A Critical and Extensive Review of the Historical Rise and the Contemporary Resurgence of Interest in Positivism in Geography

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Author’s contribution

The sole author designed, analyzed, interpreted and prepared the manuscript.

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ABSTRACT

The positivist methods of explaining geographical phenomena enjoyed prominence and revolutionized the methods of geographical research up to the 1950s where the criticisms were largely that the methods cannot account for any role in human geography and the subsequent rise of humanism as an alternative mode of explanation. These critiques and the introduction of many concepts in humanism inadvertently slowed down the progress in seeking for acceptable scientific methodologies which were powerful research techniques in human geography. Geography by its nature is a dual discipline with one half on physical and the other on human geography. Human geographers have used quantitative methodologies to study a multitude of topics including demographics, migration, housing and settlement patterns and ethnic segregation. Human activities like migration, journey to work, retail capital patronage, have adopted some element of scientific laws and models have been focused on transportation, migration, settlement development, innovation diffusion, population growth and distribution, urban land use etc. The shortcomings of the philosophy of humanism have not...
provided a good alternative in explaining geographical phenomenon and has over time become the gains of the positivist school of thought. The resurgence in the interest in positivism as a tool for explanation of geographical phenomena bores down from the fact that the humanistic methods is laced with subjectivity, the language of discourse is abstract and difficult to comprehend while the logical sequence of the positivist methods make the approach real and achievable.

Keywords: Positivism; humanism; philosophy; quantitative; qualitative.

1. INTRODUCTION

The quantitative revolution of the 1950s was set in motion by the preceding modes of thought. Particularly important in this respect were environmental determinism and regional geography. Environmental determinism was heavily influenced by scientific developments in biology, notably Darwin's theory of evolution and the political situation of the time [1-2]. Positivism has not been able to explain all geographical phenomena but humanism is not the alternative. The critiques of positivism over the years have inadvertently slowed down the progress in seeking for acceptable scientific methods to explain human experiences in geographical research. The humanist has introduced so many concepts to explain human behaviours and experiences with none having the key element of universality.

Despite the criticisms, the quantitative revolution in geography was an essential development because it modernized a largely descriptive discipline [2-3]. However, the lack of consideration of the philosophical underpinnings of the research of this period, made much of it susceptible to the strong criticisms of positivism [4].

As a result, quantitative methodologies experienced a downturn in popularity in the 1980s and 90s, as geography experienced the "cultural turn" and split into various modes of thought [5]. The major change that resulted from the criticisms of the quantitative revolution was the recognition that the philosophical basis and role of quantitative methodologies had to change. Harvey [6] recognized the danger of the inappropriate use of quantitative tools because he was of the opinion that quantitative tools have often been misapplied or misunderstood in geography. To Harvey, the methodological assumptions upon which their use necessarily rests was not understood.

The idea that quantification would lead to the generation of universal laws (as in the natural sciences) have been recognized as impossible due to the complexity and ephemeral nature of social systems. Such techniques are now used to provide sufficient evidence that makes acceptance of a line of thought compelling. It has been acknowledged that ontological assumptions applied by those who used quantitative methodologies in the social sciences must differ from the natural sciences [7-8].

The philosophical changes described above led to a number of practical changes to the quantitative approach in human geography. One of these was the increase in use of quantitative and qualitative techniques with the thinking that there is "no fundamental clash between the purposes and capabilities of the two approaches" [9].

Quantitative methodologies are powerful research techniques in human geography that can provide valuable and accurate insights if used appropriately and with an understanding of the limitations. However, during the 1980s and 90s there was a downturn in the popularity of such methodologies. This essay argues that the criticisms of quantitative methodologies were valid and necessary following geography's quantitative revolution in the 1950s and 60s.

It is against this background, this paper seeks to take a critical and extensive review of the historical rise and the contemporary resurgence of interest in positivism in Geography.

2. THE HISTORICAL RISE OF QUANTIFICATION AND MEASUREMENT IN GEOGRAPHY

The historical rise of quantification and measurement in Geography dates back to the ancient philosophers in their bid to explain geographical features of the known world in ancient times. The scientific study of geographic facts as they have existed in historical times is closely associated with the history of the sciences.

