



"People Arrive but the Land Does Not Move"

**NOMADS, SETTLERS, AND THE ECOLOGY OF
THE KAZAKH STEPPE, 1870–1916**

SARAH CAMERON

WHEN THE Bolsheviks seized power in October 1917 they did not begin with a blank slate. Rather, they contended with a range of political, social, economic, and ecological changes put in motion by the fallen Russian Empire as well as by the catastrophe of total war. The role that these legacies played in shaping the formation of the new Soviet state has been explored in numerous studies with a focus on political, social, and economic factors.¹ By contrast, the ecological legacies of Russian imperial rule and the ways in which they influenced the development of the Soviet state have remained relatively unexplored. This omission is particularly surprising given the outsized role that agriculture was to play in Soviet history. The Soviets adopted a particular form of modernization, one built upon the backs of the peasantry. The fate of industry was closely intertwined with that of agriculture and vice versa. The first decades of Soviet rule were scarred by food shortages and famine, most notably the 1917–1920 famine in Russian Turkestan, the 1920–1921 famine in the Volga and Ural River regions, and the collectivization famines of 1930–1933, which hit Ukraine, Kazakhstan, the Volga Basin, and the Don and Kuban regions of the North Caucasus with particular intensity. Millions perished in these famines,

and the resultant upheaval would profoundly influence the trajectory of the new Soviet state.

To illustrate the promises that an ecological approach to the 1917 divide holds for Russian and Soviet history, in this essay I focus on one collectivization famine, the Kazakh famine of 1930–1933.² Although this famine is little known to most scholars in the West, its effects were catastrophic. More than 1.5 million people perished, one-quarter of Soviet Kazakhstan's total population. Over a million refugees fled abroad or to neighboring Soviet republics, many resettling there permanently. Prior to the famine, most Kazakhs practiced pastoral nomadism, a way of life characterized by seasonal migrations along predefined routes to pasture animals, including horses, sheep and camels. But during the crisis, some 90 percent of the republic's livestock herds perished. Due to death of their herds (the basis of their nomadic existence), Kazakhs were forced to abandon their nomadic way of life for a settled one, a process that sparked a painful and far-reaching reorientation of Kazakh identity. The famine transformed Kazakhs from a pastoral nomadic society into one that was largely sedentary.

Like the better known famines that afflicted Ukraine, the Volga Basin, and the Don and Kuban regions of the North Caucasus during the early 1930s, the most important cause of the Kazakh famine of 1930–1933 was forced collectivization. Under the auspices of Stalin's first Five-Year Plan, a far-reaching program to transform the economy and society of the new Soviet state, activists shunted nomads into collective farms and collected onerous grain and meat procurements, programs that quickly sparked hunger. But the legacies of Russian imperial rule—principally, changes induced by massive peasant colonization of the Kazakh Steppe during the late nineteenth and early twentieth centuries—intensified the effects of the Soviet regime's brutal collectivization policies.³ These changes, which included shifts in the diet and migration patterns of Kazakh nomads and ecological changes in the steppe itself, affected Kazakhs' ability to command food (what the famed theorist of famine Amartya Sen would refer to as "entitlements"), making Kazakhs more susceptible to hunger.⁴ Although Moscow's assault on the countryside was the primary cause of the Kazakh famine, the legacies of Russian imperial rule must be considered an important contributing factor.

To date, most existing studies of the Soviet collectivization famines adopt a political, state-centered approach, focusing closely on the period following Moscow's launch of forced collectivization in the winter of 1929–1930. Their authors analyze Moscow's actions immediately prior to the outbreak of famine and during the crisis, with an eye to unearthing how these decisions, such as the levying of additional grain procurements or the distribution of food aid, might have contributed to or mitigated hunger.⁵ The politicized nature of

the Soviet collectivization famines has played a major role in the adoption of this particular approach. Both Kazakhs and Ukrainians suffered disproportionately because of famine, outcomes that raise the issue as to whether Stalin sought to use famine to punish particular ethnic groups. Buoyed in part by an active Ukrainian expatriate community, the question of whether the Ukrainian famine should be considered a genocide has been the subject of polemical long-running debate in the West.⁶

Close scrutiny of Moscow's decision making is essential to understanding the nature of these crises, and it is doubtful that famine would have broken out anywhere in the Soviet Union from 1930 to 1933 without the Soviet regime's violent assault on the countryside.⁷ But to fully understand the terrifying toll of the Soviet collectivization famines, we also need to add a broad array of environmental issues, from ecological change to alterations in land use patterns and food distribution networks, to the list of the legacies of Russian imperial rule. These questions help us assess the vulnerability or resilience of particular groups to hunger, thereby revealing the role that Russian imperial rule played in shaping the character and intensity of the Soviet famines.⁸

This approach would bring the study of the Soviet collectivization famines into conversation with a broader literature on comparative famines, which has shown how both abrupt change and slower moving structural processes can combine to produce a famine.⁹ The adoption of an ecological approach that includes Russian imperial rule also offers scholars a chance to examine similarities and differences between the Russian Empire and the Soviet state. When examined through this lens, some of the Soviet regime's interventions—such as the tightening of border controls, which reduced the pasturage available to pastoral nomads—appear more an amplification or intensification of Russian imperial techniques rather than something "uniquely" Soviet.

Adopting an environmental methodology, I illustrate how the Soviet Kazakh famine of 1930–1933 was profoundly shaped by the legacies of Russian imperial rule, specifically the period 1896–1916, when more than 1.5 million peasants from European Russia settled the Kazakh Steppe.¹⁰ In a historic shift this territory, a place long synonymous with pastoralism, became a mixed economic region, one populated by large numbers of settled, agrarian peoples in addition to pastoralists. Although the available data does not allow a full investigation of ecological change in this period (the systematic collection of temperature and precipitation data in the Kazakh Steppe began only in the late nineteenth century), other materials, including archival sources and ethnographic accounts, illustrate important shifts in the relationship among humans, animals, climate, and environment.¹¹ I find that these changes would make Kazakh nomads particularly susceptible to famine.

KAZAKH NOMADS AND THE KAZAKH STEPPE

The practice of pastoral nomadism has a long history in the steppe zone of Central Eurasia, dating back at least four millennia.¹² For many, the history of the steppe is synonymous with nomadism, and it conjures up images of mounted, raiding warriors who wandered free from the trappings of settled life. But as researchers have shown, the history of pastoral nomadism in Central Eurasia is far more complex than an image of wandering, raiding peoples might suggest. Throughout the centuries, nomadism did tend to be the predominant economic activity in the steppe zone, with sedentary populations concentrated in oases or irrigated river valleys. But the environmental constraints on sedentary agriculture in this region were neither precise nor immutable.¹³ Nor was the practice of pastoralism itself either timeless or unchanging. Pastoral nomads regularly adapted their practices according to opportunities and risks. Environmental changes such as shifts in temperature or precipitation could cause some pastoral nomads to migrate year-round rather than seasonally. Social and political changes such as the intrusion of new peoples or shifts in political structures could prompt pastoral nomads to increase or decrease their reliance on animal herding in favor of other economic strategies such as agriculture or hunting.¹⁴ Pastoralists regularly sought to alter the landscape of the steppe to suit their needs by burning areas of the steppe to prevent the spread of shrubs and trees or by constructing wells to tap groundwater reserves.¹⁵ In this region, humans, animals, environment, and climate were connected in an intricate and mutually transformative relationship.¹⁶

The origins of the Kazakhs, a Muslim Turkic-speaking group, date to the late fifteenth century when Janibek and Kirey, sons of Barak Khan of the White Horde of the Mongol Empire, broke away from Abu'l-Khayr, khan of the Uzbeks, forming what came to be known as the Kazakh khanate. According to popular tradition, in the late sixteenth century the Kazakh khanate split into three supra-tribal confederations, each of which was known as a horde (*zhüis*). Over time, the Elder (*ulu*) Horde came to control Semirech'ë, the Middle (*orta*) Horde the central steppe and southwestern Siberia, and the Little (*kishi*) Horde the west of the steppe.¹⁷ By the early eighteenth century, the Kazakh khanate began to fragment further, as it came under sustained attack from several nomadic confederations. In the eighteenth century Russia completed the construction of a defensive perimeter manned by Cossacks across the northern reaches of the Kazakh Steppe. Then, in the nineteenth century, as the disorder in the Kazakh hordes increased, Russia began to tighten its hold over the Kazakh Steppe. By the late nineteenth century the Russian Empire's incorporation of the lands of the three Kazakh hordes was complete.

