour day, surface workers on a ten-hour shift, and the underground workers who were not machine tenders going into the pits for twelve hours, with a two-hour rest break underground.²¹⁸

Application of the law was erratic at best, as might be expected and as the example of the Iuzovka blast furnaces showed. From the iron mines came the complaint, "Nowhere in the entire Krivoi Rog district does anyone pay attention to this law."²¹⁹ Only 3 out of 25 iron mines worked two twelve-hour shifts. The rest worked from 4 A.M. to 7:30 P.M. with a two-hour break at mid-day. By law, any shift involving work between 6 P.M. and 6 A.M. should have been limited to ten hours. When the mine doctor suggested that the work day be shortened, or at least split, with a four hour break in the mid-day heat, the workers objected.²²⁰ It will be remembered that the Krivoi Rog mines had a high component of seasonal and migrant workers, almost none accompanied by their families. The aim of these workers was to earn as much as they could in a season and move on or go back to their home village. They therefore preferred extra work to hours of rest.

The above was not the only incident in which the workers objected to a shortening of the work day. A campaign against overtime and for a shortening of the work day was a long-time central plank in the labor movement's campaigns. In the fourth Duma, G. I. Petrovskii, one of the Bol-

²¹⁶ *Iuzbnyi rabochii*, no. 3, November 1900, p. 34.

²¹⁷ Iakovlev, "Rabochie," p. 30. He does not clarify whether the long underground shift was broken by a prolonged rest period as was becoming the custom. See, for instance, Liberman, "Usloviia truda," p. 2.

²¹⁸ Liashchenko, "Usloviia truda," pt. 2, p. 429.

²¹⁹ Pazhitnov, "Prodolzhitel'nost'," p. 466.

²²⁰ Mekhmandarov, "Zabolevaemost'," pt. 1, p. 58.

shevik leaders from the Donbass, declared that "Everywhere the workers groan from overtime work."²²¹ Yet with all the gradual improvement of wages from the mid-1870s, we have seen that a good number of workers needed extra income just to maintain a decent subsistence level. They were therefore interested in more pay, even if this involved extra work. In the Briansk factory in Ekaterinoslav, a three-shift, eight-hour day had been introduced in the steel puddling shop. This decreased take-home pay. The achievement of the eight-hour day, one of the revolutionary movement's central demands, brought the socialists little credit. The Briansk workers' central interest at that time was said to be the maintaining of high take-home pay.²²²

THE WORKING YEAR: HOLIDAYS AND PRODUCTIVITY

The standard official working year in Russian industry of the late nineteenth century was 301 days. Sundays and twelve Russian Orthodox holidays were the non-working days of the year. There were more exceptions, however, than there were cases of this schedule being observed. Seasonal enterprises such as sugar mills dispensed altogether with holidays. The New Russia factory worked Sundays, but observed 26 holidays. Four enterprises took 100 or more non-working days; one of them took 131 days. Of the 77 factories inspected by Sviatlovskii, only 10 stuck to the letter of the law.²²³

Holidays were significant in relation to the productivity of the Donbass worker. Foreign observers repeatedly noted the large number of holidays observed by the Russian worker and the influence of these holidays on the

²²¹ *Gosudarstvennaia дума IV sozyv. Stenograficheskie otchety. 1913g. Sessia pervaiia, chast' 3* (St. Petersburg: 1913), column 1399, cited in Kir'ianov, *Zhiznennyi uroven'*, p. 66.

²²² *Rabochee delo*, no. 1, April 1899, p. 84. The eight-hour day was introduced here, as well as in parts of other mines and factories, for the industrialists' own economic reasons rather than as a result of workers' pressures. No pay compensation accompanied the introduction of the shorter days. By the end of the year, the Social-Democrats in Ekaterinoslav had learned to link their demands for higher pay to those for shorter working days. See *Rabochee delo*, no. 4-5, September-December 1899, p. 98.

