

Eastern Europe within the Ancient World-Systems*

Tatyana L. Shestova

Eastern Europe is considered as a space of the world trade systems expansion/contraction process in the early world-systems from Chalcolithic to early Iron Age. The author identifies system-forming agents and six major periods in the development of the trade relations in the ancient world which involved Eastern Europe. The paper shows the relationship between the boundaries of early exchange systems and metallurgical provinces.

Keywords: *early world-systems, expansion/contraction of world-systems, Eastern Europe, system-forming subjects, the basic trade-system element, metallurgical provinces, Balkan-Carpathian, Circumpontic, Trans Eurasian, Greek and Roman trade systems.*

In recent decades there have been many works devoted to the origin of the world economic system and to the role of early civilizations in the formation of the foundations of long-distance trade (Frank 1993; Frank, Thompson 2005; Gills and Thompson 2006; Chase-Dunn and Manning 2002; Chase-Dunn *et al.* 2010; Chase-Dunn and Hall 1997; Hall *et al.* 2009; Abu-Lughod 1989; Barfield 1989; Grinin, Ilyin, and Korotayev 2012; Grinin and Korotayev 2012). Unfortunately, the authors of the world-system approach – Andre Gunder Frank, Barry Gills, William Thompson, Janet Abu-Lughod, Christopher Chase-Dunn, Thomas Hall and others – commonly pay little attention to the regions located in the north of the early civilizations and, in particular, to Eastern Europe. For example, Frank and Thompson excluded Eastern Europe from the list of areas of economic expansion, when highlighting their indicators of the world-systems ‘expansion/contraction’ in the early Iron Age (Frank and Thompson 2006: 144). However, in the fifth millennium BC, this region was a part of the Afro-Eurasian chalcolithic cultural and economic exchange belt. We also know from Herodotus that in the first millennium BC, the Northern Black Sea area with adjoining steppe and forest territories was one of the most attractive regions for the development of the Greek transit trade.

The archaeological findings indicate the presence of relatively stable relations between Afro-Eurasian regions since the late fifth/early fourth millennium BC. In the Eneolithic era, copper became the basic element for the development of the trade system. The first copper mining sites and metalwork centers defined the initial contours of the fu-

* This study has been supported by the Russian Science Foundation (Project No. 15-18-30063 ‘Historical Globalistics: historical evolution, current state and forecast development scenarios for global networks of flows, interactions and communication, global processes, and planetary institutions, the role of Russia and BRICS’).

ture world-system. One can say that the wide spread of metals fueled the long-distance trade in the ancient times.

The present article is devoted to Eastern Europe as an area of world-economic meaning during the Bronze and early Iron Age, especially as bridge between different regions. We can distinguish six major periods in the development of the trade-economic relations in the ancient world, which involved Eastern Europe. The first four periods can be described only via archaeological and ethnographic data. After the first millennium BC, there exist written records of the history of the region.

Table 1. Eastern Europe in the early world-systems

Period	Archaeological era		World-economy	System-forming subject
4500–3500/3200 BCE	Chalcolithic		Balkan-Carpathian	copper
3200–2500 BCE	Bronze Age	Early	Circumpontic I	bronze
2400–1800 BCE		Middle	Circumpontic II	cattle
1700–1200/900 BCE		Late	Trans Eurasian	tin
800–200 BCE	Early Iron Age		Greek	grain
200 BCE – 400 AD			Roman	silver

Eastern Europe within the Chalcolithic Exchange System (4500–3200 BCE)

According to archaeological data, copper products were used in the territory of the Great Russian Plain from Transnistria to the Lower Volga region and in the Caucasus since the end of the fifth and the beginning of the fourth millennium BCE.

The source of metal technologies in Eastern Europe was the Balkan-Carpathian metallurgical center, where in the fifth millennium BC the so-called metallurgical revolution took place. We denote as ‘metallurgical provinces’ those areas where peculiar technologies of metal processing were developed and a certain range of manufactured goods was produced (see Chernykh 1978). We can suppose that the territory of metallurgical provinces roughly coincided with the territory of the ancient trade-economic systems (world-economies). One can find the earliest centers of East-European metallurgical industry in the Balkan-Carpathian metallurgical province.

