THE METHOD QUESTION AND THE (UN)SCIENTIFIC STATUS: A CASE FOR THE COMPLEMENTARITY OF NATURAL AND SOCIAL RESEARCH METHODS

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Abstract
The debate concerning the scientific or unscientific status of the social sciences and the question of the (in) applicability of the methods of research in the natural sciences to social investigations are still unsettled in Philosophy of the Social Sciences. Some of the questions which are often asked concerning these issues include: are the social sciences really scientific? Do they merit the name science? Can we apply the same methods used in the natural research to social research? Are the objects of inquiry in both areas the same? Attempts to answer these questions and numerous related others, have polarized Philosophers of the social sciences into two different ideological camps. Those who answer the questions affirmatively are regarded as the naturalists while those who answer negatively are regarded as the anti-naturalists or humanists. However, using the methods of critical argumentation and conceptual clarification, we intend to argue in this paper for a complementary ground between the two. Consequently, we contend that though the methods of the natural and the social sciences are different due to the fact that their respective objects of investigations are not the same, methods of the two fields are imperative to inquiries that would promote human knowledge and aid their intellectual development. This is necessary in order to foster interdisciplinary research and de-compartmentalisation of disciplines. We also intend to argue that the view that the social sciences are not scientific arose from a narrow conception of the term "science." Our submission, therefore, is that the social sciences, legitimately, are *sciences* in their own right.
Keywords: Methodology, (Un)scientificality, Natural Science, Social Science, Research, Complementarity.

Introduction
The social sciences cover such areas of study as psychology, anthropology, geography, sociology, history, economics, etcetera. These are the fields of human inquiry which deal directly with human behaviour, their psychological, cultural, emotional, intentional, creative, artistic and historic endeavours. They aim to understand human behaviour; to explain human actions, the causes and meanings of those actions, and to understand the relationship between man and his environment. Social science, therefore, is the science of human society (Jarvie 2011). The natural sciences on the other hand, are disciplines like physics, biology, chemistry, ecetera, that deal with the study of organisms, chemical reactions, electromagnetic substances, energy, mineral and so on.

We have mentioned that the social sciences centre their studies around man and the society while the natural sciences concern themselves with organisms (living and non-living) and substances. However, core issues in the social sciences hover around whether the methodology of the natural sciences can be applied in the social sciences and whether the social sciences are, in fact, scientific or not. In other words, the scientific status of the social sciences is being challenged and called to question. Alan Ryan, for instance, contends that even if we accept that there are social scientists, we can deny that what they practice is science or that the science they practice is the science of society (Ryan 1970, 3-4). These problems provoked two different positions. These two stances are the naturalist or the positivist and the

anti-naturalist or the humanists. The claims of the two positions shall be articulated in this paper. In addition, we shall argue for a complementary ground between these two views in order to break the barricade which compartmentalisation of disciplines has introduced in academic research, thereby promoting interdisciplinary research among disciplines.

Philosophy and the Social Sciences: Role of the Philosopher in Social Research

Philosophy as a critical discipline is interested in all areas of study. Accordingly, it investigates the claims, assumptions, methodologies and foundations of other fields of study. It assumes the role of a critic and probes whatever other disciplines venture into. The interest of philosophy in other areas of study earns it multiple applied areas such as: philosophy of religion, philosophy of politics (social and political philosophy), philosophy of law, philosophy of mathematics, philosophy of medicine, philosophy of science, philosophy of culture, philosophy of media, philosophy of the social sciences, and so on. The role of a critic that philosophy occupies among different disciplines gives it the advantage to assess, appraise, commend, criticise, prescribe and describe the methods, theories and principles of other fields of study. This critical role is extended to the social sciences. Philosophy, therefore, questions and examines the claims, methods, and foundations of the social sciences. While philosophers of social sciences examine the foundations and claims of the social sciences, they also examine the plausibility or otherwise of those claims and make prescriptions where necessary (Ryan 1970, 2-5). In this case, we can contend that other disciplines are first-order investigations in the sense that they deal with factual inquiries while philosophy is a second-order discipline in the sense that it concerns itself with conceptual inquiries about other disciplines (Ryan 1970, 4-5).

The social sciences emerge as a rival disciple to the natural science. It is an endeavour to apply scientific methods to social issues. However, because of the interest which philosophy has in all areas of study, philosophy of science emerges as a sub-discipline in philosophy while philosophy of social sciences also arise as its rival. Traditionally, science is seen by the Philosophers of science called the positivists as the only paradigm of reason and the most rational method of inquiry. Accordingly, these philosophers contend that any investigation, explanation and research that is not conducted in the light of scientific principles, methods, theories is nonsense and meaningless. This was the prevalent image of science until philosophers called post-positivists or postmodernists like Karl Popper, Thoma Kuhn, Paul Feyerabend and the rest of them, challenged it. The position of the positivists, however, gives a huge credence to the naturalists standpoint concerning the method question and scientific status. It gives temerity to the attempt to naturalise the social sciences.

