COURSE GUIDE

PHL 361
PHILOSOPHY OF SOCIAL SCIENCES

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INTRODUCTION

PHI 361: Philosophy of Social Sciences is a philosophical inquiry into the logic and methodology of social sciences, and the problems encountered in the disciplines concerning man and the society, topics to be addressed includes the meaning of causation, the problem of induction, the use and abuse of statistics, and the place of ideological models in social studies. The central question includes: what are the criteria of a good social explanation? How are the social sciences distinct from natural sciences? Is there a distinctive method of social research? Through what empirical processes are social science assertions to be evaluated? Are there irreducible social laws? Are there causal relations among social phenomena? Do social facts and regularities require some form of reduction to facts about individuals? What is the role of theory in social explanation? The philosophy of social science aims to provide an interpretation of the social sciences that answers all these and other related questions.

The course is a compulsory course for philosophy and other interested students. The course guide gives a brief description of the course content, expected knowledge, the course material, and the way to use them. Tutor-Marked Assignments is found in a separate file, which will be sent to you later. There are periodic tutorials that are linked to the course.

COURSE AIM

The major aim of this course is to enable the student have a broad knowledge of the foundation, logic and method of social sciences. This will be achieved through the following broad objectives:

i. To know the meaning of philosophy of social sciences
ii. To take a philosophical tour of the logic of social science.
iii. To understand the method of social research.
iv. Knowledge of the meaning of causation.
v. Understanding the problem of induction.
vi. Analysing the use and abuse of statistics.

In addition to the broad objectives above, each unit also has specific objectives. The unit objectives are always at the beginning of the unit. You should read them before you start working through the unit. You may want to refer to them during your study of the unit to check on your progress. You should always look at unit objectives after completing a unit. In this process you would be sure of having done what is expected of you. The unit objectives are to:

i. Present an overview of philosophy of social sciences.
ii. Present the essence of philosophy of social sciences
iii. Consider the relations between philosophy of science and philosophy of social sciences
iv. Examine the relations between basic divisions in philosophy and hilosophy of social sciences.
v. Understand the logic of social sciences
vi. Knowledge 0f the methods of social sciences
vii. To explain the idea of normativity, naturalism and reductionism

WHAT YOU WILL LEARN IN THIS COURSE

The overall aim of PHI 361: Philosophy of Social Sciences is to introduce the student to the philosophical foundation, logic, and methods of the discourse in the social sciences. It exposes the student to the principles, logical discourse and analyses of the statistics and other causal principles that are operational in the social sciences.

WORKING THROUGH THE COURSE

To complete this course, you are required to, have a copy of the course material, read and digest the content. You are also expected to study the units, read recommended books, and read other materials. Each unit contains self-assessment exercises, and at some points in the course you will be required to submit assignments for assessment. You are also required to participate in the discussion forum and facilitate with your course tutor. Below you will find listed all the components of the course and what you need to do.

COURSE MATERIALS

Major component of the course are:
i. Course Guide
ii. Study Units
iii. Textbooks
iv. Assignment File
v. Presentation Schedule

In addition, you must obtain the materials. Obtain your copy. You may contact your tutor if you have problems in obtaining the text materials.

STUDY UNITS

There are four (4) modules and seventeen (16) study units in the course. They are:

Module 1 Meaning of Philosophy of Social Sciences

Unit 1 Philosophy: Its Mode and Methods
Unit 2 Meaning and development of the Philosophy of the Social Sciences
Unit 3 The Concept of Society
Unit 4 Philosophy and the Social Sciences

Module 2 Basic divisions in Philosophy and philosophy of Social Sciences

Unit 1 Epistemology and the Social Sciences
Unit 2 Metaphysics and the Social sciences
Unit 3 Logic and the Social Sciences
Unit 4 Ethics and the Social Sciences
Unit 5 Relationship between the Social Sciences and Natural Sciences

Module 3 Methods of Social Sciences

Unit 1 Generally Observed Methods of the Social Sciences
Unit 2 Alternative Approach
Unit 3 Naturalism
Unit 4 Reductionism

Module 4 Future of Philosophy of the Social Sciences

Unit 1 Empiricism and the Theory of knowledge
Unit 2 Positivism and Sociology
Unit 3 Critique of Positivism

PRESENTATION SCHEDULE

This course has two presentations. There is one at the middle of the semester and the other towards the end of the semester. Before presentations, the facilitator would have taken the time to establish the rudimental of the course to the familiarity of the students. At the beginning of the semester, each student undertaking this course will be assigned a topic by the course facilitator, which will be made available in due time, for individual presentations during forum discussions. Each

presenter has 15 minutes (10 minutes for presentation and 5 minutes for Question and Answer). On the other hand, students will be divided by the course facilitator into different groups. Each group is expected to come up with a topic to work on and to submit same topic to the facilitator via the recommended medium. All of these add up to the reinforcement of class participation and attendance.

ASSESSMENT

There are two segments on assessment for this course. These are: Tutor-Marked Assignments (TMAs) and a written examination. You are expected to submit your assignments to your tutor as at when due for 30% of your total course mark. Afterward, a final three-hour examination accounts for 70% of your total course work. Together, all of these amount to 100%.

To avoid plagiarism, students should use the followings links to test run their presentation papers before submission to their tutors:

- http://plagiarism.org
- http://www.library.arizona.edu/help/tutorials/plagiarism/index.html

Similarity index for submitted works by student must **NOT EXCEED 35%.**

HOW TO GET THE MOST OUT OF THIS COURSE

For students to get the most out of this course, she/he must:

- Have 75% of attendance through active participations in both forum discussions and facilitation;
- Read each topic in the course materials before it is being treated in the class;
- Submit every assignment as at when due; as failure to do so will attract a penalty;
- Discuss and share ideas among his/her peers; this will help in understanding the course more;
- Download videos, podcasts and summary of group discussions for personal consumption;
- Attempt each self-assessment exercises in the main course material;
- Take the final exam; and
- Approach the course facilitator when having any challenge with the course.

FACILITATION

This course operates a learner-centered online facilitation. To support the student's learning process, the course facilitator will, one, introduce each topic under discussion; two, open floor for discussion. Each student is expected to read the course materials, as well as other related literatures, and raise critical issues which she/he shall bring forth in the forum discussion for further dissection; three, summarize forum discussion; four, upload materials, videos and podcasts to the forum; five, disseminate information via email and SMS if need be.

REFERENCES/FURTHER READINGS/WEB SOURCES

The following books are recommended:

i. Arieti, J. (2004). *Philosophy in the Ancient world: An Introduction* Oxford: Rowman & Littlefield Publishers.
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xii. Stumpf, S.E. (1994). *Philosophy: History and Problems*. N.Y. McGraw-Hill.
xiii. Salmon, M.H. 2019. "Social Sciences: Overview of Methods and Goals." In *History and Philosophy of Science and Technology*. Vol. III. Pp. 21 – 30.

The following links can be used to access materials online: www.pdfdrive.net
www.bookboon.com
www.sparknotes.com
http://ebookee.org
https://scholar.google.com/
https://books.google.com/

MAIN COURSE

CONTENTS

MODULE 1 INTRODUCTION AND MEANING OF PHILOSOPHY OF SOCIAL SCIENCES

UNIT 1 PHILOSOPHY, ITS MODE AND METHODS

Unit Structure

1.1 Introduction

In this unit, you will learn about the etymological, general meaning and evolution of philosophy, social sciences and philosophy of social sciences. We shall begins with an overview of the term philosophy, definitions and their analyses and proceeds to the etymology of the term, culminates in the evolution of the discipline called philosophy and eventually the philosophy of social sciences.

1.2 Learning Outcomes

By the end of this unit, you will be able to:

- define and analyze the meaning of philosophy;
- know the mode of philosophy; and
- know the method philosophy.

1.3 Meaning of Philosophy

What precisely is philosophy? There are many ways of defining philosophy. Francis Njoku (2012: 17) sees Philosophy as a rational explanation of all things (i.e. the body of general principles of beings, the sciences of the ultimate reality, the science of sciences, a rational enquiry, etc). As a rational enquiry, it exposes human being to search for explanations and answers to the question that borders humanity at every moment. For example: who am I? What is my essence? Why do I exist? Why do I have to live and to die? On the whole, philosophy is a reflective activity and engagement with reality; it applies reason to all aspect of reality. It also makes a critical analysis of the action which our

beliefs and knowledge- claims have produced; hence, our encounter with reality is such that both our claim and application of knowledge are brought under the probing eyeof philosophy.

Charles Tylor (1984: 18) defines philosophy as an activity which essentially involves, among other things, a re-description of what we are doing, thinking, believing, assuming, in such a way that we bring our reasons to light more perspicuously, or make the alternatives more apparent, or in some way or the other are better enabled to take a justified stand to our action, thought, belief, assumption.

This is how philosophy appears to different persons. Egbeke Aja (1996:10) describes philosophy as "a chameleon that means all things to all men and nothing to some." Be that as it may, philosophers have defined philosophy from the perspective of their thought systems, culture and tradition.

Joseph Omeregbe (1985:1) appears to capture the basic tenets of philosophy when he presents philosophy as "essentially a reflective activity." Accordingly, to philosophize is to reflect on human experience in search of answers to some fundamental questions. As man reflects on himself or the world around him he is filled with wonders. This 'wonder' is perceived as the foundation and the cornerstone of philosophy. Both Plato and Aristotle tell us that this 'wonder' is the beginning of philosophy. Omoregbe (1985:1) further opines that human experience is the source and touch stone of philosophy. The experience could be personal (subjective) or experience of the world around him (objective). Hence, philosophy could start from subjectivity or objectivity.

The subjective dimension of philosophy could start from the human person. Omoregbe (1985:1) Man is a rich source of philosophy beginning with the marvel on the complexity of the human person, the brevity of human life, the vicissitude of life, man's superiority over the rest of nature, his power and weakness, his joys, sorrows, success and failure, hisfinitude, his experience of suffering, misery, disease, old age, death, etc., have led to deep reflection and philosophizing all over the world. Imagine the kind of being man is that is so strong and powerful and yet so weak, feeble and die.