²²³ Sviatlovskii, *Kharkovskii fabrichnyi okrug*, pp. 80-84. On the basis of oral histories, Zaks, "Trud i byt," p. 105, writes that the first paybooks issued in the Donbass in 1886 listed twenty-nine holidays, some of which lasted more than one day. He writes that the law of June 2, 1897, reduced the number of holidays to fifteen.

quantity of coal produced. In 1900 Donbass miners produced 10,000 pud per worker each year, while in other countries production ranged from 12,000 to 18,000 pud. Where the Donbass worker put in 250 days per year (somewhat less than the all-Russian average of 267), the English miner worked 278 days, the Belgian 300, and the American, with only 52 Sundays and 5 other holidays, cut coal 308 days each year.²²⁴ If the Belgian represented the formal norm in Russia, America was the industrialists' ideal and goal. They would have happily settled, however, for the British example. The problem was how to motivate the miner to work more, taking less holidays; this would also cut down the amount of working time lost to drink and its aftermath.

When the Congress of Mining Industrialists met to discuss the problem there was an atmosphere of embarrassment. The industrialists were, after all staunch supporters of a regime in which Orthodoxy was officially proclaimed as one of the pillars of the kingdom. Yet they were seeking ways to persuade "simple folk," for whose moral improvement the employers repeatedly expressed a pious sense of responsibility, to abandon some of the holidays of the Orthodox Church. As Avdakov attempted to point out, an attempt to enforce the formal rules of labor would be an attempt to change patterns of behavior that were not a conscious and rational decision, but a deep-rooted habit shared by all the workers. Loranskii put it more bluntly by asking whether the Congress would recommend fining the workers for celebrating church holidays, and, in response to another suggestion, Iasiukevich testily noted that the industrialists would look foolish trying to petition the Holy Synod to pressure local clergy to abolish Orthodox Church holidays.²²⁵ The problem was that although the Governor and the Mining Department had approved the inclusion of only twelve holidays in the workers' pay books, the village priests continued to ring the church bells and call the faithful to prayer on every holiday. The miners, with a never-come-Monday alacrity, responded to the call, and, hav-

²²⁴ *Trudy, ekstrennyĭ s'ezd, 1900*, Report of committee on workers' conditions, pp. 9, 12. By 1905 the American miner's work year had been shortened to 290 days. A. Zotov, *Sposoby mirnago razresheniia sporov mezhdū predprinimateliuami i rabochami* (St. Petersburg: 1902), p. 10, writes that the number of days worked each year by British miners grew from 229 to 275.6 between 1879 and 1890. In CL, File 11582, note 1607, *Frais généraux*, p. 1, we find the observation, "Holidays are numerous and 250 work days a year are counted as compared with 300 in France."

²²⁵ *Trudy, XVIII, 1893*, pt. 2, p. 329.

ing missed their shift anyway, went on to the tavern. The result, as Avdakov noted ruefully, was a work month of only twenty days.²²⁶

Yet for the workers there were considerations beyond their belief in their religion. In addition to tradition-based reverence for saints' days (*prestolnye prazdniki*), there existed the problem of a sense of their rights. One illustration of this took place in the railway shops in Ekaterinoslav, on June 25, 1899. There was discontent among the workers. This was Railway Day, to honor Tsar Nicholas I. The previous day the management had announced that a celebratory prayer would be held at noon—signifying that after prayers work would go on as usual. The workers wanted either a holiday or extra pay for holiday work as was the custom. At noon, before the prayers, the workers presented their demands, but were refused. The governor was said to have told the assembled workers that holidays were for the bosses and not for the workers. The workers' response was to whistle, jeer, and walk out. For two days work went on irregularly against a backdrop of discussions of a protest strike. On Monday, June 28, gendarmes pushed part of the workers into the factory, and their commander addressed the crowd: "Look at me, I'm weeping! I'm begging you—return to work! Everywhere else the workers have always listened to me. Go to work!"

