



Research Paper

Geography Systems Theory

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Conceptual Development of Geography through Ages:

At the beginning, Geography was considered as the study of the EARTH, and the earth is Consisted with the Lithosphere, Hydrosphere, and the Atmosphere, known as the GLOBE. It has been the pre notion of the geography.

At a later stage it was focused on the Lithosphere- witch takes the Earth's surface and its related activities. This notion was taken-up as the study of PHYSICAL GEOGRAPHY; that means a study of surface configure at onor the mountains, plains, plateau, rivers, etc., etc...

But, it was not enough to conceive as geography. Because, geography was not limiting to these features but, studied human activities in relation to the earth. Hence, HUMAN GEOGRAPHY, Was also involved. Thus, geography was considered as the study of Physical and Human phenomena on the Earth. In the medieval period both the concepts were accepted all over the world and geographic Schools were established in Germany, France, Great Britain and in America.

But, the World was divided into two helms of geography; Physical Human, followed by American school of geography and German School of geography, where as French geographers adopted the Line of Human geography. British Geographers adopted both the lines.

However, these concepts gave the birth to the DUALISM in geography.

Medieval period geography was in be wilderness without a concept and even system, no exact Scientific line was followed It was defuncting discipline .It was only at the beginning of Modern Period (19th century), when the subject could take some what definite line of thinking and a subject of teaching in schools. The exponents of geography were the great explorers and travelers. who roamed the oceans and land over the world. The well known explorers of the time were **Humboldt, Strabo, Ptolemy, and Kant,**. All they extracted the reports of their experiences of the land they traveled and voyages.

In fact, the early modern period is reckoned with the development of geographic thought particularly the Historic records of the places and the people. This can better be understood by the First Generation of Geographers who had a wide and long distant voyages. The first among those were: **Ptolemy, Strabo, Alexander Von Humboldt**, (1769-1859) and **Carl Ritter**. (1845) These were the founders of the geography or better known as father of geography followed by **Varenius, Cluverius, Friedrich Ratzel and Ferdinand von Richthofen** (1833-1905) and many others. This period was from early 18 century to the end of 19" century...

Cotemporaries of the **First Generation** geographers were **Albercht Penck**, (1858) **Alfred Hettner** (1859),and **Otto Schluter** (1872), etc..

This period was the middle of the 19thcentury to beginning of 20" century. eg.

1844-1904. in witch **F.Ratzel** worked. In fact, Systems theory was not applied directly to geography, but to an extent, it was being used taking at the fundamentals.

Systems theory is nothing but a way of working with the fundamental principles, on witch the discipline is based.

Geography in the latter half of the 19th century:

By this time, Geography was established by the second generation of geographers like **Hettner** And **Richthofen**, with its Dual character and nature, I.g. Physical & Human, Determinism & Possibilism They had established some fundamental principles and basic elements of the discipline, and hence, followed the systems theory too.

Actually, **F. Von Richthofen** (1833-1905), had a peep into the systems approach and tried to classify subject into **Special Geography and General geography**. The first one is primary descriptive or synthetic, where as the other one is analytical

General Geography studies Earth-bound phenomena on a four-fold basis: the forms; the material (stoff); forces and causes of change; and movement (Bewegung). These four points of views led to the morphological, material, dynamic, and genetic mode of approach. This approach is purely a systematic one and hence, involves General Systems Theory (GST).

These forms refers to the systems analogy of Forms or Morphology, Function, and Inter-relationships. It becomes an interpretative science of objects. Thus, it reads as-

- 1-The Forms-Morphology,
- 2-The Material forces, -Elements,
- 3-The causes of change-Dynamic, and
- 4-The Movement-Genetic process of time sequence.(inter movement of places).

Thus his main goal was to establish **Inter-relations of phenomena in Areas**.

On the other hand, **Hettner**, (1859-1941), emphasized the "**Chorological science of the Earth**" That means the localized land (Area), phenomena or the distribution of phenomena which give rise to a character to the places c.g...plant, animal, man, land etc.. They form the Elements. Thus, Hettner takes the forms, functions, forces, and changes (Dynamic)

On the other side, unlike German geographers, (contemporaries of the 2nd generation), the French geographers too, engaged in developing **Human Geography**. The pioneers among them were **Vidal de la Blache**(1845-1918), and **Jean Brunhes** (1869-1930).

Blache regarded that the pre-occupation with the physical features of the earth, man's imprint upon the landscape, and the organization of the country into distinctive units, are the principle core of the subject-geography. Thus, Human activities also play vital role in shaping the earth's landscape. Man's role, therefore, can not be relegated Facts of Human Geography speaks of the **Forms, functions and Interrelationships** that is systems approach.

Blache and Brunhes, both, regarded that man himself is a Factor of change and an Agent of nature.