The objective dimension of philosophy could begin with the immensity of the universe, amazing variety of things, idea of time, the ceaseless changes in the universe amidst permanence, the basic unity amidst diversity, the seasons of the year, the heavenly bodies and their orderly circular movements, the starry sky, the sun, moon, stars, etc., these are many more can be the source and touch stones of philosophy.

Philosophy reflects on these experiences and many more in search for answers to questions that these experiences generate for people. The more man experiences the things in himself or in the other, the more curious he becomes and the more his natural desire to know is awakened. In spite of all these, man's knowledge is so limited that he knows little about himself. He does not know why he exists and he has no answers to his own basic questions. The tendency to reflect on such fundamental philosophic questions is part of human nature. It is rooted in man's natural instinct of curiosity.

Human nature and experiences are the same all over the world and the tendency to philosophize is part of human nature. It follows therefore that philosophizing is not peculiar to a group of people. In other word, other civilizations have their own philosophy and philosophers. They reflect on the basic philosophic questions about human life or about the universe.

1.3.2 Mode of Philosophy

What are the modes of philosophy? Isaac Ukpokolo (2015: 8) conceived philosophy as a discipline that may be taken as a rational inquiry. In this sense, philosophy is an activity that consists in a systematic search for truth, knowledge or the principles of reality. Such a search is actually described as rational when it is done following certain pattern of reasoning. What this means is that philosophy as a discipline is carried out according to certain procedures or method, principles and norms, canons and rules, which are taken to be universal and foundational to the discipline.

A further understanding to philosophy as a rational inquiry may be gainedby stating that philosophy as a discipline is essentially an activity in search for knowledge that embodies the instrument of language. In other words, as an activity, philosophy adopts language in navigating the entirety of reality or aspects of it. Indeed, in the discipline of philosophy the instrument of language is employed in accessing and assessing the world or the human environment or nature, or reality as a whole. As it is understood, language is taken as the veritable instrument of thought and communication. It is to be noted that language as referred to here, does not only indicate verbal language; it also refers to other forms of expressive communication such p-pas sign language.

In employing the instrument of language, philosophy consolidates on its being a rational and critical activity that employs the principles and methods of logical analysis to interrogate existing beliefs, claims, assumptions, ideas, positions and dispositions, resulting in a clearer and

better understanding of reality, whether social, political, cultural, spiritual or moral. To this extent, philosophy raises questions that are directed at subjecting our beliefs and worldviews to critical interrogation and analysis, following the method of logic and coherence in thought.

And so, deploying the tools of logic, conceptual analysis, criticalness, coherence and systematicity, the philosopher is able to navigate the human condition and come up with those fundamental, normative, transcendental and overarching general principles and methods that underlie human knowledge, reasoning, actions and the understanding of being. In this vein, the discipline of philosophy clarifies and sanitizes human experiences and conditions, and ultimately reveals how things ought to be. It is to this extent that philosophy is not just primarily critical;it is generally analytical and ultimately constructive (Ukpokolo, 2015: 29). It is against this backdrop that we may think of philosophy as being criticism.

The idea of philosophy being criticism appears to capture the central nature of philosophical discourse. It may be explained or understood by looking at one of the philosophers who embodied this understanding of the nature of philosophy. Socrates is one of the earliest to engage in philosophic criticism. For Socrates, criticism referred to critical thinking involving a *dialectic* in the conversation. A dialectic is a running debate with claims, counter-claims, qualifications, corrections, and compromises in the sincere hope of getting to understand a concept. This may be seen in Plato‘s *Republic* (Bk. I). Socrates asked Cephalus what his greatest blessing of wealth had been. Cephalus replied that a sense of justice had come from it. Socrates then asked: what is justice? The conversation then involved several people including Thrasymachus who claimed that justicewas a mere ploy of the strong to keep the weak in line. Socrates rejected the tyrant-theory as irrational and the dialectic went on in pursuit of the question: what is justice?

The idea of criticism could be conceived of as an attempt to clear away shabby thinking and establish concepts with greater precision and meaning. In this sense, John Dewey (1980: 39) noted that:

> Philosophy is inherently criticism, having its distinctive position among various modes of criticism in its generality; a criticism of criticism as it was. Criticism is discriminating judgement, careful appraisal, and judgement is appropriately termed criticism wherever the subject-matter of discrimination concerns goods or values.

Another example of criticism is the philosophic movement associated with the name of Edmund Husserl who is the father of phenomenology. Phenomenology is a method of criticism aiming to investigate the essenceof anything. The essence of love, justice, courage, and any other idea may be dealt with critically, and a tentative conclusion reached. Such criticism is vital to philosophy as well as to other disciplines.

As you go on in your study, you must be careful so as not to confused criticism with scepticism. Scepticism as an idea connotes a critical spirit. It is the tendency of not being easily satisfied with simple or superficial evidence and striving to accept only incorrigible beliefs that are absolutely certain. The sceptics strive to establish that there is the need to cast doubt on the existence of all things if that is not possible, then we can affirm that objective knowledge is unattainable. On the other hand, criticism is carried on for the pursuit of purer, or better knowledge. Sometimes scepticism may be viewed as a stepping stone to knowledge. Unfortunately, scepticism frequently degenerates to irresponsible negativism. When this happens, scepticism becomes a willful, self-servingactivity rather than the pursuit of knowledge.

Criticism as the activity of philosophy has been fairly popular in the contemporary scene. Robert Paul Wolff (1979: 21) describes philosophy as the activity of careful reasoning with clarity and logical rigor controlling it. Such an activity has strong faith in the power of reason, andit is an activity in which reason leads to truth.

Similarly, Donald Scherer, Peter Facione, Thomas Attig, and Fred D. Miller, in their *Introduction to Philosophy*, describe philosophy as beginning with an attitude of wonder. Philosophical wonder leads to serious reflection on the more fundamental or more general questions that emerge in a variety of particular cases (2005: 8). This sense of wonder leads to activities in which one raises questions concerning the meaning of terms, the attempt to think things through systematically, and comprehensively, to have good reasoning in the thought process, and thenevaluate various options.

Joseph Margolis (1968:8) suggests that doing philosophy is an art and philosophers pursue their creative work in different ways. Studying philosophers of the past is done for the purpose of analysing the ways they sought to deal with philosophical problems. Consequently, there is no prevailing way of working, to which professionals everywhere are more or less committed. Milton K. Munitz (1979:10) suggests that philosophy is a quest for a view of the world and of man‘s place in it, which is arrivedat and supported in a critical and logical way. Following this, Paul Struhl (1972: 5) opines that:

> …Philosophy is a radical critical inquiry into the fundamental assumptions of any field of inquiry, including itself. We are not only able to have a philosophy of religion, philosophy of social sciences, but also a philosophy of education, a philosophy of art (aesthetics), of psychology, of mathematics, of language, and so forth. We can also apply the critical focus of philosophy to any human concern. There can be a philosophy of power, of sexuality, freedom, community, revolution – even a philosophy of sports. Finally, philosophy can reflect upon itself; that is, we can do a philosophy of philosophy. Philosophy can, then, examine its own presuppositions, its own commitments.

Criticism as a description of the nature of philosophy makes it such that philosophy is taken as a method of going about thinking rather than the content of the subject. Criticism will help one acquire a philosophy of life, but criticism is not the philosophy itself. Generally, when one asks about philosophy, the intention relates to a subject matter rather than a method of approach. This would make it possible for all critical thinkers on any critical topic to regard themselves as doing philosophy.

1.3.3 Method of Philosophy

Philosophical inquiry, on the other hand, is primarily normative or prescriptive; it is concerned with how things ought to be viewed rather than how they are viewed or understood. Its inquiry into the nature of reality, knowledge and values does not require the observation of particular things or events or the gathering of particular data but a prescriptive interpretation and analysis of already available data, generalisations and information about the universe. Put differently, questions such as: what is real? Is there an ultimate reality? How do we know what we claim to know? What makes an action moral? What is the best form of human society and the state? These questions cannot be resolved by merely describing things and events in the universe. Rather they are best resolved through a rational prescriptive inquiry into the nature of things.

This does not in any way imply that philosophical inquiry does not need the services of science or vice versa. While philosophers may, from time to time, make use of scientific generalisations or results, they generally avoid the scientist‘s specialised business of collecting and arguing about empirical data. Sometimes, empirical evidence from psychology, physics or other fields of inquiry can be put to good use in philosophical

arguments. But a research in philosophy must be ready to explain exactly why such empirical evidence is relevant and exactly what normative principles one can draw from it. Apart from this, philosophers still find a lot to argue about even when they put empirical questions aside. For one thing, the question of: What sort of empirical evidence would be needed to decide the answer to a question? might itself be a non-empirical question that philosophers discuss. For another, philosophers spend a lot of time discussing how different claims (which may be empirical) relate logically to each other. For example, a common philosophical project is to show how two or more views cannot be held consistently with each other, or to show that although two views are consistent with one another, they together entail an implausible third claim (Ripon, 1988:5).

Therefore, an important distinction between inquiry in science and in philosophy is the famous is/ought distinction or the descriptive/prescriptive distinction. While science provides us with a description of the world, philosophy offers a normative analysis of the world and of human existence. Flowing from the descriptive/prescriptive distinction, the object of study in scientific and philosophical researches varies. In general, when we research or write, it is always about something or someone. Research always has an object in focus. But the kind of object varies based on the nature of the discipline. Science as basically a descriptive discipline, describes objects and events in the physical universe. Its sub-disciplines in the natural, social and applied sciences are specialised in the study of a particular object or sphere of the material universe. Biology studies and describes the nature and contents of biological components and organisms of the universe. Chemistry has the chemical constituents of the material universe as its object of study. Psychology is the scientific study of human brain processes and mental states. Hence, every specialised scientific discipline has a specialised and identifiable object of study.

But it is difficult to identify or specify the subject-matter or object of study of philosophy the way we can specify the concerns of scientific disciplines such as economics, biology chemistry, physics, and psychology (Oladipo, 2008: 11). It is thus not surprising for new students in philosophy to ask their tutor after some lectures, what exactly they are studying. The difficulty of identifying the object of study of philosophy does not imply that philosophical inquiry, research or writing is not intended toward something. It is however the case that unlike scientific disciplines which studies specific objects in the universe, reveal specific information about them by gathering particular individuated facts or data about their objects of study, the subject-matter of philosophy is general in nature.