The following day was the eve of the holiday of Peter and Paul. The workers had decided to treat it as a full holiday, working through until 2 P.M. and then stopping. When the lunch whistle blew at twelve, some of the workers went to eat—but then did not return for fear that their mates inside might "teach them a lesson"—and, indeed, there were reported to be "individual cases" of this. On the other hand, the administration sent these workers home and docked them a full day's pay for not returning after their lunch break. At 2 P.M. the remainder downed tools and, with shouts of hurrah, smashed some of the factory windows. They went home feeling that they had made their point. The next day was a regular work day, but by noon there were armed patrols in the factory. When the workers finished their shift at 6 P.M. they found themselves surrounded by a chain of police. Forty workers, mainly those who had presented the workers demands several days earlier, were arrested, the others were sent home.²²⁷

²²⁶ *Trudy*, XVIII, 1893, p. 333. In other parts of the debate he claims a 24-day work months.

²²⁷ *Rabochee delo*, no. 4–5, September–December 1899, pp. 98–100.

The various socialist groups working in Ekaterinoslav at this time were active in the conflict over the holidays. Nevertheless, the cause for which the workers went on strike was neither socialism nor class warfare. When we examine what we know of their demands, we find that they were not even demanding economic advancement. The pay demands that were included in leaflets passed out at the factory were apparently inserted by the Social-Democrats: there is no indication that the workers' delegates raised economic issues in their representations to the management. What they were defending was a concept of their rights or, perhaps more precisely, the respect of custom. To their way of thinking, the holidays were part of the existing social compact whose sanctity was so frequently broadcast by all authoritative institutions. For this reason, holidays could not be unilaterally abrogated without some compensation being offered for the workers' consideration. In demanding *either* a holiday *or* extra pay they were, in effect, attempting to bargain within the existing social framework. When this was rejected they played the only other card held by them at that time—mass protest. But, as Thomas Hobbes wrote: when all other cards have been played, clubs remain trumps—and here, as in all such situations, the employers controlled the police clubs.

A vain attempt had been made much earlier to persuade Russia's authorities that when workers sought to create institutions of their own or presented organized demands to their employers, "It is not the spirit of anarchy that lies at their basis, but the spirit of community."²²⁸ At all levels of authority this idea was rejected right through to 1917, and relations with the people, based on distrust, fear, and contempt, rarely rose even to the status of a well-meant belief that the people were simply unable to do the right thing. The question of holiday observance and the length of the work year thus takes on a meaning more complex than simply a matter of workers' conservatism or sloth and industrialists' modernization or greed. It becomes a paradigm of a much deeper set of social relations that influenced the fate of the entire society.

The number of days of actual work in the Donbass mines grew appreciably over the years, but the growth was far from linear. These ups and downs are a seismographic chart of all the happenings that shook the region. In attempting to reconstruct the lengthening of the work year we find that there are two sets of figures that significantly diverge. The first

²²⁸ Quoted in Zelnik, *Labor and Society*, pp. 97–98.

set is the contractual work year, i. e., 365 days minus Sundays, holidays, and pre-holiday shortening of work time. The second figure is the actual number of days worked. The difference between the two is accounted for by illness, unemployment, and unexplained absences (*progul*)—anything from an unauthorized holiday observance to a hangover. In 1884 the official work year was 240 days, while the actual was 200 days. By 1915 the elimination of holidays had added 38 days to the contractual work year, while the wartime boom had raised the number of actual days worked to 250.²²⁹ The gap between contract and reality had thus diminished from 40 to 28 days. Yet this level of improvement had been already reached in 1900, when the number of days worked was also 250.²³⁰ A study of one mine in the Donbass over the decade of 1903 to 1914 showed the days worked reaching as high as 265 in 1904/05 (the mining year was usually calculated from September 1 to August 31). In 1905/06, under the influence of the autumn strikes and end of the year armed rebellions, the work year shrank to 253 days, a comparatively modest decline considering the sharpness of the political clash. The cholera epidemic of 1910 had a greater effect, although it was spread over two years. In 1908/09 251 days work were recorded. In 1909/10 this declined to 244, and in 1910/11, under the full impact of the epidemic, it dropped to 213. Again the figure climbed slowly until the mass mobilization at the beginning of World War I took thousands of miners from the Donbass, reducing the number of days worked by six in comparison with the previous year.²³¹