The applicability or otherwise of scientific methods to social phenomena has, however generated several issues in Philosophy of the Social Sciences. According to Alan Ryan, it is a common complaints that the tactics employed to put the social sciences on a par with the natural sciences have not been very successful. This has brought about an anxiety concerning the scientific status of the social sciences. Accordingly, the scientificality of the social sciences is, itself, called to question. On the issue of the scientificality of the social sciences, there are two opposing stances: the naturalists and the anti-naturalist. While the naturalists take a positive stance on the scientificality of social sciences and the applicability of scientific methods to social phenomena, the anti-naturalist take a negative stance concerning the scientificality of social science and the applicability of scientific methods to social phenomena.

In his *System of Logic*, J. S. Mill contends that any phenomena displaying regular patterns of behaviour are a fit subject of science, and all natural phenomena including human behaviour are presumed to display such regularities (Ryan 1970, 13). In this wise, Mill believes that human beings are as natural as any other entity in nature and should be studied using the laws of the natural sciences. The Millian view concerning the naturalness of man is however, influenced by his positivistic perspective on the nature of reality. Those who object to this positivistic stance are anti-naturalists like Max Weber, Peter Winch and so on. For these scholars, social investigations are different from natural investigations and the methods of the natural sciences are not applicable to the study of social phenomena.

The Naturalists on the Method Question and (Un)Scientific Status of Social Phenomena

The naturalist camp advocates the use of the methods of natural sciences such as objectivity, experimentation, generalization, hypotheses, prediction and the rest of them, in the explanation of social phenomena (Badejo 2019, 171). Some philosophers who are positive about the applicability of the methods of natural science in the social sciences are J. S. Mill, August Comte, Emile Durkheim, etc. Naturalism however, has a long root in the history of philosophy and it has various divisions which are epistemological, ontological and methodological.

Ontological naturalism is the position that the natural world is the only true and real word (Mouton 1980, 270). The implication of this is that there are no other phenomena outside the scope and context of the natural world. There are some basic assumptions that underline the thesis of ontological naturalism. First, it avers that there is an unbreakable unity in the natural world. Second, it presupposes a monistic character. In other words, it maintains that there is only one natural order that comprises all reality. This is derived from the first assumption. Lastly, it rejects dualism in nature. That is, dualism between nature and art; nature and transcendental, and so on (Mouton, 1980.) Ontological naturalism thus rejects the existence of supernatural entities (Galparsoro & Cordero 2013, 1; Mouton 1980, 271). The point here is that anything that is not ontologically verifiable is not a real entity. Consequently, the rejection of supernaturalism or transcendentality becomes the thesis of ontological naturalism. Hence, it is a denial of any extraterrestrial inquiry, which is not accessible to physical and empirical verification.

Epistemological naturalism posits that the only justification of knowledge and belief is derived in the natural world. This implies the rejection of the invisible, immaterial or spiritual phenomena. It is therefore a position that places the justification of knowledge claim within the scope of natural science. As such, there is no higher tribunal than the epistemic community of science(Galparsoro & Cordero 2013, 1). This is implicated in the rejection of ideas thought to be immune or independent of empirical findings.

Methodological naturalism maintains that science is the appropriate methodology for carrying out research. The implication of this is that, it is only by adopting the scientific method that we can have a true knowledge of the world (Mouton 1980, 271). Hence, the scientific method is seen as the only instrument by which truthful knowledge of reality can be attained.

There are certain deductions that could be made from the types of naturalism discussed above. The first is the adoption of scientific method as the only true method of conducting research. This implies that for a social science research to be meaningful, social scientists must adopt the methods of the natural science in the study of social phenomena. The second is the rejection of human subjectivity in the process of conducting research. Accordingly, it involves a non-subjective procedure, free from prejudices and biases so as to ensure objectivity of knowledge. The third is the rejection of an a priori approach to knowledge or belief justification.

In this section however, we shall concern more with methodological naturalism. This is because it seems to encompass the other two versions. We are more concerned with the claim that the scientific method is the most appropriate method for conducting research both in the natural sciences and in the social sciences. The question then is, what is the naturalist discourse within the context of social science? Naturalism is the view that the social sciences are methodologically similar to natural sciences and that social researchers that are not similar are scientifically suspicious (Little 1999, 1). Other labels for naturalism are: *empiricism*, *behaviourism*, and *positivism* (Rosenberg 2008, 26). Positivism as a label for naturalism maintains that all theories, concepts or entities that are incapable of being verified empirically must be eliminated from scientific explanations. This implies that explanations which are not within the scope and context of scientific empirical verification are nothing but nonsense (Adorno et al, 1969).