By this time, the region where Kazakh nomads could be found comprised

several ecological zones, including steppe, desert steppe (sometimes referred to as the "semi-desert"), desert, and mountains.¹⁸ The steppe zone lay north of the Aral Sea and south of the forests of western Siberia. It formed part of a larger steppe belt of grasslands stretching across the Eurasian continent. The desert steppe and desert zones that Kazakh nomads frequented lay south of the steppe zone. They encompassed several major arid areas, including the Betpak-Dala, the Üst-Yurt plateau, the Qara-qum at Aral Sands and part of the Qizil-qum desert. The Betpak-Dala (the ill-fated steppe), the largest of these territories, was an immense plateau located between the Sary-Su River in the west and Lake Balkhash in the east. Today, this territory, which is also known by a Russian name *Golodnaia step'* (the hungry steppe), lies at the heart of contemporary Kazakhstan, just south of the city of Karaganda.¹⁹ The Üst-Yurt, a smaller plateau, lay between the Caspian and Aral Seas. The other two major arid areas where Kazakh nomads could be found, the Qara-qum at Aral Sands and the Qizil-qum, were classical deserts, with unsecured shifting sands.²⁰ Finally, there were two mountain ranges, the Tian Shan Mountains in the southeast and the Altai Mountains in the east, at the edges of the desert and the desert steppe zone. The area around these mountain ranges generally received more precipitation than the surrounding zones, and the Tian Shan overlooked a particularly fertile region, known as *Zheti-su* or *Semirech'e* (seven rivers). With the exception of the mountain ranges, the distinctions among these zones were not precise: the climates of steppe, desert steppe, and desert were closely related to one another, and the borders of these ecological zones could also shift over time because of environmental change.²¹

All of these zones had a sharply continental climate, with hot summers and very cold winters. Given the region's continentality (or distance from oceans), its climate was much harsher than similar zones further west in European Russia. Winter temperatures could dip below -40 degrees Fahrenheit, while summer temperatures could reach well over 100 degrees Fahrenheit. Only the southern reaches of the steppe, such as the city of Vernyi (present-day Almaty), enjoyed average January temperatures above freezing.²² The region's precipitation was shaped by winter westerlies from the Atlantic. Shifts of the North Atlantic Oscillation (NAO) determined the distribution of this rainfall over the centuries. A negative NAO mode might bring ample rainfall to the region, while a positive NAO mode brought little rainfall. During the Little Ice Age (roughly 1500-1850 CE), the steppe appears to have enjoyed plentiful rainfall. By the late nineteenth century, however, the climate of the steppe was entering a warm dry phase.²³ Aridity had become one of the Kazakh Steppe's defining features.

Not only was the amount of rainfall low but rainfall patterns in the Kazakh Steppe were more unstable than in the steppes in the European part of Rus-

sia. The amount of rain might fluctuate dramatically from year to year and from season to season. For the desert and desert steppe zones, the period of maximum precipitation was generally in the spring, with the hot dry summers bringing little or no rainfall. By contrast, the wettest period for the steppe zone was usually the summer. Thus, seasonal vegetation such as grasses appeared first in the desert and steppe desert zones and only later, in June and July, in the steppe zones.²⁴ The overall amount of yearly rainfall decreased markedly the farther south one traveled, from steppe to desert steppe to desert. The steppe might receive between ten to twenty inches of rain, the desert steppe six to ten inches, and the desert less than four inches. In each zone, the most important indicator of climate was not the amount of rainfall but, rather, the ratio of precipitation to evaporation, which was generally quite low. Because of long, sunny cloudless days and high temperatures, the rain that fell in these regions usually evaporated quickly.²⁵

In the north, the region had *chernozem*, or “black earth” soils. These contained a high percentage of humus and could produce good agricultural yields. Chestnut soils could be found further south, in the desert steppe zone. Like the black earth soils, chestnut soils could be quite fertile, yet they had far less humus than black earth soils, and repeated plowing could quickly exhaust their fertility. Two other soils, *solonchak* and *solonetz*, were sprinkled throughout, occurring with greater frequency in the desert and desert steppe regions. Solonchak soils were formed as groundwater rose to the surface. As this water evaporated, it left white salty patches across the surface of the soil. Solonetz soils were solonchak soils that had been leached through irrigation or increased rainfall. As water passed through the soil, sodium carbonate formed, and the soil became alkaline. Neither of these soils was fertile, but their distribution was uneven—chestnut soils could be interspersed with solonetz and solonchak soils—and changeable, as weather or irrigation patterns shifted.²⁶

To utilize this landscape Kazakh nomads migrated along predetermined routes to pasture their animal herds. These migrations were not carried out by individual households but, rather, were conducted in small groups, nomadic encampments known as *aul*. Each aul was generally made up of two to eight households, and together all the members of the aul assumed responsibility for the care of their herd. The number of animals associated with a given aul varied widely (sheep, for instance, generally took less effort to tend than horses), and these numbers could also fluctuate, depending upon seasonal or environmental variations. New auls could form when animal numbers grew too large to be supported by the original aul’s pastures.²⁷

Most auls pastured mixed herds, rather than relying on a single type of animal. Given the steppe’s climate, animals that could travel great distances and

easily paw at fodder trapped under the snow, such as sheep and horses, were of particular importance. Sheep were raised for their mutton and wool, and horses were prized for their meat and fermented mare's milk (*qimiz*; Russian, *kumis*), in addition to serving as a source of transport for people and goods. The camel, an animal ill-suited to uncovering fodder trapped under snow, was much less common than sheep or horses in the Kazakh Steppe. Camels, however, could be found in the west of the steppe. In this arid region, the camel was the sole animal capable of sustaining long journeys and, by extension, was the only means of transporting goods.

Kazakhs' migrations were seasonal, and they followed the appearance of vegetation in the steppe, assuming a circular south-to-north-to-south pattern. Each aul generally had separate spring (*köktau*), summer (*zhaylau*), fall (*küseu*), and winter (*qistau*) pastures. The summer pastures were particularly important, as they provided the thick grasses that were necessary for fattening the nomads' livestock. In the winter months it was critical to find a sheltered pasture, one where the snow was not too deep and the animals might find some relief from the wind and the cold. Both the spring and the fall pastures were usually located close to the winter pasture. Nomads would bring their herds to the spring pasture when the snow had melted but before the summer pasture's grasses had begun to bloom. When the vegetation in the summer pasture began to fade, they would move their herds to the fall pasture, then migrating to the winter pasture with the first snowfall.²⁸ To supplement their practice of pastoralism, many Kazakhs regularly incorporated other activities, including trade, hunting, and seasonal agriculture.

