

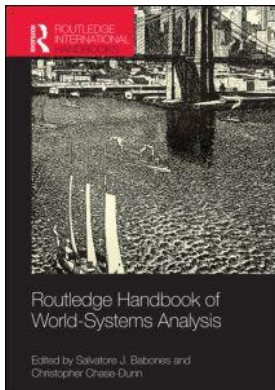
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### **The Afroeurasian world-system**

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# Part I

## Origins

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# 1. Before the long sixteenth century

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## 1.3

# The Afroeurasian world-system

## Genesis, transformations, characteristics

*Leonid Grinin and Andrey Korotayev*

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The Afroeurasian world-system (AEWS throughout) is the largest historical world-system. In the period of its largest expansion in the thirteenth to fifteenth centuries it encompassed almost all the societies of Europe and Asia and a substantial part of African societies. In the sixteenth to nineteenth centuries the AEWS incorporated all the rest of the world-systems, as a result of which it was transformed into the planetary world-system. Thus, the AEWS was the predecessor of the modern world-system, which is why the roots of many of its relationships and phenomena go deep into the history of the emergence and transformations of the AEWS (Chase-Dunn and Babones 2006; Chase-Dunn and Hall 1997; Grinin and Korotayev 2009; Korotayev 2005, 2008; Korotayev et al 2006a).

In addition to the AEWS, there were several world-systems in existence (in the Americas, Oceania, Australia) prior to the transformation of the AEWS into the modern planetary world-system. However, from the time of its formation and during the course of the subsequent millennia, the global supremacy of the AEWS was constant. It had the greatest tendency toward expansion, growth of complexity and growth rates. It is significant that by the early first millennium CE, it encompassed more than 90 percent of the world's population (Durand 1977: 256).

### Outline of Afroeurasian world-system history

**In the tenth to eighth millennia BCE** the transition from foraging to food production took place in the Fertile Crescent area, as a result of which one could observe a significant growth in the complexity of the respective social systems.

**In the eighth and fifth millennia BCE** the AEWS expanded and the formation of effective informational, cultural, and even trade links between its parts was apparent.

**In the fourth and third millennia**, a large number of cities formed, first in Southern Mesopotamia, and then in other parts of the AEWS. Writing systems, large-scale irrigation agriculture, and new technologies of tillage developed. The first early states and civilizations formed on this basis.

**In the late third and the second millennia BCE** in Mesopotamia, the succession of such large-scale political entities as the Kingdom of Akkad, the third Dynasty of Ur, the Old Babylonian and Assyrian Kingdoms took place. The hegemony struggle in the core of the AEWS moved to a new level with the clash between the New Kingdom of Egypt and the Hittite Empire. In the

second millennium BCE, a new AEWS center emerged in the Far East with the formation of the first Chinese state of Shang/Yin.

**In the late second and first millennia BCE**, iron metallurgy was diffused throughout the AEWS, which led to a significant growth of agricultural production in the areas of non-irrigated agriculture of Europe, North Africa, the Middle East, South Asia, and the Far East. This also led to the rise of crafts, trade, urbanization, and military capabilities. In the first millennium BCE, the hegemony struggles moved far beyond the Near East and the enormous Persian Empire emerged. In the second half of the fourth century BCE, Alexander the Great's campaign created (albeit for a short period of time) a truly Afroeurasian empire encompassing vast territories in all three parts of the world.

**In the late first millennium BCE**, two new empires formed: the Roman Republic and the Chinese Empire (Qin, and later Han). An unusually long network of trade routes (the Silk Route) then developed between the western and eastern centers of the AEWS.

**In the first millennium BCE and the early first millennium CE**, in connection with climate change and some important technological innovations (saddle, stirrup, etc.), a new type of nomadic society emerged. These new nomads were able to cover enormous distances and to transform themselves very quickly into a sort of mobile army. As a result, the entire enormous landmass of the Eurasian steppe belt became the nomadic periphery of the AEWS.