The view above has its root both in the logical positivism of philosophers like A.J. Ayer, Rudolf Carnap, and in British empiricism. logical positivism is the epistemological cum scientific claim that any statement that is not empirically verifiable or analysable through the method of conceptual analysis is nonsense and as such, should be jettisoned (see Copleston 1972 26-60). This view also gives credence to logical empiricism. Empiricism is a philosophical position which asserts that reliable and genuine knowledge is grounded only in experience and observation. Consequently, any knowledge independent of sense experience does not qualify to bear the name knowledge. Some of those philosophers who maintain this view are: David Hume, John Lock, Bishop George Berkeley, etcetera. Positivism and empiricism have been critically interrogated and rejected by scholars known as the rationalists. These scholars are of the view that reliable human knowledge can only be gotten through reason. Scholars like Rene Descartes, Spinoza and Leibniz fall into this category. However, we shall not delve into a defense or rejection of any of these schools of though since our focus here is to reconcile or find a complementary ground between the naturalists and the anti-naturalists.

As a naturalist, August Comte maintains that social phenomena should be studied by the social sciences the same way the natural sciences study natural phenomena (Comte 1988). David Thomas explains that some social scientists hold that social sciences should aim to reproduce the methodological features of the natural science (Thomas 1979, 1). As such, he believes that naturalism is a legitimate methodological program for social science (Little 1999). In the same way, Harold Kincaid posits that the social sciences can be good science by the standards of the natural sciences (Kincaid 1996, 3). Similarly, Daniel Little opines that all social scientific knowledge, if scientifically adequate at all, should share fundamental, logical and methodological features with the natural sciences (Little 1991, 1). Emile Durkheim and J. S. Mill are also of the opinion that adapting the aims and methods of the natural sciences to social inquiry is both possible and desirable. The claims of these scholars therefore, are attempts to naturalise the social sciences.

There are, however, two versions of naturalism. They are: weak or soft naturalism and hard or strong naturalism, respectively. The latter, on the one hand, holds that it is *necessary* to use a methodology based on natural science to investigate social phenomena. The former, on the other hand, holds that it is *possible* to use a methodology based on natural science to investigate social phenomena (Keat 2007, 8-9). Thus, while the weak naturalists hold that naturalistic social-scientific explanation is possible, strong naturalists contend that naturalistic social-scientific explanation is necessary. What this implies is that if social-scientific inquiries are qualify as scientific endeavour at all, they must adopt the methodology of the natural sciences. It could be seen that strong naturalism introduces an element of radicalism and sternness in maintaining that the social scientists cannot produce any meaningful research work unless they adopt the methods of the natural sciences.

Felix Kaufmann avers that inquiry in the social sciences can be called scientific only if it is conducted in accordance with the methods of the natural sciences, particularly by physics (Kaufmann 1944, 142). Alexander Rosenberg also seems to buttress this view when he contends that many social scientists believe that prediction and interpretation can be reconciled. They believe that there is a causal theory of human behaviour and that we can uncover models, regularities, and perhaps eventually laws that will enable us to predict human action (Rosenberg 2008, 26). This means that, for the strong naturalists, the only way to determine the scientificality or otherwise of social research is to considered whether or not they conform to the methodology of the natural sciences. If they do, they are scientific; if they do not, they are unscientific. As such, social phenomena must be studied the same way the natural scientists study natural phenomena so as to attain objectivity, precision and value-neutral results in social research.

Methods of the Natural Sciences: A Synopsis

What then are the core features of scientific methods which, according to the naturalists, must underline all scientific research in the social and natural sciences? This question is relevant to our discussion since the naturalists claim that the appropriate and standard methods for natural and social sciences research

are the methods of the natural sciences. What then, are the methods of the natural sciences. Little (1999, 2-3) claims that:

> The core features of science include at least these criteria: an empirical testability criterion, a logical coherence criterion, and an institutional commitment to intersubjective processes of belief evaluation and criticism. Beyond these features of scientific reasoning may be found a large set of peripheral features … the use of quantitative methods and models; commitment to explanation of observed phenomena on the basis of underlying laws, processes, or mechanisms.

