

**ADVANCES IN
GEOGRAPHICAL THOUGHT****BLOCK****2****HUMAN GEOGRAPHY AS SPATIAL SCIENCE****Unit 3****Spatial Systems, Spatial Theory and Behaviouralism**

Unit 4**Spatial Science and Rise of Humanistic Geography**

Glossary

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CONTENTS

Block 2: Human Geography as Spatial Science	35
Credit Page	36
Contents	37
Block 2: Human Geography as Spatial Science.....	38
Unit 3: Spatial Systems, Spatial Theory and Behaviouralism	39
3.1 Introduction.....	39
Expected Learning Outcomes.....	40
3.2 Meaning of Space	40
3.3 Spatial Variables	42
3.4 Spatial Systems	43
3.5 Spatial Theory	46
3.6 Behaviouralism	50
3.7 Summary.....	53
3.8 Terminal Questions.....	53
3.9 Answers.....	53
3.10 References and Further Reading.....	54
 Unit 4: Spatial Science and Rise of Humanistic Geography	 57
4.1 Introduction.....	57
Expected Learning Outcome.....	58
4.2 Critique of Spatial Science and Rise of Humanistic Perspectives in Geography	58
4.3 Geography in the 20th Century	60
4.4 Humanistic Geography	64
4.5 Significance of Humanistic Geography in Human Geography	66
4.6 Conceptual and Methodological Developments, Changing Paradigms and Humanistic Geography	67
4.7 Summary.....	71
4.8 Terminal Questions.....	71
4.9 Answers.....	72
4.10 References and Further Reading.....	73
Glossary.....	75

BLOCK 2: HUMAN GEOGRAPHY AS SPATIAL SCIENCE

After the Hartshorne-Schaefer Debate on exceptionalism and the writings of William Bunge on Theoretical Geography in 1962 with the rigorous implementation of mathematics to represent space and its components, geography gradually got evolved into Spatial Science. This Block attempts to highlight such discourse in the evolution of geography. The Block has two Units- Unit 3. Spatial Systems, Spatial Theory and Behaviouralism, and Unit 4. Spatial Science and Rise of Humanistic Geography.

Unit 3: Spatial Systems, Spatial Theory and Behaviouralism covers the spatial variables and spatial systems, spatial theory, behaviouralism and critique of systems theory. The sub-themes in this Unit are the meaning of space, spatial variables, spatial systems, spatial theory, and behaviouralism to meet the broad objective of making students able to understand the concept of space and spatial variables, the meaning of spatial theory, the meaning of system theory and spatial systems, and the impact of the behavioural revolution in geography with critiques of systems theory.

Unit 4: Spatial Science and Rise of Humanistic Geography aims to acquaint the students with geography as a branch of knowledge (discipline), which is unique in terms of its subject matter and methods of enquiry unlike other disciplines, which either specialise in specific aspects of either nature or society, geography is inclusive. It also aims to explain exclusionary approaches adopted by most of the branches of knowledge presenting lopsided views of reality while geography has always benefited from presenting a holistic picture of reality and to acquaint with an understanding of synthesising approach followed in geography as an alternative to the artificial binary created and nurtured by most of the disciplines by a unified approach. It covers the themes of critique of Spatial Science and the rise of humanistic perspectives in geography, geography in the 20th century, humanistic geography, the significance of humanistic geography in human geography, and conceptual and methodological developments, changing paradigms and humanistic geography.

It is expected that the students will have a fair understanding of system theory, spatial systems, spatial theory and behaviouralism, the emergence of geography as spatial science, and spatial science and the rise of humanistic geography. Our best wishes are always with you.

SPATIAL SYSTEMS, SPATIAL THEORY AND BEHAVIOURALISM

Structure

3.1	Introduction	3.6	Behaviouralism
	Expected Learning Outcomes	3.7	Summary
3.2	Meaning of Space	3.8	Terminal Questions
3.3	Spatial Variables	3.9	Answers
3.4	Spatial Systems	3.10	References and Further Reading
3.5	Spatial Theory		

3.1 INTRODUCTION

In the last unit of the course MGG-001, we learnt the definitional properties of the concept of space and its types and usages. Space is the key subject of geographical inquiry. Physical features and processes are found in space. So are human activities and human-created features. The natural and cultural elements on the earth's surface and the natural events or human activities that occur, are known as geographical phenomena. A space acquires its characteristics on account of its content and spatial attributes. Geographers have adopted many approaches, methods, and theories to understand space.

In the previous Units, you have studied geography since World War II and positivism, empiricism and geography. This Unit focuses on studying the meaning of space, spatial variable, spatial systems, spatial theory and behaviouralism. A spatial system refers to a system that takes space as a functionally important variable. In spatial systems, geographers apply concepts of location, distance, direction, extent, density, succession, or derivatives to explain space's characteristics. Spatial theory refers to generalisation concerning spatial order and regularity. Behaviouralism is an approach, and behavioural geography is the geographical expression of human behaviour as a decision-maker.

Expected Learning Outcomes

After studying this unit, you should be able to:

- explain the concept of space and spatial variables;
- describe the meaning of spatial theory;
- discuss the meaning of systems theory and spatial systems; and
- explain the impact of the behavioural revolution on geography.

3.2 MEANING OF SPACE

The Oxford Encyclopedic English Dictionary (1991, p.1389) defines space in two ways: (1) a continuous unlimited area or expanse which may or may not contain objects etc., and (2) an interval between one, two, or three-dimensional points or objects. In geography, space means extent or area, usually expressed in terms of the earth's surface. It does not mean space in the sense of outer space or space in the sense of arranging things in tidy rows. The term spatial describes a particular type of distribution that is spread out over a surface rather than one that categorises objects, such as a statistical distribution. It indicates an occurrence, which occupies a portion of the earth's surface.

Geographers usually identify three types of space - absolute, relative and relational. Absolute space is also known as the three-dimensional Euclidean view of space. It is expressed as a straight line between any two points or a three-dimensional volume that any phenomenon may occupy. Absolute space is fixed. We record or plan events within its frame. Socially this is the space of private property, and other bounded territorial designations (such as states, administrative units, city plans and urban grids) (Harvey, 2004).

Relative space is a non-physical view of space. According to David Harvey (2004, pp. 2-3), 'the relative notion of space is mainly associated with the name of Einstein and the non-Euclidean geometries that began to be constructed most systematically in the 19th century. Space is relative in the double sense: that there are multiple geometries to choose and that the spatial frame depends crucially upon what is being relativised and by whom.' Harvey (2004) further states that 'the uniqueness of location and individuation defined by bounded territories in absolute space gives way to a multiplicity of locations that are equi-distant from, say, some central city location. We can create completely different maps of relative locations by differentiating between distances measured in terms of cost, time, modal split (car, bicycle or skateboard) and even disrupt spatial continuities by looking at networks, topological relations (the optimal route for the postman delivering mail), and the like'. Human geographers consider space as a social construct. Accordingly, they use the concepts of time-space, cost or economic space, cognitive or perceived space, convenience space and social space to understand the relationship between people and their environment. These concepts signify space as a relative phenomenon (i.e., relative space).

In a relational sense, on the other hand, space is perceived as containing and representing within itself other types of relationships between objects. For example, the space in the centre of a town contains and represents within

itself relationships deriving from valuation which society chooses to place on particular locations within its occupied space (Mabogunje, 1980, p. 52). David Harvey (2004, p.4) has the following views about the relational space:

"The relational view of space holds that there is no such thing as space outside of the processes that define it. Processes do not occur in space but define their own spatial frame. The concept of space is embedded in or internal to the process. This very formulation implies that, as in the case of relative space, it is impossible to disentangle space from time. We must therefore focus on the relationality of space-time rather than on space in isolation. The relational notion of space-time implies the idea of internal relations; external influences get internalised in specific processes or things through time (much as my mind absorbs all manner of external information and stimuli to yield strange patterns of thought including dreams and fantasies as well as attempts at rational calculation). An event or a thing at a point in space cannot be understood by appeal to what exists only at that point. It depends upon everything else going on around it (although in practice usually within only a certain range of influence). A wide variety of disparate influences swirling over space in the past, present and future concentrate and congeal at a certain point to define the nature of that point."

David Harvey (2004, p. 2) has summarised the tripartite division of space in the following words:

"If we regard space as absolute it becomes a "thing in itself" with an existence independent of matter. It then possesses a structure which we can use to pigeon-hole or individuate phenomena. The view of relative space proposes that it be understood as a relationship between objects which exists only because objects exist and relate to each other. There is another sense in which space can be viewed as relative and I choose to call this relational space - space regarded in the manner of Leibniz, as being contained in objects in the sense that an object can be said to exist only insofar as it contains and represents within itself relationships to other objects."

Finally, David Harvey (2004) asks the most fundamental question on the nature of space. Is space absolute, relative or relational? The answer to this question given by him in his book *The Social Justice and the City* (1973) is as given below:

"Space is neither absolute, relative or relational in itself, but it can become one or all simultaneously depending on the circumstances. The problem of the proper conceptualisation of space is resolved through human practice with respect to it. In other words, there are no philosophical answers to philosophical questions that arise over the nature of space - the answers lie in human practice. The question "what is space?" is therefore replaced by the question "how is it that different human practices create and make use of different conceptualisations of space?" The property relationship, for example, creates absolute spaces within which monopoly control can operate. The movement of people, goods, services, and information takes place in a relative space because it takes money, time, energy, and the like to overcome the friction of distance. Parcels of land also capture benefits because they contain

relationships with other parcels....in the form of rent relational space comes into its own as an important aspect of human social practice."