Ancient scholars made considerable efforts to determine the circumference of the earth,
charting, mapping, latitude and longitude, as well as measurement of geographical phenomenon especially in Egypt, Babylon and Greece. During the era of the ancient geographic knowledge, the evolution of science was in the form of mathematical geography [10]. Eratosthenes’s contribution to geographical knowledge was in mathematical geography especially location of places on the earth surface and measurement of the circumference of the earth while Strabo emphasis was on his method of geographical study, he made considerable efforts to define geography as a science of spatial relations [11]. Claudius Ptolemaeus who was a Roman astronomer, his work dealt with projections, gave tables of latitude and longitude and calculations of the varying length of day at various distances from the equator. This is akin to the works of like Eratosthenes.

A long list of contributors includes Homer, Anaximander, Pythagoras, and Philolaus, Herodotus, Plato, Pliny, Aristotle, Polybius, Theophrastus, and Strabo. However, only a few of them devoted most of their writings to the advancement of geographical knowledge. Aristotle suggested that the height of mountains could be determined by observing the duration of sunlight on the peaks. The second method used was triangulation which was well understood by the ancient scholars [10].

The evolution of positivism was greatly modified during the Western Christendom by those who believed that the Bible contains the absolute truth and those who granted a partial authority to pagan teachings because everything was perceived as the creation of God [12]. It was the Muslim geographical thoughts during the medieval period (A.D. 800 and 1500), that experienced high level of scientific intellectual activity because of a number of factors notably. The Muslim scholars of the medieval period showed objective interest in the Ancient geographical works of the Greeks and the Romans. The religious requirement of hajj (pilgrimage to Mecca) increased the interest of some rulers in the study of arts and sciences and they were further encouraged to undertake scientific studies of geographical issues which confronted their minds during the period. They were also interested in mathematical geography because they attempted to determine the circumference of the earth and determination of the location of places on the earth’s surface. There was a dearth of knowledge in the medieval period. A notable Muslim scholar was Ibn–Sina (Avicenna) 981 AD -1037 AD [13].

The work of Bernhards Varenius marked the end of scientific geography until the 19th century when significant advances were made. The scientific advances in the natural and biological sciences had some impacts on the development of geographical thought and methodology during the latter part of the 18th century. Geography was conceived as part of some other disciplines.

During the latter part of the 18th century the major contributor to the definition of the scope of modern geography was the great philosopher Emmanuel Kant. Kant’s contribution was largely in the area of the natural sciences. Kant argued further that a systematic classification of nature and a geographic description of nature are the possible ways to classify all knowledge gained from empirical observations. Kant thus gave geography a central place amongst the sciences. [14]. With the developments in the 18th century of various physical and biological scientific disciplines, it was then possible to give a more scientific description of the earth’s surface than ever before [14]. The works of Buffon and the Forsters are the most important geographical writings based on scientific analysis. Count Buffon devoted a proportion of his work to the scientific analysis to issues which are of relevance to geography. Also, Johann Feinhold Forster made accurate observation of geographical phenomena during his travels and these were empirical facts he accumulated. The major contribution of Johann R. Forster to modern geography was the scientific classification of the data collected during his journeys, from which he sorts casual explanations [14].

Alexander Von Humboldt was a great scientist who contributed significantly to many scientific disciplines such as botany, geology, physics, chemistry, anatomy, physiology and even aspects of geography. He believed and utilized the field survey method from observations he made during his numerous travels. The effective handling his multitudinous observations showed clearly the value of comparative methods in geography.

Carl Ritter was of the opinion that geography is an empirical science. He believed in the careful accumulation of observation and stated that the accumulation of facts was the basis to explain the relationship among observed phenomena in
space. He also opined that to understand spatial relationships within the earth’s surface, will require “infinite painstaking research and success will only come if the study is carried out without bias and no apriori systems are introduced from without”. According to Ritter, geography is an empirical and descriptive science. (Ritter, 1864; Onokororaye 1994).

Quantitative methodologies were used in the first research as geography emerged as an independent discipline. One of the first practicing geographers, Alexander von Humboldt (1769-1859) mapped quantitative data with the aim of producing in a single work a depiction of the entire material universe [1].

The quantitative revolution of the 1950s was set in motion by the preceding modes of thought. Particularly important in this respect were environmental determinism and regional geography. Environmental determinism was heavily influenced by scientific developments in biology, notably Darwin’s theory of evolution [1] [2].