In Eastern Europe the two oldest areas of metallurgical distribution were located in the south (the southern lands of the Russian plain from the lower part of the Dniester River to the Lower Volga region) and in the southeast (North Caucasus and Transcaucasia).

The south-western area of the Eastern European metal industry was directly linked to the Balkan-Carpathian region, which was the source both of technologies and products, and also of copper (in the form of bullion or of ore). Fur, fish, honey, agricultural products, leather, and livestock were delivered in exchange from the Russian Plain. At that time the cattle-breeding was not widely developed in the southern Russian lands. The Eneolithic communities were engaged mainly in hunting and floodplain farming. Un-

til the Holocene cooling in the second half of the fourth millennium BCE, the climate conditions were quite favorable for this.

The largest East-European socio-economic entity of that period was the chalcolithic Trypillian (named after Trypillia village near Kiev); its western part was located in the territory of modern Romania and Moldova and the eastern part – in the Volga-Don inter-fluve (about the culture with respect to social-political and economic processes see Drenan *et al.* 2011: 155–159). Those territories were united into a stable system of relationships which provided a distribution of technological innovations and preservation of social and cultural characteristics. The direction of the relationships in this territory can be defined by the vector from the Balkan-Danube region to the lower Volga region.

The southeastern area (the North Caucasus and Transcaucasia) was associated with Eastern Anatolia with its ancient centers of metal processing (Çatalhöyük *et altera*). This can be traced by the type of houses, ceramics and other objects of materialised culture.

In the second half of the fifth and the beginning of the fourth millennium BCE, we find in the North Caucasus Pricked Pearls Pottery culture (the most ancient metal products found on the territory of the Caucasus can be attributed to this culture) which had links both with Trypillian culture and with Transcaucasia.

Transcaucasia, which originally had been just a mining area for the metallurgical centers of Western Asia, gradually became a place of metal processing. The most ancient Eneolithic culture of Transcaucasia – the Shulaveri-Shomutepe culture – was during its decline period connected with Eastern Anatolian centers of copper mining and processing (Ergani-Maden and others).

The final phase of this cycle is associated with the collapse of the Balkan-Carpathian metallurgical province. Most historians believe that it was triggered by the end of the so-called Holocene climatic optimum (between 7000 and 3500/3200 BC) and the beginning of the Cold Epoch, which caused a concentration of population previously inhabiting the Russian Plain in the areas adjacent to the Black, Azov and Caspian Seas. As a result of the collapse of the Balkan-Carpathian metallurgical province many metalworking techniques, typical for the Balkan-Carpathian period, were lost; some types of products also disappeared. All this indicates a serious transformation in the structure of global economic relationships (Christian 2011).

Eastern Europe in the Early Bronze Economic Systems (between 3500 and 2500 BCE)

At the turn of the fourth and third millennium BCE a new stage in the development of the global economic relations started. It was connected with the emergence of urban civilizations and marked the beginning of the Bronze Age. During this period, new systems of long-distance trade started to develop to replace the old Eneolithic system. This new system was formed by the urban centers of bronze civilizations. Alongside with bronze itself, the basis of the trade exchange was constituted by copper, arsenic and some other ores, used for the production of bronze.

When copper is mixed with other metals (*e.g.*, with lead, arsenic, zinc, antimony, and later – with tin) the resulting alloys are relatively low melting, so it was rather easy to transport the bronze ingots to the places of metallurgical production. The bronze technology had greatly expanded the area of metal processing which resulted in a rapid economic growth in the regions of bronze dissemination.

To the north of the region of the earliest civilizations there were centers of crafts and trade, which were gradually involved in the process of further exchanges. Eastern Europe was one of the most promising areas for cultural and economic expansion of the bronze centers.

Archaeologists think that during that period the southern part of Eastern Europe was related to the so-called Circumpontic (widely around Black Sea) metallurgy province which included the Balkan-Carpathian region, Asia Minor, Eastern Mediterranean, the Caucasus, and southern Russia with Caspian regions and the Southern Urals (Chernykh 1992).