Thus, the nature of space depends on human practice and the purpose for which they define it as it is also a social production.

SAQ I

What is space?

3.3 SPATIAL VARIABLES

A variable is a measurable property of any person, place or phenomenon of interest, i.e., a characteristic that distinguishes one member of a statistical population from another. Any phenomenon whose distribution differs from place to place is termed spatial and qualifies as an element of geography. There would be no geography of variation if physical and human phenomena were distributed uniformly over the face of the earth. However, rainfall, atmospheric temperature, elevation, population, farming, mining, manufacturing, and cities vary markedly from one location to another.

According to Ron Johnston (1975), 'The spatial variable operates because every place on the globe has a unique location, both in an absolute and if the direction is considered a relative sense. So, the spatial variable might immediately be defined as the distance between two places. 'A spatial variable may include a location (absolute and relative), distance (absolute and relative), direction, size and shape (of area), and slope of the land. In other words, the spatial variable refers to the character of space that varies and may be a factor in shaping the operation of spatial and non-spatial processes. Johnston (1975) further indicates that spatial variables are not singular. Instead, they are complex and permeate many aspects of our lives. Their measurement is difficult. Therefore, they are worth being explored.

The distance can be physical (i.e., measured in kilometres and miles). However, distance is not only physical separation but also cost and time. Geographers map relative and relational temporal spaces. The time and cost aspects of distance can be related to another variable of relevance, i.e., the spatial distribution of information.

The influences of spatial variables are important to human life everywhere. One example could be the intra-urban value of the land. The value of land and property is determined by the location of the property and the availability of services near it. Another example could be related to the issue of spatial inequality. Spatial inequalities also arise through variations in the accessibility of a place to various facilities and services. The complexity of relative and relational accessibility as spatial variables has been concerned with the size of the area and distances (especially large areas and distances).

Several empirical tests have been done to find patterns and regularities in the location and distribution of phenomena on the earth's surface. For example, models of least-cost location, interaction patterns, and spatial spread and

diffusion have dominated human geography for many decades. Most of these models are based on using distance (as an independent variable) as a surrogate for transport cost.

Two generalisations can be made regarding spatial variables. First, no study of a spatial variable can be undertaken outside the context of the socio-cultural matrix in which it is operating. It is because spatial variables are socially and culturally assigned values, meanings and functions. Second, the spatial variables have a bearing on various elements of the quality of life. There are many academic and polemic claims which believe that manipulating the spatial system can alter the quality of life. For example, many urban conflicts are a function of class spatial segregation. Given this, geographers need to study spatial variables within the context of socio-cultural processes.

SAQ 2

Define spatial variable.

3.4 SPATIAL SYSTEMS

The term system was used by biologist Ludwig von Bertalanffy in 1950 to refer to 'elements in standing relationship. He used this approach with the aspiration of producing a unified foundation of science and producing a law describing how all systems are related. According to Rappaport (1961), a system refers to 'a whole (a person, a state, a culture, a business firm), which functions as a whole because of the interdependence of parts.' David Harvey (1969) defined a system as constituting:

- (1) a set of elements identified with some variable attributes of objects,
- (2) a set of links (relationships) between the attributes of objects, and
- (3) a set of relationships between those attributes of objects and the environment.

There is the concept of system boundary, which refers to the barriers that define a system and distinguish it from other systems in an environment. There are three fundamental aspects of a system- isolated, closed and open. Isolated systems exchange neither energy nor matter with the system. Closed systems exchange energy but do not matter with their environment and attain true thermodynamic equilibrium. (e.g., physical and chemical systems). Open systems exchange both energy and matter with their environment. Living systems are considered to be open systems. In these systems, a given component's formation rate is counterbalanced by an equal rate of removal or breakdown.

The living organisms (biotic community) of the habitat and their non-living environmental components function as one unit called the ecological system. It has two aspects- function (acting) and evolution (being). Various living and non-living components of an ecosystem perform a certain function in relation to each other. The ecosystem and its components are not fixed but keep on

changing with time in relation to each other. However, the rate of evolution may be different for different components of an ecosystem.

System approaches are concerned with teaching about physical systems, human systems and ecosystems. Physical systems include :

- Geomorphic systems,
- Soil systems,
- Climate systems,
- Ecosystem,
- Regional systems,
- Hydrological systems, and
- Biotic systems.

Human systems include social and cultural aspects of human organisation such as:

- Agricultural system,
- Industrial systems,
- Service systems,
- Settlement systems, (and/or urban systems)
- Transport systems,
- Trade systems, and
- Social systems.

Ecosystems include biotic and abiotic elements of the environment interacting with each other.

The term ecosystem was proposed by Tansley to express an 'interacting system comprising living things and their non-living environment'. Inspired by Tansley, D. R. Stoddart developed the concept of the ecosystem as a fundamental organising concept in geography. First, it is monistic; it brings together the environment, humans and the plant and animal worlds within a single framework, within which the interaction between the components can be organised. Second, ecosystems are structured in a more or less orderly, rational and comprehensive way. The essential fact here, for geography, is that once structures are recognised, they may be investigated and studied, in sharp contrast to the transcendental properties of the earth and its regions as organisms or organic whole. To take a geographical example, the system involves not only the framework of the communication net but also goods and people flowing through it. Once the framework has been defined, it may be possible to quantify the interactions and interchanges between the component parts, and at least in a simple ecosystem, the whole complex may be quantitatively defined. Last, the ecosystem is a type of general system and possesses the attributes of general systems. In general system terms, the ecosystem is an open system tending toward a steady state under the laws of open systems thermo-dynamics.

Geographers are especially concerned with the spatial system. A spatial system refers to a system that involves space as a functionally important variable, such as location, distance, direction, extent, density, succession, or derivatives of these. Any system in which one or more of the functionally important variables are spatial may be called a spatial system.

A very useful concept related to the methodological framework of investigating the structure and function of a system is system analysis. According to Edward Ackerman (1963, p. 433), "System analysis provides methods of problem-solving which might be said to have been created for geography. Geography is concerned with systems. It is nothing less than an understanding of the vast, interacting system comprising all humanity and its natural environment on the surface of the earth." It provides a convenient calculus for examining problems of geographical nature, particularly since such issues are of multivariate nature.

Two concepts are key in system analysis- isomorphism and homomorphism. Two systems (S1 and S2) are isomorphic if the element in S1 can be uniquely assigned to the elements in S2 and vice versa, and for every relationship in S1, there exists an exactly similar relationship in S2 and vice versa. The isomorphic relationship between two systems is symmetrical, reflexive and transitive. An example of an isomorphic system is an electric circuit. But very few such physical analogues can ever be completed. For this reason, most system models are necessarily homomorphic in which the relationship between S1 and S2 is asymmetrical, irreflexive and non-transitive. For example, we can treat the map as a model of a city, but we cannot treat the city as a model of the map. The most important class of homomorphic models are mathematical models. That means the system analysis relates to the abstract rather than reality.

System theory is very popular as it has the capacity to present the big picture in a relatively simplistic and attractive manner. However, the system theory has been subjected to criticism on various grounds. Its gravest shortcoming is that similarities between systems might be only coincidences or trivial analogies. Further, in system theory, the relations between the variables are not stated with rigour. It is quite difficult to apply this theory to understand the human world as the data gathered in the context of the theory will not be much useful. The theory fails to consider the difference between the goals of the individuals or groups and those of the system.

A weakness in systems theory is that it assumes that any degree of influence at any level controls the entire system and, at any stage, can dramatically impact how it fails or continues to thrive. We know this is not the case since some issues might have a more significant impact than others. Moreover, circumstances in life can change very quickly, and something that an individual once deemed irrelevant can promptly have a significant impact. In the implementation of system theory in human and social services, being able to accurately predict so many parameters may not be feasible and is often a point of criticism for many (Hutchinson & Oltedal, 2014). It is then a question of whether systems theory can accurately encompass the complexities of interactions and inter-relationships which emerge for an individual at any level, formally or informally. While many social workers embrace systems

theory, research suggests that its main principles lack explanation. To remain stable, it emphasises the idea of harmony between its systems. It means that only the changes that stabilise the system agree with it. Research indicates that systems theory has more influence on mathematics and biological systems than the social sciences. This theory often ignores triggers within a culture, e.g., the macro system requires consistency and does not tolerate change, a sudden change can pose a significant threat to the system and thus create an imbalance.

SAQ 3

Define spatial system.

3.5 SPATIAL THEORY

Geography aims to describe, explain and interpret the earth in all its complexities. The earth is varied and complex. The essence of geography is variations on the earth's surface. There are variations in the earth's physical, biotic, social, economic, political, cultural, and other environmental aspects. These variations impinge upon human life, activities, beliefs and values. Despite these variations, one can observe plenty of regularity that can be explained in even the most complex of all these different environments in which we live. The task of theoretical geographers is to search for this regularity and order and try to explain why it occurs. Hudson (1969) believes that a theory represents a direct attempt to provide a logical system or nesting place for previously noted regularities. He studied regularities and changes in the patterns of rural settlements.

It is true that geographical theories, for the most part, have evolved from theories of other disciplines. However, most normative models in other disciplines assume spatial variation as non-existent, i.e., social processes operate on flat and featureless earth. Descriptive models in other disciplines show variations but do not provide reasonable accounts for them. Thus, the significance of place-to-place differences was not given prominence in the theories developed by economic, social, and behavioural science disciplines.

