

FROM SPATIAL MOSAIC TO GLOBAL CITIES NETWORK

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Abstract

Geographical sciences have been influenced by geographic scales, in addition to the scientific paradigms, epistemologies, and scientific methodologies that dominate all ages. Geographical scales have led geographers to understand the spatial phenomenon and the universe in general. This research, which aims to examine the evolution of geographic studies based on geographic scales with an analytical method and a historical perspective, tried to explain the paradigm of networks affected by the age of globalization as a new approach in geography in the form of global cities. The research results show that there are three geographic approaches so far to understand spatial phenomena, based on geographic scales. Mosaic attitude, systemic attitude and network attitude. Almost each of these attitudes dominated geographic sciences in certain periods. Thus, the mosaic approach is older in time and has become the dominant spatial paradigm in the analysis of geographic events, and the systemic approach is associated with the second half of the twentieth century, and the network approach has become a new paradigm in the last decade. It is formed and completed in the twentieth century and the first years of the third millennium. In the network paradigm, emphasis is placed on intercity relationships around the world. In this mosaic paradigm the emphasis is on country and international relations, and in the systemic paradigm, the emphasis is on transnational regions and parts of the world. Modern geography seems to require all three approaches, and none alone can explain all the global facts.

Keywords: Geographic space, Geographical scale, Spatial attitudes, Network paradigm, Global cities.

Introduction

The science of geography was born out of geographical thinking and reasoning about the natural and human phenomena of the world. This discipline pays attention to the spatial manifestations of phenomena, the spatial arrangement of phenomena and the interaction between them, and seeks how to establish (organize), organize, distribute, model, form as a space science. Hierarchy, distance, region Classification is the classification of events and tries to present them in the form of generalizable theories and findings. Geography, like many

scientific disciplines, was influenced by the intellectual field, epistemologies, and methodologies that dominated each era to explore these patterns and structures, and were influenced by the philosophical schools and perspectives of its time. In Thomas Kuhn's (1962) book (*The Structure of Scientific Revolutions*) this is called a paradigm. In addition, the spatial structures and spatial arrangement of phenomena that are the subject of geography are primarily influenced by political economies. Political economy plays an important role in the quality and spatial arrangement of phenomena (Shikuyi, 1385: 75). It is the political economy that is the product of the political ideology and the building of power.

However, geography as a science of space science and space construction (Hafiz Niya, 1393-38) has been influenced by the philosophical schools and political ideologies that dominated every period, both in terms of method and phenomena studied. In other words, the construction of power in different time periods, political structures, political ideologies and global developments affected geography and geographical phenomena, and geographers discovered scientific facts through the visible and hidden structures of their time. This subject is not limited to geography, and many branches of social sciences and humanities have gone through this process. However, it is what separates the science of geography from other branches of science in its scientific attitudes. Geographers have paid attention to "area" and "geographical scales". Geographical scales are a powerful tool for understanding global developments and the spatial nature of events.

Geographical research, it would seem, is mainly concerned with the nature, structure and distribution of spatial phenomena and the relationships between them. But the question is, from what perspective and to what spatial scope the study of spatial phenomena should be done. Are spatial phenomena separate from each other? Are the spatial phenomena related to each other? Is the world of creation a simple and interconnected unit, or does it have separate sections that need to be studied separately? The answers to these questions have varied among geographers at different times. Different attitudes have been formed according to geographical scales. In each period, a particular scale of field has been considered, which some call the "level of analysis" or "unit of analysis". This research has tried to explain the characteristics of each in geographical studies as well as to recognize time periods based on scale and spatial analysis.

Concepts, Views and Theoretical Bases of the Research

Science seeks statements (explanation and explanation) about the facts of the world and deals with the processes that lead to such statements (Rafi Pur, 1389: 35). Ontological, epistemological and methodological attitudes determine the framework and ways to reach these discourses and systematic knowledge. However, in terms of the history and evolution of science, attitudes and epistemological methods are not the same and can be divided into different periods based on it. The basic principles and basic features of the attitude and epistemological method of each period that make it different from the previous and next periods are called "paradigms". According to Thomas Cohen, "a paradigm is a set of fundamental beliefs and assumptions that dominate the intellectual and scientific atmosphere of society (Kuhn, 1962: 42). He believes that values, techniques and similar things are called "paradigms" (Kuhn, 1970: 175). British philosopher Peter Hagt defined this macro-scientific framework (paradigm) as a kind of "supermodel" (Jensen, 137> 66 as cited in Hagt). .