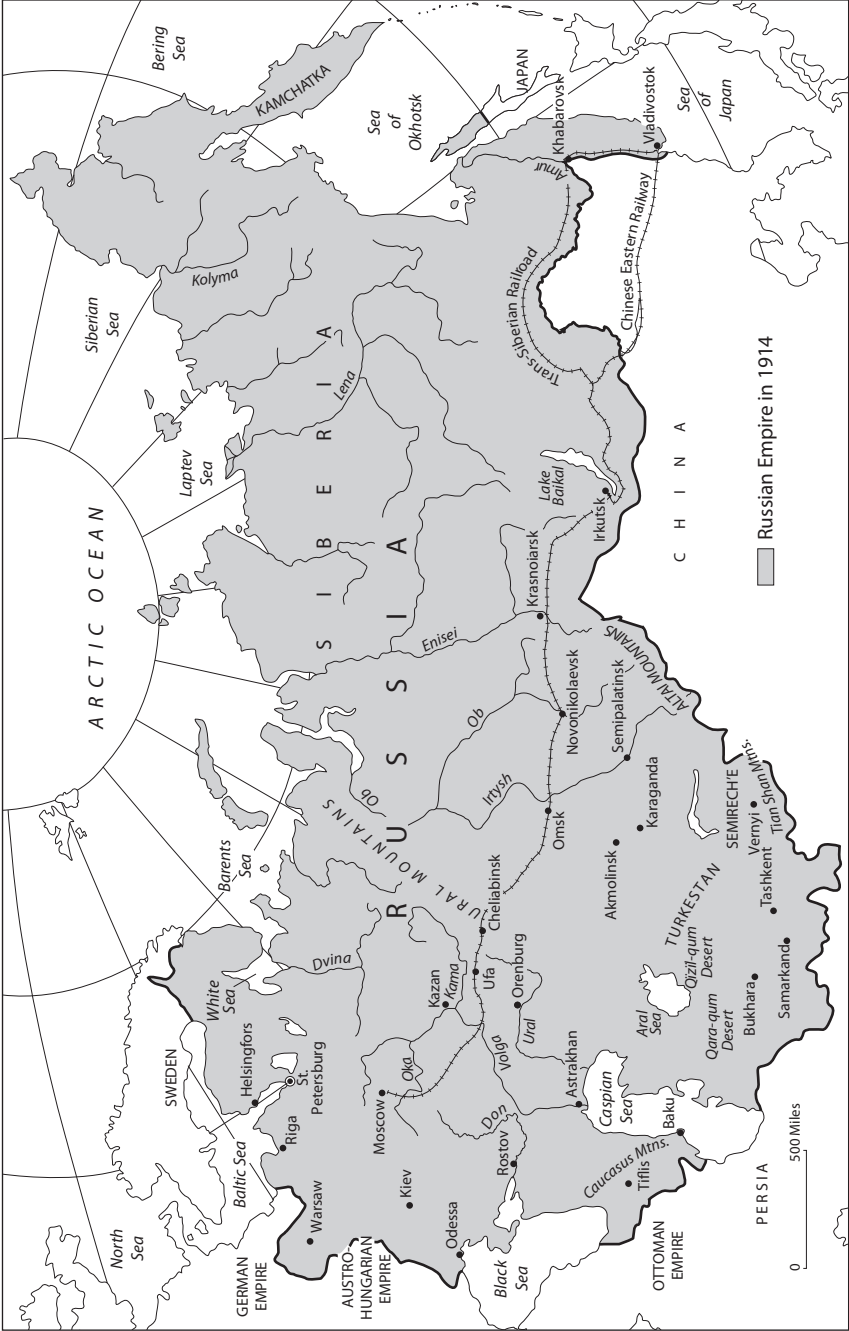
Kinship, Kazakhs' allegiances to particular clans, was an important source of identity, in addition to governing crucial economic aspects of pastoral nomadic life. In a practice known as *ata qonıs*, individual clans claimed grazing rights over particular pastures, and these privileges were then passed down along genealogical lines. When nomads' migration routes were disrupted or pressure on pastures increased, such as during the Zunghar invasion of the steppe in the eighteenth century, the leaders of various clans would meet to reallocate the usage of pastures.²⁹ Pastoral nomads also relied upon practices of mutual aid as protection against the steppe's regular occurrences of drought and *zhūt*, the periodic frost of ground cover that could result in massive herd losses.³⁰ In *saiın berü*, a Kazakh with large numbers of cattle might loan a poorer kin-member a milk cow for the winter. This poorer kin-member would be responsible for pasturing and feeding the cow, yet he would gain the benefits of its milk and, potentially, its offspring. Such mutual aid practices constituted a necessary survival strategy in a landscape where distinctions between "rich" and "poor" could shift rapidly over the course of a single season.

THE ARRIVAL OF "THOSE WHO CAME WITHOUT INVITATION"

The settlement of the Kazakh Steppe by Slavic peasants was part of a broader migration of Slavic peoples to Siberia, the Russian Far East, and Central Asia during the late nineteenth century.³¹ In the aftermath of the emancipation of the serfs in 1861 many peasants—known as *samovol'tsy*, or "self-settlers"—came illegally, seeking fertile lands to farm and relief from the poverty and land hunger that characterized peasant life in parts of European Russia. By 1889 St. Petersburg, seeking to regulate this flow of migrants and convinced of the civilizing role that Slavic settlers could play in these regions, issued the Resettlement Act. This act marked the first central government effort to coordinate this migration. It codified settlement as official state policy, setting up settlement programs in European Russia, Western Siberia, and the *oblasti* (provinces) of Akmolinsk, Semipalatinsk and Semirech'e. In 1893 construction on the Trans-Siberian Railroad began, and one of the last remaining obstacles to large-scale peasant colonization of these regions, the arduous trip across European Russia by oxen and cart, was erased (see map 3.1).

There was a close relationship between peasant settlement and the ecological conditions of the Kazakh Steppe. By 1898 the area where many Kazakhs migrated had been split into several different administrative regions: The Steppe Governor-Generalship, which roughly corresponded to the northeast of the Kazakh Steppe (the *oblasti* of Akmolinsk and Semipalatinsk); the Governor-Generalship of Turkestan, which included, among other parts of southern Central Asia, the *oblasti* of Semirech'e, Syr Darya, and Transcaspia, all of which had large numbers of Kazakh nomads; and Turgai and Ural'sk *oblasti*, which were not part of any larger administrative unit.³² In the steppe provinces, peasant settlement came to resemble a belt, which corresponded to the amount of annual rainfall that the land received. With its fertile soils Akmolinsk oblast quickly became the favored destination for peasant settlers. Over time the northern reaches of Turgai, Semipalatinsk, and Ural'sk *oblasti* also became important sites of settlement. But because of the lack of rainfall, few settlers could be found further south within these *oblasti*, and the eight-inch annual precipitation line roughly marked the southern extent of peasant settlement in these provinces.³³

Further south in Russian Turkestan, the pattern of settlement in Kazakh lands was a bit different, but it was also closely linked to the region's environmental conditions. Fearing the potentially disruptive effects of large-scale peasant settlement in this region, administrators had closed Turkestan to settlement in 1896, adding Semirech'e to this list when it was returned to the auspices of the Governor-Generalship of Turkestan in 1898. But *samovol'tsy*



MAP 3.1. The Russian Empire, c. 1914.

continued to arrive and the pressure for new, fertile lands grew. In 1890–1891 parts of European Russia experienced a devastating famine, and impoverished, starving peasants fled as far south as Turkestan in search of better lands. In 1910, as part of the far-reaching agrarian reforms spearheaded by Prime Minister Petr Stolypin, St. Petersburg permanently lifted the ban on settlement in Turkestan. Settlers concentrated heavily in Semirech'e, with its abundant rainfall and good soils, and to a far lesser extent in the river valleys of Syr Darya. Its aridity, extreme heat, and poor soils meant that few settlers colonized Transcaspia, and this oblast was largely untouched by the phenomenon of peasant settlement.³⁴

The peasants who settled in Turkestan or the steppe provinces came primarily from the middle Volga and the left bank of Ukraine.³⁵ But within these peasant communities, there were differences. Those who had settled the steppe at the beginning of this migration tended to be known as the *starozhily* (old-timers) while more recent arrivals were often referred to *novosely* (new settlers).³⁶ In Semipalatinsk oblast, a group of peasants, including many Old Believers, migrated to the Altai Mountains. They became known as the "Altai peasants" or the *kamenshchiki* (stone people), and over time they developed traditions distinct from other peasants in the region.³⁷ Kazakhs referred to all these peasant settlers by a number of nicknames, including *qarashekipendiler* (black coats, a reference to the peasants' traditional dress) and, more snidely, *kelsimsekte* (those who came without invitation).³⁸

Peasants found the land they occupied in various different ways. Some contracted with land scouts (*khodoki*), who would arrange for the rental of suitable land from Kazakh or Cossack communities prior to their arrival. After the legalization of this practice, scouts could enroll migrants directly in government-surveyed areas.³⁹ As part of an effort to solidify the Kazakh Steppe's new border with China, officials offered special subsidies to those who settled in the eastern parts of Semirech'e and Semipalatinsk oblasti.⁴⁰ The most destitute arrivals simply poured into existing peasant settlements. Once there, they often appropriated "unused" pasturelands from nomads' seasonal migration routes, and frequent conflicts over land, water, and livestock rights broke out. These tensions, as well as fears about the peasants themselves, particularly their poverty and supposedly uncivilized nature, caused regional officials to plead, albeit unsuccessfully, with the Internal Affairs Ministry to halt the flow of settlers.⁴¹ The Kazakh saying "khaliq osedi, zher ospeidi [people arrive, but the land does not move]" hints at the overcrowding that occurred on particularly fertile lands.