Taking into account both the change in the number of days worked and the general shortening of the work day between 1884 and 1915, Kir'ianov calculates that the net increase of miners' working hours amounted to about nine percent, which substantiates our previous observation regarding the intensification of labor in the Donbass. This was in contrast to the

²²⁹ Kir'ianov, *Zhiznennyi uroven'*, p. 81.

²³⁰ See Avdakov's report of the Commission on Workers Living Standards in *Trudy, ekstremnyi s'ezd, 1900*, pp. 10–11. The conflict between contract and reality plagued planners and politicians for many years. In January 1921, when an exhausted Soviet Russia was desperate for every lump of coal available, miners left work for a number of days to celebrate the Orthodox Christmas. See *Gornoe delo*, no. 3 (9), April–June 1921, p. 127.

²³¹ F. Churakov, "Uchet rabocheho vremena v rudnike," *Gornyi zhurnal*, no. 2, May–June 1915, p. 231, cited in Kir'ianov, *Zhiznennyi uroven'*, p. 79. It should be remembered that the mobilization for World War I would only have affected the very end of the 1913/14 year, and the actual impact of mobilization on the mines, as we shall see, was much more severe.

situation in metallurgy, where from the beginning of the industry the number of days worked had been greater, but in which the average length of the working day diminished by nearly 25 percent over the years. In addition, just as the various mine professions worked different numbers of days, so in metallurgy there was a wide range of days worked. In the New Russia factory in 1906 the number of days actually worked by different workers varied from 200 to 336.²³² We can therefore understand that there was considerable stratification within the body of workers in the factory, with some suffering considerable underemployment while others appear to be working a great deal of overtime.

Just as diet, housing, and education were improving, so were the regime of work and the rewards for work. At the same time, just as we have observed clear differences in the living conditions and stability of miners and factory workers, so in the matter of wages and hours of work were there clear differences, and in particular we may discern the emergence of a labor aristocracy that enjoyed very high wages, relative security of employment, and even consistently high levels of overtime to augment their nominal wages. With all the complexities and irregularities on which we have dwelt, there is a clear, underlying trend of development, slow and painful as it may have been.

Having encompassed the main sectors of life in the Donbass as they developed over close to half a century, it is time to sum up these developments in terms of the society's overall coalescence.

²³² Pashitnov, "Zarabotnaia plata," p. 193.

CHAPTER 10

The Growth of the Donbass Community: An Interim Summary

The physical growth of the Donbass was indisputable. It matched and at its best surpassed almost anything that the modern world had known or was to know in coming years. Where a traditional, semi-pastoral society had dominated, a modern industrial center arose. A quarter million workers lived almost solely from the wages they earned in steel mills and coal mines. The empty steppe was criss-crossed by railway lines on which hundreds of thousands of people moved greater distances in a day than their ancestors had travelled in a lifetime. These changes created enormous wealth, and although no one expected or claimed that this wealth would be shared equally within the region, large numbers of people received a share sufficient to make a measurable improvement in their standards of living and a total transformation of their mode of life. Yet wealth was not the only or even the principal measure by which we have gauged the development of the Donbass.