Philosophical questions are not intended toward a specific object in the universe nor are they meant to reveal specific information about their nature through the individual data collected. Rather, philosophical questions are general in nature. This is because dealing with such research questions in philosophy does not require the gathering of specific data or the accumulation of particular facts. It rather involves how best to explainand analyse the already available facts to make sense of them in the search for answers for the ultimate questions of reality, knowledge and value (Oladipo, 2008: 32 - 33).

Philosophical research and writing are identified not only by the general nature of the subject-matter they address but also by their fundamental nature. Not every scientific research interests each one of us in our everyday lives. The study of planetary bodies and how life can survive there, or the accumulation of information of the psychology of a lion may not immediately interest us even if there are reasons to believe that in the long run, such information may be useful for mankind. However, every philosophical question that drives research in philosophy should interest any rational human being because the questions are essentially concerned with human existence and survival and the answers given them, and the answers we accept about them directly affect how we behave. Thus, questions about reality, knowledge, morality, or the ideal state are not trivial but fundamental.

Thus, while scientific research has specific subject-matter, philosophical inquiry deals with general and fundamental questions about reality, knowledge and value. To engage in scientific inquiry is to describe, to experiment and to draw conclusions. To engage in philosophical inquiry is to theorise, to analyse, to critique, to raise questions, and to pose as problematic, that which we investigate.

From the foregoing, science has a popular method of studying the natural universe, which has become so popular and infamous it is being imposed on other disciplines or forms of life as the model rather than a ‘model of research. This method is referred to as the scientific method. The scientific method is generally regarded as the procedure employed in carrying out research in the sciences or, put differently, it is concerned with principles of evaluation of statements in the empirical sciences. As R. S. Rudner (1966:5) explains the methodology of a scientific discipline is not a matter of its transient techniques but of its logic of justification. The method of science is, indeed, the rationale on which it bases its acceptance or rejection of hypothesis or theories.

Thus, when people talk of the scientific method, they are simply referring to the general properties and consideration that are used in the

confirmation or refutation of a hypothesis in the various sciences; that is, the common way in which hypotheses are assessed or researches are carried out in the sciences. As a method of research, the scientific method is said to be identified with a number of procedural stages, phases or steps.

Scholars are generally not unanimous about the exact number of the research stages in the scientific method. According to H. Siegel (1985:54), that there is no consensus on the exact number of stages in the method does not imply that the scientific method cannot be characterized generally as consisting in, for example, a concern for explanatory adequacy, however that adequacy is conceived, an insistence on testing, however testing is thought to be best done, and a commitment to inductivesupport.

Kwasi Wiredu (1980:44) provides a characterisation of the scientific method. According to him, the method of science involves hypothesis, experiment and observation. Scientific method has in practice attained a high degree of complexity, but, in bare essentials, it is characterised as follows: The mind is challenged by a problem for a solution; such that, however plausible the solution may be, it is not immediately asserted as true. It is merely entertained as a hypothesis, a tentative proposal, to beput to the test.

But before that, its significance has to be explored; that is, its logical implications have to be unravelled in conjunction with other known facts. This is the stage of the elaboration of the hypothesis, which often requirestechniques of deduction. The result, however, is always of the logical form of an implication: — if the hypothesis is true, then, such and such other things should be the case. The stage is then set for empirical confirmation and disconfirmation.

Straightforward observation or very technical experimentation may be called for in this stage of confirmation or disconfirmation. If results turn out not to be in agreement with the implications of the hypothesis, it is said to be falsified. It is, accordingly, either abandoned or modified. On the other hand, if results prove to conform to the elaborated hypothesis, it is said to be confirmed. It is the confirmed hypotheses that are regardedas laws and constitute the main corpus of scientific knowledge (Wiredu, 1980: 145).

According to Siegel (1988:436), what is striking about the method of science is its commitment to evidence and to the form of reasoning as described above, which is what ensures the objectivity and rationality of science. In other words, science is rational to the extent that it proceeds

inaccordance with such a commitment to evidence or form of reasoning. This is what gives the scientific method its popularity.

But philosophical inquiry cannot be associated with any such particular method of study due to the general nature of its inquiry. Thus, although philosophy is a rational inquiry, there is no one single method of carrying out its inquiry, as is the case with scientific method. There are varieties of methods that can be used or adopted in philosophy, these however depends on the philosophical school of thought that the individual or group of philosophers belongs to. To be sure, every rational inquiry, such as philosophy, begins with doubt and ends with the establishment of belief which also becomes a source of further inquiries. However, in philosophy, there is no singular and generally accepted process of arriving at established beliefs or theories as we may find in science. There are varying methods.

Self-Assessment Exercise

1. _____ has in practice attained a high degree of complexity.
2. _____ reflects on these experiences and many more in search for answers to questions that these experiences generate for

1.4 Summary

This unit has been able to discuss the fundamental aspects of philosophy that are central to it as a body of knowledge seeking to understand humanity and reality. This will prepare us in the units ahead to comprehend the ways that philosophy can assist us understanding the truths of social science.

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1.6 Possible Answers to SAEs

1. Scientific method;
2. Philosophy

UNIT 2 THE MEANING AND DEFINITION OF SOCIAL SCIENCE

Unit Structure

2.1 Introduction

This unit presents the meaning, definition, and evolution of philosophy ofsocial sciences and the business of philosophy in the social sciences. It begins with an overview of the term social sciences, definitions and their analyses and proceeds to the business of philosophy in the social sciences.

2.2 Learning Outcomes

By the end of this unit, you will be able to:

- define the meaning of Social Sciences;
- understand the meaning and definition of philosophy of social sciences; and
- explain the business of philosophy in the social sciences.

2.3 What is Social Science?

In the modern university the field of study is typically divided into various ‘departments’ such as Mathematics, Astronomy, Philosophy, Economics, Biology, English, History, and so on. Aside, from the classification of these departments, you will also notice that some of these departments aregrouped together as a ‘division’ or ‘faculty’ called ‘Social Sciences’ or ‘Social and Behavioural Sciences’. If our world were very neat, and static,we would have little difficulty in determining what is ‘social science’, or its various branches; we would only have to examine the curricula and research programmes of the social science departments.

But our world is not neat. If an extra-terrestrial being were preparing a report on our scholarly and scientific activities, he might start by looking at our university organization, but he would very quickly run into

difficulties. He would find, for example, that the study of crime is carried on, not only in the School of Law, but also in departments of Criminology or Forensic Studies, Sociology, Economics, Philosophy, Political Science, and Psychology, some of which are classified as social sciences and some not. He would find that in some universities History is classified as a social science and in some others it is in another division, usually called 'Humanities'. If the person attempted to obtain some assistance from study of our languages, he would find that the word 'economics', in the classical Greek, meant 'the management of a household' but then he would note that the modern study of this is called 'Home Economics', which is not classified as a social science, while there is another subject, called 'Economics', which is, and there is also another division or school called 'Business' or 'Business Management', which resembles HomeEconomics in the original Greek meaning in its objectives, but is closer to Economics in the kinds of things studied and the methods employed. What this signifies is that dividing the field of scholarship and science into various departments or faculties or schools is largely a matter of convenience in organization rather than a reflection of intrinsic differences in subject matter.

There is not much point in arguing over what is 'social science' and what is not. If we take the broad view that the social sciences study the social behaviour of human beings we immediately discover that this is hardly confined to the social science departments of a modern university. Most of the professors in the literature departments are students of human behaviour and, and so also are novelists, playwrights and poets who operates outside the university. In our attempt to explain the idea of socialscience and also draw a distinction between it and other sciences, we could emphasize the word 'science' and say that social science is the study of human behaviour by *scientific methods.* This will be a very useful distinction, because, the poet does not go after a problem the same way as the sociologist does. But the distinction can be overdone, especially if the main object in making it is to infer that sociology is meaningful because it is scientific and poetry is meaningless because it is not. Our object is to study the ways in which people have tried to develop a scientific approach to the investigation of human social behaviour.

As we shall see, the history of social science shows a great variety of approaches, and we shall have to note that there are many difficult philosophical problems here that are as yet unresolved. The reader should have a deeper appreciation of what the 'science' part of the term 'social science' involves but, even then, it will not be possible to arrive at a definitive statement.

The social sciences refer to those disciplines that study human society andinstitutions as well as the relationship of individual members within society. In other words, it is the science of social phenomena, whose focusis the social aspects of human experience. It is the aspect of human knowledge which attempts to understand general human behaviour in terms of his social, psychological and perhaps his economic environment,in order to be able to describe and explain such behaviours and as well as to also be able to predict such social phenomena, given certain conditions. Such disciplines include Sociology, Psychology, Anthropology, Geography, Economics, Political Science, and History.

Audi (2011: 615) sees philosophy of social sciences as the study of the logic and method of social sciences. He sees discipline as the study of the thinking system (the ontology) that is operational in social sciences, the logical structure and the method of the discourse of the discipline. The course strives to explain the criteria of a good social explanation; that is an explanation that appears so convincing which may not be valid. It also seek to verify how and in what form do social sciences differ from natural sciences and to ascertain the veracity of social research. It also strives to establish the role of theory in social research.

The philosophy of social science, like the philosophy of natural science, has both a descriptive and a prescriptive side. On the one hand, the field is about the social sciences such as the explanations, methods, empirical arguments, theories, hypotheses, and so forth that actually occur in the social science literature, past and present. This means that the philosopher needs to have extensive knowledge of several areas of social science research, in order to be able to formulate an analysis of the social sciencesthat corresponds appropriately to scientists' practice.

On the other hand, the field is epistemic: it is concerned with the idea those scientific theories and hypotheses put forward as true or probable, and are justified on rational grounds (empirical and theoretical). The philosopher therefore wants to be able to provide a critical evaluation of existing social science methods insofar as these methods are found to be less truth-enhancing than they might be. These two aspects of the philosophical enterprise suggest that philosophy of social science should be construed as a rational reconstruction of existing social science practices a reconstruction that is guided by existing practice but that goes beyond that practice by identifying faulty assumptions, forms of reasoning, or explanatory frameworks.