**In the first centuries CE**, as a result of mass migrations and military invasions of peoples from the barbarian periphery, the ethnic and cultural landscape of the AEWS experienced very significant changes. The Western Roman Empire disappeared as a result of the barbarians' onslaught. The Han Empire in China collapsed earlier. As a result of stormy events within the AEWS, a considerable number of new states emerged; it is noteworthy that some of them (such as Turkic khaganates) played roles as trade links between the East and the West. The first millennium CE saw the emergence and wide diffusion of new world religions.

**In the first half of the second millennium CE**, the Crusades (the eleventh to thirteenth centuries CE) were one of the most important world-system events; among other things they opened a channel of spice trade with Europe. An enormous role was played by the Mongolian conquests of the thirteenth century that brought unprecedented destruction and political perturbation. However, the later emergence of an exceptionally large Mongolian empire secured the diffusion of a number of extremely important technologies throughout AEWS; it also established a network of trade routes connecting East Asia with Europe that was unparalleled as regards its scale and efficiency.

New qualitative changes within AEWS were connected with the start of the Great Geographic Discoveries and the AEWS' transformation into the capitalist world-system.

### **Some special features of the Afroeurasian world-system and its main world-system processes**

The AEWS featured some important peculiarities that stemmed from its scale, its extreme age and certain specific geographic conditions:

- 1 **The special complexity (supercomplexity) of its structure** that was determined by the size of its territory and the population concentration patterns. A very large world-system such as the AEWS is a *supersystem that integrates numerous subsystems*, including states, stateless polities and various spatial-cultural and cultural-political entities, such as civilizations, alliances, and cultural areas.
- 2 **The primary/autochthonous character of the major part of social and technological innovations.** Numerous borrowings and technological diffusion currents occurred almost

- exclusively within the AEWS due to the enormous diversity of the available sociopolitical and economic conditions. Sea communications and landscape features allowed major flows of information, technologies and commodities to reach all the major AEWS centers sooner or later. This secured a certain (albeit imperfect) synchronization of processes in the different parts of the AEWS and raised the general speed of its development, as well as its stability.
- 3 **An exceptionally high speed of change.** The larger and more diverse the world-system, the higher the speed of its development. As a result, within the AEWS (as the largest world-system), growth rates were extremely high as the contacts became increasingly dense and the evolution of individual social systems was influenced ever more by macroevolutionary innovations diffusing throughout the system. This resulted in a significantly higher speed of development within the AEWS than in smaller world-systems (Diamond 1999).
  - 4 **A succession of qualitative transformations** changed the structure of the AEWS due to the high speed and substantial continuity of its development. The Near Eastern center emerged first, with the South Asian and Far Eastern centers forming later. After this came the emergence of the European center that eventually became the leading center.
  - 5 **The particularly important role of the barbarian (especially nomadic) periphery** was connected with certain peculiarities of climate and landscape, notably within the Eurasian Steppe Belt. For quite a long time, the development of the AEWS proceeded to a very considerable extent through the integration of its periphery, the transformation of a number of peripheral societies into semiperipheral ones, and the transformation of some of the semiperipheral societies into core ones (Hall et al 2009). As a result, the structure of the AEWS constantly changed; the flow of information and merchandise grew in complexity, as did the military-political interactions.
  - 6 **The vital role of water communications.** A number of communication networks with particularly high levels of contact density were able to emerge due to the presence of water communication systems (Mediterranean, Baltic Sea, Indian Ocean networks, etc.). The growth of the AEWS proceeded to a considerable extent through the incorporation of coastal areas suitable for colonization and trade and their hinterlands (Phoenician, or Greek colonization, Sawahili cities along the East African coast, etc.).

