INTRODUCTION

Russia's Sanitary City

In summer 1917, Charles-Edward Amory Winslow, the first head of the Yale Department of Public Health and one of the leading figures in the American public health movement, visited Russia as part of an American Red Cross medical mission. The country was in the middle of a revolutionary crisis, which would bring the Bolsheviks to power several months later; it was also three years into a devastating war, struggling with the food shortages, inflation, violence, crime, chaos, and displacement that were entailed.[1] Upon his return to the United States, Winslow wrote a report on health administration in Russia, a surprisingly positive account of both the past achievement and the current work of Russian public health:

> In the first place, one is impressed with the possibilities of the numerous advisory boards, made up largely of active employees, with which both zemstvo [rural governments] and municipal executives are surrounded. Such organizations must often prove cumbrous and time consuming, but they tend to favor initiative and esprit de corps on the part of the staff. It is interesting to note that even before the revolution Russia was in this respect in position to give a lesson in democracy to the rest of the world.
>
> The great strategic point in the Russian health situation is, however, the remarkable development of social medicine along curative lines and the

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> consequent close connection between curative and preventive work. Russia . . . has already developed the State care of the sick to a point of which we are only beginning to dream.[2]

Although clearly aware of and noting Russia's health problems, such as high rates of some communicable diseases and extreme infant mortality, Winslow considered the health administration well organized, adequate for the country's needs, and effectively functioning despite the war and revolution. He found Russian engineering "solid and successful," the personnel knowledgeable, and medical statistical bureaus "better equipped with funds and highly trained professionals than our own."[3]

The Red Cross mission traveled across the country, starting in Vladivostok and moving toward European Russia, and Winslow visited Petrograd (Saint Petersburg), the imperial capital, and Moscow, which would become the new capital the following year. Moscow, according to Winslow, was the leader in Russian municipal health work, just as the government of the province of Moscow was the leader in rural health. Winslow left a detailed description of the municipal sanitary organization, noting many similarities with the United States and commending the city's effective measures against water-borne and insect-borne diseases, modern clinics, adequate school sanitary inspection, well-equipped laboratories for food and water control, an "elaborate disinfection station," and "admirable municipal lodging houses." Two aspects of Moscow's public health and sanitary system appeared to him particularly innovative. Although Winslow again noted the appalling death rates among young children, he described the infant welfare station at one of the municipal hospitals as the "most perfectly equipped plant for this purpose" that he had ever seen. But it was the Moscow sewage system that left the biggest impression on him and especially the experiments with sewage treatment carried out there in 1917, which were, according to Winslow, "probably the most extensive and important sewage treatment studies being conducted in the world" at that moment.[4]

Winslow's account is very different from the common tropes found in modern travel literature on Moscow and its sanitary condition, where the city is described as filthy, exotic, poor, technologically, institutionally, and scientifically backward, and essentially very different from a "Western" city. Instead, Winslow offers an image of modernity, rationality, effective management, and innovation; he emphasizes not the difference but the parity and commonality with "Western" or at least American urbanism. Neither does his report fit with the texts by Soviet authors who claimed that all improvement in urban public health and sanitation started only with the new regime.[5]

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It is also at odds with existing narratives produced by historians. Late imperial Moscow has been the subject of several historical studies, though no work has dealt specifically with its public health, environment, and sanitation. Such topics, however, do inevitably come up in more general studies of the city's history, which produce a picture of "urban crisis," failure, and backwardness, and of Moscow as being the "unhealthiest" or "deadliest" city in Europe.[6] When Donald Filtzer, the author of perhaps the most thorough anglophone study of public health and urban sanitation in Soviet Russia, needed to historicize the experience of postwar Soviet cities, he referred to sanitary reforms in Western European and American cities of the nineteenth and early twentieth century and not to the cities of the Russian Empire, as if no similar processes or discussions of urban infrastructure, public health, and sanitation ever took place there.[7]

Yet, in late imperial Russia, the questions of health and sanitation in the context of rapid social change were a subject of intense scientific and broader public debate and a highly contested arena of policy. In the last decades of the nineteenth century, Russia's governmental institutions, particularly at a local level, promoted public health reform as an essential component of the modernizing agenda. The centrality of health and sanitation in the vision of modernity led Russia's educated elites to see their mission as making the country and its population healthier in order to bridge the perceived gap with "advanced" Western societies. Historians of the late imperial period have shown that these questions were crucial for the professionalization of the Russian medical community; they were important drivers of local civic activism and political mobilization and, by the early twentieth century, also a sphere of interest for the central imperial government that would then culminate in the creation of the Main Administration of Public Health (Glavnoe Upravlenie Gosudarstvennogo Zdravookhraneniia), Russia's equivalent of a public health ministry, in 1916.[8] And, as in Western cities, these evolving public health concerns served as a justification for municipal intervention and for the introduction of social reforms, public services, and new infrastructures and influenced urban experience and urban environment in a multitude of ways.

