

The Research on the Evolution Path of Modern Geography Theory

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Abstract

Modern geography research is rich in content, complex characteristics, its theory is flourishing; and modern geography theory has a clear evolution process, its evolution is a variety of times with the times. Based on the current research status, this paper makes a brief definition and analysis of the time of each evolutionary path involved in the text, and then points out their importance. Then we introduce the theoretical content of each evolutionary path, For the subsequent study laid the foundation; and then through the various theoretical evolution of the discussion and summary, once again clear their direction and status. Finally, through the research of this paper, seven main approaches to the evolution of modern geography theory are obtained, and some suggestions are given.

Keywords

Modern geography; geography theory; evolution path.

1. Introduction

Geography theory has always been a very important part of geography research, and its progress is sometimes even related to the development of geography. In any case, it is necessary to overcome the weak situation of the theory of geography development and the direction of geography development [1]. Modern geography pays more attention to the irreplaceable role of its theory. It has been actively carrying out research on modern geography theory and has also achieved many achievements. At the same time, compared with the past geography theory, the evolution of modern geography theory has obvious channel characteristics; therefore, it is necessary to seriously summarize and analyze the ways of modern geography theory evolution to promote the modern geography theory moving in a healthier and more orderly direction. The article will also be based on the existing theoretical research, mainly from the following seven aspects.

2. The overall integration of geography

As early as 1963 in the United States, geographers represented by Ackerman put forward proposals for geography innovation, and they advocated denying the dualism of splitting physical geography and human geography. Modern geography is to study the regional system of human-land relations based on regional differences. It has also gradually broken the long-term influence of the "dualism" of the separation of physical geography and human geography, that is, modern geography is more focused on the whole. The direction of comprehensive research is developing. And with the rapid development of economy and science and technology, human beings have become more and more important to the natural environment, and the relationship between human and land is very closely intertwined. Integrated geography has emerged according to the needs of the times.

The theory of geosystems processes developed since the 1980s is an important manifestation of comprehensive geography research. It is mainly used to emphasize the changing characteristics of geographical things over time; the theory of human-land relations is to put the geographical environment and human activities. The interrelationship is seen as a unified whole; the emergence and rise of relevant theories of biogeography further illustrates the rapid progress of integrated geography or unified geography; the integrated landscape school uses an integrated approach to classify the types of the surface, thus Conducting an important field of comprehensive research on

land systems, and proposing a series of scientific and theoretical methods such as soil formation theory and interface process theory. Therefore, we must pay attention to comprehensive regional research, develop new perspectives, clearly define scientific issues at regional and local scales, focus on critical areas, vulnerable areas or hotspots, and face the integration of multidisciplinary and multi-spatial scales [2].

Whether it is the integration of geography methods or the integration of ideas, human factors have become an indispensable part of the process of natural geography research. Similarly, human geography research is also inseparable from the foundation of the natural environment, thus forming mutual penetration of human geography and physical geography. Therefore, the overall integration within geography has become one of the main ways of the evolution of modern geography theory.

3. Spatial development of geographical environment research

In the 1960s, modern geography was first born in the United States, and then gradually spread, and the development of the overall geographical environment is also an important frontier of geography in the 21st century. With the continuous advancement of society, the relevant geographical environment of geography research is also constantly expanding, and the geographical environment studied by modern geography pays more attention to the changes in multi-dimensional space. It is generally believed that the spatial extent of the modern geographical environment has been from the sedimentary lithosphere to the top of the troposphere, and contemporary explorations of global change are the future trends and hot trends, especially regarding the changes in the global environment, and are the focus of human attention.

The spatial scope of theoretical research on earth system science is from the center of the earth to the outer space of the earth. It is truly a top-notch science, thus establishing a scientific basis for the prediction of global environmental change; the change and prediction of the Earth's surface system is geography. The main content of the research [3] is also the core of the "Future Earth" research program [4]. In recent years, the rapid development of urban geography has also expanded the space for geo-environmental research, and has carried out multi-faceted research on cities from a spatial perspective. Moreover, location theory mainly emphasizes the organic combination between geographic and human elements. It is said that it is the organic combination of economic geographical location, natural geographical location and traffic geographic location in the (human-behavior) spatial region, such as agricultural location theory, industrial location theory and urban utilization structure theory.

Taking the Earth's surface space system as the research object and the geography of the human-land relationship regional system as the core of research[5-6], the research of its geographical environment not only pursues the development on the macro scale, but also analyzes it from the microscopic point of view. That is, natural geography focuses on the changing mechanisms of biological, chemical and physical processes, and human geography is more focused on the dynamics of the economic-society-cultural system.