The above are different methods that underline scientific research in the natural science. The fact is, we cannot exhaust the whole gamut of scientific methods in this paper. This is because there are diverse methods guiding scientific research in the natural sciences. However, there are some of the methods that should be considered in this paper. They include: empirical testability, causal explanations grounded in law-like regularities, supports for value neutrality and universal principles, among others. With these scientific methods, natural sciences has been able to provide the basis for numerous forms of human interventions in the environment based on the ability to predict the behaviour of natural entities (Little 1999, 3; see also Onyibor 2007, 87-88.)

Now, we shall explain three core features of naturalism – empirical testability, causal explanations grounded in law-like regularities and value-neutrality. The empirical approach used in the natural sciences requires the production of theories about the natural world that can be tested through observation, experimentation, and verification. In the same way, the naturalists assert that the empirical approach can be used in the study of social phenomena. Accordingly, social theories are subjected to observation, experimentation, and verification.

Another feature that underlines all scientific inquiries in the natural science is causal explanation, grounded on law-like regularities. Natural phenomena follow a pattern of regularity, which is of course grounded on the laws of nature. This is instantiated in Newton's law of gravity which simply states that every object that goes up unsupported will come down. This event is explained when its occurrence is shown to be logically necessary, given certain laws and conditions (Plato.stanford.edu/entries/naturalism.) Thus, the discovery of law-like regularities offers the power to produce precise explanations of a wide variety of phenomena. This suffices to say that for the naturalists, the primary goal of social inquiry is to study social phenomena using causal explanations grounded in law-like regularities for the purpose of uncovering laws of social phenomena.

Value neutrality is another feature of scientific research in the natural science. This means that natural scientists claim to conduct their researches without prejudice, bias, and sentiments. This is predicated on their emphasis on the attainment of objectivity in the natural sciences. It is believed in that the sentiment of a researcher does not reflect in natural inquiries. Accordingly, scientific results attained in the natural sciences are believed to be value-neutral. An instance of this is the laboratory experiment on the chemical composition of water (H_2O). To arrive at the accurate chemical composition of water, the researcher is not biased and his prejudice or presupposition does not influence the actual result of the research.

Value neutrality has its origin in David Hume's distinction between is/ought. This further borders on the distinction between fact and value. To believe that value can be derived from fact is a "naturalistic fallacy." While scientific inquiries in the natural science are believed to be value-neutral, the naturalists believe that a value-neutral scientific research can also be carried out in social inquiries. The question then is: can we attain a value-free social inquiry? Attention shall be given to this question latter in this paper.

Anti-naturalists on the Method Question and (Un)Scientific Status of Social Issues

Against the claim of the naturalists that the social sciences can employ the methods of the natural science in the explanation of social phenomena, advocates of anti-naturalism like Peter Winch, Max Weber, Wilhelm Dilthey, and Charles Taylor among others, contend that social phenomena cannot be studied using the methods of the natural sciences. This position avers that the social sciences are radically different from the natural sciences but are in no way inferior to the natural sciences (Badejo 2019). This is because they have different objects of research. The natural science studies natural entities (animate and inanimate) while the social sciences study social concurrences, human behaviour, their institution, culture and history. Consequently, the anti-naturalists advocate the autonomy of the social domain from the methods of the natural science. Rosenberg (2008, 27) also refers to anti-naturalism as "interpretative social science." It focuses on the investigations of dynamic objects with intentions, aims, purposes, goals and motives as different from natural objects which follow the same pattern of behaviour.

For the anti-naturalists, explanations in the social sciences are different from explanations in the natural sciences. This is because both sciences have different objects of study. While natural explanations appeal to empirical testability, law-like regularities and universal principles, explanations in the social sciences appeal to purposes, goals, intentions, and meaning in human action (Rosenberg, 2008, 27). Consequently, Little (1991, 222-223) contends that the natural science provides causal explanation, whereas the social science provides meaningful interpretation which is also known as *Verstehen*. This method, *das Verstehen*, means understanding and it is said to be traceable to Wilhelm Dilthey (Friedman 1999).

Verstehen also can be said meaning interpretative or empathetic understanding whereby any researcher that seeks to investigate about human actions or behaviour tries to put him/herself in the position of the object so investigated in order to get a deeper, truer and fuller understanding of the object. This exercise involves putting oneself in the position of others in order to understand why they behave in certain ways under certain situations or conditions. Against this background, the social sciences are said to be significantly different from the natural sciences. Hence, methods of the natural sciences are said to be inapplicable in social explanation or in the investigation of social phenomena. Charles Taylor contends that:

> There is a constant temptation to take natural science theory as a model for social theory, that is, to see theory as offering an account of underlying processes and mechanisms of society, and as providing the basis of a more effective planning of social life. But for all the superficial analogies, social theory can never really occupy this role. It is part of a significantly different activity (Taylor 1985, 92, 98).