Nineteenth- and early twentieth-century urban public health, environment, and infrastructural development in Western Europe and North America—and the emergence of what Martin Melosi has called the "sanitary city"—are the subject of a rich scholarship that has, in many ways, shaped the research behind this book. Urban, environmental, and public health historians have explored how and to which extent urban health landscapes and responses to sanitary problems were influenced by experts, politicians, and the public, by transnational scientific ideas and local

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politics, by the changing understandings of disease and the appearance of new technologies, and by all of these blending with more established cultural practices. Environmental historians discuss the impact of urban sanitary services, technologies, and public health measures on the more long-term patterns of urban development, on the environments in and outside the cities, and (increasingly so) also on the nonhuman entities of urban ecosystems.[9]

Although historians of late imperial Russia have studied public health on the national level, in relation to rural policy or in the context of specific diseases, urban public health has been little investigated in the anglophone scholarship.[10] The problems of urban pollution and sanitation have also been little studied by environmental historians of Russia, despite the fact that it has been a firmly established topic of environmental historiography on other regions.[11] Russian environmental history is clearly on the rise, but the imperial period has received comparatively modest attention beyond the prelude to the Soviet-focused studies and then mostly in the context of water, steppe, or forest environments of imperial borderlands rather than in cities.[12]

In the Russian language, there exists considerable scholarship on late imperial urban health and sanitation, including some on Moscow.[13] However, these studies are usually written from a perspective of local or institutional history, and their authors do not engage with the broader social and environmental impacts of sanitary policies or the transnational context of medicine, infrastructure development, and urban reform.[14] At the same time, there is growing interest in the history of imperial biological and environmental sciences, but there has been little research on how those sciences were integrated into the practice of urban health.[15] The nexus of urban, environmental, and public health histories of late imperial Russia remains underexplored.

Among Russian cities, Moscow, the second metropolis of the empire and Europe's sixth largest city in 1900, introduced the most extensive program of sanitary reforms. Those reforms created a new sanitary regime—the Russian version of the "sanitary city"—based on the medicalization of urban politics and the municipalization of public health when urban problems were increasingly interpreted through the lens of medical science and managed by medical professionals and where rapidly expanding sanitary services and health provisions were designed and delivered by the municipality rather than by the central state or private businesses. Despite its many shortcomings, controversies, and inconsistencies, this was an ambitious and innovative program with profound social and environmental effects, and this dynamic transformation is obscured by dry references to

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grim mortality and morbidity statistics that often guide the evaluation of such reforms in more general works on Moscow's urban history.

It is these reforms that are the subject of the present study. How and why did Moscow elites understand and engage with sanitary problems? Why did it happen at that particular moment? How did their responses to those problems affect the city, the lives of its inhabitants, and the environments around them? Who benefited from sanitizing Moscow, and who was excluded? How can one reconcile the sanitary reforms with Moscow's stunning mortality rates? Why was Russia's sanitary city so deadly?

One goal of the book is to revise the image of the sanitary reforms as being logical answers to the objective challenges of urbanization, industrialization, and the deteriorating environment and health. Instead, I show that, in Moscow, the reasons for the sudden public concern with pollution and sanitation were not so much biological as social and political. The interventions in public hygiene were determined not by the incidence of a particularly dangerous disease or the scale of an ecological problem but by their power to attract attention and to fuel relevant political debates over modernization, social progress and Europeanness. That is not to downplay the objective challenges that the Moscow government was facing. The critical, in fact, life-and-death urban problems in late imperial Moscow were very real, and so was the impressive program of sanitary reforms implemented by the municipality. However, as I reveal in this book, that program failed to address some of the most crucial and deadliest aspects of urban life, and it is impossible to understand this mismatch without considering the cultural factors and politics behind it.

Another goal is to place Moscow sanitary reforms into a broader transnational context of modern public health and urban development. In Russian studies, late imperial municipal public health is often viewed as a derivative and inferior version of the innovative system of community medicine pioneered by the rural zemstvos with their free health care and the emphasis on preventive work. Yet many of the challenges facing Moscow in the late nineteenth century were unknown to the zemstvo but were similar to those tackled in other rapidly growing cities across the globe. Although strong intellectual and direct personal ties between Russian rural and urban community medicine are undeniable, Moscow was also firmly involved in the networks of interurban exchange that historians have referred to as "transnational municipalism."[16] I argue that the competition and exchange with other cities was essential for shaping the politics of public health and sanitation that were envisioned as an instrument in overcoming Moscow's perceived "backwardness." These overlooked and unexplored transnational connections are crucial for understanding the trajectory of Moscow sanitary

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policies, which by the turn of the twentieth century significantly diverged from the zemstvo model toward a new approach based on technological solutions to sanitary problems.

