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## Development of Geography since the End of the Second World War



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**ABSTRACT:** Geography is an ancient discipline whose purpose is space study. This discipline was one of the pillars used for mapping, displacement, and explaining existing phenomena on earth. Before 1914, geography already existed and played an important role during the First World War. However, we note that some authors limit themselves to the definition of geography as an instrument allowing to move and to map the elements. However, after the Second World War, like all other disciplines, geography knew stages in its evolution.

Geography has changed dramatically since this definition and has experienced monumental changes. It was transformed through science "natural" in social science, hence abandoning the naturalistic point of view which was founded and developed the geography of the 19th century. Modern geography relies on tools and experimental techniques. These methods and techniques used to build a scientific rationale based on experimentation and coherent reasoning.

**KEYWORDS:** Development of Geography, scientific geography, Contemporary Geography, modern Geography

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### INTRODUCTION

It is always important that we look at what is happening around us. The observation of facts is one of the principles of geography. Speaking of geography, it is to describe and explain the spatial distribution of land forms and physical, biological phenomena, forms of settlement and activities developed by human societies (Encarta, Encyclopedia 2009).

Geography is an ancient discipline. Indeed, it comes from the Greek word for "description of the Earth." This defines etymological class of geography as a description of science, travel and the division of territories. But gradually with the passage of the years, it was discovered that science, which is seen as a part of several disciplines, also views a relationship with space. It adds to the description, interpretation of aspects of the surface of our planet, inhabited and used by mankind. The progress of the technical information and the multiple questions related to growth and demographics, the changing economies, societies and ideologies have continued to update the sights and knowledge of geographers. In this context, one wonders why and how we have moved from ancient geography to a new geography. Specifically, how can we give dimension to the geography of the end of World war II?

To understand this evolution of geography, we will first present the ancient geography of before the end of the Second World War and that will facilitate our understanding about modern geography till the end of World War II and finally, we will highlight its usefulness to our societies.

### I GEOGRAPHY BEFORE THE SECOND WORLD WAR (ANCIENT GEOGRAPHY)

This period will allow us to understand the principle of the ancient geography. However, what is geography?

#### 1. What is Geography?

According to Arild (1980) most people have very vague notions about the content of scientific geography. School geography has left many with bad memories of learning the names of rivers and towns by rote. It is still common to meet people who think that geographers must have to learn a mass of facts, that they must know the population of towns all over the world and can name and locate all the new states in Africa. Or, when readers write in to settle bets as to which is the world's longest river. Many categories of the people also have an idea that geography has something to do with maps. Others think geographers are thought to be people who know how to draw maps and are somehow associated with the ordnance. Another point of view is that geographers write travel descriptions for tourism or the head-hunters of the Amazon. The map is very important for geographers because it is a representation of the collection of data and it is therefore very useful. A cultivation of the powers of observation is therefore an important objective in the education of geography. It is of primary importance to learn how geographers observe and interpret a natural or cultural landscape without having a local knowledge of it. After the discovery,

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geography is useful for basic training in cartography, especially during military service. Also, geography contributes to the formation of societies. Although fore-runners of these societies existed during the sixteenth and seventeenth centuries, the first modern geographical society was founded as the society in Paris 1821 (Freeman 1961; 52-53). According to Arild (1980), geography has the characteristics of recording either simple data or the results of a complicated geographic study. It also provides a wealth of factual information. The map permits visual comparison between areas because it may be designed to indicate, by means of symbols, not only the location but also the characteristics of geographic features of an area. Geography may be regarded as a science of synthesis. Ackerman (1958) says that fundamental approach in geography is the differentiation of the content of space on the Earth's surface and the analysis of space relations within the same universe.

This part of the essay gives us the comprehension of geography.

What is geography before the end of the Second World War?

### 2. Thought and history in the ancient Geography

Geographical thought has a very long history. (Jimoh and Akindede, 2005) For these authors, the ancient world's geographical thought grew out of three major issues which concerned the intellectuals of that period. These issues relate to the nature of the earth and its place in the universe that is, knowledge about the inhabited world and the charting and mapping of areas of the known world.

