
Review

Information about the impact of nomadic peoples on the landscapes of the steppe zone of northern Eurasia in the 18th–19th centuries is generalized against a wide historical–geographical background, and the objectives of a new scientific discipline, historical steppe studies, are substantiated.

DOI: 10.1134/S1019331609050104

The Legacy of Nomadic Empires in Steppe Landscapes of Northern Eurasia

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The steppe landscape zone covering more than 8000 km from east to west has played an important role in the history of Russia and, ultimately, the Old World for many centuries. The ethnogenesis of many peoples of northern Eurasia is associated with the historical–geographical space of the steppes. The continent’s steppe and forest–steppe vistas became the cradle of nomadic cattle breeding in the early Bronze Age (from the 5th through the early 2nd millennium B.C.). By the 4th millennium B.C., horses and cattle were predominantly bred in northern Eurasia. As for sheep and goats, the culture of breeding them was introduced from outside, from the Middle East. Wheeled transport was mastered, and copper fields near the Severskii Donets River and in the Uralian steppes were developed at the turn of the 4th and 3rd millennia B.C. [1–4]. Geoecologically, all these large-scale innovations in the steppe environment are related to a turning point in the natural history of northern Eurasia: in the mid-Holocene, modern-type steppe landscapes took the place of cold boreal steppes everywhere. Subsequently, periods of cold and warm aridization alternated. However, no global changes in the natural–climatic conditions are registered. Transition to nomadic cattle breeding was favored, first, by internal processes among the steppe nomads, second, by climatic changes tending to aridization, and, third, by widely developing horse breeding. Intensive nomadic cattle breeding made it possible to use steppe natural resources to the maximum, which favored the obtaining of surplus produce, developed exchange and social differentiation among the tribes, and triggered the emergence of national identity.

Transition to nomadic cattle breeding and lifestyle radically changed the image of the steppes. The impact of Stone Age tribes on nature was patchy and restricted to river valleys and steppe lake shores, where

settlements with ground-based or earth-sheltered homes were situated close to fishing areas, watering places, and migration paths of wild ungulates. Steppe bioresources were used extremely selectively. Nomadic peoples affected the steppe everywhere. The nomadic, as opposed to semisedentary, lifestyle implies a higher development of the territory. The zone of economic use includes the whole nomadic area. Owing to this, nomads had an original classification of its parts with regard to their suitability for settlements and economic development [5].

The mobility of nomadic tribes and their constant search for better pastures caused frequent combat accompanied by burning out the steppe. The nomadic lifestyle of the steppe peoples favored wider contacts with sedentary farmers of the Far East, Central Asia, the Caucasus, and Central Europe and the formation of polyethnic “symbioses” of nomadic and sedentary populations. For five millennia, starting with the early Bronze Age, the face of the steppe was formed under the influence of anthropogenic factors that manifested themselves in burning out plants for military, hunting, and agricultural purposes; in the countrywide extermination of wild ungulates; in cattle grazing, which is unstable in time and space; and in the increasing development of minerals.

The mobility of nomads is determined not only by the predominant economic–cultural type but also by the sufficiently specific social institutions that had been formed at the beginning of the Bronze Age in the 5th–3rd millennia B.C. and remained in certain modifications until the beginning of modern history: blood feud (vendetta); the mass practice of “adoption,” which was a form of taking hostages; the tradition of blood (sworn) brotherhood that rallied youth military teams; and the so-called *balts* (Iranian), or *baranta* (Turkic), i.e., incursions into the lands of neighboring clans to rustle cattle, abduct brides, and get other valuable property. Note that, if the forces of the *balts* participants and their enemies were equal or if violence was somehow useless, the young warriors could hire

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out as cattlemen for a long period, such as a year or more, and earn what they had planned to take by force. In fact, the main social motive was to come home with a take, no matter how it had been obtained. This was the main ethical difference between the norms accepted among nomads and the morals of sedentary farmers. Rustling cattle and other forms of armed robbery are sharply condemned in farming cultures and civilizations but are viewed as valor by nomads. Very similar sociocultural, economic, and other traditions in the Eurasian steppes formed sufficiently homogeneous, flexible, and dynamic continua of nomads, which were permanently in a state of transitive reconfiguration. The state of instability was a historically determined form of existence of nomadic cultural–historical communities.