4. Interdisciplinary and fusion of the related disciplines

Since the 20th century, the development of modern science has been extremely rapid, and various disciplines have successively sought collaboration with adjacent disciplines. At this time, the progress of modern geography is of course inseparable from the intersection and integration of related disciplines. Especially since the 1950s, the gradual rise of a series of cross-cutting scientific methods such as information theory, cybernetics and systems theory has provided favorable theoretical tools for the study of geography, which in turn promoted the modernization of geography. Moreover, the joint development of geography and other disciplines has been fruitful, forming many new research fields, and also solving a large number of problems, with very strong vitality. Modern observational analysis methods and methodologies have injected fresh blood into the development of modern geography theory.

The island biogeographic equilibrium theory and biodiversity theory are typical representatives of this kind. This theory has important significance for the geographical environment evolution of islands, especially isolated islands, and can also predict the population flow rate, thus more accurately protecting biomes and preventing them. The invasion of alien species in a certain region effectively maintains biodiversity, so that human beings can strengthen the protection of the geographical environment on which they depend; modern geography theory also pays great attention to the introduction of relevant theories of physics and chemistry, for example, Thermodynamic theory to explain the energy conversion of natural geographical environment, using chemical element migration theory to describe the chemical element geography and its effects, etc., these gradually establish the physical and chemical mechanisms of the geographical process; on the other hand, modern geography and system theory The fusion also has a new breakthrough. Combining the basic principles of geography with the related theories of system theory can more accurately describe the structure, composition and process of the geographical environment, thus further enhancing the theoretical comprehensive research of modern geography. The quantitative method of modern geography and its theoretical model are also the result of the intersection of non-negligible disciplines, and even caused the quantitative movement or quantitative movement in the history of modern geography.

In addition, many disciplines are intertwined with modern geography, forming many new marginal disciplines or interdisciplinary subjects, which not only promotes the theoretical evolution of modern geography, but also facilitates the comprehensive research and development of geography. Therefore, the horizontal crossover, penetration and integration between adjacent disciplines have become an obvious trend, and the comprehensive research of interdisciplinary, multi-level and multi-arms is unstoppable[7].

5. Broaden the application of geography

Geography is inherently a more applied discipline, and modern geography is more widely used. The results of the technological revolution have become increasingly popular in the study of physical geography and teaching practice, and spatial analysis methods have been widely used in various fields of forecasting, prediction and development research[8]. Since the 1970s, applied geography has gradually matured, that is to say, construction geography has embarked on a historical stage, and its application content tends to be diversified, and application theory is also required as a bridge or support.

Especially with the rapid development of electronic computers, 3S technology has rapidly become hot, that is, the industrial application of 3S integrated systems with GIS (Geographic Information System), GPS (Global Positioning System) and RS (Remote Sensing) as the core has risen rapidly. They not only rely on geography as the basic theory, but also greatly expand the application theory content of modern geography; spatial structure theory is also the applied theory of modern geography, which establishes many regional development layout patterns, and uses these models to study. The structure and planning of regional development, which is applied to the geographical distribution of production, has important practical significance. Moreover, economic geography is also an important branch of modern geography. It is based on the regional system of human economic activities. It is also known as a unique show in human geography. Its theoretical research is the premise and guarantee for its rapid and healthy development. Of course, the relationship between global and local relations, the spatial pattern of economic development, and the development of enterprises and regional economic development----the theoretical results of the aspect are also quite rich, and many have been applied by reality.

The application field of geography has been broadened in an unprecedented way in modern times, and it is closer to our life, that is, close to "people's livelihood." At the same time, modern geography has also formed a number of new application theories, such as the extension of optimization theory in geography and computer map mapping, etc., thus providing a good way for the development and evolution of modern geography theory.

6. Research on sustainable development

With the extensive application of high technology and the in-depth study of geography, modern geography has undergone major changes, especially in the context of global change, and various ecological problems have become increasingly serious. In the late 1950s, the American marine biologist Rachel Carson published an environmental protection called 《Silent Spring》 in 1962 after painstaking research on the environmental hazards caused by pesticides. Popular science books. The advent of "Silent Spring" became a prelude to the environmental movement that emerged later. As a result, environmental issues have gradually become the focus of attention. At the same time, the core issue of modern geography has become the development of the geographical environment and the realization of sustainable development.

The theory of ecological footprint analysis is a method that can measure the degree of sustainable development, and it can make a more objective measure or even comparison of the two-dimensional sustainable development of space and time, so that people can easily monitor. The theory of sustainable development is a development concept that satisfies the needs of the present without compromising the ability of future generations to meet their needs. It advocates harmony between people and the geographical environment, that is, "harmony between man and land"—To study population, resources, environment and development as a whole, and to achieve scientific and sustainable development of the world or region; not to be neglected, theoretical geography is a discipline for studying the laws of various geographical phenomena and processes. The content of people and the environment is a very important part of it, so it also adds a lot of theoretical foundation for the research related to sustainable development. In addition, there are some theories about global environmental change research, such as the greenhouse effect, the carbon cycle of ecosystems and the theory of low-carbon economy, which can also escort sustainable development.