#### 2.1 The first geographers

The first geographers were interested in exploring unknown regions describe the facts they observed in the various areas covered. Since ancient times, each culture develops its geography to control its territory of origin and to better understand what is at its borders. The Chinese, Egyptians and Phoenicians go on long journeys and record their impressions of the country they pass through. One of the first maps that we know of was made on a clay tablet in Babylon in 2300 BC. About 1400 BC, the shores of the Mediterranean were known to have they been mapping surveys and in the next millennium, early explorers traveled to England and sailed along the western coasts of North Africa. However, it was the Greeks who gave the Western world its first important knowledge about the shape, size and general characteristics of our planet. Herodotus in the 5<sup>th</sup> century BC, in his histories, describes in great detail the countries he visited, especially around the Black Sea, Egypt and Sicily. In the fourth century BC, the Greek philosopher and scientist Aristotle was the first to show that the Earth is round. It is based on the following arguments: all matter tends to fall towards a common center, the Earth casts a circular shadow on the moon during an eclipse and when traveling from north to south, many constellations become visible, while those we know disappear. The Greek geographer Eratosthenes in the third century BC, was the first to accurately calculate the circumference of the Earth. The Greeks, by their journeys, their conquests and colonization activities, accumulate a considerable amount of geographical information and stimulate the writing of geographical works. Thus, the Greek geographer and historian, Strabo (63 BC -21A.D.) wrote an encyclopedia in 17 volumes called Geography, which is a source of valuable information for the military leaders and public administrators in the Roman Empire. In the Second century BC, the Greek astronomer Ptolemy (100-178) compiled most of the geographical knowledge of the Greeks and Romans of his time. It also proposed new mapping methods, which included throwing techniques and the creation of an atlas. In its geographical Guide, Ptolemy divides the circle to the equator in 360 and built a network imaginary north-south and east-west on the surface of the Earth. It thus has a reference grid enabling it to locate the relative positions of known lands, such as islands and continents. While the measurement of the circumference of the Earth made by Eratosthenes is more accurate than those of Ptolemy, the latter is the authors of useful descriptions and maps of the known world at the time.

#### 2.2 The renewal of geography from the 12<sup>th</sup> century

After the downfall of the Roman Empire, Europeans did not engage in exploration or significant travel, and geography hardly progressed. Among Europeans, only the Vikings in Scandinavia could be described as explorers. They were the ones to reach for the first time Greenland and North America. The Arabs of the Middle East however interpreted and verified the work of the Greek geographers and old Romans. They were also exploring the regions of southwest Asia and Africa. From the eighth century, Arab scholars translated the works of the Greek geographers. It was only after the translation of the Arabic texts in Latin that the geographical knowledge of the Greeks was spreading in Europe. Among the great figures of Arab geography stand Al-Idrisi, known for his detailed maps, Ibn Battuta and Ibn Khaldun, all of whom wrote accounts of their voyages. Mongols and Chinese also developed extensive knowledge about the geography of Asia. In the thirteenth century travel, Jean of Carpin Plan, William of Rubrouck and especially Marco Polo, the Christian crusades in the twelfth and thirteenth century maritime explorations of the Portuguese and Spanish in the fifteenth and sixteenth century opening new horizons to Europeans and stimulating the writing of geography books. In the fifteenth century, the Portuguese Prince, Henry the Navigator, financed

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several explorations of the African coast and played a leading role in the development of geographical studies. The arrival of the Spaniards and Portuguese in America, from 1492, and the first world tour conducted by Magellan's expedition in 1522, giving Europeans a more accurate idea of the dimensions of the world and the relative share of oceans and continents. The division of the globe into climate zones gradually appears as a reality on both sides of the equator. Sea voyages and studies during this period prove beyond doubt that the Earth is a sphere. Among the travel stories and the most remarkable discoveries published in the sixteenth century, we find those of Giambattista Ramusio in Venice, those of Richard Hakluyt in England and those of Theodore de Bry in what is now Belgium. Cartographic representations include the information from discoveries Mercator maps (1512-1594), Abraham Ortelius atlas (1570).

