

WORLD URBANIZATION: THE ROLE OF SETTLEMENT SYSTEMS IN HUMAN SOCIAL EVOLUTION

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Summary

This chapter discusses the role of human settlement systems in the evolution of socio-cultural complexity. Ecosettlement systems are the patterned ways in which humans distribute themselves across the land, the ways in which the inhabitants of settlements interact with people in other settlements and their interactions with nature. Not only have ecosettlement systems evolved along with the rise of social complexity and hierarchy, but they have also played a generative role in human social evolution at several crucial junctures. This paper examines the settlement systems of paleolithic and archaic nomads, the emergence of sedentism, and the co-evolution of sedentary and nomadic peoples. Also considered are the emergence of settlement size hierarchies and the relationship between these and socio-political hierarchies, the emergence and spread of various types of cities, as well as the patterns of city growth and decline, the emergence of city-states that specialized in trade, the expansion of market exchange, the rise of tributary empires with their capital cities, and the contemporary phenomena of

urbanized regions and megacities.

1. Human Settlement Systems in World System History

Human settlement systems are usually understood to include the systemic (regularized) ways in which settlements (hamlets, villages, towns, cities) are linked with one another by trade and other kinds of human interaction. This essay will consider settlement systems as understood in this way, but it will also expand the notion to include interactions with the environment, and the patterned ways in which humans use the landscape of the Earth. This allows us to consider the ecosettlement systems of nomads, who often moved across the land in patterned annual cycles, and to examine the metabolism of settlements – the flows of energy, water, air, food, and raw materials by which human settlements have been linked with the landscape, the biosphere and the geosphere.

It should not be presumed that settlement systems are contained within separate polities. (Polities are organizations with a single authority that exercises sovereignty over territory or a group of people. This includes bands, tribes and chiefdoms, states and empires.) The relationship between settlements and polities is a fundamental aspect of all social systems. The territorial boundaries of polities are rarely coterminous with the interaction networks in which settlements are embedded, and so patterns of interaction and the division of labor among settlements must be studied internationally in all social systems. Settlements are rarely ever intelligible without knowing their relations with the rural and nomadic populations that interact with them. This lens is used to examine the evolution of human institutions since the time of the Paleolithic big game hunters. The ecosettlement system angle on world history and prehistory provides a view of the big patterns and a framework for seeing the transitions from nomadic hunter-gatherer bands to living in globalized megacity regions. The spatial aspects of population density are the most fundamental variable for understanding the constraints and possibilities of human social organization.

One could simply describe the ways in which ecosettlement systems have changed along with the rising complexity and size of social systems using the tools that urban geographers and anthropologists have devised – settlement size hierarchies, the spatial structure of settlements, etc. This is an important task in its own right, and we are far from having accurate and complete data for the timing, growth rates and population sizes of settlements. But there are also important theoretical issues at stake in the explanation of the observed patterns of social change. Are ecosettlement systems only passive outcomes of social change that are mainly determined by other factors, or are ecosettlement systems themselves sources of generative processes that cause the emergence of complexity and hierarchy? What has been the role of settlements with regard to changes in the basic logic of social reproduction? This essay will examine how the roles of settlements have changed depending on the nature of the intersocietal systems (world-systems) in which they are embedded.

Some theories of human innovation and social evolution claim that the discovery and implementation of new cultural, organizational and productive technologies are regularly related to settlement systems and their interaction networks. The recent

influential text by world historians John R. McNeill and William H. McNeill, *The Human Web*, employs what can be called a cybernetic perspective to explain innovation. Much of what we consider to be new emerges at important nodes in communications and transportation networks. This is a perspective that was originally developed by Amos Hawley, who contended that innovation occurred at major communications network nodes (in cities) where different kinds of information crossed paths, enabling the recombination of elements to produce new ideas and institutions. David Christian's excellent *Maps of Time* employs a similar notion of hubs that are the loci of innovations.

One shortcoming of the cybernetic approach is that it does not explain uneven development, the movement of the cutting edge of innovation. Why does the initial hub not remain the center forever? What causes old hubs to decline and new hubs to emerge? This question is taken up by Chase-Dunn and Hall with their notion of semiperipheral development as a key component in the evolution of the global system.

Semiperipheral development is the idea that semiperipheral societies have often expanded networks, made larger states, and innovated and implemented new techniques of power and new productive technologies that have transformed the very logic of social change. Semiperipheral societies are those that are out on the edge of the older core polities in an interpolity system of allying and fighting polities. All world-systems are composed of multiple interacting polities. Thus we can fruitfully compare the modern interstate system with earlier systems in which there were tribes or chiefdoms, but no states.

The hypothesis of semiperipheral development asserts that semiperipheral regions in core-periphery hierarchies are fertile sites for innovation and the implementation of new institutions that sometimes allow societies in these regions to be upwardly mobile and/or to transform the scale (and sometimes the qualitative nature) of institutional structures. This is not simply the notion that core traits diffuse toward the periphery. It is rather the idea that semiperipheral innovation enables upward mobility and occasionally transforms whole systems. Semiperipheral actors have taken different forms in different systems. Semiperipheral marcher chiefdoms and semiperipheral marcher states conquered older core polities to form new larger core-wide polities. Semiperipheral capitalist city-states exploited opportunities to accumulate wealth from trade and the production of commodities. And in the modern world-system it is semiperipheral nation states that have risen to become hegemonic.