Upon arrival settlers struggled to cope with severe problems such as droughts, frosts, and plagues of locusts. In 1891, after several years of poor harvests, the Governor-Generalship of the Steppe temporarily closed the steppe

to colonization.⁴² In 1907 settlers in Semirech'e suffered from droughts and destitution so severe that officials in the region began to organize food aid.⁴³ That same year a detachment of the Russian Society of the Red Cross, after surveying the steppe region, observed that there were people in every village suffering from scurvy because of a poor diet.⁴⁴ In 1911 part of the Kazakh Steppe experienced a severe drought. Officials in Omsk *uezd* (district) estimated that the harvest of wheat and other grains was 80 percent less than the previous year. These harvest failures meant that peasants were not able to collect enough seeds for the following year's sowing or sufficient hay to feed their livestock. During the drought the grass on the steppe perished, and peasants' livestock sickened from eating it.⁴⁵

These environmental challenges, as well as other factors such as conflict with local officials and Kazakh nomads, caused large numbers of settlers—perhaps more than 20 percent—ultimately to return to European Russia prior to 1917.⁴⁶ Many of those who remained sought to diversify their activities, moving away from an exclusive focus on grain farming as a way to manage hazards such as drought. Some peasant settlements in Turgai and Semipalatinsk oblasti were primarily or exclusively focused on livestock production rather than grain farming.⁴⁷ With the construction of the Trans-Siberian Railroad and the introduction of ferry service along the Irtysh River in the 1880s, settlers began to import new technologies to the Kazakh Steppe, including mechanized means of clearing hay (*senokosilka*) and heavy iron plows that could break up the sod more effectively than wooden plows.⁴⁸ Settlers' continuing ties with regions in European Russia, including the travel back and forth of family members, brought to the steppe new seeds (especially hardier varieties of wheat, the settlers' favored crop) as well as animal breeds, most notably the black sheep prized by Russians and Cossacks.⁴⁹

As peasant settlement continued, Kazakhs began to adapt their practice of pastoral nomadism to the changing environmental, political, and social circumstances of life on the steppe. The demarcation of borders and the physical presence of areas of Slavic settlement meant that Kazakh nomads could not use the land as they had previously. In Akmolinsk and Semipalatinsk oblasti, where many Middle Horde Kazakhs migrated, nomads began to cultivate hay as a source of winter fodder, to compensate for the loss of some of their pasturelands. To protect these hay fields and their winter pastures from encroachment by peasants or other nomads, some Kazakhs began to spend nine months of the year on their winter pastures, migrating just a short distance to their summer pastures in the remaining three months.⁵⁰ Some Little Horde Kazakhs, by contrast, increased the length of their seasonal migrations, as peasant settlement forced them to travel farther in search of reliable water sources and good pasturelands.⁵¹

Many pastoral nomads changed the composition of their herds in part because of this shift in land use practices. Those Kazakhs who had shortened their migrations began to include animals suited to minimal migrations, such as cattle, followed by sheep and then horses. Prior to the late eighteenth century, cattle had not formed a major part of Kazakhs' herds. They were difficult animals to herd across long distances, and compared to sheep or horses their grazing habits could be fickle; cows tended to subsist entirely on the top layer of grass rather than grazing more intensively.⁵² But in a significant shift, cattle now constituted an important part of many Kazakh nomads' herds.⁵³ By contrast, the numbers of camels in the steppe began to decline, as fewer nomads were able to carry out the long migrations needed to pasture them.⁵⁴ Although the steppe's overall animal population was growing rapidly, the number of animals that a particular aul pastured was going down, as few auls were able to sustain the long migrations needed to pasture large herds.⁵⁵

Russian imperial officials anticipated that peasant settlement would encourage Kazakhs to abandon their nomadic way of life for a settled one, a goal that St. Petersburg had pursued to varying degrees since the reign of Catherine the Great. The spread of agriculture, it was believed, would "civilize" native peoples and make the lands in these regions "more productive."⁵⁶ The ideas of evolutionary theorists, who held that disappearance of nomadic life was part of the inevitable outgrowth of modernity—as a lower civilizational form, nomadism, gave way to a higher one, settled life—underpinned and buttressed such assumptions. But Kazakhs' responses to peasant settlement did not always take the form that St. Petersburg might have hoped. In 1906, at a meeting of the Turgai oblast administration on the question of land apportionment, officials noted that many Kazakh households in Kustanai and Aktiubinsk uezdy had begun to plow up their pastures for grain, an outcome that seemed to confirm the predictions of those who had heralded the end of nomadism. On closer inspection, however, they discovered that the Kazakhs in these districts had secretly rented these lands to Russian settlers, who were farming them. They concluded: "In spite of the growth of agriculture, the Kirgiz [Kazakhs] in these districts are a long way from giving up nomadism."⁵⁷ Although most nomads began to reduce their mobility, they also adopted a number of other strategies, such as the rental of their pasture lands, to maintain their nomadic way of life and adapt to the changing social, political, and environmental circumstances of life on the steppe.⁵⁸

In addition to the rental of their pasturelands, Kazakhs increased their trade with Russia. This steppe trade was distinct from the caravan trade between Russia and Central Asia that passed through the Kazakh Steppe, and it had grown in importance as the Russian empire advanced into the region.⁵⁹ Kazakhs sold live animals as well as animal products such as hides, butter, and wool, and

they purchased items such as grain, tea, kerosene, matches, pottery, and Russian manufactured goods from traders, mostly Muslim merchants. This trade was conducted near areas of peasant or Cossack settlement—at seasonal trade fairs or deep within the steppe itself at so-called mobile markets, where traders would travel with nomadic encampments. The biggest markets tended to take place at the end of the spring, just as the livestock was beginning to gain weight, and in the fall, so that Kazakhs did not have to pasture these animals over the winter.⁶⁰ By the late nineteenth century, Kazakhs became increasingly focused on raising animals for Russian markets. They sold them directly to Slavic peasants or to traders who, with the construction of the Trans-Siberian Railroad, shipped them to consumers in European Russia. The railheads of Omsk and Petropavlovsk became centers for this trade. In 1908 the steppe provinces and parts of Russian Turkestan exported 400,000 head of livestock, 6 million hides and skins, and nearly 6,000 tons of meat by rail to European Russia.⁶¹ This trade almost certainly played a role in shifting the composition of Kazakhs' herds, as cattle were more sought after by Russian consumers.⁶²

St. Petersburg had promoted the steppe trade as early as the reign of Catherine the Great. It was profitable—Russian officials obtained livestock cheaply and they offloaded grain that otherwise would have been difficult and expensive to transport back to Russia—and it was believed that the growth of this grain trade would help "civilize" Kazakhs, making them into loyal subjects of the empire.⁶³ During the period of intense peasant settlement (1896–1916), officials continued to link the consumption of grain with the adoption of sedentary life. In 1907, as part of a survey of Kazakh land use practices in Ak-molinsk oblast, the statistician V. K. Kuznetsov proclaimed: "The mass of the population has gradually given up a purely nomadic way of life, relying on new means of existence and at the same time adopting the habits of a more cultured way of life, particularly the consumption of grain."⁶⁴ The "ancient Kazakh diet [*starinnaia Kirgizskaia pishcha*]" of meat and fermented mare's milk (*qimiz*), he predicted, would soon give way to a diet based primarily upon grain and cow's milk.⁶⁵

Previously, Kazakhs' diet had been based upon meat and milk products from sheep, horses, and to a lesser degree, camels. Meat was the primary focus, and the consumption of meat depended upon one's social position, with better-off nomads consuming more meat. During the late fall, Kazakhs would slaughter a portion of their herds. This meat would then be preserved for use during the winter, a process known as *soghim*. During the warmer months (from April to October), when their animals produced fresh milk, Kazakhs shifted their diet and relied to a greater extent on milk products. They consumed soured milks, such as *qimiz*, *shubat* (fermented camel's milk), and *ayran* (fermented sheep's milk), as well as a variety of cheese and butter products.