### 2.3 Geography from the 17th to 19th century

The book titled *Geographia Generalis* (1650) of the German geographer Bernhardus Varenius plays an important role in the history of geographical methods. Varenius divided geography into three distinct areas: the first deals with the form and dimensions of the Earth, the second tides, climates, seasons and other variables depending on the relative position of the Earth in the Universe and the third focuses on comparative studies of specific regions. His work was authoritative for over a century. During the two centuries that followed, many Europeans made their contributions to geographical knowledge. In the eighteenth century, advancement in geometry, astronomy and geodesy allowed a considerable improvement in the precision in maps and thus mapping increasingly faithful to the realities on the ground. In the eighteenth century, the German philosopher Emmanuel Kant played a decisive role in placing Geography within the framework of science. Kant distinguishes two categories in the drawn science of observation: the first includes the phenomena described by the principles of logic, and it results in a classification of plants and animals, which ignores the notions of time and space. This classification is expressed by the notions of order, genus and species. The second category covers the phenomena conceived in terms of time and space; classification and description according to time takes the form of history, and classification and description as the space takes the form of geography. Kant divided geography into six branches, one of them, physical geography, predominating over others. According to Kant's conception, the other branches are represented by the theological geography, economic, political, moral and mathematics. Alexander von Humboldt and Carl Ritter, both Germans contributed significantly to the scientific conception of geography in the early nineteenth century. Great traveler and brilliant observer on the ground, Humboldt applied his knowledge of natural processes and natural sciences to the systematic classification and comparative description of the landscape observed in the field. It also develops methods for measuring phenomena he observed. He is the author of a number of excellent geographic studies from his travels in America. His work, entitled *Kosmos* (1844), which describes the physical geography of the Earth, is considered one of the masterpieces of the geographical literature of all time. Ritter's positions differ in parts from those of Humboldt. While Humboldt considering separate treatment of each physical characteristic and then advocated a general approach, Ritter advocates a regional approach to geography. It stresses the need to study specific areas by comparing and clearing what each of them is special. His work in 19 volumes, *Die Erdkunde im Verhältnis zur Geschichte und Natur des Menschen* ("Geography in its relations with nature and the history of humanity", 1822-1859), is an excellent geographic analysis of Asia and parts of Africa. Ritter is a smart field observer who has good knowledge of the natural sciences and history.

Ritter also thinks that the general studies are absolutely essential to regional studies. Reclus (1830-1905), who studied at Ritter, performs alone, outside of academic institutions, a monumental work. Its *Universal Geography* published from 1875 to 1894 is a remarkable amount of regional geography and treaty rights and the Earth is an original reflection and very modern on the relationship between societies and their environment. Another German geographer, Friedrich Ratzel, contributes significantly to the geographical knowledge. Naturalist, traveler and journalist, he is best known for his work *anthropogeography* (1882-1891), where he tries to show that the distribution of people on Earth is determined by the physical environment. Describing geography as the science of distribution, it promotes the study of small areas, which, according to him, may be the basis for generalizations about larger spaces or even the world. German geographers Ferdinand von Richthofen and Alfred Hettner incorporate the ideas of Humboldt, Ritter and Ratzel into a coherent system. The book *Die Hettner Geography: Ihre Geschichte ihr Wesen, und ihre Methoden* ("Geography: its history, its nature and methods", 1927) is a quality work on the history of geographic methods. Paul Vidal de la Blache occupies a prominent place among French geographers of the late nineteenth century. He opposed the idea that the physical environment completely determines human activities. It shows that different human groups can operate differently in the same environment. It shows supporting monographic studies of regions and focuses on the process of both physical and cultural factors involved in the distribution of the characteristics of the Earth.

In the sequence of our analysis, we understand firstly that, geography is a science whose explanation varies from one author to another which also depends on the subject and angle of the study. Nevertheless, the common point of all these authors is that space found the object or the pillar of geography. On the other hand, it makes us know the conceptual and evolutionary history of geography before the late nineteenth century. However, what is perception of geography after the end of World War II?

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### II GEOGRAPHY AFTER THE SECOND WORLD WAR (CONTEMPORARY GEOGRAPHY)

The geography after the end of the Second World War came to be, through several currents of thoughts, concepts and schools.

#### 1. Geographical viewpoints and concepts since twenty centuries

Jimoh and Akindele (2005) researched about those 100 years after the death of both Humbolt and Ritter in 1859, the period was characterized by remarkable developments in the discipline of geography in many parts of the world. The period was also characterized by the emergence of diverse geographical viewpoints and concepts, which could be regarded as constituting the mainstream in the debate on the philosophy and methodology of geography during the era. Humbolt and Ritter conceived of geography largely as a chorographic science which is concerned with real arrangements and associations of the phenomena on the face of the earth and sought to understand the cause and consequences of such a real differentiation.