Paul Krugman has identified reasons for the neglect of space by mainstream economists. According to him, 'there was something about spatial economics that made it inherently unfriendly terrain for the kind of modelling mainstream economists know how to do. In spatial economics, you really cannot do meaningful theorisation without finding a way to deal with scale economies and oligopolistic firms (Krugman, 1995, p. 34).

Theories developed by spatial economists and economic geographers start with certain assumptions. Examples of some of these assumptions are- the homogeneous characteristics of the world, transportation cost as a function of weight and distance and absence of economies of scale, etc. Krugman (1995) questions, would such a world give rise to the highly uneven spatial distribution of economic activity we see, in which most people live on the small urbanised fraction of land and in which urban areas themselves are

highly specialised? The answer, of course, is that it would not (Krugman, 1995, p. 35).

It is important to note that the making of the spatial component explicit not only brings the essence of spatial diversity in real-world existence to the fore but also increases our understanding of why geographical phenomena are distributed in diverse ways on the earth. In geographical theories, it is not a simple matter to add geography to those pre-existing theories and models. The essence of geography is spatial variation. But how does space matters in social theory? The geographical space is not uniform, as no two parts are the same. Space is a complex entity consisting of innumerable places. Each of the places differs in their social and natural character and their overall personality. The natural and socio-cultural processes not only operate in the space but are also affected by it. Therefore, space should not be ignored in the theorisation of society.

"Spatial distributions and geographical differentiation may be the result of social processes, but they also affect how those processes work. 'The spatial is not just an outcome; it is also part of the explanation. It is not just important for geographers to recognise the social causes of spatial configurations that they study; it is also important for those in other social sciences to take on board the fact that the processes they study are constructed, reproduced and changed in a way which necessarily involves distance, movement and spatial differentiation' (Massey, Doreen, 1984, p. 4).

Similarly, David Harvey (cited by Johnston, et al., 2000, p. 639) notes that: 'An understanding of space in all its complexity depends upon an appreciation of social processes... (and) an understanding of the social processes in all its complexity depends upon an appreciation of spatial form.' Therefore, as expected, geographical space occupies a vital place in the contemporary theories of society. The new social theories duly recognise that social processes necessarily take place over space (Massey, 1984, p. 4). Geography, whoever does it, and under whatever name, is essential because of four basic facts or realities about existence.

1. Space exists.
2. Physical and social processes require space to operate.
3. With respect to carrying on human activities, space (as the environment) varies in content and utility.
4. Phenomena, including people, are place-bound – they cannot be everywhere at once (Morrill, 1985, p. 263).

Given these facts, it is possible to assert two overarching or "meta"-theories which define the domain or the essential principles of geography. SPACE is both in the form of extent and separation of "things" and in the form of differential environmental quality or content, conditions of physical and social activities and processes (Morrill, 1985, p. 263). According to Michael Dear and Jennifer Wolch (1989, p. 9):

'Social practices are inherently spatial, and at every scale and all sites of human behaviour. Geography is thus an important element in social

reproduction (activities). The relationship between space and human activity is very subtle, and constantly evolving. In abbreviated terms, we recognise three aspects to the socio-spatial dialects: (1) in which social relations are constituted through space, as when opportunities for natural resource exploitation influence arrangements for production (such as extractive or agricultural activities); (2) in which social relations are constrained by space, such as the inertia imposed by an absolute built environment, or the degree to which the physical environment facilitates or hinders human activity (as in the case of natural hazards); and (3) in which social relations are mediated by space, as when the general action of the "friction of distance" facilitates the development of a wide variety of social practices, including the pattern of everyday life, or the development of homogeneous belief system in geographically isolated communities.'

They conclude by noting that: 'the pattern of human territoriality results from the interaction between the economic/political/social spheres and the constitutive/constraining/meditative role of space' (Dear and Wolch, 1989, p. 9).

The centrality of the spatial variable can be seen in all the geographical theories given below.

1. Theories of location explain the laws of location and distribution of phenomena in space.
2. Theories of spatial interaction explain the laws of movement on geographical space and other spatial behaviour.
3. Theories of growth and development explain the nature of past, present and future spatial states of being.
4. Theories of decision-making and choice explain observable regularities and repeatable trends in individual, group, institutional and governmental behaviour (Golledge, 2001, pp. 461-462).

Geographical theories have further been divided on the basis of the path of enquiry- theories related to spatial forms and processes. Theories focusing on spatial arrangement aim to identify and explain the spatial patterns or peculiar configurations distributed in well-defined geographical spaces. According to Amedeo and Golledge (1975, p. 175), 'reference to the configuration of a distribution would presumably give a *spatial* summary indication of the dispersion of events concerning some designated area, the arrangement of events to one another, the connection or links between and among events and the hierarchical relations inherent in the distribution of concern'. The term spatial process, on the other hand, refers to the sequence of interrelated events on, above or below the earth's surface that produce or retard changes. It is defined as a being – in operation. Golledge (2001) defines it as 'a collection of interrelated activities that operate on a set of events and, consequently, produce (or in some cases, prevent) changes in the characteristics of these events through time and over space. Hence, the manifestations of these relationships and interrelationships at any moment time may have an appearance that exists only temporarily; sometime later, these manifestations may take on an altogether different appearance' (Amedeo and Golledge, 1975, p. 177). The emergence of geographical theories pertaining to both patterns and processes, therefore, is a step taken

to increase our level of understanding and comprehension of the objective environment and of the way that society interacts with and changes those environments variously.

The period of the 1950s and 1960s in geography is widely known as the period of quantitative and theoretical revolution as you have studied in the previous Unit. During this time, human geographers started using sophisticated mathematical and statistical techniques to explain the complexities of processes and resultant spatial patterns. The focus of geography dramatically changed from deterministic theories of form and structure to process-oriented explanations (i.e., theories of interactions, inter-relationships, behaviour and dynamics).

According to Golledge (2001, p. 475), geographers have developed spatial theories of innovation diffusion, economic growth and development, migration and mobility, social gravity models and theories of demographic transformation. Moreover, they have ventured into postmodern deconstruction and reconstruction theories of economy and society, covered scales from micro-behavioural to global, and explored both qualitative and quantitative models' (Golledge, 2001, p. 475).

In recent years, the centrality of space is increasingly being realised by scholars of social sciences and humanities. Therefore, the contemporary developmental trends in social theories have been described as 'spatial turn' in the postmodernism. Social scientists and scholars of humanities are integrating space into the study of social structure and processes. They consider the socio-economic and cultural dimensions of geographical space as important dimensions of understanding the complexities of society. In fact, geographical space has emerged as a powerful language for interpreting social experience. To use Kristin Ross's phrase (cited by Smith, 1990, pp. 547-559), 'history has gone spatial'. Or, as Foucault (cited by Soja, 1993, p. 114) has suggested, 'the present epoch will perhaps be above all the epoch of space.' Quoting Henry Lefebvre, Michel Foucault, and John Berger, Edward Soja says: 'It is now space more than the time that hides things from us, that the demystification of spatiality and its veiled instrumentality of power is the key to making practical, political, and theoretical sense of the contemporary era' (cited in Soja, 1989, p. 61). According to John Berger (cited in Soja, 1989, p. 22), 'Prophesy now involves a geographical rather than historical projection; it is space not time, that hides consequences from us. To prophesy today, it is only necessary to know men (and women) as they are throughout the world in all their inequality. Any contemporary narrative which ignores the urgency of this dimension is incomplete and acquires the oversimplified character of a table'.

There are many leading non-geographer scholars across the social sciences and humanities, like Edward Said, Stuart Hall, Michel Foucault and Raymond Williams, who have stressed the importance of taking space seriously in the attempt to understand social and cultural phenomena (Hubbard, et al., 2003, p. 2). Scholars writing on globalisation and the information society have also placed concepts of space and place at the centre of social, economic and political thought. They include – Jean Baudrillard, Ulrich Beck, Anthony Giddens, Manuel Castells, Amartya Sen and Paul Virilio – all offering their

distinct takes on the importance of (virtual or real) space in contemporary life (Hubbard et al., 2003, p. 2).

There was a common belief among twentieth-century critical theorists that space has no social effects. On the other hand, geographer Robert D. Sack (1974, pp. 1-19) considered that space has an effect 'in itself' which he called 'spatial separatism'. However, David Harvey discarded both rigid beliefs. According to him, social practices and processes create and recreate spaces, and these spaces, in turn, constrain, enable and alter those practices and processes (cited by Castree, 2004, p. 185). Edward Soja (1989, p. 78) called this phenomenon a 'socio-spatial dialectic'. On the other hand, Doreen Massey (1999, p. 34) has produced a powerful critique of the dominant aspatial view of globalisation. She also argues that social and spatial needs to be conceptualised together.

The consequence is that academics outside the discipline have begun to theorise space in ways that appeal to geographers. It means their works are being imported into geographical thought in various ways. Conversely, geographers' works are increasingly being used and read by those in other social sciences and humanities (Hubbard, et al., 2003, p. 2). One can take the example of economic geography. Economic geography, which is the study of the location of economic activities, has become a key sub-discipline in contemporary times. And space has become a crucial element in new economic geography theories.

SAQ 4

Define Spatial Theory.

3.6 BEHAVIOURALISM

Before discussing the concept of behavioural geography, it is important to understand that behaviouralism should not be confused with behaviourism. The concept of behaviourism is solitary related to the psychology discipline. It aims at elimination from scientific research of all reference to such subjective data as purposes, intentions, desires or ideas (Varma, 1992, pp. 47-48). Rather, it is mechanically related to stimulus and response (S-R paradigm). Behaviourism suffers from the danger of 'psychologism' – the fallacy in which social phenomena are explained purely in terms of facts and doctrines about the mental characteristics of individuals.