At the same time, the movement of the population and its cultural–historical traditions in the Great Steppe were restricted to certain directions: from arid regions with their extreme habitat to friendlier environmental niches with a temperate continental climate or an environment close to that of the semidry Mediterranean subtropics. Such shifts took place in three historical forms that have coexisted over the last six millennia: a slow effusionlike displacement of certain groups of nomads, which was accompanied by the movement of the respective language and local traditions of material and spiritual culture; the diffusionlike propagation of local traditions into neighboring regions owing to direct contacts (marriages, *baranta*–*balts*, “adoption,” barter, and so on); and transfusionlike migration of large groups of nomads, caused by environmental, political, social, or other factors.

It is assumed that there were two types of nomadism: continuous and sedentary–nomadic (with permanent wintering places). Despite the fact that year-round nomads left practically nothing for modern archeology, we may assume that their traces are everywhere. Temporary settlements rarely produced a marked cultural layer but favored patchy grass canopy pasture degradation, activated erosive and eolian processes, subjected vegetation to anthropogenic impact, and led to the direct extermination of species dangerous or competitive to the economic–cultural type of nomadic cattle breeders. Many thousands of ordinary graves remain unknown except for some burial complexes that are noticeable and have been mapped. Many strange landforms and unnatural masses of rocks, such as *obo* (oblation stones in the Buryat language), fences, and cromlechs, are still unidentified. Many unidentified traces of nomadic life disappeared as a result of agricultural, road, and mining development of the steppes in the early modern period and modern times.

Nomadism with winter and, in a number of regions, summer settlements caused even greater environmental impact. As agriculture and crafts developed, these summer and winter settlements often

transformed into permanent quarters for a while. In the early Iron Age (8th–7th centuries B.C.), a sufficiently uniform Iranian-speaking continuum of Scythian tribes (called *Ishkuza* in Middle Eastern texts) was formed over the whole territory of the northern Eurasian steppes, from Mongolia in the east to the Danube River in the west. The shaky balance of this sociocultural system was often violated either by the rise of a charismatic leader, who could rally several “warlords,” or by local disasters, such as ice coatings, epidemics, and so on. In the late 7th century B.C., a large group of Iranian-speaking nomads of northern Eurasia, led by the Scythian king Madius, the son of Phraort’s, invaded West Asia and, upon overrunning Urartu and Media, occupied the whole Near East. The empire of Madius proved to be as ephemeral as all subsequent nomadic empires: it disintegrated after 28 years, and the Scythians split into clannish and tribal groups and went back with their loot [6]. Although similar ephemeral pseudostates kept rising among the nomads of northern Eurasia during the entire early Iron Age (from the 8th century B.C. through the 4th century A.D.), history, unfortunately, left no records of the names of these state rulers.

In the opinion of G.V. Vernadsky, open steppe and desert landscapes, just like seas, favored the development of commercial and cultural relations between relatively isolated areas of Eurasian sedentary agrarian culture (China, Khwarazm, and the Mediterranean world) [7]. Nomads formed a mobile human element that regularly changed the ethnic and anthropological diversity of Inner, Central, and West Asia; Russia; and a significant part of Europe [8–10].

In the early modern period and modern times, the territory of steppe and mountainous–steppe Asia from Manchuria to Southeastern Europe was traditionally viewed as a backward periphery of sedentary civilizations. The initial stages of the formation of the ethnocultural space of steppe Eurasia have now drawn the attention of archeologists. Paleogeographers, especially paleopedologists and paleoclimatologists, have successfully studied the region’s landscape dynamics; they have established that the geographical boundaries of the steppes (or, from our point of view, of steppe types, to put it more accurately) changed depending on changes in climatic conditions from long periods of elevated humidity to equally long arid periods.