One of those who attempted to present a definition of geography was Ferdinand von Richthofen. According to him, Geography is the science of the earth's surface and the things and phenomena that are associated or interrelated with it. He recognized two approaches according to whether areas or things and phenomena are the primary object of study. The first is special geography which is primarily descriptive. The second is general geography and is primarily analytical. Richtofen argued that the combination of the methods yields a third approach that considers selected groups of things and phenomena in a particular area and seeks to understand their interrelations and causes. After these different perspectives that give a scientific geography, we note that the various schools created (German School, French School, English School and the American School of Geography) all have in common a dimension geography. During the first half of the twentieth century, many French authors of geographical works, including Emmanuel de Martonne, Demangeon and André Siegfried, British, American and German the tradition of the pioneers in the field of geography. Studies on limited areas around the world are conducted based on field observations. The boundaries of geographical knowledge are extended in the value of information density, but the methods used are essentially unchanged since the late nineteenth century. Thus, ends the aftermath of World War II, according to different dates depending on the country, the time of classical geography. A movement began in the fifties and was sustained. By the disciplines they are established in, authors such as John Gottman, Jean Dresch, Pierre George, Jean Tricart are, each in its field, innovative. Some of these geographers and others subsequently criticized the previous objectives and methods; they have scientific requirements and have a resemblance to the geography experimental sciences seeking laws, according to the following device: theory, hypothesis and model measurement and statistical test. The reversal of method and perspective is such that we sometimes used the terms "new geography" and "quantitative revolution". In fact, geographers first test of location models more or less old; the Von Thünen (1827), A. Weber (1909), Walter Christaller (1933), applying them to contemporary realities. These models have some explanatory value, verified in different contexts in the sixties and seventies. Geography of Roger Brunet, who analyzes and illustrates the modes of production and organization of space, comes from this current. Parallel or in reaction against this geography, anxious to establish laws or explain patterns in the organization of space, other geographic analyses are affirmed. Humanistic and cultural geography (including Claval Paul, one of the leaders) shows the role and place of human values in the differentiation of space and its uses. Radical geography and geopolitics (Yves Lacoste) analyze the territorial divisions and border issues, conflicts related to the presence of different social and cultural groups, politically dominant or dominated. Historical geography is trying to make the connection between history data and those of geography, studying for example landscape history or that of the vine and wine. Some historians, such as Fernand Braudel, give their work an important place in geographical thinking. It is this reflection that develops Harvey (1969) and Johnston (1983). Indeed, they explain the geography following the philosophy (Approaches; positivist, humanistic and structuralist), mathematical and give a more accurate character to geography. In descriptive geography, we have scientific geography with models, laws, theory, assumptions and understanding of geography as a modeling system. So, geography becomes an epistemological science. It is therefore right that Yeate's (1968) own meaning of geography is a science concerned with the rational development and testing of theories that explain and predict the spatial distribution and location of various characteristics on the surface of the world.

There were two major developments in geographic methodology after the Second World War which permitted a much more precise identification of regularities in the location of things on the face of the earth. These are the improvement of remote sensing, that is, deriving a picture of the earth's surface from photographic or electronic image. Satellite images which reveal details on the earth's surface were never before available for study; nor the adoption of the monothetic approach and quantification to the study of geography (Jimoh and akindele, 2005).

There was quantification in geography before this revolution, but quantification this time around not only meant ability to assign number to phenomena (measurements), but also included two points: mathematical/model and statistical method. Mathematics is particularly useful in the building of models, as in the linear programming. However, statistics performs the central role of the hypothesis testing. The perception of some authors on the new geography allows us to understand that

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geography has achieved scientific and now we can understand it as an exact science. However, what is its relationship with other sciences or discipline?