Kazakh nomads supplemented this meat- and milk-based diet in various ways. Some hunted or fished, while others consumed limited amounts of grain.⁶⁶

There is evidence to suggest that Kazakhs' diet began to change as economic practices in the steppe shifted in the late nineteenth and early twentieth centuries. After a series of food crises in the 1830s and then again after the disastrous 1891 famine, the Russian state had become increasingly interested in managing the food supply in the Russian countryside. Officials began to discuss the relationship between food and health, in an effort to halt further outbreaks of famine. By the 1880s local government (*zemstvo*) officials began to collect data on peasants' food consumption in an effort to understand exactly how much food peasants needed to survive. Armed with this data, these officials sought to develop a consumption model that would be applicable to all of Russia and indicate what types of foods needed to be produced and how much of this food could be sold.⁶⁷

By contrast, nomadic nutrition was far less well understood. The Kazakh Steppe, like many other non-Russian parts of the empire, did not have *zemstva*. However, the various statistical expeditions tasked with understanding how much land nomads needed to survive also collected limited data on nomads' consumption habits, which they sought to compare to those of "standard"—that is, settled—households. In 1907 Kuznetsov found that Kazakhs in Kokshetau *volost* (canton) consumed less food than they had in 1896. In addition, Kazakhs consumed a substantial amount of grain, but their consumption of meat had declined dramatically (see Table 3.1).⁶⁸

Although Kuznetsov tried to explain these declines by pointing to various inaccuracies in the data, he concluded: "the nourishment of nearly half of the Kirgiz [Kazakh] population does not reach an average level."⁶⁹ Though Kuznetsov's data is taken from an area of intense peasant settlement, Akmolinsk oblast, during a year when parts of the Russian empire suffered from famine, it hints at the various ways that Kazakhs' diet had begun to change. Overall, Kazakhs consumed less food, making them more vulnerable to famine. Grain had come to constitute an important part of their diet. Some Kazakhs grew this grain themselves, but most acquired it through trade with settled populations.

During the last decades of the Russian Empire, the Kazakh Steppe's human and animal population grew dramatically. In the course of twenty years (1896–1916), the number of people living in the steppe increased by over two million, and three-quarters of these new arrivals were Slavic settlers.⁷⁰ In one decade (1906–1916) the number of livestock in the northern provinces of the Kazakh Steppe grew by nearly three million, an increase of 79 percent. In Akmolinsk oblast, the situation was particularly pronounced. Livestock numbers increased 135 percent during that same ten-year period.⁷¹ Several factors help explain this tremendous growth in human and animal population, includ-

TABLE 3.1. The Consumption of Food Products in Kazakh Household Budgets

NAME OF THE GOOD	THE CONSUMPTION OF FOOD PRODUCTS IN HOUSEHOLD BUDGETS	
	1907	1896
Grain	1	119.6
Meat	55.3 kg	144.1 kg
Butter and cheese	12.7 kg	16.2 kg
Fermented mare's milk	17.4 buckets	19.7 buckets
Milk (cow's milk, sheep's milk, goat's milk)	19.5 buckets	30.2 buckets

ing the influx of new peoples, Kazakhs' growing involvement in the livestock trade, and the relative absence of warfare on the steppe in comparison with the eighteenth century.⁷²

This rapid human and animal population growth placed greater stress on the steppe's environment. With more livestock, pastures were being used far more frequently, and many settlers did not practice crop rotation. Once the fertility of a piece of soil was depleted, they moved on to plow other lands, and soil exhaustion became a problem in areas of heavy peasant settlement.⁷³ Kuznetsov argued that the steppe's population increase had worsened the overall conditions of the region's water supply: "Everywhere the woods are thinning out and with each year they are depleted more and more, threatening the deforestation of whole large areas and increasing the natural desiccation of bodies of water."⁷⁴ As the steppe's animal population grew and these herds came into close proximity to one another, epizootics (large-scale epidemic outbreaks of disease among animal populations) became more likely. In 1890 officials in Akmolinsk oblast reported that thousands of livestock had died from Siberian anthrax (*Sibirskaiia iazva*) and the plague (*chuma*).⁷⁵ In 1911 a large epizootic led to the death of over a thousand head of cattle in Ust' Kamenogorsk, part of Semipalatinsk oblast.⁷⁶

By the early twentieth century, the most striking phenomenon was a trend toward the settlement of the Kazakhs.⁷⁷ Russian imperial officials noted the appearance of *dzhataki*, poor Kazakhs without livestock. These Kazakhs could be found near areas of Russian settlement, where they worked as hired laborers.⁷⁸ In other cases, nomads began to maintain just two types of pastures, summer and winter, instead of a pasture for each season. With this decrease in mobility, pastoralists began to rely less on their yurts during the colder months. They constructed semi-permanent adobe dwellings (*zimovki*), as well as shelters for

their animal herds on their winter pastures.⁷⁹ The crisis of 1914–1924, which included the effects of the First World War, famine, and civil war further accelerated this process of nomadic settlement. But by the 1920s nomads who migrated year-round could only be found in areas that had few settlers, such as Transcaspia, populated by Little Horde Kazakhs. A minority of Kazakhs, perhaps less than 10 percent, had settled. The vast majority of Kazakhs continued to rely on the practice of pastoral nomadism. However, they had begun to shorten their migrations and, to a greater degree than before, supplement their practice of pastoralism with other activities, such as trade and agriculture.⁸⁰

CONCLUSIONS

Although many Russian imperial observers had predicted that Kazakhs' pastoral nomadic way of life would disappear as a result of peasant colonization, the vast majority of Kazakhs still practiced pastoral nomadism on the eve of Soviet rule. Historically, pastoral nomads in Central Eurasia had relied on various strategies to adapt to changing political or environmental conditions, and Kazakhs responded to the challenge of Slavic settlement by limiting their mobility, increasing the level of their trade with Russia, and renting out some of their pasturelands (among other shifts in practice). Although this period marked a trend toward nomadic settlement, what Russian imperial officials referred to as "semi-nomadism," the disappearance of nomadic life under Soviet rule was by no means preordained or inevitable. As the history of Central Eurasia has shown, forms of "semi-nomadism" could be long-lasting and stable. Although some ecological, social, and political factors might cause some groups to settle, others might cause other groups to nomadize, with "semi-nomads" or settled groups taking up nomadic life.⁸¹

In a crucial development, however, Kazakhs began to consume more grain, and they became increasingly tied to the networks of Russian traders that supplied this grain. They also began to consume less food overall, making them more vulnerable to hunger. Many of these changes were magnified by the destruction of the period 1914–1924, which saw Russia's entrance into the First World War, the fall of the Russian Empire, and the onset of civil war. When the boundaries of what would become known as Soviet Kazakhstan were set in 1924, the region's economy was in a state of crisis, with agricultural yields and livestock numbers well below their pre-First World War levels.⁸² In the winter of 1929–1930, Moscow imposed heavy grain procurements on the republic as part of the first Five-Year Plan, severing the grain trade networks that had become so important to Kazakh nomads' existence under Russian imperial rule. In the summer of 1930 famine began.

In its broad outlines the Kazakh case shares much in common with other histories of the ecological encounter between settlers and mobile peoples

in the drylands, particularly in the Great Plains of the United States and in the Argentine Pampas.⁸³ In each case the establishment of European (or Euro-american) dominance led to the loss of traditional lands and water rights for Indigenous peoples. Also, ecological instability, or the tendency of all of these regions to suffer periodic bouts of devastating drought or severe cold, played an important role in shaping the interaction of settlers and mobile peoples with their environment. In the Kazakh case, however, peasant settlement was soon followed by regime change, the fall of the Russian Empire, and the establishment of the new Soviet state, offering environmental historians the chance to compare and contrast the effects of two different economic systems, one capitalist, the other socialist, on the drylands.

iskogo kraia i Bessarabii,” *Zhurnal Ministerstva Gosudarstvennikh Imushchestv* 46, no. 1 (1853), 1st pag., 224–25.

83. “V Trikraty, k Skarzhiinskomu,” online at <http://www.voskres.ru/army/publicist/hristova.htm/>.

84. See, for example “Trikrati—Trikrats’kii lis,” *KoloKrai*, online at <http://kolokray.com/uk/f/trikraty-trikratskiy-les-1360926105.html> and at <http://angatravel.com.ua/ru/trikratskiy-labirint.html>. The forest can be located on Google Earth at 47° 42’ 23” N and 31° 24’ 42” E.

Chapter 3: “People Arrive but the Land Does Not Move”

In addition to the workshop at The Ohio State University where this essay originated, versions of this essay were presented at a working group on Russian history at the Library of Congress, at a workshop on comparative famines held at Nazarbayev University in Astana, Kazakhstan, and at a workshop entitled “New Directions in the History of Inner and Central Asia,” held at Harvard University. I would like to thank all the participants at these workshops and the reviewers of this volume for their thoughtful comments on earlier drafts.

1. See, among others, Francine Hirsch, *Empire of Nations: Ethnographic Knowledge and the Making of the Soviet Union* (Cornell University Press, 2005); Peter Holquist, *Making War, Forging Revolution: Russia’s Continuum of Crisis, 1914–1921* (Harvard University Press, 2002).