In the 4th–2nd centuries B.C., the Scythian cultural legacy was transformed by Sarmatians–Sauromatians in the Volga region, Kushans in Central Asia, and Huns in Inner Asia and southern Siberia [11]. In confrontation with the Chinese power of the Qin Dynasty (230–221 B.C.), the Xiongnu nomadic political union began to form in the eastern part of the Eurasian steppes at that time; Vernadsky [7], O. Janse [12], and R. Grousset [13] called this union the *Steppe Empire*, implying the idea of original nomadic state

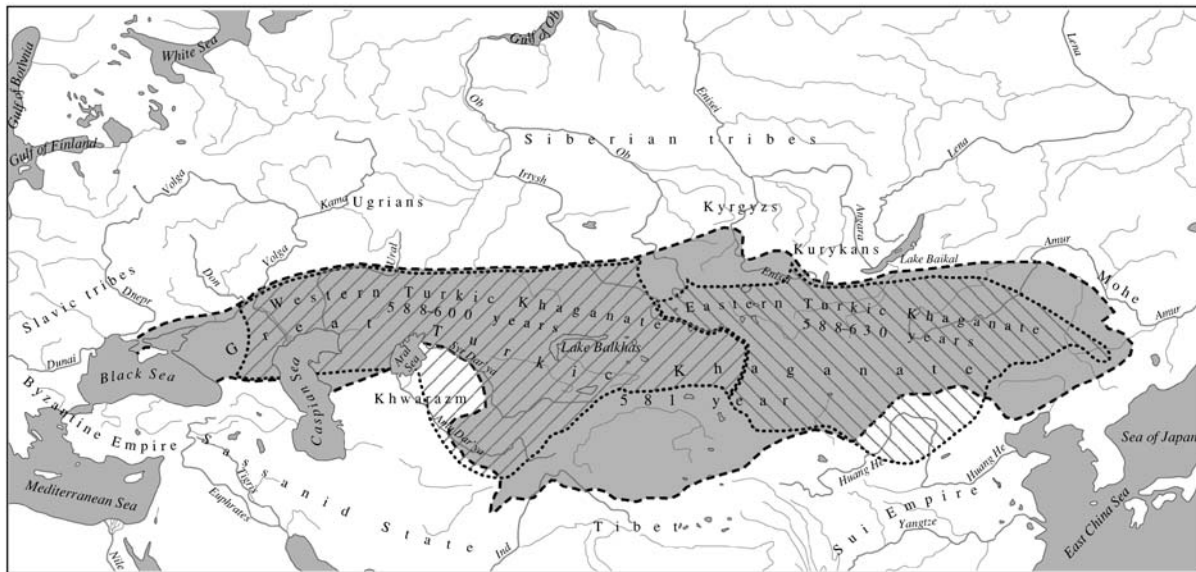


Fig. 1. Steppes of northern Eurasia in the epoch of Turkic Khaganates.

formations on the geographical territory of the Great Steppe. The Chinese reaction to the rise of the Xiongnu Steppe Empire was the construction of the Great Wall of China (214 B.C.). Eurasian sedentary civilizations kept trying to insulate themselves from the troublesome neighbors by “countersteppe” protecting lines for almost 2000 years: Grand Prince Vladimir’s walls and fortifications of the 10th century, the Tula abatis, the Belgorod abatis line, the Cossack defense lines, Perovskii’s wall in Transuralia, and so on. P.N. Savitskii was the first to carry out landscape–historical analysis of the development of Eurasian fortified (“border”) lines [14].

The Xiongnu Empire that united the territories of Manchuria, Mongolia, and Cisbaikalia lasted for about two centuries, but, through continuous military confrontations with both China and other nomadic peoples, it declined in the early 1st century B.C. The migration of Turkic tribes to eastern Kazakhstan, as well as to the Zhetysu (Seven Rivers’ basin) and the Ural–Caspian steppes, resulted in the rise of the military–political unions of Hunnish, Sarmatian, and Ugrian tribes. In the 370s, Attila created a new European nomadic Hunnish empire right at the eastern borders of the Roman Empire.

The next epoch of steppe empires was associated with the creation of Turkic khaganates (Fig. 1). The first Turkic Khaganate was founded in 552. Then the Western and Eastern Khaganates were formed; after their disintegration, the Second Turkic Khaganate rose in 682. These nomadic state formations embraced the belt of mountainous and plain steppes from the Songhua basin and the Great Wall of China in the east to Cisazovia and the northern Crimea in the west.