In most cases, the type of attitude towards space and geographic location played an important role in the creation and differentiation of paradigms and ontological and epistemological perspectives in general. In this regard, the philosophical ideas of the German philosopher René Descartes had a tremendous impact on the intellectual and scientific atmosphere of the eighteenth and nineteenth centuries. The views inspired by Descartes were based on the fact that social phenomena and realities are separate sets and there is no intertwined or structural connection between them (Merrifield, 1993: 518). Accordingly, Descartesism promoted a kind of ontological and epistemological attitude, the methodology of which was based on empiricism and positivism, in the form of monotheism, atomism, and the mechanics of spatial and spatial phenomena. Space science school and space research in geography are based on Cartesian atomic and mechanical ideas based on a mosaic part of space.

Cartesian epistemological view failed to meet human epistemological needs. According to Levins and Levantine (1985: 269), the Cartesian method offers an "alienated" and "reductionist" view of the world and cannot explain all world facts. Accordingly, the shortcomings and criticisms of the Cartesian epistemological view supported the views of the structuralist and functionalist schools, which were a kind of confrontation with mosaic and atomic spatial ideas. Emile Durkheim and Louis Althusser were the three most important figures in the structural school, rather than differentiating and distinguishing phenomena as the dominant dominant structure with a systematic perspective and originality as a whole. He

emphasized their integration, interdependence and complementarity. Accordingly, geographical phenomena are not brought together separately in the structuralism school; Rather, every geographical phenomenon is part of the overall structure and can only be analyzed within this structure. Although the structuralist epistemological approach was very powerful in analyzing the relations and mutual feedback of phenomena as a whole, it could not analyze the "system" in order to change and reproduce structures, there was a gap. Accordingly, another epistemological framework that escapes the domination of the structure and does not fall into the trap of atomic and mosaic vision, explains a new philosophical space to be paid that has become a problem for the French thinker Henri Loefer with a dialectical perspective influenced by the ideas of Hegel and Marx. In his famous work "Space Production", Loefer states that space is not a geometric and environmental form as it is said in deterministic geography; Rather, he says it is the product of human social action produced according to the conditions of the time. By explaining the relationship between space and space dialectically, he believes that all space finds meaning through space, and every place creates the whole space in relation to other places, and both become embodied in the process of human action. Space production is the result of a process in which the "flow" and "objectivity" character of the geographical landscape embody capitalism (Lefebvre, 1991: 86-93). Manuel Castells (1996) was based on Loefer's philosophical view and technological developments of the capitalist world, Manuel Castells (1996) used the "space of places" and "space of flows" of the network approach to explain inter-space relations on a regional and global scale.

In summary, Cartesian-Newtonian ontological perspectives constitute atomic and mechanical epistemological paradigms, Durkheim and Althusser's perspectives on functionalism, structuralism, and systems paradigms, and finally Luffer and Manuel Castells' artistic views based on quantum paradigm physics. Geography as a science of spatial relations was strongly influenced by these epistemological perspectives and accordingly created different paradigms in this science.

Research Methods

This article is the result of a theoretical research that determines macro and paradigmatic attitudes in the study and analysis of spatial-geographic events, which is done analytically and tries to analyze and explain them with a historical approach. In addition to traditional spatial analysis approaches, this study paid attention to the development of

globalization, the structure of global networks and the emergence of global cities as network paradigms, and philosophically analyzed it as a new approach in geography.

Main Discussion

Geographical Scales: Scale is one of the key concepts in geography and has many types. Generally, comparisons can be divided into three categories: cartographic scales, management and organizational scales (political and administrative divisions), and geographic scales. Cartographic scales show the ratio between the real area on the ground and the area on the map. Management and organizational scales are the division of the spatial space covered by the organization for better control, service delivery and management. These two types of scales are beyond our discussion. However, geographical scales are the most powerful tools for understanding the world and global processes. In fact, geographical scales are where events, events, trends and processes, the most important of which are local, regional, national, regional and global scales, occur and emerge. It is the most fundamental concept for understanding geographic scales and their relationships, understanding the world and analyzing globalization processes.

Geographers based on epistemological approaches and geographic scales have used three mosaic approaches, systemic 1 and lattice 3, to describe and understand spatial phenomena and the universe, each of which has paradigmatic features within geography due to fundamental differences.