The most unique feature of the Donbass in the mosaic of Russian industrialization—or in that of European industrialization as a whole, for that matter—was the physical and social pioneering that characterized the region. Iuzovka rose on the bare steppe in a sparsely populated region in which the few inhabitants had neither the numbers nor the inclination to provide a mass of laborers for the rapid economic development that Hughes set in motion. It was of great importance to the region's development that those immigrants who came to seek work found themselves in newly established settlements lacking any previously formed social structure or local institutions. The Russian autocracy formed the overall framework of society and government, and its lead was generally rein-

forced by the policies of the mine and mill owners. In Iuzovka, Hughes' paternalist despotism gave a particular coloration to social development, but the essential fact of a region of unchallenged company towns remained, whatever the nature of the particular employer. Neither local power nor local administration were influenced by any body of citizens within these industrial fiefdoms.

Throughout steady economic and cultural development, social development lagged. Perhaps the most significant feature of Iuzovka's development was the inhibition of any participatory institutions that might have given the population both the appetite for self-government and the experience necessary for its success. The tsar's government and the employers fought to keep all political and professional organizations out of the Donbass. As we have demonstrated in our discussion of the development of laws regarding accident and illness compensation, and as we will show in even greater detail in our second volume, the unity of purpose of these two bodies was not by any means always evident. Yet they worked in effective concert in pursuing this particular goal of political monopoly. It was not this systemic restriction of institutions, however, that had the greatest effect in Iuzovka. Rather, the dogged insistence of the New Russia Co. on maintaining its total control of the settlement's life prevented the development of grassroots institutions that might have created pressure for broader participatory institutions. Even more important, the population's lack of experience in such institutions was to prove problematic in years of political crisis.

In all our study of Iuzovka's half century of development we have found only three cases of institutions that granted any experience in self-government to Iuzovka's population. The most long-lived and important was the consumers' cooperative. Here we have no indication that members' participation was extensive, or, indeed, that it went beyond shareholding and the reaping of economic benefit. Nevertheless, when we come to study the politics of Iuzovka in 1917 and 1918 we will see that the cooperative continued to play a great role in the town's life, assuming functions and roles that other institutions, including the local soviet, were unable to take over. The other two institutions we have found were the committee that distributed the money from fines and the sanitary supervisory committee, neither of which appears to have contributed anything of lasting significance to the settlement's social and political framework. The Jewish community's experience with its own communal institutions and the high

level of political organization and participation in the Zionist movement, suggestive as they are, were parochial experiences that could have only an indirect influence, if any, on the society of Iuzovka and the Donbass as a whole.

As we have been able to demonstrate, the New Russia Co. prevented the municipalization of Iuzovka despite the settlement's population growth and economic development. None of the commercial or industrial interests that were developing in Iuzovka were able to contest the total control that Hughes' company maintained. This was true not only in that the population was unable to organize for any attempt to influence such local questions as taxes and urban development. The bitter split between the Donbass industrialists and the zemstvo authorities meant that the industrialists maintained control of health and education. This meant that doctors and teachers, who elsewhere had great influence on the development of a critical outlook on the *ancien régime*, were limited by their dependence on their employer and by the close control exercised by factory and mine directors. This "third element" of Russian society was minimal in the Donbass. Although we can easily see from the medical literature the role that doctors played in pointing to the deficiencies in workers' housing and labor conditions, their influence was restricted largely to their own professional circles. Their bids for professional authority in the mines and mills were furiously and effectively blocked by the industrialists, and their attempts to create such cross-cutting social institutions as the Ekaterinoslav cooperative hospital foundered on the unwavering intransigence of the employers. Such was the fate of any attempt to build social aggregations that might have integrated and reinforced the structure of Donbass society.

A second feature of Donbass society was its fragmentation. The first fault that weakened the society was ethnic. The foreigners, the catalyst for industry and its development in the Donbass, remained foreign, their economic prominence always more important than their physical presence. As we have seen, foreigners disappeared from the production floor fairly early, and even in the lower levels of supervisory tasks there were few to be found by the last decade of the century. Yet Russia's backwardness and the reluctance of the industrialists to recognize the full technical needs of their industry meant that in the commanding technical roles in industry, foreigners continued in prominent positions through and after 1917.