This led to Fred Schaeffer, attacking the concept of regional geography in 1953 by arguing that objects in geography were no more unique than in other disciplines and that a science should search for laws [15] He urged geographers to study systematically, using quantitative methodologies [2], providing the stimulus for the quantitative revolution.

Human geographers have used quantitative methodologies to study a multitude of topics including demographics, migration, housing and settlement patterns and ethnic segregation. Fotheringham et al. [7] identifies quantitative geography as consisting of the analysis of numerical spatial data, the development of spatial theory or the construction and testing of mathematical models of spatial processes.

3. EARLY POSITIVISM

The works of Aitken et al. [16] suggests that Auguste Comte, established positivism, as the most cherished doctrine of sociology. Comte believed that positivist or scientific knowledge was the inevitable outcome of the progressive growth of the individual mind as well as the historical development of human knowledge. During the period 1830-1892 Comte published six volumes of Course of Positive Philosophy and during 1851-1854, he published four volumes of System of Positive Politics. Comte was immortal in the discipline of sociology because of his ‘law of three stages’ [16]. He recognizes the stages in explanations of normal experiences of man. The theological stage which he referred as a stage in which the mind explains phenomena or mundane occurrences by ascribing them to the unfathomable gods and sciences in their infancy relied on the answers given by the theologians, the metaphysical stage in which abstract forces, powers and essences, rather than spiritual forces, are considered responsible for worldly affairs. And finally, as the positive or scientific stage in which we abandon the search for ultimate origins, purposes, or abstract forces, and become more concrete and focused [16].

3.1 Positivism as a Philosophy in Geography

Positivism is a philosophical approach which holds that positive facts derived from sensory experiences interpreted through rational or logical and quantitative techniques are the exclusive source of valid information about the world. Cloke et al. [17] stated that Auguste Comte in his definition opined that positivism is a philosophical ideology and movement. Positivism developed through several stages known by various names empirio-criticism, logical positivism and logical empirism, and merging in the mid-20th century into the already existing tradition known as analytic philosophy. Auguste Comte further posited that social research, until the 19th century was speculative, emotive, romantic and as a result lacked rigor and analytical reasoning. Therefore, he rejected metaphysical and normative questions as they could not be answered scientifically, he then posited to concentrate on facts and truths in other to explain and predict human behavior [17].

Empirical questions therefore are questions about how things are in reality, they discuss things as they are, focus in things as they are, they do not discuss things that refers to opinion or those things that focus on how things ought to be.

Positivism as a philosophical approach has its origin in the natural sciences where positivism arose as a result of the need to the other experience either by factual or sensory in such a way that it is possible to verify and replicate them by other workers. This suggests positivism cannot be attributed to any single natural forces which are totally outside our direct experiences. Positivism is built on the bases that explanation
of phenomenon must be attributed to our experiences and verifiable facts which are not attributed to some forces outside our experience. Once the study of society adopts a positive approach, it could assume the significance of a universal religion (Islam, Christianity) in that it offers the ultimate understanding of the highest order of reality known to man.

The argument of positivism is that discussion of those things which are not empirically verifiable are not scientific, in other words, they are completely outside the realm of science. Positivism holds the views that since we can't investigate such things as moral norms with our senses, we should keep away from normative questions e.g. we cannot justify our taste scientifically. Consequently, science focuses on the description of how things are, either mentally or by other means of measurement. By these methods it can describe the association of phenomenon and therefore identify the causes of why things are as they are.

That science cannot from “is” statement draw conclusion about “should” statement. Ideally therefore science is value free, neutral, impartial and objective [18]. When the scientist gives valuations, expressing “should”, he is no longer a scientist but possibly a politician.

Another key element of positivism as a philosophy is its emphasis on the unity of science. Through positivism scientific status is guaranteed by a common experience of reality, common scientific language and method which ensures that observations can be repeated.

A positivist approach in geography is reflected in the discussion of human behaviour in terms of and logics drawn from the natural sciences e.g. human migration is discussed in terms of Newton’s law of gravity. Thus, a large proportion of geographical analyses since the 1960s have attempted to explain patterns of human behaviours with neat law like statements, in other words, the positivist philosophy has played a major role not only in stimulating research in geography particularly in the various components of human phenomenon but also in explaining the spatial distribution of phenomenon.