2.3.1 Philosophy of Social Science

Human nature is a social nature. What does this mean? This is because the central questions of philosophy concern what it means to be human, philosophers have been thinking about the fundamental characteristics of society since antiquity. In the nineteenth century, anthropology, sociology, economics, and psychology broke away from philosophy. The central questions of the philosophy of social science arise with the birth of these empirical disciplines. While they distinguished themselves with new methods, their theories were continuous with those proposed by philosophers from Plato to Mill. The philosophy of social science examines some of the perennial questions of philosophy by engaging with the empirical study of human society.

The questions distinctive of the philosophy of the social sciences are encompassed within three broad themes: normativity, naturalism, and reductionism.

The normative types of questions that are raised in philosophy of social concern the place of values in social scientific inquiry. Since social science is closely linked to social policy concerns, the important that require serious consideration is, 'Can social science be objective?' The social sciences also theorize about the origin and function of values, rules, and norms within human society. They thereby touch the foundation of ethics. The questions of naturalism concern the relationship between the natural and the social sciences. For instance, the following questions can be asked; Must the social sciences emulate the successful methods of the natural sciences? Or are there dimensions of human society that require unique methods or kinds of theorizing? Also, the questions of reductionism are based on how social structures relate to the individuals who constitute them. Thus, such questions as; Do churches have causal powers over and above those of their members? Or can all social-level correlations be explained in terms of individual beliefs, goals, and choices?

Ultimately, the questions that are raised in the philosophy of the social sciences are questions about our place in the universe. Some of these are, What is the source of value? How is human nature related to non-human nature? What can we know? and many more. Reflection on the social sciences therefore contributes to the fundamental inquiries of philosophy. It is important for you to note therefore, that the issues that we have been discussing in this module are issues of discussion in theoretical and methodological writing in the social sciences. Therefore, reflection on these philosophical themes also contributes to the fundamental inquiries of the social sciences. We can then assert that

philosophy of the social sciences is an inherently interdisciplinary activity. When done well, it can advance both philosophy and the social sciences.

In each of these examples, concepts and questions of longstanding interest to philosophers are close to the surface. In pursuing their questions, social scientists take positions on matters that have deep roots: conceptions of human agency, rationality, epistemological justification, value, causation, and community. The philosophical task is to link the social scientific commitments to the larger literature in philosophy. After all, there have been some pretty smart people who have thought about these matters over the last 2,000 years or so.

Awareness of the philosophical issues and the ability to critically evaluate the philosophical commitments of a theory or methodology can significantly sharpen social scientific inquiry. The flip side of the deep kinship of philosophy and the social sciences is that contemporary Social scientists are developing answers to ancient philosophical problems. The thinkers who we now identify as philosophers drew on the social theories of their time. Today, we have a rich resource of empirical evidence and theory that bears directly on traditional philosophical questions. Just as there is philosophy in the social sciences, there is social theorizing in philosophy.

The philosophy of social science tries to hold both up to critical scrutiny. Before getting too far into our discussion, something needs to be said about the word "science." As we will discuss presently, one of the big issues in the philosophy of the social sciences is whether inquiry into the social world is different from inquiry into the natural world. This issue is often framed as a debate over what counts as a "science." Many disciplines have seen fractious debates over whether the field should be thought of as "scientific." To some ears, speaking of "the philosophy of social *science*" is already to focus on a limited set of theories, methods, and questions.

However, the question of how social inquiry is related to natural inquiry is not best approached by demarcating what is and is not science. Our questions are about the form and structure of inquiry into the social world, and it would beg the important questions to limit the possibilities at the outset. In this unit, therefore "social science" will be understood broadly as including all systematic empirical investigation into the activities of human beings, with a special interest in those things we do together, as part of larger social groups. It explicitly includes methods like interviews and participant observation. And unless otherwise specified, "theory" is not restricted to talk of causes and laws. "Theory"

includes all the ways that social scientists formulate and express their results.

The question of what counts as a social science has a practical dimension too. What fields are included within the domain of the philosophy of the social sciences? Popular knowledge on the contents of social sciences draw on anthropology, sociology, economics, and political science, but what about linguistics, psychology, and history? What about medicine, nursing, public health, criminology, educational studies, and business? Here again, we will take a broad and inclusive approach. There are sets of philosophical questions—to be outlined presently—which cut across particular theories and methodologies of all the disciplines we have mentioned and more. To be sure, there are also philosophical issues specific to disciplines. The fields of history, psychology, and economics support well developed philosophical literatures. Indeed, the series of which this book is a part includes texts on the philosophy of economics (Reiss 2013:35) and the philosophy of psychology (Bermudez 2005:20). The discourse above will cleave to the issues common among all studies of human behaviour and social interaction.

Self-Assessment Exercise

1. The _____ refer to those disciplines that study human society and institutions as well as the relationship of individual members within society.

2. Pick the odd choice (a) Anthropology (b) Philosophy (c) Psychology (d) Economics

2.4 Summary

Philosophy of the social sciences embodies the philosophical examinationof the principles, thinking, teachings and methods of social sciences. This unit examines the basic issues in the social sciences such as the meaning and definition of the social sciences. It goes further to discuss the basic issues in the philosophy of the social sciences and philosophy in the social sciences.

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1.6 Possible Answers to SAEs

1. Social Sciences;
2. (b)

UNIT 3 CONCEPT OF SOCIETY

Unit Structure

3.1 Introduction

This unit discusses the concept of society as human centred and sees everything in relation to human beings. It goes further to discuss the type of society.

3.2 Learning Outcomes

By the end of this unit, you will be able to:

- know the meaning of the society and its basic components society;
- analyse the types of society; and
- examine the effects of the components of the society on their philosophy.

3.3 Meaning and Definition of Society

Webster's New World Dictionary of the American Language (1978: 1221) defines society "as the study of people living together in groups, as families, tribes, communities, etc." The focus of this definition is the 'people', that is, humans, but we should note at the outset that 'living together in groups' is not an exclusive characteristic of the species *Homo sapiens.* Most animals, and indeed plants, also live in 'groups' in some sense. Sumac bushes are not distributed randomly over the countryside; they clump together in particular locations. A botanist would say, though, that this is because different environments are not equally favourable for the growth of sumac and it is found concentrated in certain locations because the environment there provides a favourable 'niche' for thatspecies.

Similarly, if you turn on the porch light on a summer evening, moths will gather around it. This is because some species of moths, as individuals, are 'phototaxic' in their behaviour and will locate

themselves close to the limited number of light sources that exist when the sun is not shining. We might find it useful to say that a clump of sumac bushes, or a group of moths around a light, are 'aggregations' but they do not constitute 'societies'. The words used to make this distinction are somewhat arbitrary but the distinction itself is important, whatever words we use for it. The concept of a 'society' involves the notion that the members of it are interacting with one another. So far as we know, moths are not interacting with one another when they gather around the light; they aggregate because each individual is responding independently to a common external factor. The notion of interaction is, however, only a necessary feature of the concept of society; it is not sufficient, by itself, to indicate what we have in mind when we use the concept (Gordon, 1993:2). For example, lions interact with gazelles and bees interact with flowering plants, but we do not consider such relationships as *social.*

Biologists use the term 'ecological system' to refer to the interactions among different species. The concept of 'society' usually refers to interactions among the members of a single species. We could go a bit further and say that in a society the members of a species co-operate with one another to achieve objectives collectively that they could not achieve as individuals. The traditional social sciences focus their attention upon the behaviour of the species *Homo sapiens*, examining how people interact with one another and how they organize themselves for co- operative activities (Gordon, 1993:3). But such a statement, if we left it at that, would be seriously deficient because some of the interactions among people are characterized by *conflict* rather than cooperation, and some of the things that people do weaken or damage the system of social organization and work against the achievement of collective objectives. Moreover, the system of social organization may itself be deficient in certain respects that make it difficult, or even impossible, for people to co-operate effectively. So we have to amplify our statement about what the social sciences do in order to take note of the fact that they devote a great deal of attention to *dysfunctional* behaviour, such as crime and war, and *malfunctional* phenomena, such as unemployment and pollution.

Some social scientists would say that the main object of social science is the study of such dysfunctions and malfunctions, just as the medical scientist is mainly concerned with disease. But disease cannot be studied without understanding what constitutes good health. The counterpart of this in social science is that it is necessary to employ some notion of the criteria of a healthy system of social organization. This means that the social sciences are closely connected with that branch of philosophy called 'ethics'—the study of what should be regarded as 'good' and

'bad' in the moral sense of these terms. As we shall see, a great deal of the history of social science has been concerned with ethical issues. We cannot disregard such matters but the discussion of the philosophy of social science focus mainly on the branch of philosophy called 'philosophy of science' or 'epistemology'—the study of how we are able to know whether our notions or theories about empirical phenomena are 'true' or 'false'.

Gordon (1993:4) holds that humans are not the only animals that form societies, as I am here using that term. As soon as one moves above the level of the single-celled organisms, like the amoeba, some degree of socialness or 'sociality' is evident, since, in most species, reproduction is possible only if two organisms interact co-operatively so as to combine their genetic material. In fact, biologists have discovered that even single- celled organisms that multiply by division occasionally exchange genetic material in a process that resembles sexual reproduction.

It seems rather arbitrary to compartmentalize the study of social behaviour, with man in one department and all other animals in another, since sociality is a phenomenon that runs across species differences. Some biologists argue that economics, sociology, political science, and the other social sciences would be more productive if they were reorganized as branches of biology. and biological theories in our study of the philosophy of social science. An important feature of modern social science is that it views man as an animal species, different from other animals in important ways to be sure, but not separated from them in the categorical fashion that is implied in theology and was universally believed by thinkers prior to the modern era and the development of empirical science.

Self-Assessment Exercise 1

1 Biologists use the term _____to refer to the interactions among different species.

2 An important feature of modern _____ is that it views man as an animal species, different from other animals in important ways to be sure, but not separated from them in the categorical fashion that is implied in theology and was universally believed by thinkers prior to the modern era and the development of empirical science

3.3.1 Type of Sociality

We could try to make a classification of sociality by arranging the variousanimal species on a scale that would indicate the degree to which their members interact. This might be worth doing, but it would be very difficult because we do not have any satisfactory way of measuring the 'degree of interaction'. One of the persistent problems in science is that often we can make quantitative distinctions conceptually but cannot measure them. Even if we could measure sociality, and locate the species *Homo sapiens* on a general scale, it would not tell us a great deal about human behaviour. More useful, I think, is to recognize that there are different *types* of sociality, which we can distinguish as empirical phenomena even though it is impossible to make specific quantitative measurements of these characteristics.