The anti-naturalists argue that it is not legitimate for social scientist to study social phenomena the same way the natural scientists study natural phenomena. The object of research in the social sciences, which is human being and his relations to his environments is a sensitive and delicate object of study. Accordingly, human beings are active objects who have beliefs, desires, purposes, intentions, and goals. As a result of this, they are intelligent object, who can affirm or deny, agree or disagree, will or unwill, etc. All these activities are meaningful, and purposeful: they are not accidental or haphazard. They are not haphazard because human actions are characterized by intentionality, rationality, and reflectivity. This makes it difficult to make laws, predictions, and generalizations about their behaviour.

On the contrary, the objects of research in the natural science are inanimate objects like stones, planetary bodies, and so on, which can neither affirm nor deny. They follow a regular pattern of behaviour. Because of this, is it easy to make laws, predictions and generalizations about their behaviour. Since natural phenomena have no capacity to will, think or intend, they are somehow constant, invariant, and predictable unlike social phenomena.

Clifford Geertz, emphatically rejects the notion that the social sciences should model themselves on the paradigms of the natural sciences – the discovery of causal relations, covering law, explanations, and

objective descriptions of phenomena. He urges that social scientists develop their affinities to other enterprises – literary criticism, dramaturgy, and other areas of symbolic interpretation. He also urges social scientists to abandon what he describes as 'a spurious quest for objectivity and truth.'(Geertz 1983). This seems to agree with the positions of some scholars, especially the existentialists that nothing can really be objective and that there is no monolithic method to the investigation of truth because truth itself is not one. This supposition gives birth to the concept of inter-subjectivity (agreement among different subjective views) to replace the idea of objectivity. Consequently, it is argued that if the concept of objectivity is applicable in natural research, it is inapplicable in social research. Aside from the fact that their objects of study are different, the kind of truths they seek to investigate are not the same. However, reacting to Geertz's view, Paul Shankman contends that his position appears to be a change of subject. For Shankman, Geertz is no longer talking about social science, but rather an interpretive discipline within which standards of empirical evaluation are taken substantially less seriously (Shankman 1984).

The advocates of anti-naturalism argue for the rejection of the naturalist notion that inquiry into the social phenomena requires laws, models and empirical generalizations so as to improve its predictive and explanatory power like that of the natural sciences. They argue that these laws and empirical generalizations are required in the natural sciences as a justification for its causal explanation. Social sciences, on the contrary, do not deal with causal explanations; rather it requires intentional explanation of human actions. Accordingly, William Dray posits that explanation in the social sciences is done through *Verstehen* (Dray 1957, 158). This means giving an explanation from the agent's point of view. According to Dray, rational explanations alone allow us to understand social phenomena.

Daniel Little identifies some anti-naturalist claims: The first is that social phenomena — behaviour, social practices, and social institutions — are inherently meaningful; they are constituted by the meanings that participants attach to them. By way of implication, the participant is actively involved in the conduct of research in the social sciences. Consequently, as earlier noted in this paper, value-neutrality is difficult if not impossible in the social sciences research. This further implies that a meaningful study of the society and social phenomena cannot be done with scientific methods which are invariant. The human society can only be studied meaningfully through interpretation.

The second claim is that social phenomena can be explained through hermeneutics. This is the process of unpacking the meanings that constitute social actions or behaviour. Hermeneutics is one of the methods that anti-naturalists propose for the explanation of social phenomena. It is the theory or art of interpreting texts (Smith 2004, 1). It evolves as a distinct field of enquiry in response to specific interpretative disputes. According to Nicholas Smith,

> A social science is said to be hermeneutic if it follows the "interpretative method". If it proceeds by way of interpretations, and hermeneutic philosophy of social science demarcates the social sciences from the natural sciences on account of their interpretative procedure. Since it disclaims the kind of objectivity attained in the natural sciences, hermeneutics is routinely associated with relativism in the social sciences (Smith 2004, 1).

As an anti-naturalist methodology, hermeneutics differentiates social research from natural research and it aims to interpret human actions for the purpose of deriving meaning. Charles Taylor explains that human sciences as much as natural sciences are grounded in a pre-reflective, practically structured grasp of reality. However, the natural sciences refine the pre-objective sense of reality by depicting nature from a subject-neutral point of view. This approach is unsuitable for deepening our knowledge or understanding of the human world (Taylor 1985, 45). Hence, for meaningfulness and subject-relatedness, the methods of the natural science are inappropriate in the studies of social phenomena. This is because human beings are rational active, and intelligent and they are, by their very nature, directed by desires and purposes. Interpreting these desires and purposes is an essential part of reaching an understanding or explanation of social activities (Smith 2004, 9).