Behaviouralism, on the other hand, considers subjective influences between stimulus and response (S-O-R paradigm). Behaviouralist social scientists have always emphasised feelings, motivations and other aspects of subjective awareness and reactions of the organism as it comes between stimulus and responses (S-O-R). It is another matter that psychologists also started considering the subjective environment of human beings.

Behavioural geography is the geographical expression of behaviouralism. Behaviouralism is an approach or viewpoint. It aims to replace the simplistic and mechanistic conceptions that characterised much of the theories of man-

environment relationships and is rooted in positivism. It recognises and values the complexities of human behaviour for interpreting the man-environment relationship. In the behaviouralist approach, the explanation of spatial patterns of human behaviour is sought in a human cognitive process that underpins that behaviour. The term 'cognition' refers to the mental process through which people acquire, give meaning, organise and use knowledge.

The behaviouralist approach that geographers adopt has the following six features. First, behaviouralist geographers consider that the environmental cognition (i.e., the subjective environment) upon which people act may differ distinctly from the true nature of the real world (i.e., the objective environment). The objective environment or the world of actuality can be empirically known directly. On the other hand, the subjective environment or the world of mind can be studied by indirect means. Importantly, no matter how partial or selective the behavioural environment may be, it is this milieu that forms the basis of decision-making and action by human beings.

Second, behavioural geographers consider that geographical researchers must recognise that individuals shape and respond to their physical and social environment. Before the inception of the behavioural approach, geographers mainly considered how the physical environment influences human beings. However, geographers using the behavioural approach consider it only one aspect of looking at reality. They advocate widening the concept of 'environment' to include the social environment in which the individual is born, lives and grows. Perhaps, it is even more important than the physical environment. It is necessary to note that the action of every individual can impact the environment. It is another matter that the impact may vary. It can be minor or major. In turn, these environmental modifications can create circumstances requiring further actions, either on the part of the initial actors or for other communities. In this way, human behaviour is often not just the outcome of a chain of events but also the start of a new sequence.

Third, behavioural geography focuses on the individual rather than approaching a problem at the level of the social group. It operates from the lowest level of individual human acts. For behavioural geography, aggregate data banks such as Census are not seen to be very helpful. Instead, individual elements are aggregated to make meaningful sub-groups. Thus, there is a change of emphasis from aggregate populations to the disaggregate scale of individuals and smaller groups. Though the unit of analysis is individual, behavioural geographers also appreciate social and cultural factors' influences on human cognition and behaviour.

Fourth, behavioural geography is multidisciplinary in its point of view. Though much of the ideas of behavioural geography are indeed derived from the literature of psychology and behavioural sciences, important ideas have also been derived from such subjects as sociology, political science, anthropology, ethnoscience, planning, economics and architecture. All these disciplines have experienced their movements towards behaviouralism.

Fifth, behaviouralism is a process-oriented approach. It focuses on human behavioural processes, such as learning, perception, cognition, attitude formation, preferences, decision making and so on. It focuses more on

processes responsible for acts of human behaviour rather than the act of behaving or moving in geographical space. In other words, the behavioural approach concerns more with the reasons for conducting rather than the manifestation of behaviour. Further, it focuses on how spatial patterns evolve.

Sixth, behaviouralism is an inductive approach. It tries to build general statements out of observations of ongoing processes. The nature of data pertains to preferences, perceptions, habits, cognition and attitudes.

Several geographers have adopted behavioural approaches to interpret the spatial and ecological aspects of human behaviour. For example, Gilbert F. White (1946) tried to understand human reactions to natural hazards. In particular, he studied human adjustment to floods. According to him, 'it is more important to map the personal 'perception' of decision makers than to describe the factual physical and economic conditions of the environment. It is because human decisions are guided more by their subjective environment than the world of actuality'. William Kirk (1952) used two concepts- phenomenological environment (the totality of the earth's surface) and behavioural environment (the perceived and interpreted portion of the phenomenological environment) to understand man-environment relationship. He produced a model based on Gestalt Theory to argue that people's behaviour was rooted in a behavioural environment rather than the phenomenological or objective environment. Robert William Kates (1962) criticised the notion of economic man and studied the management of flood plains by using a behavioural approach. He believed that how men view the risks and opportunities of their uncertain environment plays a significant role in their decisions regarding resource management.

Julian Wolpert (1964) tried to understand the process of decision-making in the spatial context. From his study of agriculture in Central Sweden, he concluded that farmers are not 'optimisers' but 'satisfiers'.

Allen Pred (1969) developed a behavioural matrix, 'which is a theory of behaviour and location. It provides a structure in which decisions of locations can be understood. According to Pred, incompetent and ignorant decision makers are not likely to make economically rational choices but they can certainly benefit from chance factors not related to their own choices. On the other hand, knowledgeable and competent decision-makers in terms of economic terms are more likely to make economically rational locational choices. Pred introduced a highly useful concept by Herbert Simon – the concept of bounded rationality. He used it to describe the way that humans make decisions that depart from perfect economic rationality. It is because our rationality is limited by thinking capacity, available information, and time. Instead of making the 'best' choices, humans often make choices that are satisfactory.

Peter Gould and R. White (1974) developed the concept of a mental map to understand how human beings develop a mental picture of their surroundings. Further, our mental picture of the world is critical to understanding how we perceive space and place and takes decisions.

SAQ 5

Write the differences between behaviouralism and behaviourism.

3.7 SUMMARY

In this Unit, you have studied:

- Space is the key subject of geographical inquiry. Most other geographical concepts have been developed to explain the characteristics of space. The quality of space is not uniform.
- The variation in the quality of space is explained by geographers with the help of spatial variables such as location, distance, direction, orientation and so on. Geographers have adopted approaches and methodologies and developed theories for explaining the spatial organisation of society.
- Geography is concerned with systems. System analysis provides methods of problem-solving. To some, it is nothing less than an understanding of the vast, interacting system comprising all humanity and its natural environment on the earth's surface.
- A geographical theory represents a direct attempt to provide a logical system or nesting place for previously noted spatial regularities.
- Behavioural geography is the geographical expression of behaviouralism. As an approach, it aims to replace the simplistic and mechanistic conceptions that characterised much of the theories of man-environment relationships. Instead, it recognises and values the complexities of human behaviour for interpreting the man-environment relationship.

3.8 TERMINAL QUESTIONS

1. Discuss how space is absolute, relative and relational at the same time.
2. Discuss the significance of spatial variables.
3. Describe various types of systems studied by geographers.
4. Critically examine the reasons for the emergence of the centrality of space in social theories.
5. Discuss the salient features of the behavioural approach in geography.

3.9 ANSWERS

Self-Assessment Questions (SAQ)

1. In geography, the term space has a specific meaning. It refers to the extent or area, usually expressed in terms of the earth's surface. It does not mean space in the sense of outer space or space in the sense of arranging things in tidy rows. The term spatial describes a particular type of distribution that is spread out over a surface rather than one that

categorises objects, such as a statistical distribution. It indicates an occurrence, which occupies a portion of the earth's surface.

2. Any phenomenon whose distribution differs from place to place is termed a spatial variable and qualifies as an element of geography. There would be no geography of variation if physical and human phenomena were distributed uniformly over the surface of the earth. spatial variable refers to the character of space that varies and may be a factor in shaping the operation of spatial and non-spatial processes.
3. Spatial system refers to a system that involves space as a functionally important variable. Examples of spatial variables are location, distance, direction, extent, density, succession, or derivatives of these. Any system in which one or more of the functionally important variables are spatial in nature may be called a spatial system.
4. Geography is a spatial science. It studies regularities and changes in the patterns of phenomena in space. Geographical theories are concerned with a direct attempt to provide a logical system or nesting place for previously noted regularities
5. The concept of behaviourism is solitary related to the psychology discipline, which aims at elimination from scientific research of all reference to such subjective data as purposes, intentions, desires or ideas. On the other hand, behaviouralism considers subjective influences between stimulus and response (S-O-R paradigm). Behaviouralists give importance to feelings, motivations and various other aspects of subjective awareness and reactions of the organism as it comes between stimulus and response (S-O-R).

Terminal Questions

1. Present your argument on how space is absolute, relative and relational at the same time. Refer to Section 3.2
2. Give a discussion on the significance of spatial variables. Refer to Section 3.3.
3. Write on various types of systems studied by geographers. Refer to Section 3.4.
4. Critically discuss the reasons for the emergence of the centrality of space in social theories. Refer to Section 3.5.
5. Write about the salient features of the behavioural approach in geography. Refer to Section 3.6.