The semiperipheral development hypothesis presumes a cross-cultural conceptualization of core/periphery hierarchies in which more powerful societies importantly interact with less powerful ones. The idea of core/periphery hierarchy was originally developed to describe and account for the stratified relations of power and dependency among societies in the modern world-system. The comparative world-systems approach developed by Chase-Dunn and Hall distinguishes between core/periphery differentiation, in which there is important interaction among societies that have different degrees of population density, and core/periphery hierarchy in which some societies are dominating and/or exploiting other societies. It is not assumed that all world-systems have core/periphery relations. Rather this is a research question to be determined in each case.

The following sections will consider the history of the development of cities from the earliest times to the present, and current ideas on the genesis, evolution and direction of world urbanization with a special emphasis on semiperipheral areas.

2. The Evolution of Early Settlement Systems

Big game hunting is not a natural pursuit. But it is exciting and rewarding as long as there are large edible animals to be killed and eaten. McNeill and McNeill describe humans as the “weed species” because our use of symbols and tools has allowed us to specialize in adaptability. We can move into new niches and can adjust to environmental changes more rapidly than other megafauna. If there are large edible animals to be hunted, even people who know how to fish and farm will cease these activities until the beasts have been depleted (or extinguished). In two known instances (Australia about 40,000 years ago, and the New World about 12,000 years ago) the arrival of the hunters was followed within two thousand years by the extinction of many species of megafauna. It is hard to believe that these extinctions were completely caused by human hunting and burning, but that was undoubtedly part of the story.

The arrival and spread of Paleo-Indians in North America is signaled by a distinctive Clovis-style lithic projectile point, a 5-cm spear point with a fluted face that was used at the end of a long spear to kill large animals such as mastadons and elk. This distinctive projectile point is found widely across North America, and it is believed that the Paleo-Indians followed herds in very large and rather regular annual migration circuits. The migrating bands would come together annually in a place with sufficient food stocks to allow for a big gathering, and often adjacent to quarries where the kinds of stone used to make Clovis points were procured. The broadly similar nature of the projectile point style indicates a “cultural” similarity that was continental in scale, and this is in contrast to what happened next in the archaeological record. As big game were depleted and/or declined due to environmental change, the people turned to the exploitation of smaller species and greater reliance on vegetable gathering and marine resources. Hunting continued, and the *atlatl*, a wooden spear thrower, was used to throw shorter spears farther. Projectile points became smaller, and distinctive regional styles emerged.

Archaeologists contend that this shift toward more diversified foraging corresponded with somewhat spatially smaller and more regular annual migration circuits. People began developing regional identities and restricting their migrations to smaller and more densely occupied territories. Sedentism had not yet emerged, but the transition from larger circuits to smaller circuits and more diversified foraging was already a move in that direction. The Native Americans were already shifting their consumption down the food chain in order to accommodate a larger and denser population.

2.1. The First Villagers

It is mistakenly believed that all hunter-gatherers were nomadic and that sedentism emerged with planting during the so-called neolithic revolution. Sedentism emerged before the neolithic revolution among diversified foragers, and sedentary foraging societies survived into recent modernity in certain ecologically abundant locations such as California and the Pacific Northwest. Some hunter-gatherers in prime environments

figured out how to exploit less vulnerable natural resources such as seeds, tubers, small game and fish. They were able to live in permanent villages without depleting the environment.

The term “mesolithic” usually refers to hunter-gatherers who live in more or less permanent settlements — more or less, because many mesolithic diversified foragers lived in a winter village and then moved to other locations during the summer for seasonal hunting or gathering. The transition from nomadism to sedentism was a matter of seasonal camps becoming occupied for longer and longer periods of time, and with some of the population remaining while others went off to other locations during special seasons. The earliest sedentary societies were of diversified foragers in locations in which nature was bountiful enough to allow hunter-gatherers to feed themselves without migrating. These first villagers continued to interact with still-nomadic peoples in both trade and warfare. The best known of these is the Natufian culture of the Levant, villagers who harvested natural stands of grain around 11,000 years ago. In many regions the largest villages had only about 250 people. In other regions there were larger villages, and regions with different population densities were often in systemic interaction with each other. Settlement size hierarchies emerged when a village at a crucial location, often the confluence of two streams, became the home of important personages and the location of larger ritual spaces such as sweat lodges. Sedentary foragers developed long-distance trading networks, and the shift from nomadism to sedentism can be understood as a transition from a system in which people move to resources to a system in which resources are moved to people.

The purely spatial aspects of this transition are also interesting. As we have seen above in the description of the emergence of smaller seasonal migration circuits and regionally differentiated tool styles, nomadic systems went from very large to smaller, and to very small with the emergence of sedentism. But the settlement systems of sedentary peoples began again to get larger, because trade networks emerged to link settlements and peoples that were distant from one another. These trade networks grew, though they also occasionally shrank in a repeating pattern that Chase-Dunn and Hall have called oscillation. Eventually the systemic interaction networks became global (Earth-wide) in extent, and it is then that we may call them globalization. But networks shrank with the coming of sedentism, and then expanded again to become completely global with the arrival of oceanic voyaging.

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Biographical Sketch

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