But the Donbass was essentially Russian. Russians populated it and

gave the region its working muscle. Russian entrepreneurs were also numerically significant, though the majority of their enterprises were second rank in economic importance. The Congress of Mining Industrialists was demonstratively Russian in outlook and loyalty. Much more than the nationalists of the time, and more than contemporary Soviet historians have wanted to admit, the Donbass was a case of Russians exploiting Russians. Yet the history of the Donbass is not primarily a history of Russian class struggle. Rather it is a history of a complex social and economic differentiation among the Russian workers. The first line of differentiation is between the factory workers and the miners. We have seen that over the course of half a century, both groups achieved a rising wage scale that eventually made it possible to establish and raise families on their own labor income. The superior conditions in the steel mills of the Donbass quickly attracted a settled population, while the miners remained largely an unsettled migratory group, sensitive to every slight tremor in the economic and political foundations of the Donbass. We have seen the differences in housing, education, and medical care that resulted from this. In effect, these differences created two totally different societies, with factory workers advancing into a modern culture set in something that grew to resemble an urban environment, and miners stuck in the throes of the unsettling transition from village to industry. It is important to remember that these conditions also meant that the miners were younger, and the combination of youth, lack of family responsibilities, and lack of attachments to the work place easily translated into radical violence at times of crisis.

Within Iuzovka's working class we have seen an internal differentiation as well. For a small core of workers, the six hundred or so home owners who in the first decade of the twentieth century represent close to ten percent of the factory workers, there is a definite *embourgeoisement* as they acquire property and begin to act as property-owners. For a larger group of workers this lofty state remains an aspiration, but one close at hand, and clearly attainable as they saw their neighbors acquiring status and security around them. As we noted from our analysis of wage rates and earnings, there was a relatively large group of factory workers who as they acquired skills enjoyed not only a higher standard of living but also more job security. It was the unskilled laborer who was fired during recessions, and though the skilled worker might, in a recession, go on short time, he was reasonably sure of earning something throughout the crisis. It is no

wonder that we find Hughes' workers developing a loyalty to their place of work. More than any place that they have experienced, or any of which they have been told, the New Russia factory was a reliable *kormilishcha*, an unflinching source of livelihood. We will find repeatedly that in times of political and social crisis they rally to the factory's defence, ready to do battle with anyone threatening it. If the New Russia factory workers show any group consciousness of common interests, the essence of that consciousness lies in this defence of their livelihood. Demonstration of this behavior will come in our second volume, but we may claim with confidence that the roots of this consciousness lie in the economic and physical conditions that the workers found in Iuzovka.

The separation of Russians and Ukrainians remained throughout the entire period. Until the Soviet regime brought him by *force majeure*, the Ukrainian peasant was least inclined to enter the mines or factories as a hired worker, and first to leave it in time of crisis. His ties to his village were strong and directly at hand. The Donbass thus remained within the Ukraine but not of it. The aspirations of the workers, even of the revolutionaries among them, remained focused clearly on Russia, while in the countryside and in traditional urban centers such as Kharkov, the currency of Ukrainian nationhood was very much in circulation. Even within the revolutionary movement this divergence was clearly evident. No movement was immune to it. Within the Bolsheviks, too, the Kiev-Kharkov split that was so much a factor through the early and mid-1920s was largely that of Donbass Muscovites against "indigenous" Ukrainists.

The fourth ethnic solitude of Donbass society was the Jewish community. Along with the factory workers, they were the social and economic beneficiaries of Donbass industrialization. The Jews who immigrated to the Donbass in its early years were hated as outsiders by officials and workers alike. We have seen the expression of this in official communications, and we will have cause to analyze the repeated pogroms and violence directed against them in our discussion of the unrest that characterized the Donbass' formative years. Despite this harassment from all sides, the Jewish community both proliferated and prospered. As we saw from the 1884 survey, the great majority of the Jews earned a marginal living in Iuzovka's early years, yet by the eve of World War I we have seen that they had risen economically and have achieved some measure of acceptance even in the Congress of Mining Industrialists. The community had developed its own institutions, strong enough that both the religious institutions and the

Jewish educational system survived all the storms and sorrows of revolution and civil war, and the Jews remained in Iuzovka, enduring the general hardships that were the lot of the town and its inhabitants, but suffering nothing of the particular horrors that were the lot of virtually every other Jewish community of the Ukraine in these years.