For our purposes it is useful to distinguish five types of sociality, which are based upon (1) the apparent preference of members of some species for physical closeness: 'gregariousness'; (2) the practice of establishing 'hierarchy'; (3) the existence of 'biological differentiation'; (4) the practice of 'functional specialization'; and (5) 'altruism'. What is the meaning of each of these? We are going to consider each of them shortly

a. Gregariousness

Humans are clearly gregarious, but they do not associate with one anotherin ways that embrace all the members of the species in a particular area. Smaller groups are formed which include some members and exclude others. People like to be close to those who are similar to themselves in certain respects, but they prefer to be distant from those who are different; human gregariousness is quite severely limited in its scope. In a word, humans *discriminate.* They prefer association with others of the same occupation, socioeconomic class or status, religion, language, nationality, race, colour, and so on. This is the source of some of the most serious problems facing human societies. Some limited associations are much more important in this respect than others. Man's limited gregariousness is not, in itself, a social problem, but certain kinds of discrimination are sources of conflict and hostility that are dysfunctional for the people as a body. The study of discrimination, its kinds, its consequences, and its remedies when the consequences are dysfunctional, is a major interest of social scientists.

b. Hierarchy

If a farmer puts twenty hens, previously unassociated with one another, into a barnyard, a great deal of fighting takes place, which continues until a 'pecking order' is established. The hen at the top of the hierarchy may, without fear of retaliation, peck all the other nineteen; the second in rank may peck the eighteen below but not the one above; and so on down to the poor creature at the bottom who may peck no one and may be pecked by all. In this case we have a highly ordered social structure, so hens form 'societies' rather than mere 'aggregations'. But it is difficult to see what purpose the hierarchical organization serves. It has no utility in providing food, shelter, or defence. The flock of hens are not able to achieve anything collectively that they could not achieve individually, unless we ascribe to them sado-masochistic desires. A biologist would probably point out that hens (and sheep) are domesticated animals and suggest that their social behaviour may be a vestigial remnant of practices that did serve collective purposes for their wild ancestors: the explanation of their behaviour is 'historical' rather than 'functional'.

Hierarchy is characteristic of virtually all human organizations. But the degree of hierarchical order differs very greatly. In an organization like the United States Army all members are ranked in distinct status categories that represent clear relationships of superiority and subordination; generals at the top, then colonels, and so on, down to privates at the bottom. But an organization like the American Economic Association has only a small governing body, all other members not being ranked at all. Organizations also differ greatly in the comprehensiveness of their hierarchical order. The Catholic Church is organized on a hierarchical scheme that embraces the entire communion of Catholic believers throughout the world, whereas many Protestant Churches have very little hierarchical organization that extends beyond the individual local congregation.

A social organization that functions to achieve collective purposes requires some method by which the actions of its individual members are coordinated. Hierarchical order is one method of achieving this co- ordination but there does not seem to be any general principle that governs the degree and extent of hierarchy that is necessary to the achievement of collective ends. The interest of social scientists in hierarchy is magnified by the fact that many serious social problems are closely connected with this method of social organization. Hierarchical ordering means that persons in superior positions have power to direct the actions

of those in subordinate positions, which raises the issue of freedom and authority. Hierarchical status is often associated with income and wealth, either as cause or consequence, which raises the issue of economic inequality. The hierarchical status of parents may be a very important factor in determining the status of their children, which raises the issues of social mobility, equality of opportunity, and the fairness of the social system.

c. Biological differentiation

In the higher animals such as the vertebrates, which includes man, each species has two forms, male and female. They are characterized by the possession of different anatomical structures for reproduction and, in numerous cases, there are also other differences, such as overall body size. In many species that live in groups it has been observed that males and females engage in a division of labour, some tasks being typically performed by males and others by females. Such groups have a greater degree of sociality than mere gregariousness or hierarchy, since division of labour tends to make the individuals of a group dependent on one another for food, protection, etc.

Moreover, there are advantages in the division of labour, whether or not it is based upon biological differentiation, so a group that practises it can indeed achieve something that its members could not achieve as individuals. Biological differentiation and division of labour based upon it have been developed to the highest degree among the social insects. In the various species of ants, for example, there are the usual morphological differences between males and females but, in addition, there are striking differences among the females. The 'queen' is a specialized egg- producing entity, incapable of performing any other task. The 'soldiers' are sometimes so specialized for their role that they cannot even feed themselves. Among the 'workers' there are often a number of subcategories, biologically differentiated so as to perform the different tasks involved in food-gathering, nest-making, and housekeeping. An ant colony is a highly organized social system in which the members interact with one another in complex ways, co-operating in a collective enterprise through an extraordinary degree of division of labour. The individual ant is helpless without the services provided by other members of the colony. Even the worker, who can forage for herself, could not survive for any appreciable time on her own. On account of this high degree of individual differentiation and collective integration, some biologists suggest that the ant *colony* should be regarded as the basic biological entity, not the individual ant.

Some social scientists and social philosophers take a similar view of humans and their societies. This raises issues that we will repeatedly encounter in the following pages. What is the nature of the relationship of the human individual to his society? Should individual persons be regarded as the primary entities or should we focus instead upon interactions among collective entities such as nations, classes, religions, or civilizations? Is the proper methodology for a scientific study of society 'individualistic' or 'holistic'?

The sociality of the social insects is especially notable in the extent to which it is based upon biological differentiation. But even these species do not have a distinct morphological form for every different task. There is a good deal of division of labour in an ant colony among workers of the same body type. Some biologists believe that they are evolving in the direction of greater morphological differentiation and eventually will become completely differentiated, with as many different types as there are distinct functions. Prior to the middle of the eighteenth century the view was widely held that groups of humans are biologically different. Orientals, Negroes, and Caucasians were thought to be differentiated, not merely in skin pigmentation and facial appearance but in more 'fundamental' ways as well.

Moreover, it was widely believed that such biological differences exist even within the population of a particular geographic area. The caste system of India is perhaps the most extreme example. When Adam Smith remarked, in 1776, philosopher and a common street porter, for example, seems to arise not so that 'the difference between the most dissimilar characters, between a much from nature, as from habit, custom, and education' he was expressing a view that was just beginning to become accepted even among so-called 'enlightened' people. Modern biology and physiology have shown that there *are* some racial differences, such as blood type frequencies, but none of these is of much greater significance than, say, skin pigmentation so far as the functional capacities of the individual person are concerned. The belief that important biological differences exist is not as widespread as it used to be but it is far from uncommon. Many social scientists take the view that biological differences are negligible in fact, but that the persistent *belief* in their existence is a phenomenon that requires a great deal of study, since it leads to much conflict and animosity that is dysfunctional to human social organization.

One type of biological differentiation among humans, however, is more factually significant: gender differences. The biology of reproduction being what it is, the function of nurturing the young ones during the period of embryological development can be performed only by females. In many human societies, however, role differentiation between men and women is extended much further than this. There is no biological reason why airline pilots and office managers should be male but flight attendants and typists female. Differentiating occupational roles in this way is economically inefficient, since it does not make the best use of the human resources of the society. It may also be viewed as unjust discrimination and an invalid basis for hierarchical ordering, leading to conflicts, animosities, and tensions that threaten the ability of human collectivities to engage in co-operation.

Males and females of the human species, like most other animals, differ in certain secondary characteristics as well as in the primary ones of reproductive anatomy and physiology. Men are, generally speaking, larger and stronger than women and have lower-pitched voices. These characteristics are relevant to the performance of certain occupational roles, but not many, and the number of tasks where these factors are important is decreasing. Role differentiation between men and women in modern societies may be, in part, a remnant of differences that served some functional purpose in earlier times. Unlike other social animals, human societies undergo rapid change. But change does not proceed evenly, so it is possible for some aspects of human sociality to get badly out of step with others. This problem, of great interest to social scientists, is not, of course, confined to role differentiation by gender.

Before we leave this discussion an important technical point must be noted: *categorical* differences should not be confused with *statistical* differences. In the social insects, the biological differentiation upon whichthe primary division of labour is based is categorical; *all* soldier ants have larger heads and mandibles than *all* workers. In humans, *all* females have wombs and *no* males do. But secondary sex characteristics such as size are statistical; on average, males are larger than females, but some females are larger than some males. If, for a particular task, largeness of size were advantageous, a society in which that task was reserved for males would not be efficient. The same is true for other secondary male-female differences, and for other

differences between groups of humans. Where role differentiation is based upon biological differences that are statistical, recruitment into these roles is more efficient if people are treated as individuals rather than as members of gender, racial, economic, or other classes. Interpreting statistical differences as if they were categorical differences is the source of a great many social problems, as well as being a simple scientific error. The contention that there are racial differences in something called 'general intelligence' is probably not true even statistically, but the error is greatly compounded when it is asserted, on the basis of statistical evidence, that there are categorical differences in intelligence among racial groups.

d. Functional specialization

Division of labour not based upon, or associated with, biological differentiation is practised by numerous species of animals, but on the whole it is not very common. Where it occurs, the degree of specialization is very limited, since there are only a small number of distinct tasks. The striking exception to this is man. Some humans, such as the Australian aborigines, practise very little division of labour, but most humans live in societies characterized by functional specialization of a very high order, the distinct 'occupations' or 'roles' being very numerous. A notable feature of human societies is the rapid increase in specialization that has been occurring in modern times. Two centuries ago a farmer's task was the production of 'food'; now the individual farmer often specializes in the production of corn, or lettuce, or potatoes, or some other specific commodity. Biologists may be correct in contending that the degree of biological differentiation among the social insects is increasing by evolution but, if so, it is a very slow development, and very limited, compared to what has been occurring by means of increasing functional specialization in human societies.