3.2 Critiques of Positivism as Factors Influencing Explanations in Geography

Positivism had its appeal. It sought to give a 'scientific status' to the discipline. The search for precision, objectivity, causality and value neutrality made it acceptable. This positivist social science tends to reduce qualitative human experiences into quantified statistical figures. And it has also its remarkable achievements. But then, you can guess that not everyone can feel comfortable with positivism [18-19]. The criticisms of positivism by the humanist in geography are follows:

- The articulations of mechanical laws are viewed as not possible in human geography because the human phenomenon and action which constitute major components of human geography cannot be subjected to mechanical laws.
- It is believed that explanation can be rigorous in the sciences in terms of mathematical models while those in geography are largely not rigorous. This has made it difficult for geographers to articulate laws that can be viewed as universally applicable.
- Another critique in the nature of scientific explanation is the problems of providing acceptable verification to generalization statements made in geography. This is because it is impossible to translate the entire phenomenon which geographers study into statistically measurable data. The implications of the preceding factors place geography at the level of basic classification of data rather than the articulations, testing and confirmation of laws.
- In geography and indeed the social sciences, experimental technologies are impracticable this poses a major constraint to verification of theory in geography.
- The context of geography as a discipline is different from those of the natural sciences. In the natural sciences the field of study is the physical element or other living organisms which are not human beings. Consequently, it is basically unacceptable to transfer the techniques and methods in the natural sciences to human geography.
- Geographical research lacks possible logical structure of explanation in geography. In the natural sciences explanations, it is possible to make assumption and predict events. But in geography this is not possible because it is difficult to predict human behaviour precisely, and that makes it difficult for geographers to articulate laws.
In geographical research there is the problem of providing acceptable verification to general statement in the concept of human activity. A number of scientists have argued vigorously that human geography is such that it cannot achieve a level of objectivity that would facilitate unbiased verification of hypothesis.

The researcher has his own value system which he translates into the interpretation of the phenomenon which he investigates, in some cases the researcher has got his mind fixed on certain opinions, certain things to the extent that this would influence his final findings to the extent that he might be forced to depart from the truth.

Guelke [20] who argued rigorously that geography, cannot be a law making discipline and there is no way in which even if laws are articulated in geography, they can meet the rigorous scientific method. He also argued that laws of human behaviour which are relevant to human geography are virtually impossible because the human attitude cannot be subjected to any rigorous law of nature.

In addition to that Leonard Guelke [20] also argued that even if theories are articulated in human geography they cannot be tested because human actions and attitudes cannot be put in the laboratory where they can be subjected to test.

Humanism focuses on a realistic and practical study of the people, their culture, attitude, language, behaviour in relation to other components of the environment through participant observation methodology and these cannot be subjected to empiricism.

Humanism is concerned with describing the environment which is unique to the individual, is given meaning by the individual and influenced by the inner perception of the individual.

Christibee [7] opined that positivism way of collecting data is controversial because it challenges the regional approach to geography. They believe that the world exists as an objective reality that is totally independent of the mind. Positivistic researchers are seeking to generalize findings across all of the subject matter. Most often the positivistic approaches use field work and observe the happenings in an area to help form the hypotheses. The scientific approach offers a more secure objective knowledge but limit the researcher to a relatively narrow range of topics.

Since researchers are parts of the society, their values, experiences and motives inevitably influence their research.

The positivist claim that research should be value free was criticized by those who argued that this was not possible in social research. As researchers are part of society, their values, experiences and motives inevitably influence their research. Quantification was claimed to give a false sense of objectivity by artificially separating the observer from the observed [18].

Another criticism was the failure of quantitative techniques to appreciate the importance of structure and agency. Quantitative researchers treated people as objects without any consideration of the values and meanings that make individuals human and the capabilities that they possess [18] [21].

A purely quantitative approach looks at how things seemed to be rather than how they might be under different social conditions [18]. For some geographers the new quantitative approach seemed “socially and politically irrelevant” [22].

The idea that a unity of scientific method existed was another positivist assumption that came to be challenged [15]. The impositions of the methods of the natural sciences were rejected by many geographers who felt that each discipline should have its own approach to reflect its unique focus.

The statistical techniques that were applied after the Quantitative revolution were largely imported from outside the discipline [6]. Some of these techniques were used in a ‘cookbook’ fashion without consideration of the appropriateness of use for spatial data [7].