World-system processes and transformations can be understood much better if these systemic properties are taken into account. Such systemic properties account for the synchronicity or asynchronicity of certain processes and the presence of positive and negative feedbacks that can be traced for very long periods of time. We believe that special attention should be paid to the idea suggested by Chase-Dunn and Hall (1997: XI–XII) that a world-system is constituted not just by intersocietal interactions but by the whole set of such interactions. Thus, the level of analysis that is most important for our understanding of social development is not the level of societies and states, but that of the world-system as a whole. In this way, a fundamental system property (the whole is more than just a sum of its parts) is realized within world-systems. Changes and transformations in certain parts of a world-system can produce changes in other parts via what may be called an *impulse transformation*. Such change may be manifested in various forms (producing sometimes rather unexpected consequences). Thus, the blocking of spice deliveries to Europe due to the Turkish conquests in the fifteenth century stimulated the search for the sea route to India, which finally changed the whole set of relationships within the AEWS. Due to systemic properties, processes that started in certain parts of the AEWS were able to diffuse rather rapidly to most other parts of it (e.g., the rapid diffusion of the Black Death pandemic in the fourteenth century).



A particularly interesting type of systemic property manifestation is represented by **synchronized processes** that took place in various parts of the AEWS. One example of this is the East/West synchrony in the growth and decline of the population sizes of the largest cities from 500 BCE to 1500 CE in West Asia and East Asia (Chase-Dunn and Manning 2002). There is a similar synchrony in the territorial sizes of the largest empires (Hall et al 2009). Barfield (1989) argues that large steppe confederacies usually cycle synchronously with the rise and fall of the large sedentary agrarian states that they raid. These cycles are one hypothesized mechanism of the systemic linkages between East and West Asia (Hall et al 2009). Such synchronized processes within the AEWS have also been detected by students of the Bronze Age and earlier periods (Chernykh 1992; Frank 1993; Frank and Thompson 2005). Other examples of synchronized processes are the Axial Age transformations of the first millennium BCE (Jaspers 1953) and the military revolution and formation of a new type of statehood in Europe and Asia in the late fifteenth and sixteenth centuries CE (Grinin 2008).

Whilst considering the general trends of AEWS development, it is necessary to note that: (a) the AEWS (phase) transition to a new phase produced a diffusion effect (through borrowing, modernization, incorporation, etc.) of the respective innovations throughout territories that turned out to be unprepared for the respective independent transformation; and (b) the development of the AEWS was frequently accompanied by the decline/underdevelopment of some of its parts, which meant that the flourishing of some societies led to a temporary decrease in the overall level of development/complexity of the AEWS. In addition, all of the major processes (especially the communication development) within the AEWS were greatly affected by migrations that frequently caused chain reactions involving the movement of peoples and warfare, which created the necessary conditions for large-scale transformations (Frank 1993).

### The development of world-system links

The movement of the AEWS to every new level of development was inevitably connected with the expansion and strengthening of communication links and networks. Chase-Dunn and Hall (1997: 59) singled out the following main types of spatial links in world-systems: bulk goods exchange, prestige goods exchange, political-military interaction, and information exchange. They also note that the religions of the world constituted major innovations in the information networks and technologies of ideological power (Chase-Dunn and Hall 1997: 185). For this reason, it might make sense to single out cultural-ideological (civilization) interactions as a special type of world-system link, as they differ substantially from the usual information flows. Cultural-ideological interaction played a very important role within the AEWS, especially in its maturity. Since the eighth century CE all the civilized parts of the AEWS (with a partial exception of South Asia) consisted of actively interacting world religion areas (for more detail on the influence of the world religions on the evolution of AEWS see Korotayev 2004).

Initially, world-system analysis paid most attention to bulk goods trade (Wallerstein 1974), but for the period of the AEWS' formation, the most important role was played by information links, particularly the diffusion of innovations (Grinin and Korotayev 2009; Korotayev 2005, 2008). The presence of a pan-AEWS information network secured the diffusion of innovations throughout the AEWS. In general, the processes of innovation generation and diffusion played an immensely important role throughout the whole history of the AEWS.