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SPATIAL SCIENCE AND RISE OF HUMANISTIC GEOGRAPHY

Structure

4.1	Introduction	4.6	Conceptual and Methodological Developments, Changing Paradigms and Humanistic Geography
4.2	Expected Learning Outcomes	4.7	Summary
4.3	Critique of Spatial Science and Rise of Humanistic Perspectives in Geography	4.8	Terminal Questions
4.4	Geography in the 20th Century	4.9	Answers
4.5	Humanistic Geography	4.10	References and Further Reading
4.5	Significance of Humanistic Geography in Human Geography		

4.1 INTRODUCTION

Geography has been evolving from its primordial condition to its primary divisions of physical and human geography or regional and systematic geography to its present form of varied specialisation and compartmentalisation. It became the institutionalised branch of knowledge late than other sister disciplines which you have studied in the first Unit of the course Introduction to Geographical Thought. It has travelled through the time spectrum branching and sub-branching along with the development in other disciplines and advancements of tools and techniques of geographical studies. We can't ignore that the socio-political and cultural situations globally, and particularly, in Europe and America, on the one hand, and decolonised countries in Asia, Africa and South America, on the other, have contributed significantly to the making of modern, particularly the post-World War II geography. In the course of evolution, geography took a turn from descriptive to scientific (positivistic or quantitative), and thereafter humanistic opposing the quantitative geography due to its inherent limitations of capturing human experiences. In this Unit, you will study geography as spatial science and the rise of humanistic geography as a further ramification of geography in

continuation of the previous Unit 'Spatial Systems, Spatial Theory and Behaviouralism.'

In this Unit attempts have been made to interrogate the relevance of artificial binaries created by most of the disciplines and expose the students to adopt a synthesising approach of enquiry with the objectives given below:

- To describe geography as a branch of knowledge (discipline) is unique in terms of its subject matter and methods of enquiry unlike other disciplines, which either specialise on specific aspects of either nature or society, geography is inclusive.
- To explain exclusionary approaches adopted by most of the branches of knowledge presenting lopsided views of reality, while geography has always benefited from presenting a holistic picture of reality.
- To acquaint with an understanding of the synthesising approach followed in geography will be able to replace the artificial binary created and nurtured by most of the disciplines with a unified approach.

Expected Learning Outcomes

After studying this unit, you should be able to:

- be acquainted with the critique of spatial science and the rise of humanistic perspectives in geography;
- describe geography in the 20th Century;
- discuss humanistic geography and its significance in human geography; and
- explain the conceptual and methodological developments, changing paradigms and humanistic geography.

4.2 CRITIQUE OF SPATIAL SCIENCE AND RISE OF HUMANISTIC PERSPECTIVES IN GEOGRAPHY

Geography as a discipline and branch of knowledge has travelled relatively vast spaces encompassing many epochs in history than other disciplines that emerged under modernity and enlightenment movement during the Seventeenth and Eighteenth centuries. Though the credit for establishing it as a separate discipline and branch of knowledge goes to two modern German thinkers Alexander von Humboldt (1769-1859) and Carl Ritter (1779-1859) yet, the themes and subject matters included within geography and the methods of understanding followed in the discipline had multiple origins located among the Greek, Roman, Arab, Egyptian, Indian and Chinese geographers way back in antiquity. True to the obsession of the Age of Modernity, geographers religiously followed the binary taxonomic division of knowledge between Nature and Humans. They devoted their time, energy and resources exclusively to describing, interpreting, understanding, explaining, analysing and predicting the nature and phenomena associated with it. The exclusion of humans from its subject matter in order to unravel the universal laws similar to disciplines in sciences particularly Mathematics,

Physics, Chemistry, Zoology, Botany, etc., the geographers' enquiry landed the discipline into two significant problems:

Firstly, unlike the scientific disciplines working under controlled laboratory conditions, the geographers found themselves ill-equipped to create controlled conditions while understanding nature. Therefore, their search for universal laws remained confined to probabilistic conclusions.

Secondly, while subscribing to the artificial binary between nature and culture the geographers not only found it difficult to justify and provide valid grounds for the same but they also placed the discipline into the bracket of disciplines engaged in pursuing knowledge for the sake of knowledge. Geography was reduced to a discipline of great immanent value and sans transcendence.

Such omissions proved detrimental to the discipline in the age of the Anthropocene (a geological time period (epoch), where humans are the single most species influencing the planet Earth with significant changes on the earth and its environment). Consequently, there was opposition within the discipline in favour of the inclusion of humans along with phenomena of nature as integral parts of its subject matter. Moreover, there were geographers, particularly from the Radical and the Berkeley Schools of Geography who challenged the arbitrary division between nature and culture (humans) and advocated that human beings particularly, their unique attribute of labour is one of the many forces of Nature. Quoting Marx, the radicals opined that 'labour is, in the first place, a process in which both humans and nature participate, and in which humans on their own accord start, regulate, and control the material reactions between themselves and Nature. They oppose themselves to nature as one of her own force, setting in motion arms and legs, head and hands, the natural forces of their body, in order to appropriate Nature's productions in a form adapted to their wants. By thus acting on the external world and changing it, they at the same time change their own nature' (Marx, 1978, p. 173). Similarly, Carl Sauer, one of the protagonists from Berkeley School of Cultural Geography, advocated that 'Geography is distinctly anthropocentric, in the sense of value or use of earth to humans. We are interested in that part of the areal scene that concerns us as human beings because we are part of it, live with it, are limited by it, and modify it... Human geography does not oppose itself to a geography from which the human element is excluded; such a one has not existed except in the minds of a few exclusive specialists (la Blache), and above all these... 'Geography is based on the reality of the union of physical and cultural elements of the landscape' (Sauer, 1963, p. 325).

The inclusion of human and nature as two indispensable and inseparable components of the subject matter of geography was anything but simple and smooth. The foremost important challenge was to give up the most favourable concept of a binary division between Nature and Culture (Humans) in favour of humanised nature versus naturalised humans on the one hand and to evolve a new approach (method) of analysis qualitatively different from the then existing and widely used taxonomic approach of analysis on the other. The core of the taxonomic approach was to unpack the deeper, scientific and objective understanding of the phenomena through fission, disaggregation

and exclusion, which was unsuitable for geography as a synthesising discipline.

Thus, it was imperative to the very existence of the discipline to evolve an equally compatible tool of analysis suitable to the discipline, which is inclusive and had/has the synthesising capability as its non-negotiable core. Therefore, the urge to evolve a synthesising, syncretised or fusion-based holistic approach to knowledge was another formidable challenge. In other words, geography was radically opposed to simply creating continents of knowledge in the name of taxonomy without creating bridges across these continents. So, geography as a discipline considered the concept of economic, political and social man (humans) the core concern of social science disciplines and humans a unique animal species (characterised by morphologically identical and reproductively isolated) the core concerns of life science disciplines in the absence of their organic relations with nature and vice-versa as partial and lopsided in favour of Humans in social sciences and Nature in physical sciences. Geography advocated for an inclusive and holistic approach to knowledge. The hallmark of this particular approach was inclusiveness between fission and fusion, and nature and culture in order to evolve a comprehensive understanding of phenomena both natural and cultural. The sections ahead discuss the rise of humanistic geography out of human geography after the emergence of spatial science.

4.3 GEOGRAPHY IN THE 20th CENTURY

The real impetus for the inclusive, holistic and organic approach came from the following five significant changes that took place in the 20th century:

- The first was the reaction to positivism's obsession with discrete facts and blind applications of scientific methods to establish general laws using either of the two routes used in the disciplines of science: the Baconian Inductive Route and the Positivist Scientific Controlled Speculative Experimental Route. The application of both approaches required high levels of proficiency in mathematics, which most of the geographers found difficult to operationalise. Hence, they were opposed to dangerous forms of generalisation based on a few case studies in the Baconian Inductive Approach and the conception of an objective world, neutral to the subjectivity of the observer yet waiting to be discovered by the observer, in the case of the Positivist Approach which made it difficult to be used in geography. Though, the Positivist Methods were widely used in different fields and branches of geography, yet its special focus was on three basic concepts in geography as a spatial science. These included measurements of distance, connectivity and direction. Thus, hyper-empiricism reduced geography either to social physics (mostly physical geography) or social Darwinism (mostly human geography). Use of the Gravity Model, Zipf's principle of least efforts, etc., projected geography with any one of the following five possibilities:
- Geography is a super-science of spatial relations. It is a generalising science of spatial relations, interactions and distributions.

- Geography is a lower-level science of spatial relations and it tries to apply the empirically proved laws of higher-level sciences generally dealing with more abstract concepts in disciplines like mathematics, physics and economics in the context of space, which Francois Perroux called a 'banal space'.
 - Geography is the science of geographical/spatial relations because there are spatial phenomena which no other social science disciplines study. Therefore, geography has a legitimate claim to study such phenomena.
 - Geography is the study of things in reality spatially, similar to history, which studies things or phenomena in relation to time.
 - Geography is not a generalising or law-finding science of spatial relations because time, space and matter are central to every branch of knowledge. Therefore, to claim the status of a separate branch of knowledge simply on the basis of space relations, geography cannot be accorded the same status as Mathematics, Physics, Economics, etc.
- Secondly, the success of the Bolshevik Revolutions in the USSR leading to the rejection of biographical and religious historiography marked with a strong overtone of racial, religious, and gender superiority on the one hand and over-emphasis on environmental determinism made it an imperative to search for a holistic and inclusive geography. The new geography rejected the then dominant trends in geography, which were quintessentially either biographical or religious historiography and replaced it with peoples' history, the history of the material conditions of the people, their culture and their economy. Moreover, the importance given to the geographers and the discipline of geography in the economic, social and spatial planning with a strong emphasis on human development in the USSR proved beneficial for a comprehensive understanding of reality.
- Thirdly, the rising level of dissatisfaction among American Geographers against regional geographers, mainly because of their naivety, they remained engaged with the understanding of various permutations and combinations of unrelated facts on the one hand and paucity of theoretical understanding on the other. The obsession of regional geographers with the uniqueness of a region along with exceptionalism exposed their inability to generalise from regional experiences, thus these limitations made the discipline susceptible to sterility and reduced geography to chorology. The contributions of Geographers from the University of Iowa under the leadership of Harold McCarty and Fred K. Schaefer, the University of Wisconsin at Madison led by A.H. Robinson and Bryson, and the University of Washington at Seattle under the leadership of W.L. Garrison and his colleagues Edward Ullman, Hagerstrand and their students BJL Berry, William Bunge, Dacey Marble Morrill and Waldo R. Tobler, etc. made great impacts and finally, the University of Princeton led by J.Q. Stewart made seminal contributions in this regard. According to Schaefer, if geography has to survive as a scientific discipline, then it is imperative that it should come out of the exceptionalism of the regional geographers and adopt the philosophy and methodology of scientific

positivism. According to him, there is nothing exceptional and unique about geography (Regional Geography), in fact, all the hardcore science disciplines like Physics and Chemistry, etc., too study unique phenomena and events to explain the universal laws and it should be applicable to geography as well. Therefore, geographers should focus on the formulation of laws governing the spatial distribution of phenomena on the earth surface, since it is the spatial arrangement of phenomena and not the phenomena themselves that are the special concern of geography as a science.