Mosaic Paradigm: In the mosaic approach, the spatial and mosaic differentiation of political units and the relations between them are emphasized. According to this view, the world is like a puzzle that forms the world in different positions and independently from each other but together (Murray, 2006: 49). Every place has its own identity and location and is different from other places. This attitude refers to countries and neighbors and emphasizes borders and territories and does not recognize any other (supranational) higher authority. Relations between countries are subject to rules and laws, and trespassing any mosaic (countries) is a rape and threat. According to this view, nationalism, country-centeredness and international relations (relations between countries) prevail in the world. Globalization and globalization processes are seen as relations between countries and trade (export and import) between them, and in general, transnational processes are less than the next two models (Figure 1).

In human geography and especially in classical political geography, a mosaic approach has dominated the world in this science and the country has become the main theme and core of political geography issues as a political space unit (mosaic). In this paradigm, the factors and processes of the formation, survival and collapse of the government and the country are mainly discussed. National interests, territorial integrity, national security, national identity, national unity and solidarity, international relations (relations between countries) and dozens of other concepts related to the country have been created based on the central country paradigm. Many theories of political geography, such as the "Unified Square" theory (Jones, 1954), the "centrifugal" and "centrifugal" forces theory (Hartshorne, 1950).

The theory of "circulation" and "Iconography" (Gottmann, 1951), put forward in the 1950s, had a mosaic approach to the political world.

This did not mean that geographers did not pay attention to local and regional comparisons. Rather, the study of spatial phenomena at local and regional scales has been done in the context of the national scale. In the urban geography, the concepts of metropolises, metropolises, urban clusters, main cities, urban hierarchies and urban impact areas and dozens of other concepts related to this area are presented on a national scale and in the form of a central country. Letting Crystal (1932) 'central place' theories, Mark Jefferson's (1939) 'first city' theories, Kings Lee Zippov's 'rank-'s' theory (1949), John Friedman (1974) "Center- The growth centers of the Pyramid "theory (1974) and" Misra (1966) are based on the same rule. From the traditional point of view of urban theories, cities are the focal point in the provision of services and goods in regional and national territories within official boundaries, and thus central, point and hierarchical concepts are formed. This epistemological view is based on Cartesian epistemological ideas that influenced geography until the last two decades of the twentieth century.

Systemic Paradigm: In a systemic paradigm, places, spaces, and regional units are part of a whole or structure or system that constitutes the world system. Local achievements and the status of regions (countries) are a function of the world system. Each geographical area fulfills some of the tasks assigned to it in the world system. Some are raw materials and industrial parts producer, some are colonial and some are colonial, some are authoritarian and some are dependent. Thus, the fate of countries and societies is affected by the world system. For example, in this view, the question arises as to why Europe is rich and Africa is poor. To answer this question, the history of both regions in the world system, colonized Europe and

colonized Africa, must be studied to explain this inequality. Development and addiction theories (Frank, 1978), world systems theories (Amin, 1976; Taylor, 1989; Wallerstein 1979) are studied in this context. The division of the world into north and south, developed and undeveloped, center and periphery or center, periphery and semi-periphery is presented with a systemic paradigm view. Even the development and backwardness between different cities and regions within the country is affected by the political and economic systems and structures of the country, as well as the regional and global structure. And in general, it is the structure and system that determine the quantity and quality of spatial phenomena as the dominant atmosphere. Chronologically, since the 1970s, the systemic paradigm has influenced geographic studies. But thematically and on a large scale, systematic analysis sought causes and roots in historical periods in many cases, particularly colonial times and imperialist views. Made. Indeed, in this epistemological approach, geographical phenomena are not the result of the action of unique forces or events; On the contrary, it is the result of a series of deep-rooted mechanisms that emerged over time (Şikuyi, 2006: 169). David Harvey's work on urban research in the 1970s, and in particular on *Social Justice and the City* (Harvey, 1973), was presented with a systems approach. The political geography of Saul Cohen's and Louis Rosenthal's (1971) work in the analysis of political systems was established with this approach by Peter Taylor (1989) with a small delay in the analysis of world systems. An attitude that bases its theoretical foundations and epistemological approach on the ideas of Althusser and Durkheim.