The third claim is that, interpretations of social phenomena can only be evaluated in terms of their internal coherence and their fitness with the behaviour and avowals of the participants. Furthermore, causal explanation has no legitimate role in social science. Finally, inductive regularities and predictions have no legitimate role in social science (Little 1999, 14).

Beyond the Debate: Complementarity of Social and Natural Research Methods

Having discussed the naturalist-anti-naturalist contention on the applicability of the methods of natural sciences to the explanation of social phenomena, we shall attempt to reconcile these positions first, by presenting an analysis of the term: 'science'; second, by drawing out some areas where the methods of the two fields of inquiry complement each other in the ceaseless endeavour of human beings to arrive at a holistic knowledge about the world they inhabit.

The argument about whether the social sciences are scientific or not arose from a narrow understanding of the concept of science itself. First, etymologically, the term "science" originates from the Latin word: *Scientia* which means *knowledge* The word "Scientia*"* again derives from the word: *Scire* meaning *know.* Second, it is imperative to distinguish between two senses by which the word "science" can be understood: the narrow and the broad senses. Science can be narrowly understood as an intellectual and practical activity involving the systematic study of the structure and behaviour of the physical and natural world through observation and experimentation. In the broad sense, however, science is a systematically organised body of knowledge on any subject (Oxford Dictionary, 1307; Onyibor 2007, 84).

From the above distinction, the following can be deduced: the naturalistic standpoint embraces a narrow understanding of the term "science"; hence, it is parochial. It equivocates and conflates these two conceptions of science; and it is too reductionistic in its approach by naturalising the social sciences. This amounts to compressing or subsuming one systematically organised body of knowledge to another with the assumption that one is superior while the other is inferior.

The naturalists maintain that scientific method is the only appropriate method for carrying out any research, be it social or natural. This means that explanations that do not have scientific colouration, flavour of twist are not genuine explanations. This position is largely contestable as it contradicts reality. The natural scientists alone cannot present their methods as the only grand paradigm of rationality as there are so many other methods of looking at the world (see Ukpokolo 2015, 36-39). The scientific method is just one out of the numerous methods available to any explanation. Karl Popper, Thomas Kuhn and Paul Feyerabend, have in fact, contested this claim. For Popper, even the claim that science presents an accurate explanation of fact is baseless. This is because facts are not as straightforward as they are believed to be. There is a possibility of fallibility or falsification of a theory; once this instance ensues, it necessitates the need for another theory (Worrall 2003). What this means is that there is no grand method or theory in scientific investigation: what rationalises a theory is its ability to be falsified or refuted.

Thomas Kuhn also shares the view of Karl Popper. For Kuhn, scientific investigation is always punctuated by tension, anomaly, and crisis which brings about a change in paradigm or method (paradigm-shift). This again brings about incommensurability between the old and the new paradigms (Kuhn 1996). This is an indication that even within the natural sciences, their are tensions concerning the choice of research methods. Accordingly, Kuhn deconstructs the prevalent understanding of scientific method and growth by contending that the methods of the natural sciences are not the only standards of rationality. For Paul Feyerabend, it is even prejudicial to see the scientific method as the only method that has answer to all the problems of humanity. For him, science does not possess that status. It is just a method out of thousands of methods (Chalmers 1999). Therefore, a monopolistic conception of science as the only rational method for accessing reality impoverishes the nature of reality itself. That is, it restricts and reduces reality or knowledge only to things that are open to the investigation of the natural scientists, which is characterised by empirical verification, thereby denying the existence and knowledge of things that are not open to the methods of empirical investigation. We

therefore share the views of Kuhn, Popper and Feyerabend that there are different other methods that can be applied in the study of reality. Accordingly, science is not the only viable or absolute method of explanation like the naturalists maintain.

The naturalists also maintain that all social issues can be studied using the methods of the natural sciences such as prediction, experimentation, generalization, and so on. This calls for a re-examination: the dynamic nature of the objects of investigation in the social sciences makes this insistence a bit problematic. Human beings are reasonable and intelligent beings with different wills, intentions, aims, goals, aspirations, desires, purposes and and wishes. This makes it difficult to apply some methods of the natural sciences like prediction, law-like generalisation to them. For instance, it amounts to hasty generalisation to assert that all human beings are selfish in nature. This is because some human beings may, in fact, be altruistic.