One feature stands out regarding the ethnic fragmentation of the Donbass: social and economic stratification ran largely along ethnic lines. There was some overlapping of Jewish and Russian mine owners, but neither of these were generally resident in the Donbass settlements themselves. The vast numerical majority of the Donbass workers were Russians, and there were comparatively few Russian merchants and artisans there. What there was of a Jewish working class in the Donbass was not employed in the mines and factories, but worked for Jewish artisans and manufacturers. The majority of the Jews were in trade and services, a sector in which few Russians were occupied. The Ukrainians were almost all occupied in agriculture outside the mine and factory settlements. Such an economic structure could only exacerbate the lack of communication and understanding that existed among these communities.

But in the course of the Donbass' first half century foundations were being laid for a very different kind of society. First, diet improved as the families and the consumers' *artel* made their own choices as to use of their earned income. As disposable income rose through the years, choices became easier, and although few could even claim to be comfortably off, more and more of the factory workers in particular rose above the margins of minimal subsistence. Health services were not only widely available, but were increasingly used by the public. In this respect Iuzovka was certainly ahead of almost any part of rural Russia, and its facilities could compete with some of the larger central cities. Each of these physical improvements contributed to lengthening the working life of Iuzovka's population, so that in 1917 we find that a substantial group who at an earlier point would have left the settlement are still present, and presumably economically active, adding an additional element of stability to a population in which we have already noted elements that tend toward relative conservatism.

Housing too, was improving, though here the record is much more checkered. Unlike food, the choice of housing was only marginally under the individual worker's control. If the employer was unwilling to provide anything but barracks and dugouts, the choice of the worker was to accept them or to leave. There were relatively few, particularly in the coal mines,

who could take advantage of a cheaply rented tract of land and build their own houses. The barracks and the infamous zemlianki gradually diminished in number, although in the mining settlements they remained all too frequent, and constituted a major element of the housing stock even in some of the larger mines, right up to the 1917 revolutions. Where the zemlianki were replaced, family apartments appeared and introduced a radically different atmosphere to Donbass life. As the years passed we observe a diminution in the percentage of households taking in boarders to supplement their wages, although there remains throughout the period a needy stratum that feels pressed to trade privacy for income.

But it was in education that there was the clearest indication that life could change in all its dimensions. It was not only that education was available to a greater percentage of young people, although this was in itself a great advance. Technical and commercial education spread in the Donbass, giving those who acquired it a leg up the ladder of social mobility, and assuring continued advantage to the children of those who had by some monetary windfall acquired social status. Education was also spreading to the children of the miners, and although it was too long in coming, our statistical evidence shows that it did finally arrive. Perhaps more important was the fact that education was attacking some of the barriers that kept Donbass society shut within its traditional compartments. Young girls not only began going to school in considerable numbers, but also gained full equality in education and continued beyond primary school. While this was something that had been known in St. Petersburg, it was distinctly new in the Donbass, a clear sign that a modern society was developing. No less important was the erosion of intercommunal barriers as exemplified by the fact that by 1917 in Iuzovka hundreds of young Jews and Russians were going to school together. True, these two mixed schools were private ventures, catered only to women, and had in them only about fifteen percent of Iuzovka's pupils. The great majority of Iuzovka's youth were still studying in parochially separated schools. It may also be safely ventured that these children were from middle-class families, rather than from the working class. Nevertheless, we can see in this phenomenon the beginnings of the crumbling of communal isolation and the promise of a more equitable and tolerant society in coming generations.