A large-scale trade in strategic economically important items was already present in the framework of the emerging AEWS in West Asia. In particular, obsidian was transported from the Anatolian Plateau throughout the AEWS as early as the seventh millennium BCE. This is likely to

have been accompanied by trade in foodstuffs, leather and textiles (Lamberg-Karlovsky and Sabloff 1979). In the fifth and fourth millennia BCE, we have evidence of large-scale trade in metals (Chernykh 1992; Frank 1993), and there is even more evidence on large-scale trade in the third and second millennia BCE (Frank 1993; Wilkinson 1987). In the first millennium BCE, long-distance trade (including sea trade) became even more developed (Chase-Dunn and Hall 1997).

In the second half of the first millennium CE the Indian Ocean Basin saw the formation of a prototype of an oceanically connected world-system. In this enormous network of international trade an important role was played by merchants from countries which include Persia, Arabia and India (see Bentley 1996 for more detail). It is important to note that trade in this region was not restricted to luxury items but included a considerable number of bulk goods (dates, timber, construction materials, etc.).

Later on, the thirteenth and fourteenth centuries saw the emergence of a vigorous transcontinental trade network through the territories of the Mongolian states that connected, in a very tangible way, all the main zones of the AEWS. According to Abu-Lughod (1989), this world-system trade network had a greater complexity of organization and a larger volume than any previously existing network.

## Main phases of genesis and transformation

There are many of points of view regarding possible dates of the formation of the AEWS. For example, Frank and Thompson date its origins to the fourth and third millennia BCE (Frank 1993; Frank and Thompson 2005), while Wilkinson (1987) and Berezkin (Березкин 2007: 92–93) consider the second millennium as its beginning. We date the emergence of AEWS to a considerably earlier period: the tenth to eighth millennia BCE (Grinin and Korotayev 2009; Korotayev and Grinin 2006). However, some other world-system students believe that it only came into real existence in the late first millennium BCE (Chase-Dunn and Hall 1997, 2008; Hall et al 2009).

The approaches to this issue differ considerably depending on the world-system criteria employed. The criteria are as follows: the bulk good criterion (a more rigid one), the prestige good, or the information network (both softer criteria). The more rigid the approach, the more recent is the dating that it produces. However, dating also depends upon the general approaches to the emergence of the AEWS. For example, if, together with Chase-Dunn and Hall (1997: 150) we believe that by the moment of the initiation of the Silk Route there were three main independent world-systems (West Asian, Chinese, and South Asian) that merged later into a single world-system (AEWS), then it appears very logical to date the emergence of the single AEWS to the late first millennium BCE. However, if we begin from the basis that the West Asian world-system was, from the very beginning, the leader in respect of innovations, technologies, and social relations; that it greatly influenced the development of South Asia and the Far East; and that by the late first millennium BCE, the influence in the opposite direction was negligible (and hence we should speak about the incorporation of South and East Asia into the AEWS, rather than a merger of three equally important world-systems); then the origins of the AEWS must have been significantly more ancient.

In any case it is quite clear that the emergence of the AEWS was a rather prolonged process. It should also be noted that it was the Near East that experienced the earliest transition to food production (in particular the cultivation of cereals), large-scale irrigated agriculture, urban settlement patterns, metallurgy, writing, statehood, and empires. Hence, however we date the initiation of the AEWS, it is perfectly clear that the roots of its formation reside deep in time and certainly up to the beginnings of the agrarian (“Neolithic”) revolution in West Asia in the tenth to eighth millennia BCE.