Moreover, human beings possess both physical and nonphysical dimensions; their physical or objective dimension can be observed and explained the way natural scientists observe inanimate objects. Their non-physical dimension can be explained whether through interpretation or hermeneutics. We do not have to explain human actions through experimentation. Elster Jon is of the view that intentional actions should be included in causal explanation (Elster 2015). However, this seems to us impossible. This is because while an action and its effect may be open to causal explanation, intentional structure of the actor's mind is not open to causal explanation. In other words, we have no access to the contents of human mind in order to explain their intentions causally. This is the problem of other minds in the philosophy of mind. Closely connected also to this problem is the problem is intentionality. Nevertheless, through meaningful interpretation, and empathetic understanding, we can attempt to explain or understand the subjective dimension of human actions. By so doing, we are harmonizing the method of observation in the natural science with the method of interpretation or understanding in the social sciences for the explanation of social actions. This marks a basis for the argument concerning complementarity of methods.

The anti-naturalists are of the view that social research is relativistic in nature and value-laden; therefore, it is different from natural research. The naturalists also claim that natural research is objective and value-neutral. The truth is, the problem of value-ladeness in research is applicable to both the natural and the social sciences. We cannot deny that researchers whether in the natural or social sciences, investigate phenomena through different intellectual spectacles. This is so because researchers, no matter the objects of their investigation, are products of different cultural worldviews. The worldviews of their respective cultures somehow reflect in their research. Accordingly, it is difficult, if not impossible to separate our biases and prejudices from our research activities. This applies to the social and natural sciences respectively. Consequently, both fields of studies are not entirely value-neutral. In addition, What is called objectivity in the natural sciences is, in the final analysis, subjective views of some scientists or theorists. Research in the natural sciences is conducted following certain principles formulated by theorists. However, the results or outcomes of the research conducted following those principles are said to be objective. The point about objectivity seems to be spurious here. This is because, the said outcomes are products of subjective theories which a community of scientists or researches have agreed to adopt.

Furthermore, while we notice that the natural sciences are different from the social science given the nature of their objects of study, we also notice some areas of convergence in both sciences when it comes to the question of method: observation and explanation are common to both sciences. For instance, social phenomena such as protest, civil disobedience, revolution, witchcraft, epidemics, election, famine, scarcity, want, violence and so on, can be observed and explained in the social sciences. The only difference is that they cannot be predicted using general laws or covering rules, which is common to the natural sciences. The point is: both natural and social sciences adopt the methods of observation and explanation. However, how these two methods are used in both sciences differ.

We therefore believe that it is by combining some of the methods of the natural science and the methods of research in the social sciences that we can arrive at a meaningful explanation of social phenomena. This is because human beings possess both objective and subjective dimensions, which neither of the methods can single-handedly explain. This gives the social sciences an edge in the explanation of social issues, using both methods over the natural science, which is bent only on the scientific methods.
Lastly, the end which both the natural and the social sciences aim at makes the contention about methods unnecessary and unwarranted. Both the social and the natural sciences aim at serving humanity. This end should be the focus and not the methods by which both sciences arrive at the end. This is the point which Professor Asouzu emphasizes in his inaugural lecture titled "*Ibuanyidanda" and the Philosophy of Essence*. Asouzu criticizes Aristotle for bifurcating reality in to essence and attributes. He also laments the polarity this action has brought to the fields of philosophy including the sciences (Azouzu 2011). For him, all sciences, no matter their methods, have the ultimate mission to serve humanity; therefore, the division among the sciences, influenced by Aristotle's metaphysics of essence is an unfortunate one.

Conclusion

From the foregoing, we have discussed the scope, nature and the idea of the social sciences. We defined social science as the discipline that studies the human behaviour, institution and man's relation to his environment. Psychology, Sociology, political science Economics, history, etc, are examples of the disciplines that study human behaviour. We have discussed the naturalists' and the anti-naturalists' stances on the scientificality of the social sciences and the applicability of the methods of the natural sciences to the study of social phenomena.

Furthermore, we have done a critical assessment of the naturalist-anti-naturalist debate on the scientific status of the social science and the applicability of the methods of the natural science to the study of social phenomena. In our assessment, we noticed that the natural sciences are different from the social sciences because of the difference in the nature of their objects of study. Meanwhile, in terms of methods, observation and explanation are common to both sciences. The only difference is that the social sciences cannot explain social phenomena using general laws like the natural science. Nonetheless, social issues such as suicide, protest, revolution and civil disobedience are observable and explainable.

Moreover, we noticed that the problem of value-ladeness is applicable to both the social and the natural sciences. In the end, we advocated the combination of the methods of the natural sciences that can be used to study the objective dimension of man with the method of interpretative understanding or hermeneutics, which can be used to explain the subjective dimension of man. We submitted that by doing so, social research will be more meaningful and the social sciences will have an edge over the natural science, which upholds the absolutism and supremacy of the scientific method.