Within the entire Circumpontic province one can observe relatively common manufacturing techniques of bronze, including the set of tools and manufactured products, as well as the presence of stable relations between the regions of metal ores mining and metal processing. In the same period, in the vast territories of the Russian Plain from the Urals to the Dnieper, and from the Sea of Azov to the Middle Volga existed a vast cultural and historical community. It is often called 'Pit-Grave culture' (or Yamna culture from 'yama' [pit]) (though in fact, this culture is an amalgamation of several cultures). It is believed, that the members of this particular cultural and historical community brought the ranching traditions to the steppe zone. Under the conditions of a cold climate animal husbandry was a more effective form of farming than agriculture. Cattle leather, along with the products of hunting and gathering, was exported on a large scale from these territories.

The peculiarity of the period was the emergence of a large number of copper and arsenic mines, indicating the formation of centers of local industry. In the Caucasus, Southern Urals, and the Donbass region, mining was actively developed. During this period, rich Kargalinsky deposits of copper ore and sand were discovered in the South Urals.

In the North Caucasus an amazing Maikop culture developed (comparable to the craft cultures of Mesopotamia and the Levant of that time), the Kura-Araxes culture originated in the Caucasus, and southern Russian steppes used Balkan-Carpathian and local ore materials. All these centers of metal production were functioning within a single large world-economy.

Eastern Europe in the Middle Bronze Age World-System (between 2400 and 1800/1700 BCE)

In the middle of the third millennium BCE, a new cycle of the Eastern European cultural and economic development started. For unknown reasons, in the second half of the third millennium BCE a rapid population growth started in the belt of the early civilizations and in the territories to its north. This led to an increase in the number of permanent settlements, and fostered cultural and technological exchanges. Almost continuous flow of spices, fruit, cattle, fur, wood, ocher and other goods had been moved from the centers of civilization to the periphery. In the Afro-Eurasian territory several large exchange systems were formed, characterized by the stable economic relations and the direction of trade flows to a common center. The trade flows in East-European territory at that period were focused on the Balkan-Anatolian economic center, flowing around the Black Sea from the west (through the Danube) to the east (through the Caucasus).

In Eastern Europe a sharp rise in the mining and metallurgical industry was observed, the amount of objects made of bronze and copper that dated to this period, increased almost by ten times.

The main object of exchange at this period was cattle since the rapidly increasing live-stock of cattle allowed intensifying socio-economic processes. In the southern borders of Eastern Europe a number of cultures developed highly artistic craftwork. Products made of gold, silver, and precious stones became the objects of extensive exchange. In the North Caucasus, the Maykop culture flourished, while in the Caucasus the great Trialeti culture was formed. Both these cultures were characterized by rich burial mounds and were closely connected with each other and with the highly developed civilizations of Asia Minor.

The Black Sea cultures passed their achievements to the steppe regions of the Dnieper and the Don-River where animal husbandry was actively practiced. The Volga-Don communities (where breeding sheep, cows, and horses dominated) maintained ties with their neighbors not only via the waterways, but also by land. During this period wheeled vehicles were invented. A large four-wheeled carriage was found in the catacomb settlement in the Rostov region.

The intensification of social and economic processes led to the collapse of a unified Circumpontic province with relatively independent technological branches and, in general, to the reorientation of the exchange flows. By the beginning of the second millennium BCE, many older copper ore centers, for example the one of Kargaly one, had stopped functioning, along with the decline of many trade routes.

Eastern Europe in the Late Bronze World-System (between 1800/1700 and 1200 BCE)

In the second half of the second millennium BCE, several new major systems of exchange were formed in the territory of Afro-Eurasia as a result of processes of colonization and resulting from the transition to the Late Bronze technologies based on the use of tin. This period witnessed the emergence of the first transcontinental system of relationships which involved the territory from the Atlantic to the Pacific Ocean and from the African Nubia to the White Sea. During this period Eastern Europe became an active agent of the world-economy; through its territory a strategically important Trans-Eurasian Tin road was outlined which supplied the eastern part of the former Circumpontic province with raw materials. It is most probable that the second strategic commodity for Eastern Europe – horses – also moved along the Tin road. During this period, the late primitive communal system of relations was spread in the territory of the Russian plain.

After the collapse of the Circumpontic metallurgical province, technologically mainly characteristic by the usage of arsenical bronze, several new metallurgical provinces emerged, each establishing close links to different mining and metallurgical centers.