Thus, they advocated the principles of Human Geography such as:

- 1- Terrestrial Unity,
- 2- Dynamic force, and
- 3- Factor of Change,
- 4- Inter-relationships.

These principles are in accordance with the Systems Analogy, which speaks of the:

- 1- Forms or Morphology,
- 2- Functional forms,
- 3- Connectivity, and
- 4- Interrelationships.

Geography in 20th century:

Geography experienced many up & down of research methodologies in different branches, but nothing could be settled down till beginning of the 20th century. Although, the pioneer work by **Albrecht Penck (1858-1945)**, in Germany and **W.M. Davis (1880-)** in USA, in Physical geography, later Geomorphology, led geography on sound footings. It was the period of ideological conflicts and conceptual disengagement when geographers could not provide the exact line of thinking in either ways.

However, Davis and Penck both, led the foundation of the **Land Forms and Processes of developments** in Physical Geography and established the **Normal Cycle of Erosion**. Thus, at a latter stage It was known as the **Geomorphology**. In modern precept it is taken as the School of **Geomorphology**. Thus, Physical Geography became the Geomorphology.

It is interesting to not here that this work by both geographers, was very much in the purview of Systems Theory and strictly followed the Closed Systems, more particularly the River systems. Thus, they led the foundation of **American or Davisian School of Geomorphology, and the German School of Geomorphology led by Penck**.

The contemporaries of the **Fourth Generation** followed with Davis and Penck, **E. Huntigton, and E.C. Semple**, and many others, worked in Human Geography in USA. With the advancement of Human geography along with Regional tangle, there came **Hartshorne's Doctrine of Areal Diffrentiation"**. In his famous **writings of Nature of Gpography (1939)**, and later **Perspective on Nature of Geography (1959)**, gave a new dimension to study. A bitter criticism was thwarted by many world geographers, even by Americans, **F.K.Shaefer (1953)**, was the first to challenge this doctrine. He submitted that conceptual theme should have followed the principle aspects of systems theory, that is -Functional forms and connectivity.

-Both function and connectivity are regulatory systems based on feedback. -Hartshorne's concept of Areal Differentiation and the Regionalism does not follow these principles, hence can not be accepted. Thus he was regarded as the **Exaceptionalists Idiologists**

Modern Trend:

The Modern precept of geography is marked with the conceptual changes in ideological themes. In fact, it is the period of **Paradigm Shift**, in which many as such concepts were introduced. It may be regarded as a many Doctors with one patient. It is the Geography & Geographers. It begins with the Latter half of the 20th century in which much more work came- foreword by a number of geographers like **B. J. L. Berry, Bunge, Marble, Morril, Harris, MacCarty, A J Scott, M. Chisholm, Christaller, Haggett, P., Hagerstrand, T., Losch, A., B J. Garnier, Johanstone, J., Weaver, J. C., Kober, A., etc.** are the names of prominent scholars of the time. They work on to regional synthesis to land use systems, locational models, central place theory, to mental perception of **Gould** and Diffusion processes of Hagerstrand.

The remarkable work of this period is the outcome of the 9 vols. on **Progress in Geography**, Edited by the top scholars like **Chorley, R.J., Board, C. Haggett, P., and Stoddart, D. (1969)**. The other feature of this period was the introduction of **Statistical Methods and Techniques**. This development brought new light to the subject and opened new vistas of applied work in Geography. **D. Harvey's (1969) Explanation in Geography** is a wonder full attempt of this Period which explains each and every thing of geographical development.

Thus, all these geographers reflect the wide spectrum of geographic perception in different objects And methodological thrust. **Quantification** in geography is marked with the advancement which provided sharp tools to strengthen the subject. It would be appropriate here to mention of the role Played by the International Geographical Union-IGU., and its constituent bodies-The Commissions working under it, in this direction. A good example may be cited here of the IGU Commission on **Agricultural Typology**, with a perfect systems theory. It has a sound methodological contents and applied results in hand. Author has the opportunity to work on it in Indian Union which got the world wide appreciation.

Be side all the apprehension, the basic assumption of geography in systems theory, was left aside in the wake of geographical development. Geographers have no any idea of epistemology of structural basis and GST principles on which subject is survived. However, this has been the main reason of not having proper place in the society. It would not be wrong to admit that it had no basis neither in Natural Sciences nor in Social Sciences, while, other sciences flourished well. In other words it loses the social viability.(service to the society).

Be sides all, the Quest for geographic knowledge is not over. But, some basic questions are still Alive and to be answered all along. They are:-

- **What is Geography ?** No exact Definition is provided
- **What about Systems Theory?** The Methodological Development.
- **What are the Limitations?** That no boundary of its own. - **Whether it has scientific Basis?** The problem of Dualism.

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