Expanding the focus beyond the lens of Russian community medicine allows us to see whether and in which ways the sanitary movement in Russia was similar to such movements in the West. There has been considerable debate on the influence that the changing scientific epistemology, bacteriological discoveries, and the appearance of laboratory medicine had on the practice of public health in the late nineteenth century. In particular, historians working on Britain and France argue against the validity of the notion of "bacteriological revolution" as a radical and clear-cut shift that transformed every aspect of medical science and practice. Instead, they advocate a longer, more gradual and subtle evolution and a more "synthetic" vision of the relations between the new bacteriological knowledge and the older patterns of medical and sanitary work.[17] In the histories of Russian public health, however, bacteriology has been given a rather small part. Although scholars have noted the early reception of bacteriology by (some) Russian scientists, the focus on the zemstvo community medicine in the countryside led to downplaying the influence that bacteriology had on the public health work, at least before the first decades of the twentieth century.[18] By shifting attention to the urban context, in this book I offer a different, more nuanced perspective on the relations between bacteriology and sanitation and the role that the rise of the germ theory of disease and laboratory medicine played in the local practice of public health in Russia.

Finally, I want to emphasize that public health and urban sanitary reforms were themselves powerful forces in shaping the environment and human relations with the nonhuman world, that their impact went beyond the human and influenced other living beings. Imperial and urban reformers primarily had human health in mind, but those reforms were not about humans alone. Russian medical professionals placed human health inside an intricate web that connected natural, social, and political conditions, the physical environment, and animal health. By establishing new practices of disease prevention, setting new standards of cleanliness and construction norms, changing patterns of waste disposal, water usage, and dietary recommendations, the public health movement and specific sanitary reforms changed not only Moscow's urban space but also the way Russians thought about and dealt with environments outside the city. Although the human experience remains central to my project, I want to show how public health measures affected human interactions with (other) animals, ranging from extermination, exclusion, and relocation to the provision of advanced veterinarian health care.

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The book is divided into four parts. In the first part, I discuss why Moscow elites suddenly became interested in the environment and public health and provide the historical setting for the case studies that follow. In chapter 1, I explore how disease, pollution, and the environment became a matter of public concern in the 1870s and 1880s, and I examine the political, social, and scientific context of Moscow's reforms. In chapter 2, I offer a chronological overview of the Moscow sanitary project and highlight its evolution from the zemstvo model to a model based on specialized medical care and complex technological infrastructure. I describe the scope and key stages of the sanitary reforms and the discourses and politics behind them, including the changing relations between the imperial administration and the municipal government.

In the second part of the book, I study the problems of waste and water pollution with a focus on the Moscow sewage system (1887–1898), the largest and the most expensive infrastructural reform undertaken by the Moscow government. In chapter 3, I discuss competing projects of the Moscow sewage system in the context of transnational interurban exchange and the eventual choice of the separate system modeled on George Waring's design for Memphis, Tennessee. I show how striving for European metropolitan modernity together with the rise of the germ theory paradoxically led Moscow to adopt a design from a much smaller American city that was created by a supporter of the miasmatic theory of disease. In chapter 4, I explore what happened to waste in the Moscow sewage system, whose waste went in, where it ended up, and what it meant for the environments and peasant communities of the Moscow suburbs. In chapter 5, I investigate how the commissioning of the Moscow sewage system transformed the public debate, legal treatment, and policy toward the industrial pollution of waterways in the wider industrial region of Central Russia.

In the third part of the book, I examine the medicalization and industrialization of animal slaughter through the case of the Moscow abattoir (1886–1888), the project in which Moscow reformers took particular pride. In chapter 6, I study the origins of the livestock slaughtered in Moscow. I tell the hitherto unknown history of Russian cowboys who were driving cattle to Moscow markets from the steppe regions north of the Black Sea, the Caspian, and even from Central Asia, and I discuss the part that medical considerations and policies played in shaping this process. In chapter 7, I analyze slaughterhouse reform in Moscow, the motivations behind it, the built environment of the abattoir, as well as the medicalization of animal slaughter and its influence on disease control in Moscow and the distant stock-raising regions. Drawing on the rich correspondence between the abattoir's management and the Russian Society for the Protection of Animals,

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in chapter 8 I unravel the approaches to animal rights and welfare in tsarist Russia and show that the debates about the well-being of animals and humans were tightly linked.

In the last part of the book, I investigate what I consider to be a major paradox of the Moscow sanitary project—the problem of children's health in the city—through the lens of two contrasting cases. In chapter 9, I examine the high infant mortality rate in Moscow, which played a dominant role in the city's general mortality statistics and, therefore, in the overall evaluation of the Moscow sanitary project. I discuss the social and environmental factors that contributed to this extreme mortality and the measures the municipal government did and did not introduce to control it. Finally, in chapter 10, I look at the emergence of school hygiene and school sanitary inspection in Moscow (1889) at the same time as primary education was dramatically expanding in the city. By analyzing the daily work of school sanitary doctors in Moscow, I explore how medical professionals shaped the school environment and, through it, the experience of schooling and urban childhood more broadly.

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