2. On the Kazakh famine, see Sarah Cameron, *The Hungry Steppe: Famine, Violence, and the Making of Soviet Kazakhstan* (Cornell University Press, 2018).

3. This question has received little attention from scholars. The one exception is Niccolò Pianciola, *Stalinismo di frontiera: colonizzazione agricola, sterminio dei nomadi e costruzione statale in Asia centrale, 1905–1936* (Viella, 2009), chapters 1 and 2. In this essay I seek to build upon Pianciola’s observations, showing how the tools of environmental history might augment the economic approach he uses in his study.

4. Amartya Sen, *Poverty and Famines: An Essay on Entitlement and Deprivation* (Oxford University Press, 1981).

5. There are numerous examples of this approach. The classic account is Robert Conquest, *The Harvest of Sorrow: Soviet Collectivization and the Terror-Famine* (Oxford University Press, 1986). For an approach that combines political and economic history to analyze the Soviet collectivization famines, see R. W. Davies and Stephen G. Wheatcroft, *The Years of Hunger: Soviet Agriculture, 1931–1933* (Palgrave Macmillan, 2004).

6. For an overview of this debate, see John-Paul Himka, “Encumbered Memory: The Ukrainian Famine of 1932–33,” *Kritika: Explorations in Russian and Eurasian History* 14, no. 2 (2013): 411–36.

7. For an alternate perspective, see Mark Tauger, “The 1932 Harvest and the Famine of 1933,” *Slavic Review* 50, no. 1 (1991): 70–89. Tauger rejects the idea that the Ukrainian famine was man-made, and he argues that hunger was because of actual grain shortages brought about by a poor harvest in 1932.

8. Historians of the Russian Empire have devoted little attention to the ways in which borderland colonization changed native subsistence systems. These questions, however, have been explored extensively by US environmental historians focusing on Native American subsistence systems. Two classic studies are William Cronon, *Changes in the Land: Indians, Colonists and the Ecology of New England* (Hill and Wang, 1983) and Richard White, *The Roots of Dependency: Subsistence, Environment and Social Change among the Choctaws, Pawnees and Navajos* (University of Nebraska Press, 1983).

9. For examples of this approach, see Mike Davis, *Late Victorian Holocausts: El Niño Famines and the Making of the Third World* (Verso, 2002); Steven Serels, *Starvation and the State: Famine, Slavery, and Power in Sudan, 1883–1956* (Palgrave MacMillan, 2013); Michael Watts, *Silent Violence: Food, Famine, and Peasantry in Northern Nigeria* (University of California Press, 1983).

10. I take this figure from George J. Demko, in *The Russian Colonization of Kazakhstan, 1896–1916* (Indiana University Publications, 1969), who focuses on the steppe oblasti of Akmolinsk,

Semipalatinsk, Ural'sk, and Turgai and parts of Semirech'e and Syr Darya, all of which would eventually become part of Soviet Kazakhstan. On peasant settlement of the Kazakh Steppe, see Ian W. Campbell, *Knowledge and the Ends of Empire: Kazak Intermediaries and Russian Rule on the Steppe, 1731–1917* (Cornell University Press, 2017), 125–56; Gulnar Kendirbai, *Land and People: The Russian Colonization of the Kazak Steppe* (Klaus Schwarz Verlag, 2002); C. N. Maltusynov, *Agrarnyi vopros v Kazakhstane i Gosudarstvennaia duma Rossii 1906–1917 gg. (sotsiokul'turnyi podkhod)* (Daik-Press, 2006); Virginia Martin, *Law and Custom in the Steppe: The Kazakhs of the Middle Horde and Russian Colonialism in the Nineteenth Century* (Curzon: 2001), 60–86; Ihor Stebelsky, “The Frontier in Central Asia,” in *Studies in Russian Historical Geography*, ed. James H. Bate and R. A. French (Academic Press, 1983), 1:149–52. On the settlement of Russian Turkestan (parts of which would be joined to the steppe to form Soviet Kazakhstan), see Daniel Brower, *Turkestan and the Fate of the Russian Empire* (RoutledgeCurzon, 2003); Alexander Morrison, “Peasant Settlers and the Civilizing Mission in Russian Turkestan, 1865–1917,” *Journal of Imperial and Commonwealth History* 43, no. 3 (2015), 387–417. The classic Soviet account is A. B. Tursunbaev, *Iz istorii krest'ianskogo pereseleniia v Kazakhstan* (Akademiia nauk Kazakhskoi SSR, 1950).

11. The first station to measure precipitation and temperature in the Kazakh Steppe was Vernyi (present-day Almaty), where temperature and precipitation measurements began in 1879. Complete data for other stations in the Kazakh Steppe, such as Fort Alexandrovsk (present-day Fort Shevchenko) and Kazalinsk followed only in 1891. Thus, it is very difficult to assess change over time, as well as regional differences in drought patterns in the Kazakh Steppe for this period. For temperature and precipitation data for Central Asia, see M. W. Williams and V. G. Konovalov, *Central Asia Temperature and Precipitation Data, 1879–2003* (USA National Snow and Ice Data Center, 2008).

12. Michael D. Frachetti, *Pastoralist Landscapes and Social Interaction in Bronze Age Eurasia* (University of California Press, 2008).

13. Robert N. Taaffe, “The Geographic Setting,” in *The Cambridge History of Early Inner Asia*, ed. Denis Sinor (Cambridge University Press 1990), 19–40.

14. For the argument that environmental and political changes during the Iron Age led pastoral nomads in Semirech'e to move from a “more pastoral orientation to a more intensive agricultural focus,” see Arlene Miller Rosen, Claudia Chang, and Fedor Pavlovich Grigoriev, “Paleoenvironments and Economy of Iron Age Saka-Wusun Agro-Pastoralists in Southeastern Kazakhstan,” *Antiquity* 70, no. 285 (2000): 611–23.

15. For a discussion of Kazakh nomads' practice of burning, see A. N. Zarudnyi, *Strana svobodnykh zemel'* (St. Petersburg, 1908), 16. On the construction of wells, see F. Fiel'strur, “Skotovodstvo i kochevanie v chasti stepei zapadnogo Kazakstana,” in *Kazaki: Antropologicheskie очерki, sbornik II*, ed. S. I. Rudenko (Izd-vo. Akademii Nauk SSSR, 1927), 104.

16. I thank Nicholas Breyfogle for suggesting this wording.

17. In part because of the lack of sources from this period, it is difficult to date the formation of the three Kazakh hordes. The first mention of the three hordes by name appears in 1731, but most scholars date their formation to the late sixteenth century. See the discussion in Allen J. Frank, “The Qazaqs and the Russians,” in *The Cambridge History of Inner Asia: The Chinggisid Age*, ed. Nicola Di Cosmo, Allen J. Frank, and Peter B. Golden (Cambridge University Press, 2009), 364–65.

18. I have adopted the classifications found in Taaffe, “Geographic Setting.”

19. Occasionally, commentators referred to this plateau as the *severnaia golodnaia step'*, or the northern Hungry Steppe, to differentiate it from another, smaller plain with the same name. The second Hungry Steppe, part of present-day Uzbekistan, is located between the city of Dzhezak and the Syr Darya River.