The western regions of Russian Plain joined the *European* metallurgical province; the eastern regions became parts of the *Eurasian* metallurgical province formed at that period. In both provinces tin was used for the production of bronze and complex alloys. The Caucasus remained as an independent metallurgical province, where arsenic bronze was still used.

The so-called *carcass culture* spread, which used the classic copper-tin bronze spread in the area spanning from the Dnieper to the Lower Volga. For its production the local ore and materials imported from the Urals, Western and Eastern Siberia, Kazakhstan and Central Asia were used. During this period, the powerful mining centers were developed in the Altai Mountains and in the Transbaikal region. The Siberian cassiterite (tin ore) was transported to the south – to the Mongolian steppes and further to China, and also to the west – across the Ural to the Volga region. The Siberian tin even reached the Dnieper region,

where it competed with tin coming from Central Europe. Large mining centers emerged in the northern Kazakhstan. At that time the copper (malachite and azurit) mines of Dzhezkazgan and Kenkazgan extracted about two million tons of copper ore.

In the Late Bronze Age the demand for horses sharply increased, although they continued to be a very rare and expensive commodity. The horse trade gave a serious turnover and occupied the second place in the Eastern European market after the metal trade.

In the west of the Russian Plain the 'solar stone' (amber) trade flourished (Gimbutas 2004). Along the Eastern Europe border were offshoots of the Amber Road for the transfer of amber from the Baltic Sea to Rome. Within Eastern Europe amber moved to the Volga region, the Caucasus, Iran, the Urals, Siberia, Baikal, and China.

The so-called Seima-Turbinsky phenomenon (from Seima settlement in the Nizhny Novgorod region and Turbino settlement in the Perm region) also dates to this period (Kovtun 2012). This phenomenon consists in the existence of a certain similar cultural and technological tradition in technological practices in the area from the Ob-River to the Oka-River during the second half of the second millennium BCE. A thorough study of this phenomenon led to the discovery of powerful migratory movements, which went from the Altai to the west across the Urals to the Middle and Upper Volga via two flows along the border of taiga and steppe. Perhaps, these migration flows played a certain role in the formation of the Eurasian metallurgical province and the Trans-Eurasian tin way.

The second heyday of the Kargaly mines dates to this period. In the territory of a few hundred hectares a large number of ancient mines with deposits of copper and sandstones was found, annually providing several tons. The bronze production progressed to the north-west of Eastern Europe, reaching the Lake Onega. In the center and north-west of the Russian Plain during this period the Fatyanovskaya culture (named after the settlement Fatyanovo in the Yaroslavl region) emerged whose members possessed the skills of manufacturing copper and bronze. However, the findings of metal products in Fatyanovo are quite a few. Archaeologists believe that the inhabitants of this region had some links with the cultures of western Russia, although they used also the local Volga copper for their products. Somewhere to the south, the Middle Dnieper culture was located which was close to Fatyanovo.

Meanwhile, serious changes took place in the Caucasus. In the middle of the second millennium BCE in the Caucasus there started the construction of cyclopean structures (stone towers and fortresses) whose emergence is associated with the transition to the early urban type of settlements. The Transcaucasian cities became important strongholds along the trade routes connecting the Caucasus and southern Russian steppes with the Persian economic centers.

The peculiarity of the period is the scale of exchange processes. In Eastern Europe numerous treasures dating to the fifteenth to twelfth centuries BCE are found, including the objects of the Siberian, Aegean, Central European, Mesopotamian, and Chinese origin.

During this period, in the south of Eastern Europe there appeared the Cimmerians, who roamed in the northern Black Sea coast at the threshold of the second and first millennia BC. The Cimmerians were just the first who tried to monopolize transit trade of the bronze civilization with Eastern Europe.

By the end of the second millennium BCE a recession worsened and caused at the turn of the second and first millennia BCE deep crisis of economic relations between the Rus-

sian Plain communities and the neighboring regions. The collapse affected the former economic centers, and affected the peripheries of the world-economies.