Finally, we described the contention between the anti-naturalists and the naturalists over the applicability of the methods of the natural sciences to social issues as unnecessary and unwarranted, giving the end at which both sciences aim. Both sciences have a single mission to serve humanity. This end should be the focus, not the means or methods by which they arrive at the end; therefore, the over-extended debate on the issue of method is, for us, unwarranted.

References

Asouzu, I. I. (2011). *"Ibuanyidanda" and the Philosophy of Essence: Philosophy the Science of Missing Links of Reality.* Calabar: University of Calabar Press.

Badejo, O. O. (2019) A Non-Naturalised Methodology for Social Sciences. *UJAH* 20 (2), 168-194. http://dx.doi./org/10.4314/ujah.v20i2.9

Chalmers, A. F. (1999). *What is this Thing Called Science?*. 3rd Edition. Buckingham: Open University Press.

Comte, A. (1988). *Introduction to Positive Philosophy.* Frederick Ferre, trans. Indianapolis, IN: Hackett Publishing Company, Inc.

Copleston, F. (1972). *A History of Philosophy: Logical Positivism and Existentialism*. London: Continuum International Publishing Group.

Dray, W. (1957). *Laws and Explanations in History*. London: Oxford.

Elster, J. (2015). *Explaining Social Behavior: More Nuts and Bolts for the Social Sciences*. Revised Edition. Cambridge: Cambridge University Press.

Friedman, M. (1999). *The Worlds of Existentialism: A Critical Reader*. New York: Humanity Books.

Galparsoro, J. I. & Cordero, A. (2013). Introduction: Naturalism and Philosophy. Galparsoro, J. I. & Cordero, A. (eds.) *Reflections on naturalism*. Rotterdam: Sense Publishers.

Geertz, C. (1983). *Blurred Genres*. New York: Basic Books.

Jarvie. I. C. & Zamora-Boniva, J. (eds) (2011). *The Sage Handbook of the Philosophy of Social Sciences*. London: Sage Publications LTD.

Kaufmann, F. (1944). *Methodology of the Social Sciences.* New York: The Humanities Press.

Keat, R. (2007). "Positivism, Naturalism, and Anti-Naturalism in Social Sciences," *Journal for the Theory of Social Behaviour*, 1 (1), 3-17. Doi: 10.1111/j.1468-5914.1971.tb00163.x

Kincaid, H. (1996). *Philosophical Foundations of the Social Science*. Cambridge: Cambridge University Press.

Kuhn, S. T. (1996). *The Structure of Scientific Revolution*. 3rd Edition. Chicago: The University of Chicago Press.

Little, D. (1991). *Varieties of Social Explanation: An Introduction to the Philosophy of Social Science.* Colorado: Westview Press.

---------. (1999). *Beyond Positivism: Toward a Methodological Pluralism in the Social Sciences,* unpublished paper.

Michael, M. & Lee, C. M. (eds.) (1994). *Readings in the Philosophy of Social Science*. Cambridge: MIT Press.

Mouton, J. (1980) *Naturalism and Anti-Naturalism in Contemporary Philosophy of Science*. Journals.koers.aosis.co.za

Nickles, T. (ed.) (2003). *Thomas Kuhn: Contemporary Philosophy in Focus*. USA: Cambridge University Press.

Onyibor, M.I.S. (2007). Philosophy of Science and the Limitations of Scientific Method of Knowledge. In: Oladipo, O. & Adedeji, G. M. A. (eds.) *Philosophy, Logic and Issues in Science and Technology: An Introduction*. Ibadan: Hope Publications.

Oxford Advanced Learner's Dictionary of Current English. 7th Edition

Plato.stanford.edu/entries/naturalism. Retrieved on 15th November, 2021.

Rayan, A. (1970). *The Philosophy of the Social Sciences*. London: Palgrave Macmillan.

Rosenberg, A. (2008). *Philosophy of Social Science.* 3rd ed., U.S.A: Westview Press.

Shankman, P. (1984). *The Thick and the Thin: On the Interpretive Theoretical Program of Clifford Geertz.*

Smith, N. H. (2004). Taylor and the Hermeneutic Tradition. In: Ruth, A. (ed.) *Charles Taylor,*

Taylor, C. (1985). Human Agency and Language. *Philosophical Papers.* 1. Cambridge: Cambridge University Press.

Thomas, D. (1979). *Naturalism and Social Science*. Cambridge: Cambridge University.

Ukpokolo, I. E. (2015). *Methodology of Research and Writing in Philosophy: A Guide*. Ibadan: Kairos Publishing.

Worrall, J. (2003). Normal Science and Dogmatism, Paradigm and Progress: Kuhn Versus Popper and Lakatos. In Nickles, T. (ed.) *Thomas Kuhn: Contemporary Philosophy in Focus*. USA: Cambridge University Press.

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