Arabic authors who knew about Turks from participants in the Turan (Turkistan) campaigns gave many characteristic descriptions of the customs and habits of the nomads living in the martial Turkic Khaganate. Al-Jahiz, a scholar from Baghdad (died in 869), wrote about the Turkic lifestyle [11, p. 106]:

Turks are a people for whom sedentary life, motionlessness, a lasting stay and presence in one place, with few movements and changes are unbearable. Their physical makeup is based on motion, and they are not designed for peace They are not involved in crafts, trade, medicine, agriculture, forestation, construction, laying canals, or harvesting. They have no other thoughts except for raids, robbery, hunting, riding, combats, loot seeking, and conquering other countries The Turk shoots at wild animals, birds, targets, and people He shoots while riding like mad to and fro, right and left, up and down. He can shoot ten arrows before a Kharijite [Arab] puts one arrow on the bowstring.

Such was the people that inhabited the larger part of the Eurasian steppes for several centuries in the early Middle Ages.

Cattle breeding was the main economic branch for Turkic nomads and their neighbors. They raised sheep, horses, camels, and yaks. An important aspect of the life of ancient Turks was hunting wild horses, Mongolian gazelles, elk, wild goats, roe deer, sables, squirrels, and marmots. There were iron production and processing centers in many regions of southern Siberia. A developed road network that connected such settlements and quarters was formed. Hence, we can conclude that anthropogenic impact on the Great Steppe

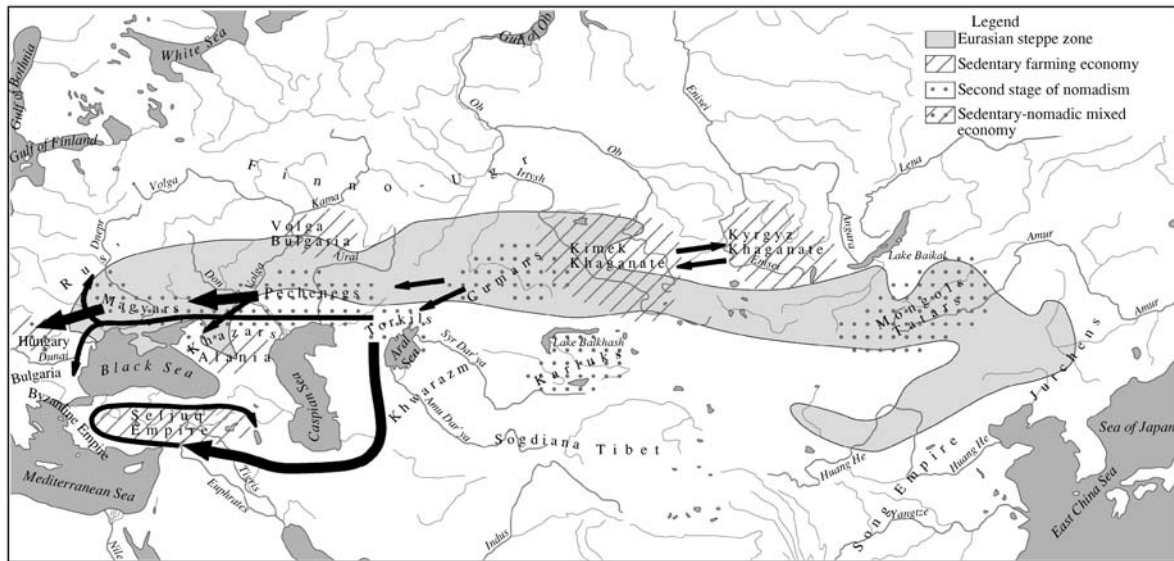


Fig. 2. Steppes of northern Eurasia in the 10th–early 11th centuries.

in the times of the Turkic khaganates was more significant than in earlier periods.