Education was followed by the spread of culture. Libraries and reading rooms, theater and music, and, not least of all, legitimate adult education, were finally to be found in Iuzovka and in the Donbass after the turn of

the century. Obstructed for years by the fear and mistrust that both central and local elites felt toward the workers, these amenities too were finally permitted. All the civilizing influences that had been the distinguishing feature of the Russian urban setting fifty years earlier finally arrived in Iuzovka as well. The final accolade was the granting of municipal status and the election of a town Duma in August 1917. But time had run out. By the time this long overdue step was taken, there was already a firmly established Iuzovka Soviet of Workers' and Soldiers' Deputies, and in the mine settlements around Iuzovka mine owners were being chased away and their properties "nationalized" by the miners.

To speculate that in another generation Iuzovka might have been indistinguishable from Pittsburgh or Newcastle is fruitless. Though a clear foreshadow was cast, Iuzovka existed within the Russian Empire, and so became first Stalino, and then Donetsk. Politics were decisive in the entire development of the Donbass, and the political choices made by the mining industrialists and by the tsarist officials in St. Petersburg and Ekaterinoslav formed the embankments within which the currents and eddies of Donbass society flowed. The political framework was much more resistant to change than were the economic and social institutions of Russia. We have noted throughout our survey how the gap between society and the political system was growing, putting the political framework under strains that it was not always equipped to withstand. This being so, we conclude our study of the development of a modern society in the Donbass, and turn to our second volume. In that volume, "Politics and Revolution in the Donbass," we will attempt to understand how government, employers, and the revolutionary movements interacted in the competition for influence over the region's growing concentration of labor. This volume then becomes prologue for the titanic clash of two revolutions, the industrial and the political. The elements of such a clash existed wherever industrialization and urbanization took place, yet only in tsarist Russia did it take such a violent and decisive turn. We have already seen the social circumstances that set the stage. Now we must try to complete the picture through discussion of the politics of the Donbass.

GLOSSARY OF RUSSIAN TERMS

- Arsbin*—A measure of length equalling 71 centimeters or 28 inches.
- Artel'*—A group of workers organized cooperatively for work or for sharing living quarters and expenses.
- Artel'shchik*—The leader of an artel', usually elected by his fellows.
- Balagan*—A long board house, usually divided into several separate rooms.
- Dacha*—A summer house.
- Desiatina*—A measure of area equalling 1.09 hectares or approximately 2.7 acres.
- Desiatnik*—A gang boss. The supervisor of a small work team in a mine.
- Feldsber*—A paramedic, generally male in the Donbass.
- Guberniia*—A province or region. A large administrative unit responsible directly to the central government.
- Kaiuta* (diminutive *kaiutka*)—A shack of boards and canvas, generally temporary summer quarters, used as housing at coal mines.
- Funt*—A measure of weight equalling 409.5 grams or 14.6 ounces.
- Pud*—A measure of weight equalling 16.38 kilograms or 36.06 pounds.
- Sazhen'*—A measure of length equalling 2.13 meters or 7 feet.
- Sanochnik*—A sled man. A miner who hauls coal on a sled from the cutting face to the main mine gallery.
- Shteiger*—A mine foreman, supervisor of an entire shaft or mine.
- Uezd*—An administrative unit comparable to a county.
- Versta*—A measure of length equalling 1.06 kilometers or 1,162 yards.
- Volost'*—The smallest rural administrative unit of pre-revolutionary Russia, subordinate to the uezd.
- Vedro*—A measure of liquid volume equalling about two-and-a-half gallons.
- Vershok*—A measure of length equalling 4.4 centimeters or 1.73 inches.

GLOSSARY

Zaboishchik—A coal cutter. The most skilled and highest paid category of miners.

Zemlianka—A long, low, earth-floored dugout that served as housing at the Donbass coal mines.

Zemstvo—Elected local councils instituted in Russia in the mid-1860s. The zemstvo was particularly active in health and education.

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