### 2. Geography, A Discipline of synthesis

#### 2.1 Of a synthesis to a new synthetic approach

Science (from Latin scientia, from scire, "to know"), in its broadest sense means a systematized knowledge. However, in a narrower sense, all knowledge is objective and therefore verifiable. Each domain of knowledge gives rise to a science of its own. In this sense, it is more precisely a coherent set of laws considered valid until new findings overturn or conventions described so that all experts in the field share a language, experiences and results. It is based on the computation, experimentation and observation. For cons, the synthesis is the union of several concepts or several things in an organized whole, coherent and offering a global vision. To say that geography is a science of synthesis returns to show the geographical interaction of geography in all sciences that its object of study is space. According to Frenneman (1919, Figure1).

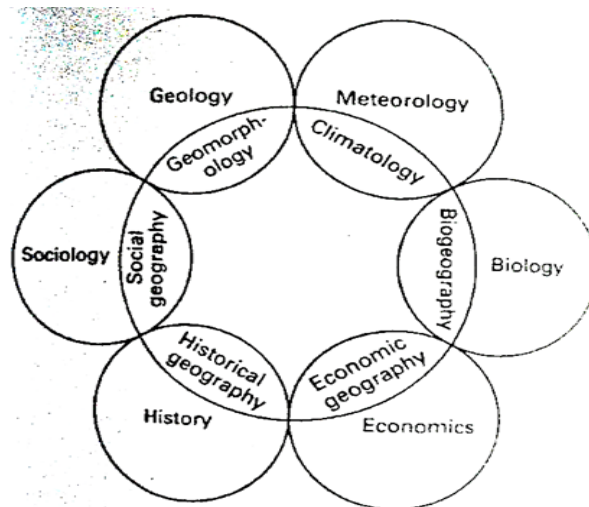


Figure 1: The Circumference of geography. (Adapted from Fenneman 1919)

The interpretation we can make from Fenneman's (1919) perception of geography is its interaction with other sciences. Starting from the physical sciences to the humanities, we see that each part of the various sciences related to geography hence the name synthesis of science. Fenneman in 1919 added a new conception of geography, a synthesis of science in the year 1979. Also, Hagget (1972, 1979) attempted to answer this question. He tried to develop a new form of synthesis which diverges from the traditional division of the subject (Figure 2).

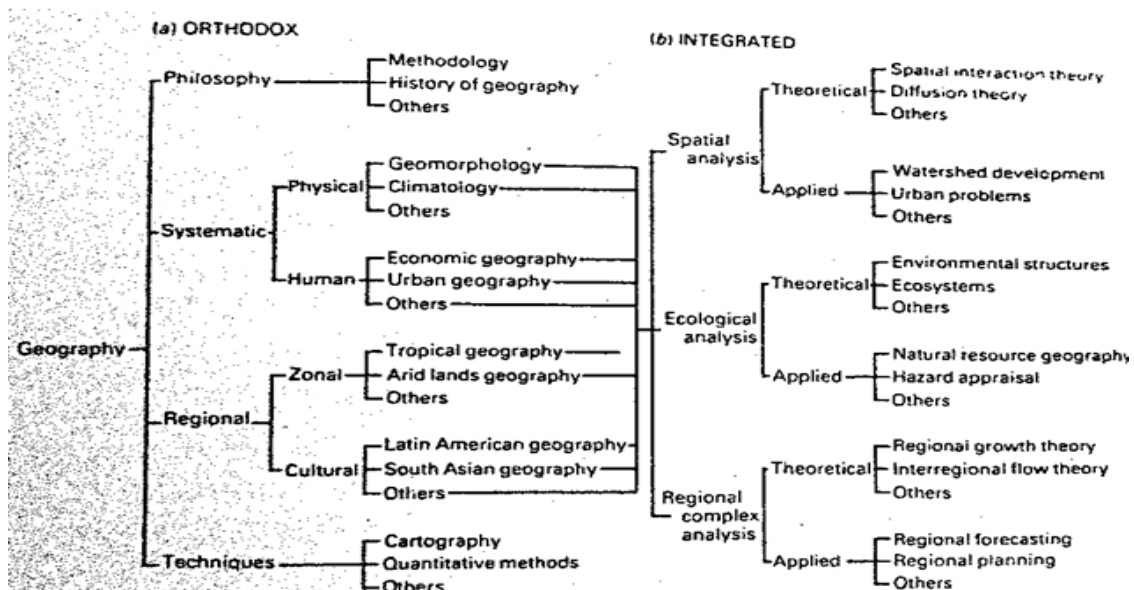


Figure 2: A New synthesis of geography. (From Hagget 1979)

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For him, the historical divisions are important if only because universities use them as a basis for their courses. It is more valuable, he thinks, to divide the subject up in relation for the way in which it analyses its problems. The three new main groups are defined as follows. Firstly spatial analysis concerns itself with the variations in the localization and distribution of a significant phenomenon or group of phenomena. For instance, the analysis of variations in population density or poverty in rural area. Which factors control the distribution pattern? How can these patterns be modified so that the distribution becomes more effective or just?