After the disintegration of the Turkic khaganates (the Second Turkic Khaganate ceased to exist in 744), nomadism continued to dominate the Eurasian steppes (among the Karluks, Pechenegs, Cumans, and Mongols) from the 9th through the early 12th centuries. In addition, centers of complex farming–cattle breeding economy and developed craftsmanship, such as the Kyrgyz Khaganate along the Upper Yenisei, the Uighur Khaganate, Volga Bulgaria, Alania, the Khazar Khaganate, and Hungary, emerged in the same period (Fig. 2).

The next steppe empire is associated with Tatar superethnos expansion that began in 1206 after Temüjin had been proclaimed Khagan of all Mongols under the name of Genghis Khan. He managed to create a huge state that stretched from China to southern Rus' and covered practically the whole steppe and forest–steppe territory of northern Eurasia and adjacent countries. Mongol camps were called *kurens* (villages) consisting of several hundred wagons arranged in a ring. Such mobile settlements could freely move over the huge steppe space and made a colossal impact on the local plant and animal kingdoms by favoring the concentration of synanthropic species and transiting plant invaders to other regions.

At the same time, settlement rules in the tradition of Mongolian peoples imply that abandoned camps should bear no traces of human activity. In changing camps, Mongols took all elements of the economic space with them together with their tents to a new camp [15, p. 31]. The beliefs of the Mongolian peoples depicted the earth as a goddess (*Delkhein ezen*, the mistress of the land of the “universe”), and her body

was identified with the earth's surface relative to which a number of taboos were imposed: it was forbidden “to scratch the face of the earth, i.e., to dig, pick up flowers and grass, and shift stones”; even paths and roads were laid so as to minimize damage to the earth [5, 16]. Hence, we can view the Mongolian environmental impact as a sufficiently positive transformation of space.

The empire of the Tatar–Mongol superethnos lasted for about a century and then, just like its precursors, began to disintegrate into individual hordes, or *uluses* (Golden Horde, White Horde, Chagatai Khanate, and others). By the mid-15th century, the Golden Horde disintegrated into a number of new Turkic states, such as the Crimean, Kazan, Astrakhan', Siberian, and Kazakh khanates, as well as the Great Horde (in the steppes between the Volga and Dnieper Rivers) and the Nogai Horde (in the basin of the Middle and Upper Yaik River). By the end of the 16th century, Cossacks destroyed the Nogai Horde, the last nomadic empire of the Great Steppe [17].

The nomadic impact on steppe nature in the times of the Golden Horde also remains underestimated. The numerous settlements (including medieval towns and forts) characteristic of the nomadic–sedentary lifestyle of the steppe peoples of that time are poorly studied. In addition to nomadic and seminomadic cattle breeding, transhumance, near-valley barn feeding, and sedentary range-fed cattle breeding were developing in the steppe in the Middle Ages. The extraction of construction materials, crafts, and agriculture (including irrigated farming) were developing. Medieval steppe towns and villages now are represented by either poorly distinguishable ruins or are occupied by modern settlements (Saratov, Volgograd, Orenburg,