- The fourth important reason was the success of national liberation and anti-colonial struggles in the colonies. This didn't only bring an end to the imperial hegemony and white supremacist world geography but also replaced it with a subaltern concept of space and humans within the fold of geography. The underlying quest for equality and democratic political values and structures provided new areas of investigation and theories to geographers.
- The last important change was the establishment of the United Nations Statistical Commission in 1947. It was the highest body of the Global Statistical System, which was in turn used as the final approval to the ongoing nation-state sponsored knowledge mapping projects the world over. Moreover, it also recommended that every country would establish a National Statistical Office (NSO) in order to produce legitimate information on relevant socio-economic phenomena along with additional responsibilities to operate as a repository of technical knowledge required to undertake census and surveys and co-ordinate administrative registers and play a lead role in compiling information from other sources. The availability of legitimate data was used by the geographers in developing explanatory models and regressions, correlations, variance, covariance, etc., were used extensively in geography preferably to establish laws similar to sciences or at least making high levels of generalisations. This was the prime motive behind the Quantitative Revolution in the 1950s and 1960s.

By the end of the 1960s, the tall claims of laws and generalisation ended in over-quantification at the cost of theoretical improvements and the role of human agency in understanding reality. Consequently, the focus once again shifted to the controversy between regional and systematic geography on the one hand and geography as a science of spatial relations and geography as a particular assemblage of phenomena. At times it became very fierce but ultimately the balance tilted in favour of F.K. Schaefer against Richard Hartshorne, a regional geographer and R.C. Harris against J.A. May. As a repercussion of these controversies, geography was pushed to other extremes i.e. behavioural geography and quantitative revolution in geography with the following special features:

- Place of the individual in geography, which was a reaction against the over-determining role of social formation, economic structure and class struggle in the Marxian framework. It resurrected the importance of the decision makers' (human agency) understanding of their perceived world

by relegating the existence of an objective world, the focus of the positivist geographers to the margins.

- Re-contextualising human-environmental relationships in favour of humans against environmental determinism.
- Foregrounding the complexities of human-environmental relationships by bringing in new themes of research such as analysis of the cultural landscape, the morphology of landscape and idiographic analysis of places.
- Viewing knowledge as an integrated whole, therefore, promoted inter and multidisciplinary approaches to knowledge and encouraged cross-fertilisation of ideas.

The purpose was to reorient geography particularly human geography towards a more humanistic stance, resurrect its synthesising character and re-emphasise the importance of studying unique events rather than the spuriously general laws and concepts. They argued that the goal of both history and geography is synthesis. These disciplines are contextual, not law-finding and the practitioners of these disciplines are inquisitive and equipped with open and eclectic minds whose goal is to understand the phenomena and not planning.

Moreover, it discarded the idea of knowledge for knowledge's sake and encouraged geographers to take a proactive interest in social issues, and public policy issues by rejecting the idea of value neutrality of the discipline. The Toronto School of Geographers led by Harris blamed J.A. May and R.D. Sack's spatial perspectives as detrimental to the existence of geography to the extent of leading to the dismemberment of the discipline characterised by 'specialists communicating more with their contemporaries in other disciplines than with the geographers, and develop theories which are descriptions of how the world might operate under certain conditions, rather than of how it does actually work' (Johnston, p. 144).

The expositions outlined within the field of behavioural geography were undoubtedly valuable but had severe limitations; namely the tall claims of giving much recognition to an individual which, once again failed to conceptualise the image of humans in geography like economic, political and social humans, etc., in disciplines like economics, political science and sociology, respectively. Moreover, the behavioural geographers remained confused between selecting one of two i.e. humanised nature and naturalised humans. Consequently, they always remained simple observers of the phenomena rather than active participants. Thus, the world for them started with a bang but ended with a whimper and they failed to change the status quo yet contributed to distracting the focus of the discipline.

The culmination of these developments within the field of human geography resulted in the emergence of two trends namely: over-emphasis on empirical aspects in order to arrive at theories and laws of spatial human behaviour and orienting geography towards the understanding of humanistic orientation. The obsession of the empiricists with quantification and hunger for facts in the name of pursuing objective scientific study resulted in creating a mountain of

facts with minuscule theory in the name of genuine behavioural geography. On the contrary, the geographers engaged in pursuing the humanistic orientation and also engaged in unpacking the 'self-evident meaning of the environment to the decision makers' emerged into Humanistic Geography.

SAQ I

What were the five significant changes that took place in human geography in the 20th Century?

4.4 HUMANISTIC GEOGRAPHY

There were many things in common between behavioural and humanistic geography though they differed significantly from each other in terms of the emphasis. The behavioural geographers emphasised more on the quantitative and factual aspects, which were discarded by the humanistic geographers in favour of understanding the world and environment based on the experiences of humans interacting with the environment. In other words, behavioural geographers put objective facts at the centre of analysis. They treated humans as respondents to the different stimuli, opportunities and challenges and tried to map the differences in terms of the responses each individual offers to these stimuli in different situations. By mapping each and every response as an isolated and uncorrelated event, behavioural geography tried to build models and theories for future predictions and model buildings.

As opposed to this, humanistic geography primarily focused on two important aspects, i.e., it is an anthropocentric and holistic approach. It focused on the humans enriched by their experiences engaged in transforming the abstract space into a place endowed with multiple dimensions and meanings, which became possible because of the activities and experiences of a conscious, knowledgeable, creative and experienced individual ceaselessly interacting with the dynamic environment. The human experiences gained through such interaction are the outcome of knowledge about the object of interaction, accumulation of knowledge (learning, education) and finally elevating the education to the level of experiences to be shared with other members of the community. In other words, the central focus of humanistic geography is, though humans are part of nature, their interaction with the dynamic environment is a continuous process of transforming each other in terms of the four central aspects: human awareness (rationality), human agency, human consciousness and human creativity. Moreover, the approach followed by humanistic geography is to understand the phenomena in their totality, where nature (environment) and humans are understood as not only inseparable but also incomplete without the other. It takes the earth as a dwelling place for the humans attached to it, characterised by a feeling of comfort, responsible for the effects of human action on the environment, which in turn provides safety and security for human existence. This two-way relationship enriches human experiences and understanding without acquiring the capacity to predict the nature of the interaction between the two in future. It sees geography as a process of enriching holistic human understanding of the environment and society.

It is evident from the foregoing discussion that humanistic geography is a complex and multidimensional academic pursuit. Scholars believe that the reaction to over-factualisation by behavioural geographers was definitely an important reason behind the emergence of humanistic geography, but there are many other factors as well. The advocates of practical rationality and democratising knowledge claim that uncritical acceptance of instrumental rationality in the name of scientific temper at the cost of human sensitivity, environmental sustainability and the urge for democratising science and technology were other factors that widened the distance between the two. It was an effort to humanise science and technology on the one hand and, on the other hand, to synthesise nature and humans as inseparable from each other. Furthermore, it was against the reduction of humans to atoms and numbers and restoring their infinite potentialities and possibilities, placing conscious and knowledgeable humans at the core of geographic enquiry and investigation. Thus, it aimed at making geography as the discipline of the real people and for the real people because for them geography is primarily concerned with the social organisation of space rather than the spatial organisation of society.

The subject matter thus outlined was an affront to the formidable challenge of a new approach to the discipline. Though it could hardly be avant-garde in its approach and heavily relied on different approaches. Out of these the idealistic, phenomenological and existential approaches are important. The idealistic approach was advocated by R.C. Harris and L. Guelke from the University of Toronto Canada. According to this approach, the main difference between geography and other disciplines is the understanding of the complex phenomena in their dynamic interaction with each other while other disciplines study each phenomenon individually. Thus, the aim of geography is to adopt a synthesising and contextualised understanding of each and every phenomenon at the level of ideas. In this endeavour geography is much closer to history than any other discipline. According to Guelke, the idealistic approach tries to understand the development of Earth's cultural landscapes by uncovering the thought that lies behind them. Therefore, the purpose of human geography is to map the reason and thought that guide a particular action in a given context, which in turn are also the building blocks of the social and cultural milieu including religious beliefs, myths and traditions, etc. In other words, the idealists followed Plato's concept of simulacra and believed that "there is no real world that can be known independently of mind".