Within this prolonged process of the genesis and transformation of the AEWS, it is possible to single out a few major phases:

*The first phase: The formation of contours and structure of the Middle Eastern core of AEWS (the eighth to fourth millennia)*

This period saw the finalization of the first stage of the agrarian revolution in the Near East. Following this, the second stage of the Agrarian Revolution was connected with the formation of large-scale irrigation and later intensive plow agriculture in the fourth to first millennia BCE (Grinin 2007; Korotayev and Grinin 2006). This period evidenced the beginning of the formation of long-distance and permanent information/exchange contacts. Those processes were accompanied by the formation of medium-complexity early agrarian societies, relatively complex polities, and settlements that distantly resembled cities.

In the fifth millennium BCE the Ubaid culture emerged in Southern Mesopotamia, within which the material and social basis of the Sumerian civilization were developed. The Uruk culture that succeeded the Ubeid was characterized by the presence of a considerable number of reasonably large settlements. Thus, by the end of the first phase, the Urban Revolution took place within AEWS; this revolution can be regarded as a phase transition of AEWS to a qualitatively new level of social, political, cultural, demographic, and technological complexity (Березкин 2007). By the end of the first phase, urbanized societies emerged (Pollock and Bernbeck 2005: 17), as well as the first early states, their analogues (Grinin 2003, 2008; Grinin and Korotayev 2006), and civilizations.

*The second phase: Development of AEWS centers in the Bronze Age (the third and second millennia BCE)*

This period saw fast growth in agricultural intensiveness and population in the AEWS. A relatively rapid process of urbanization in the AEWS was observed in the second half of the fourth millennium and the first half of the third millennium BCE, which then slowed down significantly until the first millennium BCE. One of the most important results of this period was the growth of political integration in the AEWS core societies, which was a consequence of complex military-political and other interactions. Primarily, in the AEWS, core political complexity grew very significantly from cities and small polities to large and developed early states (Grinin 2008; Grinin and Korotayev 2006). Secondly, the first empires emerged. Thirdly, from the third millennium BCE, there were cycles of political hegemony involving upswings and downswings (Frank and Gills 1993; see also Chase-Dunn et al 2010).

Parts of Europe were firmly included in the AEWS communication network, while new world-system centers emerged in South Asia and the Far East. However, none of them could compete with the West Asian center, whose territory and complexity grew rapidly. In this framework, the prestige goods' trade system reached a high level and was often supported by states. Trade links with South Asia were established through the Persian Gulf.

Key West Asian technologies (cultivation of West Asian cereals, breeding of cattle and sheep, some important metallurgy, transportation and military technologies) penetrated to East Asia (possibly through the Andronovo intermediaries), which is marked archaeologically by the transition from the Yangshao culture to the Longshan (see, e.g., Березкин 2007). In this way the formation of the main AEWS centers took place; these centers developed throughout the subsequent history of the AEWS, yet during this period such development was marked by the technological (and other) leadership of the West Asian center and the strengthening of (still rather weak) communication links between the various centers.

*The third phase: The Afroeurasian world-system as a belt of expanding empires and new civilizations (the first millennium BCE till 200 BCE)*

This is the time of the early Iron Age. In the first part of this period, the agrarian revolution within the AEWS was already finalized through the diffusion of the technology of plow non-irrigation agriculture based on the use of cultivation tools with iron working parts (see Korotayev and Grinin 2006). From this production base, enormous changes in the trade and military-political spheres took place, accompanied by a new upswing in urbanization and state development, including the emergence of a group of developed states (see Grinin 2008; Grinin and Korotayev 2006).

This is the Axial Age period, the period of the emergence of the second generation civilizations. The development of all the AEWS centers proceeded vigorously. The West Asian center was finally integrated with the Mediterranean world, whereas the European areas of the barbarian periphery were linked more and more actively with the AEWS centers through military, trade and cultural links. In South Asia, a new civilization formed and the first world religion—Buddhism—emerged. Trade links were established in the space stretching from Egypt to Afghanistan and the Indus Valley (Bentley 1996), and in general, all this territory developed military and political connections. The East Asian center of the AEWS also developed very rapidly; this period evidenced the emergence of its own super-ethnic quasi-religion, Confucianism.