Between the eleventh and the ninth centuries BCE, there was a sharp collapse of cultural and technological exchanges in the whole territory of Afro-Eurasia, including Eastern Europe. The conversion to the iron industry had undermined the existing system of exchanges, making the foundation of the ancient trade – trade in metal – ineffective. The widespread availability of iron ore, including its accessibility in the forest zone, slowed down the process of social stratification, and led to a reduction of trade and economic activity. In Eastern Europe the demographic decline started sharply reducing the number of trade and craft centers, trade routes and also mining and metallurgical industry.

Eastern Europe within the Greek World-Economy (between 800 and 200 BCE, Early Iron Age)

Between the end of the ninth and beginning of the eighth centuries BCE, there occurred a revival of trade. In the western part of Afro-Eurasia several trade and economic systems were formed, the largest of which were the Phoenician, Greek, and Assyrian/Persian systems. In the first millennium BCE the maritime trade produced major/important turnovers. The invention of an oblique sail during this epoch made it possible to go in crosswind. The Phoenician and Greek ships sailed across the stretches of the Mediterranean, went out into the Atlantic Ocean and the Black (Euxine Pont) and Azov (Maeotian Lake) seas.

The driving force of the formation of a new trade and economic system in the former Circumpontic region was the Great Greek colonization (between the eighth and sixth centuries BCE). In the territory of Eastern Europe the exchange processes come into life, as well as the flourishing trade. The main trade moved to the coasts of Pontus and Meotida where a network of Greek colonies, involved in transit trade, emerged. The wealth of the cities in the northern Black Sea coast such as Olvia, Panticapaeum, Hersonissos, Feodosia, Gorgippia, and Tanais, indicate the activity of trade exchange. Eastern Europe had become a part of the Greek world-economy.

Between the eighth and seventh centuries BCE, the Iron Age enters into force on the whole territory of Eastern Europe, including the northern outskirts of the forest zone. Between the eighth and sixth centuries, the iron production increased by an order of magnitude. The use of iron tools significantly increased the productivity in agriculture, which, in turn, stimulated the development of handicrafts and trade.

The main commodity which produced a turnover in the Greek world system was *grain*. In addition to grain, the Greeks exported from Eastern Europe cattle, leather, furs, honey, fish, eggs, amber, precious and semiprecious stones. An important item of export from Eastern Europe remained horses. With the development of sailing timber became an important subject of trade. The started usage of the Caucasian oil and bitumen for construction purposes refers to the same period. In their turn, the Greeks exported olive oil, wine, ceramics, and fabric, the trade of metals and metal products continued to develop; thus, they were actively involved in transit trade.

The questions about ancient slave trade remain hotly debated. The ‘era of classical empires’ that started in the mid-first millennium BCE was accompanied by numerous bloody wars and campaigns of conquest, as well as by the development of trans-regional routes and ambitious urban constructions; this was the era of ‘classical slavery’. Many sources evidence the existence of slave markets and prospering human trafficking. How-

ever, the main commodity in the exchanges in the Greek Black Sea area in the early Iron Age was not slaves, but grain which constituted the basis of the Pont market.

A characteristic feature of this phase was the introduction of monetary trade. The first coins are believed to be introduced in Asia Minor Lydia in the seventh century BCE, and the Lydian king Croesus is credited to set the standards of gold and silver coins, introduced in the sixth century BCE. There also appeared coins in the Greek Black Sea coast. Alongside with money, an important element of the world-economy was the system of weights and measures. In the middle of the first millennium BC, the Greek system of weights and measures was established in the areas adjacent to Aegeide and it was used in Eastern Europe too.

The Kingdom of Bosphorus with its capital in Panticapaeum (now Kerch) played a significant role in the development of the network links in the Northern Black Sea. Formed in the fifth century BCE around the Kerch and Taman peninsulas, the Kingdom of Bosphorus was the most important exporter of goods from the Black Sea to Greece. In the first century BCE, the Kingdom moved under the authority of Rome.