The credit for introducing the phenomenological approach in geography goes to E. Ralph. He was critical of both, i.e., over-emphasising an individual's mental abilities through the idealistic and over-factualisation of reality by positivists in their approaches. The phenomenologists advocated the role of social conceptions and considered these as essential conditions of social existence. They believed that there is no objective world independent of human existence. Ralph believed that "all knowledge proceeds from the world of experience and cannot be independent of the world". According to the phenomenological approach, the task of a geographer is to describe and not to explain the phenomena because all explanations will inevitably involve the observers' own construction of reality, which is against the basic assumptions of the approach itself. It advocated that a phenomenologist must not have any

presupposition; (s)he should not use her/his own constructs in understanding the subject. Their aim is to map the subjectivity of the subject and their own subjectivity. Yi-Fu-Tuan another important phenomenologist argued that the aim of humanistic geography is to study people's relation with nature, their geographical behaviour as well as their feelings and ideas with regard to space and place. He identified five major themes of enquiry in order to understand the interrelationships between geographical activities and the way phenomena reveal the quality of human awareness. These themes are:

- The nature of geographical knowledge and its role in human survival.
- The role of territory in human behaviour and the creation of place identities.
- The inter-relationships between crowding and privacy as mediated by culture.
- The role of knowledge as an influence on livelihood; and
- The influence of religion on human activity.

Tuan also introduced the concept of **Topophilia** to describe the effective bond that develops between people and place. Topophilia according to him is the study of place as carriers of emotionally charged feelings and as perceived symbols.

Similar to the phenomenological approach is also the existential approach. Both these approaches give great significance to human experience to the understanding of the environment. The understanding of the environment is quintessentially a biography of nature composed by an individual based on his/her experiences. Therefore, there is always someone responsible for developing an understanding of a landscape. In other words, human geography is the history of humans encounters with themselves in an anthropocentric world order. Since landscapes (nature) reflect two primal needs of humans, i.e., the need to search for means of survival (prospect) and the need to hide from forces that pose threats to survival (refuge) which can be generalised for the community as a whole, though each individual or community finds its own ways and means to satisfy its needs in different ways.

It is obvious from the above that humanistic geography has played a significant role in bringing human geography to the centre of human environment discourse. In the remaining part of this Unit, the significance of 'humanistic' in human geography has been discussed.

SAQ 2

What is humanistic geography?

4.5 SIGNIFICANCE OF HUMANISTIC GEOGRAPHY IN HUMAN GEOGRAPHY

A holistic approach to understand the Earth as a dwelling and arena of human activities resulting in the transformation of the natural landscape (nature,

physical environment) through the activities of human beings is the core concern of humanistic geography. Its resistance against behavioural geography's attempts in reducing humans to sets of data and facts and giving proper place to human experience has contributed to enriching the field of human geography. Some of the important contributions made by the humanistic geography (geographers) in the field of human geography as identified by D. Ley are:

1. Resistance against over-actualisation, reductionism, over-generalisation, prediction and emphasis on human experience, agency, understanding and environmental concerns contributed to enriching the theory in human geography.
2. It treats geography as a process rather than an outcome of knowledge. The process of the transformation of abstract space into an experiential place and landscape enriched by the specificities of local experiential features bringing nature and culture together to develop a holistic understanding of the phenomena.
3. Give importance to human self-awareness, self-consciousness, and experienced-based self-understanding as key to critical thinking.
4. Since it treats geography as something which is lived and a branch of knowledge dealing with the geographer's antennae so the role of value, meaning and experience in places of discrete facts brought it closer to humanities making it a living discipline.
5. The inclusion of qualitative information along with quantitative data made it a truly holistic discipline.

SAQ 3

What is the significance of humanistic geography?

4.6 CONCEPTUAL AND METHODOLOGICAL DEVELOPMENTS, CHANGING PARADIGMS AND HUMANISTIC GEOGRAPHY

There is no doubt that the rise of human geography as an important branch of geography has caused great storms and controversies over the years. Various geographers experimented with different tools and methodologies mostly developed in other disciplines attempted to understand the phenomena. Consequently, geography as a discipline was subjected to many changes. Sometimes the changes were so rapid and significant that the geographers used the Kuhnian concept of paradigm shifts in geography, because "they identified an inability of the then dominant paradigm to handle both the explosion of relevant data for geographical research and the increasing fragmentation and compartmentalisation of the sciences" (Johnston, p. 202). Though, the credit for popularising the concept of paradigm in academic discourses goes to Thomas Samuel Kuhn after the publication of "The Structure of Scientific Revolutions", the real credit goes to the debate that

Paradigm: A paradigm is the constellation of values, assumptions, methods and exemplars shared by a given scientific community, making it what it is. A paradigm shapes what scientists think about something before they think it (Johnston, 2009, p. 518).

emerged with the criticism it faced from Karl Popper, particularly his book “The Logic of Scientific Discovery”.

The important highlights of the debate are:

Thomas Kuhn	Karl Popper
Subjectivist, relativist and historicist.	Objective, realist and positivist.
Scientific pluralism and methodological open-mindedness.	The unified conception of science.
Mostly developed his arguments on the basis of modern science.	Thundered against every dominant tendency in physical, biological and social sciences.
Kuhn was deeply committed to tradition.	Advocated free will, open society and commitment to any ideology is an outright crime.
Stages in the evolution of science: Pre-science, Normal Science and Revolutionary science.	Pure science and pseudo science.
The core of scientific discovery is “path-breaking discoveries called Gestalt Switch”.	Falsifiability is the core of scientific endeavour, meaning thereby, “for any hypothesis to have credence, it must be inherently disprovable before it can be accepted as scientific hypothesis or theory.”
Quantity i.e. number of members of the scientific community supporting is essential for a scientific paradigm.	Quantity has no role in the scientific paradigm, on the contrary, counter-inductive logical decision or falsifiability is essential.
Sociological and psychological factors play important role in a scientific paradigm.	Sociological and psychological factors are unscientific.

The debate between the two schools of thought represented by Thomas Kuhn and Karl Popper had great impacts on the geographers in addressing paradigm shifts in the discipline and geographers such as Preston E. James in his famous book ‘All Possible Worlds: A History of geographical Ideas’ (James, 1972) along with T.W. Freeman’s book ‘A Hundred Years of Geography’ (Freeman, 1961) mapped the journey of geography in the modern period leaving behind the classical period. In the backdrop of the debate in modern geographical thoughts identified the following dominant trends in the discipline:

1. **The Encyclopaedic Trend:** Geography as a branch of knowledge is engaged in the collection of information particularly about the regions less known i.e. terra incognita to the Europeans and North Americans. It was a continuation of the trend started by the explorers during the age of discoveries. It also included information about the newly colonised North American continent.
2. **The Educational Trend:** According to Marx, “The ideas of the ruling class are in every epoch the ruling ideas, i.e. the class which is the ruling material force of society, is at the same time its ruling intellectual force.

The class which has the means of material production at its disposal has control at the same time over the means of mental production, so that thereby, generally speaking, the ideas of those who lack the means of mental production are subject to it. The ruling ideas are nothing more than the ideal expression of the dominant material relationships, the dominant material relationships grasped as ideas" (Marx, 1978). The modern age was no exception to this. The new economic forces prospering on the bases of newly explored territories and the drain of wealth from these stressed the need to accumulate and propagate knowledge about these regions and the communities inhabiting therein. Knowledge about geography, its resources and cultures were introduced in school, college and university involving both "proselytizers and the architects of curricula." (Johnston, p. 38).

3. **The Colonial Trend:** The big colonial powers particularly Britain considered consolidating their vast colonial empire and concentrated on developing new schemes of the division of labour, resource bases, and markets centred on the metropolitan centres. It was a cumbersome exercise dealing with enormous information and data on different aspects of the highly heterogeneous space and communities, which in turn acted as a keystone of geographical education.
4. **The Generalising Trends:** The information and data collected were compiled into an encyclopedia of colonial traditions which in turn were used for inventing new tools and methods of interpretation and generalisation, which were missing in previous paradigms.
5. **The Political Trends:** The discipline with a rich repository of data on resources, communities, markets and territories was used for mapping and redrawing of the world map. The credit for undertaking this exercise goes to Isaiah Bowman, the chief advisor of Woodrow Wilson, the 28th President of The United States of America from 1913-1921. The works of Geopoliticians such as Haushofer after World War-I is one of the significant examples of such depictions.
6. **The Specialisation Trend:** The inundation of knowledge with ever-growing information in different fields made it impossible for an individual discipline to handle, compile and interpret if not master this information. Unlike in the pre-modern period, individuals claiming proficiency on the basis of limited information in a few areas, it was becoming difficult to manage these information. Thus, it became necessary to impart rigorous training to scholars in the respective disciplines and their branches. It was the age of specialisations, which could be broadly put under four broad paradigms:
 - i. **The Exploratory Paradigm:** There were no doubts that the discovery of new regions, their environment, communities and their ways of life was exhilarating but, the collection and classification of information about the unknown posed great challenges to the geographers. The first and foremost challenge was to finance these expeditions. Geographers across the world mobilised the required resources from different sources including the contributions from merchants, philanthropist societies and

geographical societies. The roles of the Royal Geographical Society, London, American Geographical Society, New York, National Geographical Society, USA, Association of American Geographers, Institute of British Geographers, National Council of Geographical Education and the Geographical Education were lauded by many in promoting the Exploratory Research in Geography.