It is possible to say that what is applicable in the domain of nature is not necessarily applicable in the domain of human society. Because, unlike nature, society consists of self-reflexive agents who think, argue, contest, and through their practices and actions transform the world. Hence society cannot be subject to abstract/universal generalizations. Positivism, it is alleged, undermines the creativity, reflexivity and agency of social actors.
It can also be argued that the so-called “ethical neutrality” of positivism reduces it to a mere technique, separated from moral/political issues. And, paradoxically, it is precisely the politics of positivism. The establishment to legitimize itself often uses its scientific nature. In other words, positivism can prove to be pro-establishment, status-quoist, non-critical and non-reflexive. In the 20th century this critique of positivism came rather sharply from critical theorists, or the adherents of the Frankfurt School of Marxism. What is asserted is that science has lost its emancipatory power. They critiqued this instrumental rationality, and pleaded for a more critical, reflexive, qualitative and emancipatory social science [23].

With all these shortcomings of the positivist approach to explanations lost its cognitive power and legitimacy. The methods of distinguishing between objective science and subjective narrative was eradicated and with the process of time and increasingly experiences in alternative explanations of geographical phenomena, positivism lost much of its appeal. This led to the changing intellectual discourse and rise in humanism.

3.3 Humanism and the Criticism of Positivism in Geographical Research

The philosophy of enjoying, developing, and making available to everyone the abundant material, cultural, and spiritual goods of this natural world is profound in its implications, yet easy to understand and congenial to common sense. This human-centered theory of life has remained relatively unheeded during long periods of history. Humanism may be a philosophy of which man is the center and sanction. It is in the last sense, elusive as it is, that Humanism has had perhaps its greatest significance since the sixteenth century” [16].

The philosophy of Humanism represents a specific and forthright view of the universe, the nature of human beings, and the treatment of human problems. The term Humanist first came into use in the early sixteenth century to designate the writers and scholars of the European Renaissance Corliss Lamont [24].

Humanism as a philosophy has ever competed with other philosophic viewpoints for the allegiance of human beings. However, Humanism at least agrees with them on the importance of philosophy as such. That importance stems from the perennial need of human beings to find significance in their lives, to integrate their personalities around some clear, consistent, and compelling view of existence, and to seek definite and reliable methods in the solution of their problems.

Corliss Lamont [24] identified the basic principles of Humanism that define its position and distinguish it from other philosophic viewpoints. They are:

- Humanism believes in a naturalistic metaphysics or attitude toward the universe that considers all forms of the supernatural as myth; and that regards Nature as the totality of being and as a constantly changing system of matter and energy which exists independently of any mind or consciousness.
- Humanism believes that we human beings are an evolutionary product of the Nature of which we are a part; that the mind is indivisibly conjoined with the functioning of the brain; and that as an inseparable unity of body and personality we can have no conscious survival after death.
- Humanism, having its ultimate faith in humankind, believes that human beings possess the power or potentiality of solving their own problems, through reliance primarily upon reason and scientific method applied with courage and vision.
- Humanism, in opposition to all theories of universal determinism, fatalism, or predestination, believes that human beings, while conditioned by the past, possess genuine freedom of creative choice and action, and are, within certain objective limits, the shapers of their own destiny.
- Humanism believes in an ethics or morality that grounds all human values in this-earthly experiences and relationships and that holds as its highest goal the this-worldly happiness, freedom, and progress—economic, cultural, and ethical—of all humankind, irrespective of nation, race, or religion.
- Humanism believes in the complete social implementation of reason and scientific method; and thereby in democratic procedures, and parliamentary government, with full freedom of expression and civil liberties, throughout all areas of economic, political, and cultural life.
Humanism, in accordance with scientific method, believes in the unending questioning of basic assumptions and convictions, including its own. Humanism is not a new dogma, but is a developing philosophy ever open to experimental testing, newly discovered facts, and more rigorous reasoning.

In this sophisticated and disillusioned era Humanism emphatically rejects, as psychologically naïve and scientifically unsound, the widespread notion that human beings are moved merely by self-interest. It repudiates the constant rationalization of brute egoism into pretentious schemes on behalf of individuals or groups bent on self-aggrandizement.

In the 1960s and 1970s a number of criticisms were mounted against use of quantitative methodologies in geography [18] [25]. Since the late 1950s geographers have widely accepted that positivism should be a philosophical law of geography analyses. However, the positive and scientific approach to geography started to experience some reservation after about three decades of its application in geographical research.