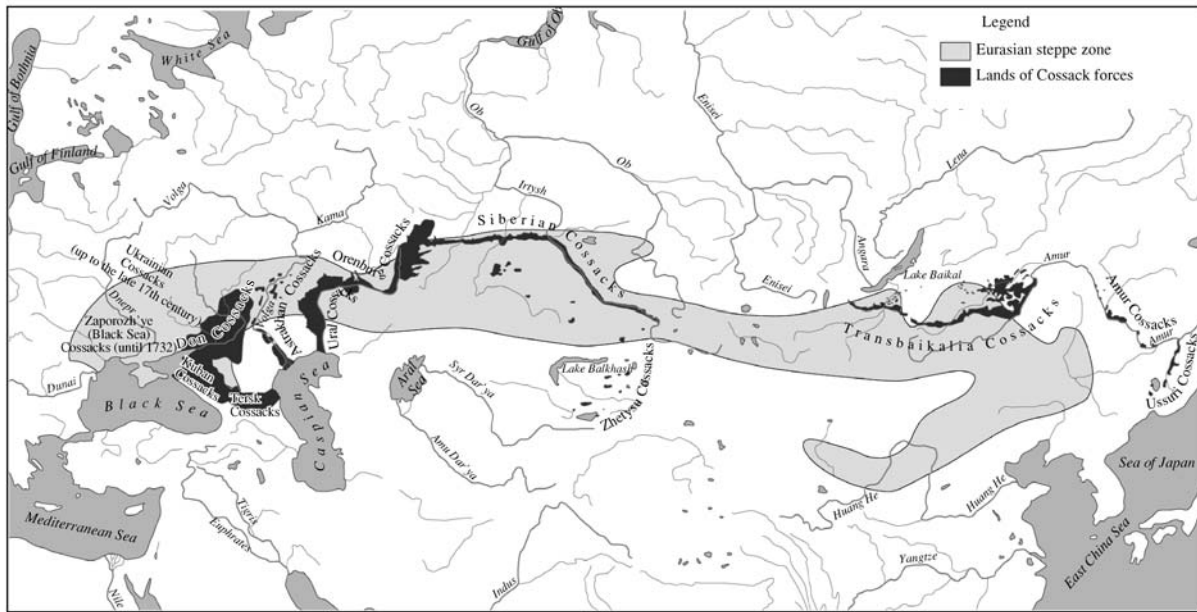


Fig. 3. Lands of the Cossack forces of the Russian Empire in the 18th–early 20th centuries.

Ural'sk, Ufa, Chelyabinsk, and others) that date back to the foundation of Russian and Cossack fortresses. Herds of millions of wild ungulate animals as a steppe component were replaced by almost equal numbers of domestic animals.

China, Russia, and the Ottoman Empire gradually redistributed the lands of mobile cattle breeders. Extensive and mobile cattle breeding in its traditional form could not preserve nomadic state formations any longer. As the Russian state developed, Cossack fortified lines were emerging across the entire steppe zone, mostly along the rivers at the empire's borders, and, by the mid-19th century, these lines stretched from Cisdnisteria to the Amur River and Ussuriland. Just like the Qin Empire with its Great Wall of China, Russia fortified its southern borders to "pacify" the martial nomads rather than to protect itself from their raids (Fig. 3). Being aware of the fact that nomadic cattle breeding was not only production practice but also a lifestyle, Russian rulers transplanted farmers into nomadic areas and were consistent in pursuing an antinomadic colonial policy [18].

The continuation of this policy was the trans migratory initiatives of the Russian Empire in the 19th–early 20th centuries and the forced sedentarization of nomadic peoples during the collectivization period (1930s). The last traces of nomadism in the Eurasian steppe were erased during the Soviet virgin-land campaign in the 1950s and 1960s [19–21].

The steppe was the foothold of military campaigns and the arena of small and large battles. An even steppe is an excellent base for showdowns through wars. How many of them took place in history? The Battle of the

Kalka River, the Battle of the Kulikovo Field, the Battle of Kosovo, the battle between Timur and Tokhtamysh near the Kondurcha River, the Borodino Field, and even the Prokhorovka Field. Ironically, the Great Steppe continued to perform its very important military functions in the 20th century as well: Kapustin Yar in the Lower Volga region, the Shikhany and Engels test grounds near Saratov, the Donguzskaya test ground near Orenburg, and the Emba and Semipalatinsk test grounds in Kazakhstan. Note that these are only the largest steppe and desert–steppe test grounds that represent belligerent landscapes with entrenchments, aircraft shelters, multikilometer trenches, and fields of shell holes; this steppe was shot by rockets and shells and became pyrogenic because of practically annual fires.

Thus, for almost 20 centuries, from the Hunnish state formations to the Nogai Horde, the Great Steppe was subject to the powerful impact of steppe empires that came and went, which determined the image of the Eurasian steppe witnessed by the naturalists of the 18th–19th centuries and the first migrants from European Russian provinces. More often than not, this image of the steppe is accompanied by the epithets "epic," "virgin," "primordial," or "primeval" in both fiction and scientific literature. It is epic indeed; as for "virgin" and "primordial," however, these definitions are questionable. No doubt, our ancestors did not find a virgin steppe there in the 18th century and, even more so, in the 19th century. The joint evolution of the nature and people of northern Eurasia in the second half of the Holocene resulted in a steppe that was greatly changed under the long-standing impact of

nomadic and sedentary—nomadic peoples forming the steppe empires:

- it had been repeatedly burnt out both for military purposes and to revive the grass canopy;
- it was covered with a network of transcontinental and local roads and caravan tracks;
- it bore numerous traces of summer and winter settlements and nomadic quarters;
- it had a huge number of sacral and funeral monuments: all significant summits, landmarks, and protruding near-valley cliffs had been more than once used for both kingly and ordinary graves in the form of burial hills (there are more than 100 000 of them in the Great Steppe), masses of rocks (*obo*, fences, cromlechs, and menhirs), *mazars* (tombs of saints), and mausoleums, as well as anthropomorphs (rocky sculptures) and *kulpytases* (stelae); and
- it had a strongly changed animal kingdom with no huge herds of wild horses, onagers, saigas, and other quadrupedals. In the years and decades of peace, herds of domestic animals, such as horses, sheep, goats, and cattle grew in number in the vastness of the Great Steppe.

Nomadic and seminomadic cattle breeding that dominated in the open landscapes of the steppe empires was an integrating factor for champaign ecosystems. The number and composition of the livestock was, in turn, regulated by seasonal weather variation, ice coatings, and other natural disasters [9, 18].

There are plenty of formulas to calculate the needs of nomadic peoples for different types of livestock. According to S.I. Rudenko's data [22], a nomadic family of five should have had a livestock population equal to 25 horses (1 horse = 5 or 6 head of cattle = 6 sheep and goats). Moreover, such a family should have had additional draft and riding animals, one for each family member. I.M. Maiskii [23] was of the opinion that a Mongolian family in the beginning of the 20th century should have had 14 horses, 3 camels, 13 head of cattle, and 90 sheep and goats. According to J.G. Georgi [24], an average Kazakh family had 30 to 50 horses, 100 sheep, 15–25 head of cattle, 20–50 goats, and several camels.

The horse was of paramount importance for the nomads of northern Eurasia; it played the same role in steppes as the camel in deserts. The Kazakh Khan Qasim said: “We live in the steppe; we have neither rare valuables nor goods. Our main wealth is horses; their meat and skin are the best food and clothing for us, and the most delicious beverage for us is koumiss Steppe people would not buy life for a horse” [25].

The population of the Great Steppe varied from 5 to 12 million people; the livestock grazing there was estimated at no less than 25–30 million horses, more than 10 million head of cattle, and up to 80 million sheep and goats. One can easily imagine the mechanical impact of these herds of millions of domestic

ungulates, whose pasturage is significantly different from that of wild animals (saigas, oranges, tarpans, and so on), on the steppe landscapes.

While migrating constantly within their habitats, nomadic peoples worked out unique methods of developing steppe pastures by combining two main principles, *linear–dynamic* and *concentric*. The dynamic development of territories was performed by developed nomads “through segmenting their territory into spatial parts that were characterized by definite types of pastures for specific economic activities” [5, p. 254].

The concentric principle of spatial arrangement in the traditions of Turkic–Mongolian nomadic peoples manifested itself in the form of lodgings (yurts); in the organization of settlements, winter quarters, and parking areas for carts; and in laying and designating the migration path in the form of a circle. The circle meant the path of traditional migration [26]. The orbit-shaped distribution of pastures for different livestock types around settlements remains topical even for the present-day pasture cattle breeding in Russia, Kazakhstan, and Mongolia. The concentric principle of territorial organization (original landscape planning of steppe pastures) predetermined the circle as a criterion of nomadic ideas about the surrounding world and reflected the inclination to live in harmony and agreement with nature.

Proceeding from the above, we can state that modern science has not yet mastered the methods of identifying various traces and consequences of interaction between nature and people on the territory of the Great Plains of northern Eurasia in the period of the so-called steppe nomadic empires. Studying these consequences is very important for working out the basics of sustainable nature use and the territorial development of steppe regions under the present-day conditions. Modern science should detect the results of the centuries-long impact of nomadism on the formation of open (steppe, mountainous–steppe, forest–steppe, and desert–steppe) landscapes of Eurasia. This goal may be accomplished within the framework of new knowledge fields, such as historical geocology and historical steppe studies.

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