Secondly, ecological analysis concerns itself with the study of connections between human and environmental variables. In this type of analysis we are studying the relations within particular bounded geographical spaces, rather the spatial variations between regions. Thirdly, complex regional analysis combines the results of spatial and ecological analysis. Appropriate regional units are identified by areal differentiations. Connecting lines and flows between the individual regions may then be observed. This classification may initiate new thinking on the subdivision of geography, although the extent to which it provides the ultimate answer to the old problems of geographical synthesis is more doubtful.

Modern geography can be said to focus its attention on spatial analysis, a systematic geography constructed with newer, expanded models; ecological analysis, a regional geography based on functional on homogeneous regions; and regional complex analysis, a regional geography based on functional regions. Although this simple division is based on concepts found in an introductory textbook, it may have some important for the further development of geography as a science devoted to synthesis. We see at the end of the argument that the new geography is a science that is in constant development and is based on techniques and methods always in perpetual development.

### 2.2 Techniques and Methods of modern geography

Modern geography relies on tools and experimental techniques (Harvey, 1969). These methods and techniques used to build a scientific rationale based on experimentation and coherent reasoning. They are the analytical approach of modern geography. However, before illustrating this approach, it is important to define the method and tool. According to Grawitz (1990) a method may be defined in several ways. It is therefore rightly defined in the philosophical sense. Indeed, in the philosophical sense, it consists of all intellectual operations whereby one discipline seeks to achieve the truth also demonstrating and verifying this information. This design method in the general sense of logical procedure, inherent in any scientific approach allows to consider it as a set of independent rules of all research and specific content, especially for processes and forms of reasoning and perception, making it accessible reality to grasp. She then established a difference between technique and method. The technique is like the method, a response to "how ? " What we can say is that the technique is limited to the operations phases, linked to practical elements, concrete, adapted to a defined purpose, while the method is an intellectual conception coordinating a set operation, usually several techniques. The techniques are thus only tools available to research and organized by the method for this purpose. Thus, the modern geography relies on these tools in research and explanation of observable phenomena in space (Figure 3).

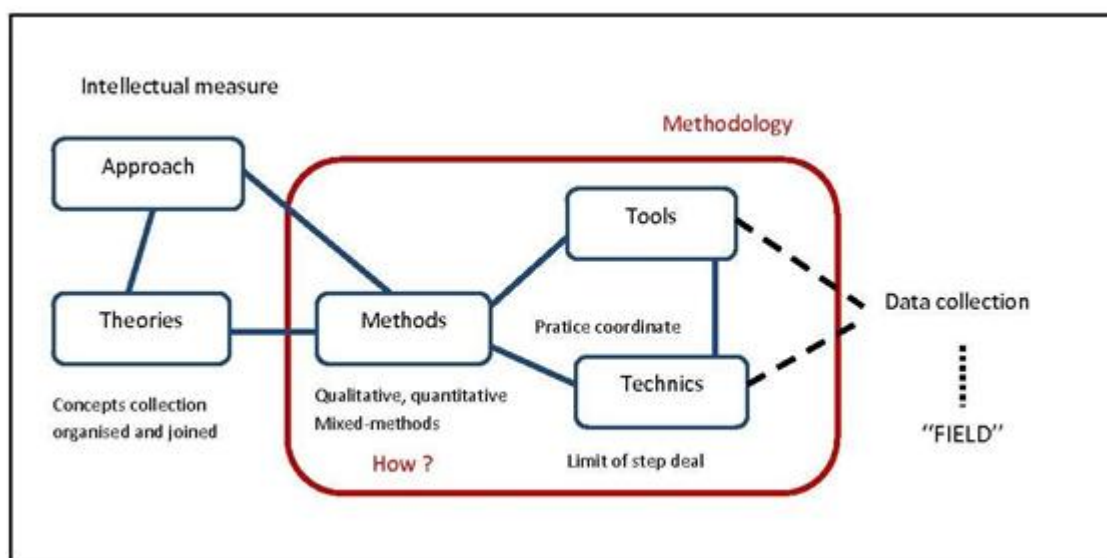


Figure 3: Scientific approach of geography, Guillot, Ides [www.social-geography.org](http://www.social-geography.org)

The modern geography takes its source and structure from notions and concepts, then uses a battery of methods and tools for the treatment of information selected as relevant in a given research process in order to explain the phenomena.