Networks Paradigm: The discourse of globalization and globalization at different spatial levels has been influenced by the past (Pur Ahmed et al., 1394: 217). And this effect was greater in cities. In the past two decades, following the globalization of the economy and the development of information and communication technology and the emergence of transnational processes in the form of flow space and networked communication between major global cities, the past is the center country and the static urban landscape. Manuel Castells understood this new structure for the first time and took an important step towards understanding current developments based on global cities as a flow field in a connected society. Castells looked at global cities as a process and introduced them as centers for the production and consumption of advanced services connecting local communities to the global network (Castells, 1996: 380). This is no longer due to the development of the factory industry and the mass production line as in the Fordist economy of emerging cities in the world of economic growth; It also depends on the development of services and

manufacturing services. It provides fast and efficient communication technologies on a global scale. This development, influenced by neoliberalism and post-Fordist political economy ideas in the new era, is based on the distribution of the global production area and, in the words of David Harvey, a decentralized production facility (Harvey, 2001: 121), decentralization, cheap labor, minimum production costs and maximum profitability. . In the capitalist world, this process has led global cities to ignore national restrictions and borders and shape intercity relations on a global scale. This emerging phenomenon is a new paradigm that Beaverstock, Smith, and Taylor call the "new transgender", which challenges the state-centered and state-centered and cities can play a role in global relations with the support of national governments (al., 2000. Beaverstock et). He has been the focus of research by some social scientists, particularly political geography, at the 'Globalization and Global Cities ' Research Center at Loughborough University under Peter Taylor.

But in the paradigm of networks, globalization was created and the world is moving away from the mosaic age. In the network approach, the communication arteries between different places (especially cities) are emphasized. This does not mean the complete elimination of the mosaic (and systemic) state of the world, but the concepts of the mosaic era have faded to some extent and new phenomena have emerged that did not exist in the mosaic period. In a networked situation, the emphasis is on the relationships between people and institutions and organizations (global cities) located in specific global nodes. In this approach, contrary to the mosaic view that emphasizes the center country or the central government, it takes its credibility from major world cities and has a sort of orientation towards the future of the "center city" and "city-centered world".

It is a significant event that major global cities based on manufacturing and service companies and international and global institutions were able, several centuries later, to challenge the central government and core country structure as the main framework for the analysis of spatial phenomena through transnational network processes. Which one needs to be researched more in global developments.

Global Cities and the World Wide Web: A New Spatial Paradigm in Geography: Large and important cities have always attracted the attention of social scientists and geographers and have used a number of terms to describe these cities in the past. Main city, metropolis, urban clusters, metropolis, dominant cities, first city, major industrial cities, million cities and metropolis. This diversity in terminology stems from the diversity in the

nature of the city and the difference in attitudes towards the study of cities. Traditional views of the world's major cities in terms of population density centers, migration flows, ecological and human conditions, spatial inequalities, and in some cases industrial centers are presented in the form of urban theories on a national scale. Advances in contemporary globalization have created a new kind of important cities in the world that differ from previous examples.

As stated, in the last twenty or thirty years, after the global transformation of the economy and the development of information and communication technology and transportation networks, transnational processes have grown exponentially and formed the network of cross-border interactions. In this period, the role and importance of each settlement is determined by the dimensions, communication and amount of flows (Lutfi et al., 2012: 2). But the question arises, where is the focus of transnational trends? Where do transnational processes and globalization come from? Do all areas have the same impact and role in global processes? Does globalization require centers for decision-making, flow, and control, or is it spontaneous and ubiquitous? These are questions that direct us to answer the special cities of the world. The driving force of transnational processes and globalization are important global cities. These special cities and important urban centers in the age of globalization are called "global cities".

John Friedman (1986) was the first thinker to raise the issue of global cities in line with contemporary global economic developments. The New International Labor Division Organization, the space organization of the New International Labor Division, in its article (The Global City Hypothesis ”, established cross-border links between major cities in the world. These important cities are called world cities (Friedmann 1986: 69). It takes the form of a systemic and country-centered approach in the form of a peripheral structure and does not well explain the network space and flow area between major global cities in the age of globalization.

Unlike Friedman, Saskia Sassen (1991) used the global city to describe important centers of globalization processes. Unlike Friedman, Saskia Sassen (1991) used the city's world (the global city) to describe important centers of globalization processes. According to Sasan, cities have four basic functions:

1. The commanding authorities are in the World Economic Organization.
- 2- Special venues for private and financial companies that replace the factory economic sectors.
- 3- It is

the center of innovative products in leading industries. 4- Consumer markets are for innovative products (Sassen, 1991: 3-4).