In the first millennium BC, in the lands of the semi-nomadic tribes of the south Eastern Europe there appeared pre-state and, possibly, early state formations (Rybakov 1993). It is unknown to what extent the Cimmerians who dominated in the region before the seventh century BCE approached the level of state formation. The Scythians who replaced them were at the stage of late archaic or early state system. In the sixth century BCE, the Scythians carried out military campaigns to Asia Minor and were at war with Persia. In the fourth century BCE, the Scythians developed/maintained a steady political unity, of which the prerogatives spread throughout the whole territory of the north-western Black Sea. During the reign of Ateas, in the fourth century BCE, they successfully fought the Macedonian kings and governors besieging their borders from southwest. The Scythians controlled the core trade with Greece, thus, competing with the mighty Bosphorus. The power of the Scythians was undermined by the invasions of the Sarmatians in the third century BC who displaced the Scythians to the Crimea, where they continued to control successfully the grain trade in the western Black Sea region before the invasion of the Goths in the third century BCE.

The first millennium BCE is the first period in the history of Eastern Europe which is documented by written sources with the works of Herodotus (*c.* 484–425 BC) being the most important among them. According to the ‘Father of history’, the Northern Black Sea Coast and the lands to the north-east Maeotis were inhabited by the Scythians:

The closest from the Borysthene trade harbor (Olbia) (and it lies approximately in the middle of the whole earth Pontic Scythians) live Callipydes – the Hellenic Scythians; next to them there is another tribe called the Halizones. They, together with Callipydes, have the same lifestyle as other Scythians, but they sow and eat bread, onion, garlic, lentils, and millet. Further to the north from the Halizones live the Scythian farmers. They sow grain not for their own subsistence but for sale. And beyond the Scythians live the Neuri, and to the north, as far as I know, there is already the uninhabited desert. These are the tribes along the river to the west of Hypanis Borisphen (Herodotus IV, 17).

Speaking about the Scythian legends, Herodotus several times mentioned the sacred golden objects, which indicated a peculiar meaning of this metal for the Scythians. Numerous

findings of magnificent golden objects confirm the high level of the Scythian metalwork technologies and material culture in general.

The main flow of goods was by the Borysthenes (the Dnieper), which became the main commercial artery of Eastern Europe. It was the route both for the 'gold' of the Greek Black Sea trade and for corn trade. Apparently, the trade flow along the Tanais (the Don River) led to the steppe regions of the Lower Volga, where one could cross the steppe and confluents and reach the Volga, and then get through the Kama to the Urals. These lands were rich in cattle, fish, eggs, honey, copper ore, gold, and stone. Perhaps, tin was occasionally delivered from beyond the Urals for manufacturing bronze, although the Trans-Eurasian tin route had virtually declined by that time. The wide spread of the Scythian culture areas in the first millennium BC – from the Dnieper region to the Yenisei – evidences the existence of functioning links between the Northern Black Sea and the Urals and Siberia.

The trade relations were actively developed in the Caucasus. Through the seaside settlements, the North Caucasian lands had strong ties with the Greek world, through the Caucasus and the Caspian Sea to Persia. The Koban culture (from seat Koban in North Ossetia) became a notable phenomenon with extensive links with steppe cultures of the Northern Black Sea and with Transcaucasia and Persia. First, the Kobans (farmers and pastoralists) borrowed the samples of horse harness from the inhabitants of the steppe and brought them further to the regions of Asia Minor. During this period, the horse became the object of the status property for the Kobans and other mountaineers. Parts of horse harnesses are found in tombs of rich people. The boom was achieved in the middle of the millennium, when the Scythians attacked Persia, while the Greek colonies flourished on the Pont coast, and the Kingdom of Bosphorus originated. The weakening of the Greeks' colonization activity, the great Greco-Persian confrontation, the crisis of the classical polis system and a number of other factors caused the stagnation of economic development of the era of classical antiquity.

After the campaigns of Alexander the Great attempts were made to create a unified system of relationships throughout the whole western territory, supported by political and legal institutions, while the economy continued to exist within the framework of individual systems established in the middle of the first millennium BCE. Between the third and second century BCE the socio-economic development of the region passed through a serious crisis associated primarily with the fierce struggle between tribal and government organizations for control of strategic areas.

Eastern Europe within the Roman World-System (between 200 BCE and fourth century AD)

Between the end of the first and the beginning of the second millennium BCE, Rome became not only a political but also an economic center around which a stable system of world-economy was formed (Gills and Thompson 2006). This system was based on a centralized circulation of silver.