This second part of our analysis, we understand and see that geography is a science that has evolved after the Second World

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War. It has adapted to the evolution of societies and has now reached an experimental basis on concepts, systems, patterns of thoughts currents as explained Harvey (1969).

### CONCLUSION

More than a century ago, geography was defined as a science that aimed to know the different parts of the surface of the Earth and to give the description. Only much time has passed since. It is therefore legitimate to ask whether this definition is still valid. Geography has changed dramatically since this definition and has experienced monumental changes. After the Second World War, it was transformed through science " natural " in social science, hence abandoning the naturalistic point of view which was founded and developed the geography of the 19th century. We have moved from an old geography to geography as this picture shows.

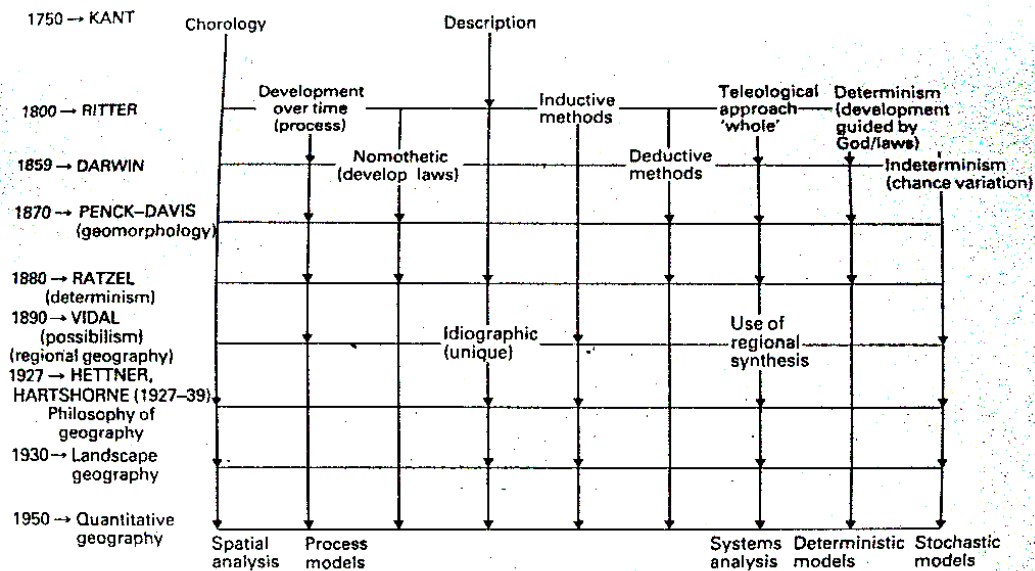


Figure 4: Chronology of geography from 1750 to 1950. (From Arild, 1980)

Modern geography based its reasoning on experimentation based increasingly on analysis of data and methods. In addition, we have passed the ancient geography.

Vidalian or classic (natural causes determine the various living environments of Earth and explain the differences between the companies. Late 19<sup>th</sup> century) in economic geography (it is economic and is anchored strongly in the management space problems view of post-war reconstruction. 50s) to reach today a humanistic geography. Now the field of geography is vast and we see several branches of geography. It is a science. Firstly, it is so because geographers use real methods of investigation to uncover errors and actually use it as an object of knowledge. Secondly because it is subject to the same constraints as other sciences. It evolves and we can add that it seeks. Knowledge is constantly challenged by new research. Geographical thought is always renewed. Learn geography, not only to master the concepts or learn to use tools and techniques, is still learning the geographical reasoning, that is to say the ability to judge correctly and establish rigorous relations, detect logical relationships in spatial distributions of phenomena, their inequalities and forms being considered as openings avenues of research and interpretation elements or solution.

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