The humanist believes that the world which geographers study is the sum total of human experiences and actions, aid even thoughts and understanding. This suggest therefore that we cannot ignore the human mind and attitude in whatever we study, that whatever experience human beings have, the patterns they create, there is behind that human thought and attitude.

Various concepts were proposed to argue the relevance of humanistic approach in geographical research. These include the Concept of idealism in geography, Concept of pragmatism in geography, Concept of phenomenology in geography and the Concept of existentialism in geography.

4. The Inadequacies in the Philosophy of Humanism

Many reasons could be adduced for the neglected and unpopularity of phenomenology as a methodological tool.

The discovery of the laws of nature (gravity) by Isaac Newton was regarded as so universally gene ralizable and predictable that most influential soci al scientists and philosophers considered that a comparable universal law of human society could be discovered also. Such great thinkers include Auguste Comte regarded as the father of positivism and sociology, Saint Simon, Bentham and Fourier [26]. Thus, the concrete observation, measuring, generalization and prediction possible in the natural and mathematical sciences were imported to the human/social/behavioural sciences. To thinkers of the Logical Positivist persuasion, the humanistic admission of behaviour-activating processes of consciousness within man was unscientific because it cannot be subject to measurement [27].

The natural and mathematical scientists crossed over to the social sciences, they do so carrying over the methodologies of their former discipline. Human activities and social phenomena are even now, perhaps more than before, subjected to mathematical exactitude of measurability, generalizability and predictability.

The language of discourse employed by earlier contributors to humanism is difficult to comprehend. The language in most of the literature is highly abstract and many of the conceptual terms may repel students and researchers. Garfinkel’s [28] “Ethnomethodology” and Farber’s [29] “Foundation of Phenomenology” are just a few examples of treatise on Phenomenology that will repel a cursory reader not to talk of Husserl’s original writings.

The early theorists of phenomenology have not demonstrated how research methods can be derived from it. For examples, Silverman’s [30] seminal work on phenomenology-based theory of organizations and Sander’s [31] expositions on phenomenology have not stated the general principles nor do they state how to generate data collection and analytical methods from phenomenology [32].

Humanism like phenomenology operates rather differently from conventional social science [33]. It is a theoretical orientation, which does not aim at generating deductions from a priori propositions to be empirically tested. Instead it operates more on a metasociological level, by demonstrating its premises through descriptive analyses of the procedures of self-anchored situational interpretation, and social constitution.

The ‘smallness’ of the research subjects (in terms of number) may not generate enough data or material sufficient to satisfy the requirement of
a typical research paper, dissertation or thesis when the use of phenomenology as a research method.

The danger that an unguarded use of the humanistic approach may slip into solipsism which is an extreme form of subjectivism that denies that the world has any distinct independent reality outside of the individual experiencing it. The danger is nullified by phenomenology’s insistence and acceptance of inter-subjectivity which allows for the fact that two or more persons may have a similar experience but different interpretation.

Another danger attributed to the application of humanism e.g phenomenology is that of dogmatism. Phenomenology does not totally reject positivism and the knowledge that its research method generates. Rather, phenomenology seeks to offer a corrective to the field’s emphasis on positivist conceptualizations and research methods that may take for granted the various issues that phenomenologists find of interest. Phenomenology presents theoretical techniques and qualitative methods that illuminate the human meanings of social life. Consequently, phenomenologists agree that both methodologies can be mutually re-enforcing [34,35]. By arguing that subjective (personal) processes do interact with behaviour-affecting external objects to bring about behaviour, it should therefore be possible for an astute researcher to combine both methodologies at different stages of inquiry.

The need to maintain consistency. When one considers the following hypotheses: (i) Older women voting pattern is a function of their Republican ideals (Positivist), and (ii) Older women voting patterns is a function of their perception of and attitude towards Republican ideals (Phenomenology), one will discover that the problem definitions of both are different. The phenomenologist, in order to be truthful to his methodology, must seek to reduce his research problem to its simplest terms and to seek for the solution in them rather than from them. The phenomenologist believes that if there is a solution at all, it must be in the phenomenon itself and not outside of it. Thus a research method and how its problem is stated must be consistent. This is not to state that methods cannot complement each other.

Ratner’s [36] criticism that Humanism or phenomenology is insensitive to the social character of experience (which is misconstrued as a universal character). The aspects which humanism disclose are uninteresting and inadequate as a theoretical and methodological approach to psychology. Sartre [37] had also opined that relying on phenomenological accounts of experience alone overlooks the social character of psychological phenomena. Ratner [36] therefore submitted that to make phenomenology a more useful methodological tool, it must be supplemented by sociohistorical psychology.