ii. The Paradigm of Environmental Determinism: Collection of new information about the new landscapes, people and culture and the cataloging of these information were vital to the growth of the discipline, but these proved highly inadequate to satisfy the challenges of the scientific age. Merely presenting information in an organised manner was considered the minimum necessary condition to claim the status of a discipline. Providing explanations was the minimum requirement for the same. The most common and widely accepted Darwinian Evolutionary Paradigm was widely used by geographers to explain the nature of human activities and the way these are controlled by the parameters of the physical environment. It heralded the beginning of environmental determinism. Ratzel's Theory of Organismic State, Davis's Theory of Normal Cycle-of-Erosion, Markham and Ellsworth Huntington's climatic determinism, and Griffith Taylor and Semple's "man is the product of the earth's surface" were some of the pioneering works in the field of environmental determinism. Similarly, geographers also used Newton's Laws of Motion and Gravity to analyse the migration of people and the movement of goods, services and commodities. Broadly it was referred to as social physics.

iii. The Paradigm of Possibilism: Obsession of the environmental determinism towards establishing generalisation and reducing humans to passive agents was responded to by French historian Lucien Febvre. He presented humans as possessors of immense possibilities and alternatives embedded in different cultures. He also avoided unnecessary generalisations at the cost of the cultural dispositions of different communities in their respective environments. The advocates of possibilism reacted very strongly against Huntington's generalisation about civilisation and climate and Taylor's views on "physical environment determines culture", Ratzel's Laws of State, Mackinder's Pivot Theory of the world, etc.

iv. The Regional Paradigm: The British Geographers did not remain silent spectators to the changing paradigms in the discipline. They were affronted to many opportunities offered to them in terms of the enormous information made available by the government as well as individual surveys and explorations and challenges of presenting a systematic account of a highly diverse colonial empire. So it was imperative for them to resort new regional paradigm characterised by generalisation without offering structural explanations. They were fully supported by the Geographers in America. The scheme of Climatic Region by Wladimir Koppen, Asia: A Regional Economic Geography by L.D. Stamp, Herbertson's Earth's Major Natural Regions, etc., opened a new arena of geographical investigations. According to Freeman "The fundamental idea was that the small area would legitimately be expected

to show some distinct individuality, if not necessarily entirely homogeneity, through a study of all its geographical features – structure, climate, soil, vegetation, agriculture, mineral, and industrial resources, communications, settlement and distribution of population. All these, it has been said, are united in the visible landscape, linked into one whole and dependent one on other”. Subsequently, this paradigm was strengthened by the works of regional geographers like Richard Hartshorne, O.H.K. Spate and others.

To conclude the foregoing discussion, it can be said that humanistic geography made valuable contributions in enriching and enlarging the scope of human geography. It was possible because of its internal flexibility in relation to subject matter and methodology and openness to new ideas and methodology from other disciplines. And finally, its interdisciplinary approach helped in moderating the extreme positions held by the protagonists of physical versus cultural/human geography. Humanistic geography positioned itself against the artificial binaries between nature and culture and advocated holistic geography.

SAQ 4

What is a paradigm?

4.7 SUMMARY

In this unit, you have studied:

- Critique of Spatial Science and the rise of humanistic perspectives in geography;
- Geography in the 20th century;
- Humanistic geography;
- The significance of humanistic geography in human geography; and
- Conceptual and methodological developments, changing paradigms and humanistic geography.

4.8 TERMINAL QUESTIONS

1. Critically evaluate the statement “Geography has been subjected to fission of the subject matter and fusion methods of its enquiry” in relation to the growth of human geography.
2. What were the contextual reasons for the paradigm shift in human geography in the 20th century? Do you think the anti-colonial and national independence movements in the 20th century played a significant role in centre-staging human elements in geography?
3. What were the merits and limitations of Quantitative Revolutions in geography? Answer critically.
4. What are the differences between behavioural and humanistic geography in terms of their contents and methodologies? What are the impacts of

idealistic, phenomenological and existential ideologies on the methodologies followed in humanistic geography?

5. What have been the major contributions of humanistic geography in enriching human geography in terms of its content and methodology?
6. What is a paradigm? Critically evaluate the concept of the paradigm used in this Unit in the light of the concept used in the Kuhn-Popper debate.

4.9 ANSWERS

Self-Assessment Questions (SAQ)

1. The five significant changes that took place in human geography in the 20th century are i) the reaction to positivism, ii) the success of Bolshevik Revolutions in USSR leading to the rejection of biographical and religious historiography and increased importance of geography and geographers in planning with strong emphasis on human development; iii) rising level of dissatisfaction among the American Geographers against regional geographers; iv) success of national liberation and anti-colonial struggles in the colonies; and v) establishment of United Nations Statistical Commission in 1947.
2. Humanistic geography is a product of the rejection of the positivistic approach, more specifically quantitative geography, placing humans at the centre of the geographical study of human and environment relationships with a balanced approach of humanised nature and naturalised humans. In this approach, the humans and their experiences are the core than the quantitative data.
3. The significance of humanistic geography in human geography lies in its nature of doing the holistic study of the Earth as a dwelling place and the arena of human activities resulting in the transformation of the natural landscape (nature and physical environment) through the activities of wise and experienced human-being beyond quantification and focused on human experiences.
4. A paradigm is an academically accepted assumption, approach, method of study and consequent result.

Terminal Questions

1. Critically evaluate the statement “Geography has been subjected to fission of its subject matter and fusion methods of its enquiry” in relation to the growth of human geography. Refer to Section 4.2
2. Discuss the contextual reasons for the paradigm shift in human geography in the 20th Century and the role of anti-colonial and national independence movements in centre-staging human elements in geography. Refer to Section 4.3.
3. Critically analyse the merits and demerits of Quantitative Revolutions in geography. Refer to Section 4.3.

4. Differentiate between behavioural and humanistic geography in terms of their contents and methodologies and the impacts of idealistic, phenomenological and existential ideologies on the methodologies followed in humanistic geography. Refer to Section 4.4.
5. Discuss the major contributions of humanistic geography in enriching human geography in terms of its content and methodology. Refer to Section 4.5.
6. Explain paradigm. Critically evaluate the concept of the paradigm used in this Unit, in the light of Kuhn-Popper debate. Refer to Section 4.6

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GLOSSARY

- Attributes** : The quality or properties of something, e.g., a place.
- Behaviouralism** : A perspective emphasising the individual's behaviour and actions in terms of the stimulus-response model, where a certain external environment causes an action or reaction by an individual to respond and make the decision to act. Behaviouralists give importance to feelings, motivations and various other aspects of subjective awareness and reactions of the organism as it comes between stimulus and response (S-O-R).
- Cognition** : The process of acquiring knowledge and understanding through thought, experience and the senses.
- Environmental Determinism** : It is the theory/doctrine of over-determinism of the environment on human life and activities. This doctrine has its roots in antiquity when the levels of human techno-institutional development were in its initial stages and correspondingly the scholars like Hippocrates and Aristotle linked environmental factors like humidity, altitude, terrain, frigid, temperate and torrid zones as important factors influencing population distribution and human characteristics and their distribution. Ratzel, Huntington, Semple, Markham, Mackinder and Griffith Taylor were some of the prominent environmental determinist geographers.
- Feedback loop** : A series of events which are triggered by an initial change.
- Flow** : Movement of people, goods, services and information between places and regions.
- Mental map** : The image that we develop of our surroundings.
- Perception** : The way sensory information is organised, interpreted, and consciously experienced.
- Possibilism** : Possibilism, the antithesis of Determinism, is an approach to study human-environment studies in geography, which suggests that human beings are active agents and nature is passive in relationships. In this approach, humans are seen as the modifiers of nature for their needs. This approach was advocated by Lucien Febvre and Paul Vidal de la Blache.
- Social Darwinism** : It is the use of Darwin's Theory of Evolution of organisms to explain socio-cultural and political processes. In other words, the extension of Darwin's theory of evolution among organisms (organic analogies) to explain phenomena is used in geography. Ratzel's Theory of State and W.M. Davis' theory of Normal Cycles of Erosion and Evolution of Landforms are some examples of social Darwinism.
- Social Physics** : The use of laws of physics, particularly Newton's law of motion and gravity to explain the nature, process and magnitude of social interaction is known as social physics. In other words, an extension of mechanical analogies to explain social processes, particularly spatial interaction is called social physics. The use

of the gravity model in explaining migration and movement of goods, commodities and services are examples of social physics. Estimation of population potential, diffusion of knowledge particularly technology, Rank-Size Rule and distance decay are other examples of the same.

Space

: Space is any kind of physical or imagined/ mentally constructed abstract expanse indicating some type of container. In geography, the term space has a specific meaning. It refers to the extent or area, usually expressed in terms of the earth's surface. It does not mean space in the sense of outer space or space in the sense of arranging things in tidy rows. The term spatial describes a particular type of distribution that is spread out over a surface rather than one that categorises objects, such as a statistical distribution. It indicates an occurrence that occupies a portion of the earth's surface.

Spatial Systems

: Spatial system refers to a system that involves space as a functionally important variable. Examples of spatial variables are location, distance, direction, extent, density, succession, or derivatives of these. Any system in which one or more of the functionally important variables are spatial in nature may be called a spatial system.

Spatial Theory

: Geography is a spatial science. It studies regularities and changes in the patterns of phenomena in space. Geographical theories are concerned with a direct attempt to provide a logical system or nesting place for previously noted regularities.

Spatial Variables

: Any phenomenon whose distribution differs from place to place is termed a spatial variable and qualifies as an element of geography. There would be no geography of variation if physical and human phenomena were distributed uniformly over the face of the earth. Spatial variable refers to the character of space that varies and may be a factor in shaping the operation of spatial and non-spatial processes.