The growing growth of transnational processes and globalization did not escape the view of geographers, especially political and urban geographers in the early 1990s. Paul Knox defines global cities as centers that serve as centers of control over global financial and cultural flows and contribute to the continuity and support of globalization. He believes global cities are both a cause and a result of economic and cultural globalization. These cities should be seen as the product of a combination of the new international division of labor, the internationalization of finance and the global strategies of transnational corporate networks. It has been facilitated by new communication technology processes. The result is a smaller world shaped by our larger metropolises »(Knox, 1995: 232-236). John René Short Wyong Hyun Kim sees global cities as focal points of the global network. They believe that global cities are centers of control, command, domination and management that regulate the business of global manufacturing products, trade, manufacturing services, and communications networks. These cities are the most important institutions of the globalization of the economy, including the headquarters of international companies, commodity and commodity markets, advertising agencies and telecommunication centers (Short and Kim, 2007: 85 and 88). David Clark believes that global cities are recognized by both global economic criteria and their global relevance. Accordingly, the intersection point of global companies and manufacturing service organizations, the headquarters of international institutions and organizations (United Nations and global organizations) and global unions and associations is the gathering place and the gathering place of this elite evidence. (Clark, 2003: 15-151). This evidence led Peter Taylor to view global cities as a clear geographical manifestation of contemporary transnational processes (Taylor 2000: 6). And he believes that the erosion of the national government following globalization processes has led to the formation of a "transgender transition" where power is no longer limited to the national government and the country is forced as the world's main spatial framework. (Taylor and Derudder), 2004: 191-192).

In the age of globalization, the study of different concepts and definitions of thinkers in the field of important cities of the world, the developed world and the big world cities in capitalism have taken on new roles whose function scale extends beyond national borders. Being the product of the global economy and global communication, these cities aim to

provide, control, monitor, direct, expand and develop the global economy and global communication. Global cities, not by size or political situation, as capitals of major countries; Rather, they are recognized by the range of their economic strength. In other words, world cities are not the largest cities in the world in terms of population; Rather, they have the greatest potential in terms of capital, economic innovation, and global communication. Calcutta and Dhaka are metropolitan or major cities but not global. Geneva, Vienna, Zurich and Amsterdam are not big cities but global cities. These cities are places for private individuals, organizations and institutions that govern, manage, manage and determine the structure and reconstruction of global capitalism. These features have made these cities extremely important in the world urban system that has never been seen before. This new phenomenon in the context of the networked world and globalization has opened a door for geographers that we can call (the new paradigm of geography).

Discussion

Like other sciences, geographical sciences have been influenced by the dominant meta-theories, ideologies, paradigms and methodologies of each period. The difference is that geographic sciences have a powerful tool called geographic scales by which meta-theories, ideologies, power structures, and cosmology can be analyzed and understood. Geographical research has been influenced by Cartesian atomic epistemological attitudes, the Althusserian system, and the Luffrey quantum, especially in urban and political geography, and has seen three mosaics, systemic and network paradigms based on scale. The mosaic paradigm leads to the attitude of the central country, the systemic paradigm to the attitude of the environment, and the network paradigm to the attitude of globalization and developing global cities in a historical sequence.

Network paradigm and global cities do not mean the abolition and end of the mosaic paradigm and the unity of the country. This means that national government and passion should be seen as one of the remaining levels of power. However, the globalization of the economy made it possible to communicate at other local, transnational and global scales by creating global cities as centers of local, national, international and global communication. This is why global cities are known locally as (crossroad cities). It has a national and transnational function and is directly linked to the global scale. The increase in communication between scales is a very important issue that reduces the central country paradigm and could be the beginning of a new paradigm in geography. It emphasizes the

extent of intercity relations (as opposed to international relations, or rather interstate relations) and their connections to the global network. Although this change is not simple and fast, serious evidence is emerging.

The transnational processes and networks of the world in the form of globalization discourse have led to the formation of key and determining points in global developments called global cities. Global cities are located in developed and powerful global countries. And they are the competitive arena of international companies in providing banking, insurance, advertising, accounting, legal services in the context of a global network, as well as the headquarters of international organizations and international non-governmental organizations. These cities and centers of the world are the headquarters of control, control, surveillance, decision-making and foresight in the global economy and therefore some global political and cultural events, especially in the capitalist world. Hence, they can be called "global centers". This centrism is not in terms of geographical location, but in terms of its effects and effects on global developments. Unlike key areas in geopolitical and geostrategic theories (Heartland, Rimland, etc.), global cities do not derive their extraordinary importance and value from geographic location; Rather, it is the product of software power and development process, and of the elite community, capital accumulation, and technological advances.

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