20. S. P. Suslov, *The Physical Geography of Asiatic Russia*, trans. Noah D. Gershevsky (W. H. Freeman, 1961), 447–51.

21. Taaffe, “Geographic Setting,” 30–31.

22. Taaffe, "Geographic Setting," 26.
23. Fahu Chen, Xiaozhong Huang, Jianwu Zhang, J. A. Holmes, and Jianhui Chen, "Humid Little Ice Age in Arid Central Asia Documented by Bosten Lake, Xinjiang China," *Science in China Series D: Earth Sciences* 49, no. 12 (2006): 1280–90. I thank John Brooke for pointing me to this reference.
24. Taaffe, "Geographic Setting," 28, 35–37.
25. Demko, *Russian Colonization*, 14.
26. Suslov, *Physical Geography*, 427.
27. Martin, *Law and Custom*, 22.
28. Nurbulat Masanov, *Kochevaia tsivilizatsiia kazakhov: Osnovy zhiznedeiatel'nosti nomadnogo obshchestva* (Sotsinvest, 2011), 277–80.
29. Martin, *Law and Custom*, 21.
30. On how Russian imperial officials and Kazakh intellectuals came to understand zhūt as a disaster, see Ian Campbell (this volume); on droughts in the steppe in the 1960s, see Marc Elie (this volume).
31. On this particular period of migration, see Francois-Xavier Coquin, *La Sibérie: Peuplement et immigration paysanne au 19e siècle* (Institut d'études slaves, 1969); Willard Sunderland, *Taming the Wild Field: Colonization and Empire on the Russian Steppe* (Cornell University Press, 2004), 177–221; Donald W. Treadgold, *The Great Siberian Migration: Government and Peasant in Resettlement from Emancipation to the First World War* (Princeton University Press, 1957). For a broader overview of colonization and its place in Eurasian history, see the introduction to Nicholas B. Breyfogle, Abby Schrader, and Willard Sunderland, eds., *Peopling the Russian Periphery: Borderland Colonization in Eurasian History* (Routledge, 2007).
32. In 1801 Russian authorities had removed a large group of Little Horde Kazakhs from the authority of their khan, renaming them the Inner Horde, or Bukey Horde. Members of the Inner Horde were then encouraged to migrate in the territory between the Volga and Ural Rivers, behind the Siberian Line. This territory was part of Astrakhan province. See Frank, "The Qazaqs," 371.
33. Demko, *Russian Colonization*, 114.
34. Stebelsky, "Frontier," 167–68.
35. Demko, *Russian Colonization*, 63.
36. Demko, *Russian Colonization*, 13.
37. *Kratkii istoricheskii ocherk Semipalatinskogo kraia (do 1917 goda)* (Semipalatinsk, 1929), 33–34.
38. Orazgul Mūkhatova, *Qazaqstandaghı XX-ghasırđıng alghashqı onzhıldıq—tarındaghı agrarlıq reformalar tarikhnaması (1920–1929 zhıldar)* (Taldıqorghan universiteti, 1998), 3.
39. Lewis Siegelbaum, "Those Elusive Scouts: Pioneering Peasants and the Russian State, 1870s–1950," *Kritika: Explorations in Russian and Eurasian History* 14, no. 1 (2013): 31–58.
40. Demko, *Russian Colonization*, 120.
41. For a petition by the vice-governor of Akmolinsk oblast to close his region to colonization in 1906 and the refusal, see Rossiiskii gosudarstvennyi istoricheskii arkhiv (Russian State Historical Archive) f. 391, op. 3, d. 105, ll. 5–6, 36, reprinted in S. N. Maltysynov, ed., *Agrarnaia istoriia Kazakhstana (konets XIX–nachalo XX v.): Sbornik dokumenov i materialov* (Daik-Press, 2006), 99–100. In 1902 in Turkestan, the governor-general begged the Internal Affairs Ministry to cut off the flow of illegal settlers. See Brower, *Turkestan*, 135.
42. Stebelsky, "Frontier," 158.
43. Letter to the Committee for Assistance to the Starving from the Head of the Settlers' Affairs in Semirech'e oblast, April 11, 1907, Tsentral'nyi gosudarstvennyi arkhiv Respubliki Kazakhstan (Central State Archive of the Republic of Kazakhstan; hereafter cited as TsGARK) f. 19, op. 1, d. 57, ll. 12–12ob).
44. Letter to the Steppe administration of the Russian society of the Red Cross from a detachment of the Red Cross, April 6, 1907 (TsGARK f. 64, op. 1, d. 4701, l. 27).

45. Telegram from the secretary of the financial committee in Omsk to the minister of trade and industry, St. Petersburg. July 2, 1911 (TsGARK f. 64, op. 1, d. 4752, ll. 3–4).

46. George Demko estimates that more than 22 percent of all settlers went back to European Russia. See Demko, *Russian Colonization*, 203.

47. Demko, *Russian Colonization*, 174–75. The situation was similar further south in Turkestan. There, peasants in Semirech'e expanded their practice of stock raising to protect themselves in case of a bad harvest. Brower, *Turkestan*, 132–33. On the efforts of settlers to adapt their practice of farming to the steppes of European Russia, see David Moon, *The Plough that Broke the Steppes: Agriculture and Environment on Russia's Grasslands, 1700–1914* (Oxford University Press, 2013), 18–20.

48. A. S. Bezkhovich, "Zemledelie ukraintsev-pereselentsev iuzhnoi chasti Semipalatinskoi gubernii," in *Ukraintsy-pereselentsy Semipalatinskoi gubernii*, ed. S. I. Rudenko (Izd-vo. AN SSSR, 1930), 16.

49. Bezkhovich, "Zemledelie," 103. Unlike the settlers that David Moon discusses (this volume), those who came to the Kazakh Steppe do not appear to have made widespread efforts to cultivate trees, perhaps a reflection of the steppe's more arid conditions.

50. Martin, *Law and Custom*, 74–83.

51. K. A. Chuvelev, "O reorganizatsii kochevogo i polukochevogo khoziaistva," *Narodnoe khoziaistvo Kazakstana* 2–3 (1928): 47.

52. Anatoly M. Khazanov, *Nomads and the Outside World*, trans. Julia Crookenden (Cambridge University Press, 1984), 46–49.

53. In Arakaraisk volost (part of Kustanai uezd), the number of cattle in Kazakhs' herds increased by 20 percent from 1898 to 1905. *Vliianie kolonizatsii na kirgizskoe khoziaistvo* (Izdanie pereselenchskago upravleniia, 1907), 11. See also A. Iu. Bykov, *Istoki modernizatsii Kazakhtana* (Izd-vo. Azbuka, 2003), 208.

54. P. S. Shulkov, "Ob'em rymochnykh sviazei Kazakskogo khoziaistva," *Narodnoe khoziaistvo Kazakhtana* 11–12 (1928): 64–74.

55. Martin, *Law and Custom*, 66–67; Bykov, *Istoki modernizatsii Kazakhtana*, 200.

56. For further discussion of this issue, see Campbell (this volume).

57. TsGARK f. 25, op. 1, d. 2822, ll. 213–214ob., reprinted in Maltusynov, *Agrarnaia istoriia Kazakhtana*, 109–11. Although the rental of pasturelands was technically illegal (St. Petersburg claimed to own nomads' pasturelands), nomads in areas of intense peasant settlement such as the northern reaches of Turgai oblast began to rent pasturelands to supplement their practice of pastoralism.

58. Anthropologists have shown that pastoral nomadism is a flexible and adaptive system. In an important study, *The Kirghiz and Wakhi of Afghanistan: Adaptation to Closed Frontiers* (University of Washington Press, 1979), the anthropologist M. Nazif Mohib Shahrani explores how Kyrgyz nomads adapted their practice of pastoral nomadism to the closure of the Soviet and Chinese frontiers.

59. The construction of Cossack settlements in the northern Kazakh Steppe in the eighteenth century had led to an increase in this trade. On the extensive contact between Siberian Cossacks and Kazakhs, see Yuriy Malikov, *Tsars, Cossacks, and Nomads: The Formation of a Borderland Culture in Northern Kazakhstan in the 18th and 19th Centuries* (Klaus Schwarz Verlag, 2011).

60. On the steppe trade see Frank, "The Qazaqs," 374–75; T. K. Shcheglova, *Iarmarki Zapadnoi sibiri i stepnykh oblasteri vo vtoroi polovine XIX veka: iz istorii rossiisko-aziatskoi trgovli* (Izd-vo. Barnaul'skogo gosudarstvennogo pedagogicheskogo universiteta, 2002).

61. Demko, *Russian Colonization*, 186.

62. Kh. A. Argyntbaev, *Istoriko-kul'turnye sviazi russkogo i kazakhskogo narodov* (Altyn kitap, 2005), 66. Shahrani finds that Kyrgyz pastoralists of the Afghan Pamirs made similar adaptations after the closure of the Soviet and Chinese frontiers. The region's animal population increased, as the Kyrgyz responded to the growing possibilities for trade with settled groups. The Kyrgyz then began to increase the numbers of sheep and yaks in their herds, while

decreasing the number of camels and horses. See Shahrani, *Kirghiz and Wakhi*, 224. Kazakhs' production of cattle for Russian markets was part of a broader shift. During the late nineteenth and twentieth centuries, as consumers began to eat more meat and distribution systems improved, the world's cattle population rose dramatically. See Chris Otter, "Planet of Meat: A Biological History," in *Challenging (the) Humanities*, ed. Tony Bennett (Australian Academy of the Humanities, 2013), 33–49.