During this period the belt of empires expanded, with New Babylonian, Median, Persian, Macedonian (and its heirs) empires in the center, the Mauryan Empire in South Asia, and Carthage in the West. The end of the period is marked by the formation of major empires at both extremes of the AEWS: the Roman Republic in the extreme West and the Chinese Empire in the extreme East.

*The fourth phase: The AEWS is integrated by the steppe periphery (200 BCE—the early seventh century CE)*

Around the second century BCE, relatively stable trade links (albeit involving preciosities rather than bulk goods) were established between the “marcher empires” of the AEWS through the so-called Silk Route, a significant part of which went through the territories of the nomadic periphery and semiperiphery. Thus, in this period the periphery closed the circuit of AEWS trade links. The AEWS expansion proceeded for a long period to a considerable extent through the expanding interaction between civilizations and their barbarian peripheries. The larger and more organized civilizations grew, the more active and organized their peripheries became. During the fourth phase, this process was sharply amplified and the Great Migration epoch evidenced the acquisition of a world-system scale and synchronicity of influence by the barbarian periphery itself. The disintegration of the Western Roman Empire, the weakening of the Eastern Roman Empire, the fast diffusion of Christianity in the western part of the AEWS and a new rise of the Chinese Empire in its eastern part prepared the AEWS for major geopolitical changes involving a new level of complexity. In contrast, the growth of the AEWS population by the end of the first millennium BCE up to 9-digit numbers led to an increased level of threat from pathogens. Thus, the Antonine and Justinian pandemics led to catastrophic depopulations throughout the AEWS in the second and sixth centuries, contributing (in addition to the onslaught of the barbarian peripheries) in a very substantial way to the significant slowdown of demographic and economic growth for the AEWS in the first millennium CE (Korotayev et al 2006b).

*The fifth phase: AEWS apogee—world religions and world trade (the seventh to fourteenth centuries)*

In this period, the level of development of world-system links reached the upper limits of what could be achieved on an agrarian basis. In this respect one should particularly note the formation and development of all the major world religions. In certain aspects, during this phase the AEWS developed as a supersystem of contacting and competing third generation civilizations, which created firm cultural-information links between all the AEWS centers, including South Asia (which had remained in relative isolation during the preceding period). Note also an unprecedented sweep of military-political contacts and the growth of the level of development of state structures.

Important preconditions for the transformation of the AEWS into the capitalist world-system began to form. In this respect one should note especially: (a) the formation of particularly dense oceanic trade links in the second half of the first millennium in the Indian Ocean Basin; (b) the creation of vigorous major transcontinental land routes that directly connected the main AEWS centers; and (c) the beginnings of the formation of an urbanized zone stretching from northern Italy up to the Netherlands, where commodity production became the dominant form of economic activity (Wallerstein 1974).

*The sixth phase: Transformation of the Afroeurasian world-system (AEWS) into the world-system (the fifteenth to eighteenth centuries)*

This phase was connected with the start of the industrial revolution that determined the transformation of AEWS into the capitalist world-system (now corresponding rather well to Wallerstein's 1974 notion of the world-system, as from this point its development involved mass movements of bulk goods throughout). However, as the agrarian production principle still prevailed absolutely, the extreme development of some previous trends are evident, especially in the non-European centers of the world-system. In particular, East Asia still continued to develop along its own trajectory, demonstrating indubitable achievements in the development of state and cultural structures and outstanding demographic growth.

The Great Geographic Discoveries sharply extended the contact zone of the AEWS. As a result of this, together with Europe's technological breakthrough, the world-system began to take on a new structure. The trade-capitalist core emerged in Europe, while previous world-system centers (in particular, the one in South Asia) were transformed into exploited periphery (this process became even more active at the subsequent phase of world-system evolution). Thus the phenomenon of the world-system periphery experienced a significant transformation.

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