Eastern Europe was included into this system in the first century BCE after the Romans had defeated the Pontic King Mithridates's troops. The heyday of the Eastern European periphery of the Roman world-economy occurred in the second century AD under the reign of the Roman Emperor Trajan. Since that time, Roman silver became the basis of

exchange in Eastern Europe and its amount allows it to be the equivalent of almost all goods circulating in the region.

Between the first century BCE and second century AD, the territories along the Black Sea coast and related trade routes began to get involved into a new trade and economic system. Unlike the Greek system, which was built on the principle of a network of coastal colonies engaged in transit trade, the Roman system functioned mainly within a single empire, as well as in the adjacent territories. *Silver* was important product of the Roman export. Large quantities of silver were brought to Rome from all parts of the empire as taxes, and then silver was used as an equivalent of the value of all goods in the state as well as in the trade with external agents. Huge amounts of silver circulated in Rome and one can hardly even approximately estimate its amounts. We can only note that thousands of small (a few coins) and large (multikilogram) treasures with Roman coins as well as with products made of Roman silver have been found in Europe. A large number of them have been found in Eastern Europe, primarily in the areas adjacent to the water trade arteries.

Within the empire a developed network of roads, including bridges, ferries, postal stretches had been highly functional, and uniform laws and trade regulations had been in place. In the center and the periphery of the Roman world-economy a unified system of weights and measures had been established. Some of the elements of these weights and measures systems survived in tsarist Russia until the twentieth century.

Rome established its world-system fairly quickly – within a few decades, ‘during incomplete fifty years’, as Polybius wrote.

The main opponent of Rome on the way to hegemony was the Phoenicians' Carthage, controlling the south and west of the Mediterranean. On the continent, the main focuses of expansion were the Gallic lands. Having conquered the Gauls, the Romans implemented their own rules in the territory from Marseille to Normandy and Brittany. With the defeat of Carthage the Mediterranean Sea became the Inland Sea, and Rome became the sole leader in the western part of African-Eurasian region and the center of the new trade and economic system. It was quite easy for the Romans to subdue the Black Sea territories. ‘Veni, vidi, vici’ Caesar said after a swift victory over the Bosphorus state.

At the threshold of the old and new era a fairly stable bipolar system of Imperial Rome and China was established in the African-Eurasian territory. The lack of real competition for several centuries provided prosperity of both world-economies. It was during this period that the permanent connection between Rome and China was established, although as sources confirm ‘no Roman merchant of imperial era contacted Chinese merchants personally’. Silk, porcelain and other products from China were delivered, passing from hand to hand. All interested mediators sought to maintain stability of the system, quickly restoring its equilibrium in case of vibrations caused by political reasons or intersocietal conflicts (about Silk Road see Benjamin in this volume).

Here is an illustrating example of the Bosphorus kingdom. At the turn of the second and first century BC the kingdom of Bosphorus, which controlled the transit trade in the north-eastern sector of the Black Sea, became the arena of a series of powerful social explosions, the largest of which was a slave revolt led by Savmak. King of Pontus Mithridates Eupator who came to help the Bosphorus rulers actually seized the power in Panticapaeum, de facto attaching the land to his own state. Mithridates, who had created a large power, was virtually the only strong opponent of Rome in Asia Minor and the south-eastern Black Sea region. Having launched the attack on the Romans in Macedonia, Mith-

ridates was defeated and his territory became the Roman province. So the Northeastern Black Sea region and, consequently, the whole related business chain became the part of the Roman world-economy.

In the second century AD under the reign of the Emperor Trajan, the western part of Eastern Europe joined the Roman world-system. After crossing the Danube and establishing terminals, Trajan ensured continuous and direct penetration of the Roman tools of political and economic expansion into the Carpathian region and Eastern Europe. It was then that a significant mass of Roman silver had been brought into the central lands of Eastern Europe, reviving trade and economic activity. 'The Trajan era' which coincided with the global warming and favorable conditions for agriculture remained for a long time in the memory of the people who inhabited the south-west of the Russian Plain as the era of prosperity and wealth.