The farmer who spends his time producing only corn consumes little, or none, of his own product. His occupation consists of providing something for use by other persons. Meanwhile, the corn farmer is consuming thousands of other goods produced by similarly specialized persons, most of who are completely unknown to him and may be living far away. Obviously, this is sociality of a very high order. Man lives in a social system that is very elaborate, and virtually worldwide in certain respects. It is a cooperative system in the sense that the individuals serve one another's wants and needs. We sometimes forget this essential fact, because we are more interested in the problems to which this

system is subject than in its basic organization. We devote more attention to oil production when the oil stops flowing, just as we begin to take notice of the stomach when we have a stomach ache. The fundamental task of social science is to analyse how this very extensive and complex system works, mainly in order to understand its defects and deficiencies so that it can be made to work better.

To perform this task, the construction of rather abstract *theoretical models* is required. If human society were composed of a small number of institutions, each with a clearly defined and unchanging role, and if all individuals performed specific, unchanging tasks, it might be possible to explain how the system works by simply describing its structure. Some social scientists indeed regard such empirical description as the primary objective of their study, but others feel that it is necessary to go beyond description and try to discover general 'laws' that govern the specific social phenomena, as the physicist tries to discover the laws of matter and motion. An example: the automobile worker spends forty hours a week installing transmissions. He is paid a wage, which is a portion of the value of the automobile. We could simply describe this. Widening the focus, we could record how the value of the automobile is distributed among the various workers, management personnel, shareholders, suppliers of raw materials, and so on. Alternatively, we could try to discover the 'laws' that *determine* the value of the automobile, the levels of wages andsalaries, the rate of profit, and so on.

e. Altruism

Our discussion up to this point seems to be aimed towards the thesis that a high degree of sociality involves extensive division of labour, based upon biological differentiation, functional specialization, or both. So far as non-human species are concerned, social organization based solely upon gregariousness or hierarchy is rather minimal and it is doubtful that a collectivity such as a flock of sheep or hens achieves much that could not be achieved by the members individually. But the thesis that a high degree of sociality always involves division of labour is empirically incorrect.

There are many species of animals that live in social groups where co- operation is not based upon biological differentiation or functional specialization of the members. An example of this is the African elephant. The adult males of this species live as solitary individuals, but the females (and their young) form small

groups of ten to twenty members who forage together, defend themselves collectively, and raise their young collectively. The members of these groups of elephants are not biologically differentiated except by age. There is not even any sex differentiation, since adult males are excluded from such groups. There is hierarchy, but only to the extent that one member is the leader (generally the oldest); all other adult members appear to be equal in rank. The role of the leader is very important in the elephant group. If the leader is killed or dies suddenly the organization of the group breaks down and the elephants mill around in disorder until another individual takes command as the new leader. To the extent that there is one leader and numerous followers there is some division of labour in the elephant group, but it is minimal, hardly comparable to the division of labour described above.

Nevertheless, the elephant group is highly social. The members assist one another in foraging, the young are cared for by all adults without discrimination as to biological parentage, conflict among members of the groups is unknown or, at least, too rare or too mild to be observed. If a member of the group is injured the others rush to her aid. When danger threatens all adults participate equally in an organized defence strategy, except for the leader, who directs the group's tactics and regularly assumes the most exposed position or engages in the most dangerous action. The basis of this highly effective social organization seems to be the propensity of the female African elephant to engage in *altruistic behaviour* toward other members of her group. The biologist defines 'altruism' as behaviour that benefits others at some cost, or risk of cost, to oneself. This opens a subject that has been of major importance in the history of social science and also looms large in other disciplines such as theology, ethics, and biology.

That man is an altruistic animal is obvious even from the most casual observation. Americans contribute funds for the relief of earthquake victims in Armenia; French doctors devote themselves to combating disease in Chad; firemen risk their lives, at low pay, trying to get the occupants out of a burning building. All human societies (with rare exceptions like the Ik of Uganda) look after the elderly, the maimed, and the needy. All modern societies have systems of *organized* altruism, taxing some members in order to support others who cannot pay for food, housing, education, or medical services. Altruism is an important feature of sociality in human societies, but it is far from general.

An old adage says that 'charity begins at home' and, in some societies, it extends little further than the family group. One of the notable features of modern societies is the extension of the scope of altruistic activity, particularly that which is organized through government.

Most animals fit into more than one category, which means that they do *not* 'fit' if the categories are regarded as exclusive compartments. This is an important point to keep in mind in our examination of the social sciences. When people say things like 'Man is a gregarious animal,' or 'Man is an altruistic animal,' such statements are perfectly acceptable, unless they imply that man has *no* desire for individual solitude and is *never* egoistic. No sensible person would say that, but one often encounters the contention that man is 'inherently' gregarious, or altruistic, and that the evident desire for solitude, or egoistic behaviour, represents an aberration from, or corruption of, his 'essential' nature. One can argue for a long time about the 'essential nature of man' without getting anywhere. Such fruitless efforts can be avoided if we regard classifications like the 'types of sociality' noted as analytical constructs that are devised by the social scientist to assist him in his studies.

They are not purely imaginary, though; they have some reference to the empirical world. The types of sociality were illustrated above by reference to the behaviour of non-human animals wherever this was possible, but the main object of the classification is to throw some light on sociality in *Homo sapiens*. One of the insights this provides is recognition of the fact that not only is man a highly social species but his sociality is exceedingly varied since his behaviour displays all five types: man is gregarious, forms hierarchies, is biologically differentiated, practises functional specialization, and is altruistic towards his fellows.

As we move forward, we should observe that our typological classification fails to take note of the most important way in which human sociality is unique. All individual social animals, except humans, are members of only one social organization. The individual ant is a member of one particular ant colony; individual hens belong to the flock in one particular barnyard, and so on. In some species the individual may move from membership of one collectivity to another, but at any particular time he is a member of only one, which has a definite spatial location. The individual human, however, is a member of many

collectivities. He may simultaneously belong to a nation, a church, a firm, a labour union, a bookclub, an alumni association, a political party, a conservation society—the list is almost limitless, and changing. Human sociality is multi-social while that of all other species is 'mono-social many of the social organizations to which humans belong do not have any delimited location in space and time. Moreover, some social activities are carried out in 'organizations' only in a rather abstract sense of that term.

When an Indiana corn farmer sells his produce and uses the money to buy California oranges, Maine codfish, Japanese electronic goods, Italian shoes, and so on, he is engaged in a co-operative activity with these other producers but his interaction with them is not personal. The 'markets' through which trading in goods and services takes place are social organizations according to the definition put forward earlier, markets enable people to achieve ends that they could not attain as isolated individuals. But people are associated in markets through their buying and selling activities, which is quite different from the form of association that one finds, say, in a church, or a political party, or a nation. Human society in general is a complex network or ensemble of different modes of organization, some of which are local while others are virtually worldwide in their scope. The central task of the social sciences is to investigate how these various modes of social organization work and to identify the problems that result from the fact that they do not work perfectly.

f. Altriciality and Enculturation

The purpose of this topic is to introduce our examination of the history and philosophy of social science by describing the basic subject matter of social science and indicating the kinds of problems with which it is concerned. In the preceding sections I discussed the concept of 'society' and surveyed the various types of socialness or 'sociality' that exist in the animal kingdom. This takes us some considerable distance towards explaining, in a general way, what it is that social scientists try to do, but there is a feature of human sociality, not noted as yet, that is vital to any understanding of the social sciences: man is an 'altricial' animal, and a great deal of his behaviour is the consequence of a process of 'enculturation', or 'socialization.'

The term 'altriciality' is borrowed from ornithology (the study of birds), where it is used by biologists to refer to the fact that in many species of birds the newly hatched young are unable to fend for themselves and must be nurtured by adults for some time, and

taught many things before they are able to function on their own.This is characteristic not only of birds but of many other animals, including man. The length of the dependent period in humans is very long. Biological maturity in the sense of ability to reproduce is not reached until the age of twelve or thirteen; full physicalmaturity requires another five years or more.

The young human may begin contributing to the activities of the social group by performing tasks within the family, or outside it, before maturity is attained, but he remains dependent upon his parental family until he reaches physical maturity, marries and forms a family of his own, and/or begins to earn his own living. Economic dependence may last to the age of thirty, or longer, if the individual aims at a professional career that requires many years of schooling and training. During the long period of dependence the main task of the individual is to acquire knowledge and habits that will fit him for independent functioning and will integrate him into the society to which he belongs.

The institutions that function in this process (families, churches, schools, etc.) are major objects of study by social scientists. Special note must be taken of the fact that the period of dependence is employed not only to train the young in economic skills but also to inculcate mores, customs, world-views, and values. This is what is meant by 'enculturation': the process by which the individual young are moulded into participating members of a continuing 'culture', following the established customs of that culture and preserving its beliefs. Two important points must be noted about this process, 'multiculturality' and 'imperfect enculturation'.

By 'multiculturality it means the existence of *many* human cultures. The young of the species are not enculturated into the general 'family of man' but into much more restricted groups. A surgeon in Dublin may have the same technical skills and perform the same practical tasks as a surgeon in Tokyo, but their beliefs, values, and social behaviour are very different, owing to the different processes of enculturation that have functioned during their periods of dependence. The cultural plasticity of the human species is notable. If a German family moves to the United States, within a generation or two the members become much more American than German in their cultural characteristics, even if there is no intermarriage.

There may be a long-run tendency for culture to become homogeneous within a geographic area, but at the present time, multiculturality is characteristic of most modern societies, especially those which, like the United States, continue to receive a steady flow of immigrants from the rest of the world. Multiculturality creates great artistic and intellectual richness, but it also is a potent source of conflict and animosity. Both these aspects of multiculturality are of great importance to social scientists. By 'imperfect enculturation' I mean to refer to the fact that most societies are not able to mould the young into complete adoption of traditional values, beliefs, and codes of conduct. Some individuals are 'deviants' and there are more in some societies than in others. Deviation, such as criminal behaviour, may be dysfunctional for the society, but other forms of deviation are constructive sources of cultural change.

A very important issue that arises from the imperfection of enculturation in humans and the nature of complex societies is the matter of *loyalty.* Anant is a member of only one social group, its colony, but a human is a member of many, and the claims they make upon his loyalty may conflict.