63. Michael Khodarkovsky, *Russia's Steppe Frontier: The Making of a Colonial Empire, 1500–1800* (Indiana University Press, 2002), 161.

64. V. K. Kuznetsov, ed., *Kirgizskoe khoziaistvo v Akmolinskoi oblasti, t. 1, Kokchetavskii uезд. Povtornoie issledovanie 1907 g.* (Pereselencheskoe upravlenie, 1910), v.

65. Kuznetsov, *Kirgizskoe khoziaistvo*, 144.

66. Nurila Z. Shakanova, "The System of Nourishment among the Eurasian Nomads: The Kazakh Example," in *Ecology and Empire: Nomads in the Cultural Evolution of the Old World*, ed. Gary Seaman (University of Southern California: 1989), 111–19; G. E. Taizhanova, ed., *Kazakhi: Istoriko-etnograficheskoe issledovanie* (Kazakhstan, 1995), 163–76.

67. On the Russian state's increasing interest in human nutritional needs, see Alison K. Smith, *Recipes for Russia: Food and Nationhood under the Tsars* (Northern Illinois University Press, 2008). On the development of food consumption surveys in the 1880s, see Stephen G. Wheatcroft, "Famine and Food Consumption Records in Early Soviet History, 1917–25," in *Food, Diet, and Economic Change Past and Present*, ed. Catherine Geissler and Derek J. Oddy (St. Martin's Press, 1993), 151–74. On the eighteenth-century grain trade in Russia, see Robert E. Jones, *Bread upon the Waters: The St. Petersburg Grain Trade and the Russian Economy, 1703–1811* (University of Pittsburgh Press, 2013).

68. Kuznetsov, *Kirgizskoe khoziaistvo*, 139. I thank Ian Campbell for pointing me to this reference. See Campbell, *Knowledge*, 125–56.

69. Kuznetsov, *Kirgizskoe khoziaistvo*, 145.

70. Demko, *Russian Colonization*, 200.

71. Demko, *Russian Colonization*, 174.

72. On the relative absence of wars and its role in human and animal population growth, see Martin, *Law and Custom*, 191n.

73. Georgii Safarov, *Kolonial'naia revoliutsiia (opyt Turkestana)* (Zhaly, 1996), 76. Over the course of the nineteenth century, settlers in European Russia also cut back the time that fields were left fallow. David Moon attributes this to several factors, including the demand for grain on domestic and international markets and population increases. See Moon, *Plough*, 113.

74. Kuznetsov, *Kirgizskoe khoziaistvo*, 12–13.

75. Letter from the Akmolinsk governor to the steppe governor-general, June 30, 1890 (TsGARK f. 64, op. 1, d. 4324, l. 34).

76. Telegram from the secretary of the financial committee in Omsk to the minister of trade and industry, St. Petersburg, July 2, 1911 (TsGARK f. 64, op. 1, d. 4752, l. 121).

77. Several factors may explain this. Orazgul Mükhatova suggests that settlement was a concerted strategy by Kazakh nomads. Kazakhs settled to protect their lands from further peasant encroachment. See *Qazaqstandaghi XX-ghasirding alghashqi onzhildi.* Bykov speculates that nomads' growing consumption of grain could have prompted them to settle. See *Istoki modernizatsii Kazakhstana*, 215. The large increases in the steppe's human and animal populations during the late Russian Empire may have also resulted in the overgrazing of pasturelands, prompting some Kazakhs to settle.

78. Kuznetsov, *Kirgizskoe khoziaistvo*, 48.

79. Argynbaev, *Istoriko-kul'turnye svyazi*, 58.

80. By the 1920s most Soviet sources classify the majority of Kazakhs as "semi-nomadic," 20–30 percent of Kazakhs as "settled," and a minority, usually less than 10 percent, of Kazakhs as "nomadic." For an analysis based upon data from 1929, see B. Rodnevich, *Ot kolonial'nogo*

vyrozhdeniia k sotsialisticheskomu rastsvetu: O Kazakstane (Vlast' sovetov' pri prezidiume Vtsik, 1931), 15.

81. Khazanov, *Nomads*, 21; Caroline Humphrey and David Sneath, *The End of Nomadism? Society, State, and the Environment in Inner Asia* (Duke University Press, 1999), 196.

82. Numbers for Dzehtisu (Semirech'e) give some sense of the enormity of these losses. From 1916 to 1920, the province's sown field area fell from 640,000 desiatiny to 300,000 desiatiny, while livestock levels fell from 9.2 million to 2.6 million. V. L. Genis, "Deportatsiia russkikh iz Turkestana v 1921 gody ("Delo Safarova")," *Voprosy istorii* 1 (1998): 57.

83. On the Pampas, see Adrián Gustavo Zarrilli, "Capitalism, Ecology, and Agrarian Expansion in the Pampean Region, 1890–1950," *Environmental History* 6 (2001), 561–83. On the Great Plains, see Andrew C. Isenberg, *The Destruction of the Bison: An Environmental History, 1750–1920* (Cambridge University Press, 2000). Indeed, Soviet planners consciously compared these landscapes, seeking to learn from the experiences of planners in the Great Plains or the Pampas. See N. I. Maslov, "Perspektivy ratsionalizatsii i rekonstruktsii skotovodstva zasushlivo tsentral'nogo Kazakstana," *Narodnoe khoziaistvo Kazakstana* 1–2 (1929): 3–22.

Chapter 4: "The Scourge of Stock Raising"

Research for this paper was completed with the support of a Fulbright-Hays DDRA grant, a postdoctoral fellowship from the Davis Center for Russian and Eurasian Studies at Harvard University, and graduate fellowships from the History Department of the University of Michigan. Earlier versions of the essay were presented at a conference entitled "Frost, Ice, and Snow: Cold Climate in Russian History," organized by the Rachel Carson Center (Munich) and held at the German Historical Institute (Moscow) and at the UC-Berkeley Russian history *kruzhok*. I thank all of these institutions for their support.

1. *Kirgizskaia stepnaia gazeta* (hereafter cited as KSG), January 16, 1894. "Kirgiz" as an ethnonym referred, in the nineteenth century, to the ethnic groups known today as Kazakhs and Kyrgyz (also sometimes called "kara-kirgiz" or "dikokamennyi kirgiz" at the time).

2. The other common Kazakh term for a *zhūt*, *qoian-zhili*—year of the hare—refers to a year of the Zodiac cycle, implying a period of twelve years for its worst manifestations; the last three major *zhūts* of the nineteenth century occurred in the winters of 1867–1868, 1879–1880, and 1891–1892.

3. N. I. Krasovskii, ed., *Materialy dlia geografii Rossiiskoi imperii, sobrannye ofitserami General'nogo shtaba: oblast' Sibirskikh kirgizov*, part 2 (Transhel'; Rotger i Shneider, 1868), 10; O. A. Shkapskii, "Nekotoryia dannia dlia osveshcheniia kirgizskogo voprosa," *Russkaia mysl'* 7 (1897): 36.

4. The classic statement of this thesis with respect to famines is Amartya Sen, *Poverty and Famines: An Essay on Entitlement and Deprivation* (Oxford University Press, 1981). Mike Davis offers a devastating critique of "the malign interaction between climatic and economic processes" in nineteenth-century famines in *Late Victorian Holocausts: El Niño Famines and the Making of the Third World* (Verso, 2001), 12. Also see Andy Bruno, "Tumbling Snow: Vulnerability to Avalanches in the Soviet North," *Environmental History* 18, no. 4 (2013): 683–709.

5. For the connection between the ruling ideology of Confucianism and famine relief in China, see Lillian Li, *Fighting Famine in North China: State, Market, and Environmental Decline, 1690s–1990s* (Stanford University Press, 2007), 3. For nineteenth-century conflicts about the priority to be given to famine relief, see Kathryn Edgerton-Tarpley, *Tears from Iron: Cultural Responses to Famine in Nineteenth-Century China* (University of California Press, 2008), esp. 90–113. The literature on the Irish famine of the 1840s is vast; I have been influenced by the argument in Peter Gray, *Famine, Land, and Politics: British Government and Irish Society, 1843–1850* (Irish Academic Press, 1999).

6. James Vernon, *Hunger: A Modern History* (Belknap Press, 2007), 17–40.

7. Michel Foucault, "Governmentality," in *The Foucault Effect: Studies in Governmentality*,