More importantly, research on sustainable development is not only the core of modern geography, but also the direction of future geography. Since the 1980s, geography has played an important role in the global environmental change research program. The theory, methods and techniques of geography have become the basis for solving the sustainable development problems facing human society[9]. Through the study of sustainable development, we have greatly enriched the theoretical content of modern geography. At the same time, it has become an important way to evolve the modern and even future geography theory.

7. Marxist geography and its sinicization

In the late 1960s and early 1970s, Marxism had an important influence on geography, and innovation in theory was also very significant. Radical geography promoted the development of Marxist geography, in which a radical school represented by Harvey was formed, especially Harvey's series of research works on Marxist geography after the 1970s. It illustrates the process of the (new) Marxist genre in geography. Marxist geography also involves urban and rural economy, rural development, planning decision-making and location analysis, and so on, thus forming a variety of theoretical content.

Capital urbanization theory is an important theory in Marxist geography. It regards a man-made environment under the social system as the essence of the city. The city here can be said to be the spatial node of capital accumulation and circulation; urban land use theory is a theory that uses land as a kind of capital and is influenced by factors such as natural geographical conditions, historical and cultural factors and economic development level, and thus reflects the differences between cities. In recent years, space production theory has been hot. This brings with the improvement of the attention of Marxist geography, which regards urban space as a product of production and consumption, and builds it as a core, and its applicability is very broad, even extending to the entire humanities and social sciences. The practice of Marxist geography is very significant, and it should be traced back to the social, economic, and political aspects of practical problems, revealing the underlying causes and seeking fundamental solutions[10]. Many theories such as urban revolution

theory, urban location theory, central land theory and urban organization theory are indispensable important theoretical contents in Marxist geography, and also open up a new way for the evolution of modern geography theory.

It is especially worth noting that the sinicization of Marxist geography is an important part of the sinicization of Marxism, and it is also inseparable from the geography of humanism. The "transnational, cross-border, intergenerational" knowledge action with the theme of Marxist geography in China has attracted the attention of the academic community[11]. Moreover, in order to accelerate the promotion of the sinicization of Marxist geography, it is necessary to strengthen the study of urban issues, as well as multidisciplinary and interdisciplinary knowledge exchange. Therefore, the sinicization of Marxist geography has irreplaceable practical and practical significance. Today, we should uphold the criticality of Marxist geography and actively create modern geography theories with Chinese characteristics and belonging to the people.

8. Conscious evolution of cumulative and false forms

From ancient times to the present, geography science is an important part of science. Naturally, geography theory is also a scientific theory. The development of modern geography theory is also related to the development of scientific theory. The development of scientific theory has two main development modes: one is the cumulative development model, and the other is the negative proof development model, both of which greatly promote the evolution process of modern geography theory.

The "cumulative" development model believes that after a scientific theory is confirmed, its scope of application will gradually become more extensive or be covered by new theories; similarly, many theories of geography are cumulatively developed. For example, the Russian soil scholar Dokuchaev proposed the theory of the natural zone, and then directly derived the soil genesis. The development model of "negative proof" believes that any scientific theory hides mistakes, and scientific understanding is progressing forward in constantly correcting its own fallacies, that is, what we call "falsification"; and some of modern geography theory Major breakthroughs are also achieved under the influence of falsification. For example, the issue of human-land relations has always been a very important issue in geography, and a variety of human-land relationship theories have been formed in the long history of history. The falsification of the theoretical thinking finally came to the conclusion of the current "human-land intergrowth."

There is no methodology, we will lie down, no philosophy, we will turn around without purpose[12]. Similarly, the development of modern geography theory is inseparable from methodology and philosophy, and in a period of history, it is subordinate to a certain "paradigm", rooted on this paradigm, growing vigorously and showing cumulative. The land is increased and expanded; however, it is replaced by another paradigm, and a new "scientific community" is created, which gradually grows and matures, and thus develops in a falsified manner. It is not difficult to see that modern geography theory will continue to consciously evolve through cumulative and non-certified approaches.

In short, the evolution of modern geography theory is relatively rapid, and its approach is also diverse. Modern geography theory can not only evolve itself through the overall integration of geography and the spatial development of geo-environmental research, but also through the intersection of related disciplines, integration and widening the application fields of geography. Moreover, it is able to carry out the evolution of vertical extension through research on sustainable development and Marxist geography and its Chineseization, and it also conforms to the conscious evolutionary path of cumulative and negative proof of scientific theory.

Finally, we should raise our attention to the theory of modern geography, learning from relevant experience at home and abroad, and find more ways to evolve with the times and rationally in the future, and vigorously research and develop along these channels. Then make up for the phenomenon that "Geography is good at facts and not good at theory".

Acknowledgements

Harbin Normal University Graduate Innovation Fund Project (HSDSSCX2018-39).

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