All social institutions depend upon the loyal support of their members, but an individual's nation may demand one thing, his religion another, and his code of professional ethics something else. Since humans are imperfectly enculturated, their loyalties are not fixed and immutable, so institutions vie with one another to attract new members and sustain the loyalty of those they have. In a multisocial society the individual may be pulled in different directions by conflicting interests and moral claims. In addition, some institutions may be able to impose sanctions for disloyalty, such as expulsion, ostracism, imprisonment, or even death. The hierarchical structure of social institutions means that loyalty is defined and interpreted by those who occupy high positions in the hierarchy and sanctions are imposed upon lower members, so the phenomenon of social power is closely connected with the matter of loyalty. The question of loyalty covers many issues, both ethical and scientific, that have been of great interest to students of human behaviour.

We have earlier noted that the study of human sociality is divided into a number of disciplines: sociology, political science, and so on. The division of the field among them is not very definite, partly because they overlap to a considerable extent. Moreover, the research interests of the various social sciences are constantly

changing, so any description of them is likely to become out of date before much time has passed. In the following chapters I shall discuss the historical development of the various social sciences as distinct disciplines, such as one finds in the social science 'departments' of a university, but one should keep in mind that the central object of all of them is the same—the investigation of the processes through which individuals are able to form social organizations and reap the benefits of co-operation. In order to place the history of the social sciences within the general context of Western intellectual history we must begin, not with the social sciences themselves, but with the development during the Renaissance of the natural sciences, which profoundly changed not only man's view of the physical world, but also his view of himself and his society.

Self-Assessment Exercise 2

1. A _____that functions to achieve collective purposes requires some method by which the actions of its individual members are coordinated.

2. That man is an altruistic animal is obvious even from the most casual observation (a) Necessarily False (b) Partially False (c) Undetermined (d) Certainly True

3.4 Summary

This unit opined that the concept of society is human centred and the discourse resonate around human beings. It has gone further to discuss the types of society in relation to human behaviours. This unit has exposed the student to the concept of society and the types of society. In the process, it has opened the learner up to the foundations of the philosophy of social sciences.

3.5 References/Further Readings/Web Resources

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1.7 Possible Answers to SAEs

Self-Assessment Exercise 1

1. Ecological system;
2. 2. Social science

Self-Assessment Exercise 2

1. Social organization;
2. (c)

UNIT 4 PHILOSOPHY AND THE SOCIAL SCIENCES

Unit Structure

4.1 Introduction

This unit studies the relationships between Philosophy, social Sciences and natural Sciences. In the process, it examines the central discourse of the social sciences and the natural sciences which we will discover to be intertwined. Philosophy which is analytical in nature, analyzes the issues involved in the relationships between social sciences and natural sciences.

4.2 Learning Outcomes

By the end of this unit, you will be able to:

- explain the relationship between Philosophy and Social Sciencesand Natural Sciences;
- distinguish Social Sciences from Natural Sciences; and
- identify the Areas of Agreement and Disagreement Between Social Sciences and Natural Sciences.

4.3 Relationship between Philosophy and the Natural Sciences

You need to know from the outset that the relationship between philosophy and social sciences is based on the former‘s role in the analysis and critique of other disciplines. Philosophy of the social sciences, just like the philosophy of science, is out to study the various goals and methods of the social science, with the aim of evaluating whether the discipline is able to live up to the expectation of humanity. Philosophy of the social sciences ponders on certain issues inherited from the philosophy of natural science and also reflects on problems and issues generated by its own peculiar disciplinary orientation. For example, this area of philosophy reacts to the question of the appropriate methodology for the social scientific enterprise, which is an age long

problem in philosophy of natural science. As R.S Rudner (2002: 12) says in his *Philosophy of Social Science*, "the philosopher of social science is ranged with the philosopher of science in that both focus their attention on problems of methodology."

Some of the central problems that philosophers of the social sciences address include (1) the extent to which one can say that human social life which the social sciences claim to study is, or is not similar to non-human nature which is studied by the natural science; (2) the extent to which human and social experiences can be explainable by using the scientific method; (3) the extent to which the results and findings of the social scientists can be used to predict and control future occurrences in the social world in the same way in which findings in the natural sciences are used to predict and control occurrences in the natural world; (4) the extentof to which the themes, logic and the method of the social science are distinctively peculiar as basis for differentiating the social science from the humanities and for associating the social science with the natural science and (5) the extent to which we can reduce human actions to scientific paradigm which is capable of fulfilling the four goals of science, described by Keith Webb's prediction, explanation, control, and understanding.

While describing the philosophy of the social sciences as the study of the logic and methods of the social sciences, Daniel E. Little (1997:706) goes on to discuss the central questions in the philosophy of the social sciences, questions similar to those enumerated in the last paragraph: What are the criteria of a good social explanation? How (if at all) are the social sciences distinct from the natural sciences? Is there a distinctive method for social research? Through what empirical procedures are social science assertions to be evaluated? Are there irreducible social laws? Are there causal relations among social phenomena? Do social facts and regularities require some form of reduction to facts about individuals? What is the role of theory in social explanation?

The philosophy of social science aims to provide an interpretation of the social sciences that answers these questions (Little 1997:706). Discussing further the main concerns of philosophy of the social science, Alex Rosenberg explains that being clear about a discipline's philosophy is essential because at the frontiers of the disciplines the unavoidability and importance of philosophical questions are even more significant for the social scientist than for the natural scientist.

He goes on to explain that the only source of guidance for research in the social sciences must come from philosophical theories. —In the end, he says, —the philosophy of social science is not only inevitable and

unavoidable for social scientists, but it must also be shaped by them as much as by philosophers (Rosenburg, 2008:4). One major aspect of the relationship between philosophy and social science is that, while social science tries to make sense of social events and data, philosophy, as it were, tries to make sense of the sense which social science is making of social events. Philosophy interrogates the social sciences with the aim of understanding and clarifying, in general terms, the methods, claims and assumptions of the latter. For example, even though the social sciences attempt to collect data and reach conclusions on what accounts for such human values as good, happiness, right, and so on, properly defining those notions in themselves is the function of philosophy.

Philosophy and the social sciences are usually seen to be separate subjects, so why should students of the social sciences be interested in philosophy? We hope that this question will have answered itself by the end of our discourse, but we can make a start with it right away. At the time when modern science was in the process of emergence in the sixteenth and seventeenth centuries, it was very difficult to say where the boundary between philosophy and science should be placed. It was only later that it became more conventional to see a separation between the two. As this separation took place, two basic models of the relationship surface. First is that philosophy could arrive at certain knowledge by rational argument.

The most fundamental truths about ourselves and the nature of the world we live in, as well as the rules for arriving at such knowledge, could be established by philosophers. In this way, philosophy provided 'foundations' for the research done in the particular scientific specialisms. This is sometimes called the 'master-builder' or 'master-scientist' view of philosophy, and it is associated with an approach to philosophy called 'metaphysics'. In metaphysics, philosophers try to give an account of the universe, the world and everything in it. Nowadays philosophers tend to be a bit more modest. The alternative view of the relation between philosophy and the sciences is sometimes called the 'under-labourer' view. On this view, it is accepted that armchair speculation about the nature of the world cannot give us certain or reliable knowledge. Knowledge can come only from practical experience, observation and systematic experimentation. So, the special sciences don't need to wait for philosophers to provide them with foundations, or to tell them what they should think. On the under-labourer view, philosophy should be there to provide help and support to the work of the scientists, as they get on with the job of discovering how nature works. But what sort of help can philosophy give?

There are various different views on this. One view is that in our common- sense thinking there are prejudices, superstitions and unquestioned assumptions which are obstacles to scientific progress.

Philosophy can perhaps play a part in exposing these and criticizing them, so as to set science free. This is a bit like clearing away the dead leaves on the railway line to let the trains run on. Another sort of help might be to provide a map of the pattern of existing scientific knowledge, so that scientific specialists can get some idea about where they are in the wider field of knowledge. A third possibility is that the philosophers can use their expertise in logic and argumentation in refining the methods of investigation which scientists use. In this unit philosophy will be used in all these ways, but most importantly it will be used to provide under- labouring in yet another way. To see what this sort of help might be, we can remind ourselves that philosophy is not just an academic discipline. In everyday life people use the word to mean something rather different from its use in academic contexts.

We sometimes say that someone who has had to face up to very distressing circumstances, such as a job loss, or bereavement, that they were 'philosophical' about it. Certainly, most of us do not spend a great deal of time soul-searching about the meaning of life, or the ultimate basis of our values and attitudes. However, there are moments in everyone's life when we are faced with serious moral dilemmas, or with such life- challenging events as losing a job, or a loved one, or being diagnosed with a serious illness. It is at times like these when we are forced to reflect on these questions of fundamental meaning and value in our lives. It is in this sense that, as the Italian Marxist philosopher, Antonio Gramsci (1971: 26) said, 'Everyone is a philosopher.' But if we are philosophers at these times of crisis, it is also true that in the way we interact with each other in our everyday lives, in the way we choose to spend our free time, in the jobs we choose (if we are lucky enough to have that choice) and so on, we are still *implicitly* philosophers. Our lives display or represent, whether we are generally self-conscious about it or not, a philosophical orientation to the world. We can think of this as a tacit or practical philosophy of life. So, how does this relate to the question we started out with – the relationship between philosophy and social science?

In everyday life, when things are going on smoothly, with no major problems, we are not forced to question our basic attitudes and priorities in life. But in the social sciences, things do not run along smoothly. (As we will see, the natural sciences don't run along smoothly either, but most of the time this fact is less obvious.) The social sciences are often derided by public figures and in the media, and social scientists

themselves tend to be less confident about their achievements than are natural scientists: they can't prove their success by generating new and impressive technologies, for example.

Moreover, social scientists are themselves divided about what is the nature of their disciplines. Many, for example, would not agree that their work is scientific in the same sense as the natural sciences are. Even the ones who do will often disagree about what science is. For this reason, social scientists, and sociologists in particular, tend to be more reflexive about their subjects than natural scientists – that is, they are more likely to spend time thinking about just what kind of activity sociology (or political science or anthropology or any other such subject) is, what sort of methods it should use, what sort of relationship it should have with its subject-matter and so on.