Related to the issue of the social character of experience is the criticism that phenomenology is ideologically conservative. The truth of the matter however, is that phenomenology itself is evaluatively and politically neutral. Therefore, it does not in and of itself promote stabilization or transformative projects. In fact, its ideological usage depends on the practitioner. In the hands of a conservative practitioner the legitimization process may be supported, but in the hands of a radical practitioner the unearthing of consciousness can be used to undermine legitimation. [38] According to [39] phenomenology can be used to reveal and endorse the great constructions of humankind or to uncover the theoretical grounds of oppression and repression. Consequently, the human requirements of meaning, subjective connectedness, and a sense of order can be achieved either within existing social formation or in emancipatory intentional projects [40].

6. Resurgence of Interest in Positivism

The shortcomings of the philosophy of humanism in explaining geographical phenomenon has over time become the gains of the positivist school of thought. This has led to the increasing interest in the application of the positivist methods in geographical research.

The philosophy of positivism is based on the need to specifically verify facts and pronouncements made out of our experiences. The principles of verification therefore suggest a method, that is, to accept that a particular statement is true or otherwise, it implies that the particular mode of verification must be applied.

The physical geographers were largely adopting the method and philosophy of the science, while the human geographers adopted a descriptive or partialitarian approach.
It is this division of geography into two major branches that militated against the earliest attempt to adopt the scientific method in geography. It was very easy to adopt a scientific approach in the physical geography but will be difficult to subject the human aspects of geography to vigorous scientific analysis. This is because it was not going to be easy to control human phenomenon as it is in natural phenomenon.

The scientific method is not new to the physical geography since geomorphologist and climatologist have been adopting the scientific method like other sciences over the years. In human geography and to some extent other social science disciplines the experimental approach is impracticable and these have led to problem of verification of any theory articulated in geography.

The Human geographers have for a long time resisted the articulation of laws in geography because there is the belief and assumption that human phenomenon cannot be subjected to rigid laws that are universally applicable. However, in the last 70 years it has been argued that laws are applicable in some aspects of geography, that such laws can to some certain extent meet some elements of universality. Consequently, aspects of human activities such as migration, journey to work, retail capital patronage, have adopted some element of scientific laws, there is no doubt that with time geographers will continue to refine their object of study and therefore, articulate, accept and apply laws developed in other disciplines.

Physical geography models have been used to predict events such as patterns of coastal sediment site development. Models of this nature have been used to forecast atmospheric circulation. In human geography on the other hand, the use of model is still largely explanatory, in the human geographers search for theory and in his desire to run-away from description and particularism, there have been desperate efforts to develop models in all aspect of human geography. These models focus on transportation, migration, settlement development, innovation diffusion, population growth and distribution, urban land use and a host of other models. Although human geography has experiment more models than the physical geography the level of development of models in human geography is still very low. Most have not gone beyond mere description in abstraction of reality. The ultimate objective of models in geography is to provide the bases for theoretical development but the way models have been used and developed in geography particularly in human geography has been such that the root of theory via models may be a mirage [41].

7. CONCLUSION

Human geographers have used quantitative methodologies to study a multitude of topics including demographics, migration, housing and settlement patterns and ethnic segregation. This implies that the criticisms that were directed at positivism or quantitative methodologies should not be used to claim that such approaches have no role in human geography. The rise of humanism has however pulled a considerable challenge to positivism in geography but it has not been able to provide a good alternative.

In view of the rise of humanism in geography, positivism in geography is gradually been influenced by some of the concepts of humanism which are gradually creeping into the scientific method in geography. These philosophical changes led to a number of practical changes to the quantitative approach in human geography. The resurgence in the interest in positivism as a tool for explanation of geographical phenomena bores down from the fact that the humanistic methods is laced with subjectivity, the language of discourse is abstract and difficult to comprehend while the logical sequence of the positivist methods make the approach real and achievable.

Quantitative methodologies are powerful research techniques in human geography that can provide valuable and accurate insights if used appropriately and with an understanding of the limitations. However, whichever methodological approach that is used subjectivity is a difficult issue to address.

COMPETING INTERESTS

Author has declared that no competing interests exist.

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