Concluding Remarks

Thus, the territory of Eastern Europe repeatedly became the zone of expansion/ contraction of the world economic systems which emerged and declined in the territory of Afro-Eurasia. The rise and the decline of these systems took place due to a number of factors: technological revolutions which changed systems of agricultural and handicraft production; climatic fluctuations which seriously affected the productivity and population growth; large migration waves which swept at this period from east to west over Afro-Eurasia, and also weaker backflows moving from west to east.

References

- Abu-Lughod, J. 1989.** *Before European Hegemony: The World System AD 1250–1350*. New York: Oxford University Press.
- Barfield, T. J. 1989.** *The Perilous Frontier: Nomadic Empires and China*. Cambridge: Blackwell.
- Chase-Dunn, C., Hall, T. D. 1997.** *Rise and Demise: Comparing World-Systems*. Boulder, CO: Westview.
- Chase-Dunn C., and Manning S. 2002.** City Systems and World-Systems. *Cross-Cultural Research* 36(4): 379–398.
- Chase-Dunn C., Niemeyer R., Alvarez A., Inoue H., and Love J. 2010.** *Cycles of Rise and Fall, Upsweeps and Collapses*. In Grinin L. et al. (eds), *Globalistics and Globalization Studies* (pp. 79–100). Volgograd: Uchitel.
- Chernykh, Ye. N. 1978.** Metallurgical Provinces and Periodization of Early Metall Age in the Territory of USSR. *Soviet Archeology* 4. In Russian (Черных, Е. Н. Metallургические провинции и периодизация эпохи раннего металла на территории СССР. *Советская Археология* 4).
- Chernykh, Ye. N. 1992.** *Ancient Metallurgy in the USSR. The Early Metal Age*. New York: Cambridge University Press.
- Christian, D. 2011.** World Environmental History. *The Oxford Handbook of World History* / Ed. by J. Bentley. Oxford University Press.
- Drennan, R. D., Hanks, B. K., and Peterson, Ch. E. 2011.** The Comparative Study of Chiefly Communities in the Eurasian Steppe Region. *Social Evolution & History* 10(1): 149–186.
- Frank, A. 1993.** Bronze Age World System Cycles. *Current Anthropology* 34: 407–408.

- Frank, A. G., and Thompson, W. R. 2005.** Afro-Eurasian Bronze Age Economic Expansion and Contraction Revisited. *Journal of World History* 16: 115–72.
- Frank, A., Thompson, W. 2006.** Early Iron Age Economic Expansion and Contraction Revisited. *Globalization and Global History* / Ed. by Gills, B., and Thompson, W. London – NY: Routledge.
- Gills, B., and Thompson, W. (Eds.) 2006.** *Globalization and Global History*. London; New York: Routledge.
- Gimbutas, M. 2004.** *The Balts. People of Amber Sea*. Moscow: Centerpolygraf. In Russian (Гимбутас, М. *Балты. Люди янтарного моря*. Москва: ЗАО Центрполиграф).
- Grinin, L. E., and Ilyin, I., and Korotaev, A, (eds.) 2012.** *Globalistics and Globalization Studies*. Volgograd: Uchitel.
- Grinin, L., and Korotayev, A. 2012.** The Afroeurasian World-System: Genesis, Transformations, Characteristics. In Babones, S. J., and Chase-Dunn, Ch. (eds.), *Routledge Handbook of World-Systems Analysis* (pp. 30–41). London–New York: Routledge.
- Hall, T. D., Chase-Dunn, C., and Niemeyer R. 2009.** The Roles of Central Asian Middlemen and Marcher States in Afroeurasian World-System Synchrony. In Trinchur, G. (ed.), *The Rise of Asia and the Transformation of the World-System* (pp. 69–82). Boulder, CO: Paradigm Press.
- Kovtun, I. V. 2012.** Seima-Turbino Antiquities and Indo-Aryans. *Vestnik of Archaeology, Anthropology and Ethnography* 4 (19): 53–70. In Russian (Ковтун, И. В. Сейминско-турбинские древности и Индоарии. *Вестник археологии, антропологии и этнографии* 4 (19): 53–70).
- Rybakov, B. A. 1993.** *Kievan Rus and the Russian Principalities XII–XIII*. Moscow: Nauka. In Russian (Рыбаков, Б. А. *Киевская Русь и русские княжества XII–XIII вв.* Москва: Наука).