The kinds of questions we ask when we are being reflexive in this way about our own disciplines are philosophical questions. They are not imposed on us from outside, as in the master-builder view, but they arise from within our subjects, as a result of the special difficulties and deep disagreements that we find there. So, the main job of under-labouring we will be doing in this unit is an attempt to address the question: 'What are we doing when we attempt to study human social life in a systematic way?' Depending on how we answer that question, further questions arise: what are the proper methods of investigation of social processes? Can there be objective knowledge of society when the investigators as well as the subject-matter are all part of society? What role do moral and political values play in our work? How should we view the fact of continuing disagreement among social scientists about basics? Is this perhaps a sign of the immaturity of the social sciences, or is it something we should expect as a permanent fact of life, and even welcome? And so on.

4.3.1 Philosophy and the Natural Sciences

This segment discusses the relationships between philosophy and the natural sciences. Natural science is thought of as an organised body of systematic knowledge, social sciences would also qualify as science. The distinction between the social sciences and the natural or physical sciences would therefore lie in what constitutes their subject matter, for while the natural sciences study the physical world, the social sciences study human beings and their social environment. And since the human reality is not exclusively mechanistic, it cannot be reduced to a set of physical attributes or activities which are susceptible to dependable and unvarying measurement. As A. C. Bouquet (Idowu 1973: 11) observes that:

> It may be questioned whether a world-view expressing itself in an habitual attitude can be deduced from scientific enquiry as commonly conceived.…the bodies of the sane man, the criminal, the lunatic, the genius and the prophet, are all equally matter for scientific analysis, but a world-view on a purely scientific basis would seem to be impossible, unless by science we mean more than physical science, and make it embrace an impartial observation of human thought, with deductions there from.

The social sciences became a significant branch of intellectual study during the Enlightenment period. This is because it was an offshoot of the clamour for human interests and emancipation that characterised the new mode of thinking in the Enlightenment age. At its inception, the social science was greatly inspired by the logical positivists' position that the empirical method affects a perfect and objective study of all phenomena including the human person and the overall society in which he exists. Social science therefore developed as a result of this new tendency and the underlying presumption that the scientific tool is appropriate and adequate for every intellectual project. The social sciences refer to those disciplines that study human society and institutions as well as the relationship of individual members within society. In other words, it is the science of social phenomena, whose focus is the social aspects of human experience. It is the aspect of human knowledge which attempts to understand general human behaviour in terms of his social, psychological and perhaps his economic environment, in order to be able to describe and explain such behaviours and as well as to also be able to predict such social phenomena, given certain conditions. Such disciplines include Sociology, Psychology, Anthropology, Geography, Economics, Political Science, and History.

The social sciences, therefore, differ from the natural science in several significant ways, one of which is in the application of the scientific method described in the last unit. John Stuart Mill argues that in the social sciences the subject matter is too complex to apply the normal methods of experiment (Wilson, 1999: 570). And Sodipo (2004: 21) would further say:

> The more imaginative social scientist is of course aware that the application of the methods and the conceptual categories of the natural sciences, the

> employment of their ideas of causation, measurement, etc. to the study of society is problematic, and he is exercised by that problem. He therefore realises that there are social situations where what is needed for understanding is not a sophisticated and very complicated mathematical model but a conceptual framework in which sympathetic intuition and imaginative insight would play a crucial role.

The distinction between the natural and social sciences is also easily seen in the area of causality and prediction. Causal connections are not as readily established in the social science as in the natural sciences, and therefore predictions are less reliable in the former than in the latter. For example, combining hydrogen with oxygen in the right amount gives water. In this example, the combination of hydrogen and oxygen is the cause of water, and it is predictable that, whenever this combination is done in the right proportion, the resultant substance is always water. But in the case of human behaviour, even though there are degrees of probability, it is practically impossible to posit that, for every combination of factors, the results or consequences are definite and invariable.

At the same time, the observation of certain phenomena does not necessarily lead to conclusions that cannot vary in any way. As a very simple example, it would be unrealistic to say that, whenever an individual is observed as smiling or laughing, such an individual is happy. This distinction is based on the fact that human beings and their actions are not as predictable as the behaviour of elements in nature. Martin Hollis illustrates this when he argues that, if Africa suddenly becomes much colder, a whole lot of things will change, and that the social effects of this will not be as predictable as the natural effects, because a lot of human variables will intervene in determining what the social effects would be, for individuals as well as communities (Rosenburg, 2008:6).

Alex Rosenberg expresses the same issue more theoretically when he asks whether human action can be explained in the way that natural science explains phenomena in its domain:

> If the answer is yes, why are our explanations of human action so much less precise and the predictions based on them so much weaker than explanations in natural science? If the answer is no, what is the right way to explain action scientifically? If there is no

> adequate scientific explanation of human actions, as some philosophers and social scientists claim, why does human action require an approach different from that of natural science, and what approach is required (Rosenburg, 2008:6)

In its quest for an acceptable explanatory model, the social sciences employ the scientific method in their investigations so as to achieve the following objectives: 1. understanding and making more intelligible the behaviour, particularly the social behaviour, of human beings; 2. establishing the governing laws behind most human behaviour; 3. understanding the history of human development, in order to predict in the face of given laws, the future behaviour of man; and 4. guiding the behaviour of human beings in a socially desirable way (Rosenburg, 2008:10).

The extent to which they are able to achieve these goals is a different issue altogether. At best, one can say that the social sciences offer *functional explanations* of social phenomena. A functional explanation of a social feature, according to Daniel E. Little, ―is one that explains the presence and persistence of the feature in terms of the beneficial consequences the feature has for the on-going working of the social system as a whole.

Self-Assessment Exercise

1. The distinction between the natural and social sciences is also easily seen in the area of _____ and _____

2. The _____aims to provide an interpretation of the social sciences that answers these questions

4.4 Summary

Philosophy and the social sciences and the natural sciences are so intricately connected to such an extent that both sciences will only have meaningful examination and explanation of their activities in and through philosophical discourse. This unit discussed the relationship between philosophy, the social sciences and natural sciences. In the process, we discovered that the relationship between them is so intertwined. It is obvious that the social sciences and the natural sciences need philosophy to be able to examine its thinking and methods of operation properly and appropriately.

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1.7 Possible Answers to SAEs

Self-Assessment Exercise:

1. Causality and prediction;
2. Philosophy of social sciences

End of Module Questions

1. The _____refer to those disciplines that study human society and institutions as well as the relationship of individual members within society.

2. Biologists use the term 'ecological system' to refer to the interactions among different species.

3. That man is not an altruistic animal is obvious even from the most casual observation (a) Necessarily False (b) Partially False (c) Undetermined (d) Certainly True

4. The distinction between the natural and social sciences is also easily seen in the area of _____ and _____

MODULE 2 BASIC DIVISIONS IN PHILOSOPHY AND PHILOSOPHY OF SOCIALSCIENCES

UNIT 1 EPISTEMOLOGY AND THE SOCIAL SCIENCES

Unit Structure

1.1 Introduction

This unit discusses the term Epistemology and its relationship with the social sciences. In the process, it defines epistemology as the theory of knowledge, discusses the divisions of epistemology and examines the relationships between epistemology and the social sciences.

1.2 Learning Outcomes

By the end of this unit, you will be able to:

- know the meaning of epistemology;
- examine the nature of epistemology;
- explain the relationship between epistemology and social sciences; and
- relevance of epistemology towards our understanding of social sciences.

1.3.1 Meaning, Nature and Problem of Epistemology

This unit discusses the meaning of epistemology as well as its nature, relationships with the social sciences and the relevance of epistemology towards our understanding of the social sciences. It begins with the meaning of epistemology. What is epistemology?

Epistemology is the theory of knowledge that seeks to answer questions concerning the possibility of knowledge and how knowledge claims can be justified. One of the basic tasks of epistemology is to proffer justifications to knowledge claims such that when a person says he knows something, he can be certain about knowing it and he would not be guessing or trapped in the natural attitude of equating belief with knowledge or opinion with truth. Traditionally, knowledge is known as Justified True Belief which is interpreted as: to claim to know something, one must be justified in knowing it, the claim must be true and one must believe the claim. In epistemology, the way knowledge is acquired is broadly divided into two forms which are Empiricism and Rationalism. We shall now take a proper look at these two divisions.

1.3.2 Empiricism

Have you ever tried to share a cultural or religious view with someone and found it difficult to buttress your point with concrete examples? Have you had to explain the notion of angels, ancestors, spirits or God and your listener says, so long as I cannot hear, smell, taste, feel, or see any of these ideas, they are in fact nonsense and do not exists? Such a person with this kind of outlook on life is a typical empiricist. He or she has reduced the whole of reality to the physical. Empiricism as a theory opines that knowledge of any kind is a product of sense perception. It emphasises that our experiences are ultimately reducible to physical evidences. What this implies is that empiricists believe in the priority of sense experience to reason. Knowledge acquired through sense experience is known as a posteriori knowledge which simply means knowledge after experience. This explains why the hypothesized individual above would reject metaphysical concepts like angels, spirit or God, as well as knowledge from intuition or abstraction.

The philosopher, David Hume is a strong advocate of empiricism. He says, If we take in our hand any volume; of divinity or school metaphysics; for instance, let us ask, does it contain any abstract reasoning concerning quantity or number? No. Does it contain any experimental reasoning concerning matter of fact and existence? No. Commit it then to the flames: for it can contain nothing but sophistry and illusion (Omoregbe, 1991: 3). Here is Hume dismissing the whole of metaphysical ideas from the realm of knowledge simply because they lack

phenomenal or concrete existence. He believes that for any concept to be real, it must be able to create impressions. In other words, it must have a correlate or referent in the world. In this sense, on the one hand, when I say the word boy', it has a concrete, verifiable referent and is therefore real. On the other hand, when I say the word spirit'it has no concrete verifiable referent and should be dismissed. Hume is of the view that the meaning of a word is in what the word communicates. This means that, referentially, every word must stand for something. Therefore, if we cannot perceive a word's referent and we cannot create an actual image of this referent, then that word is meaningless.

John Locke rejects innate ideas the same way Hume rejects metaphysical ideas. Locke believes that the human mind at birth was a *tabula rasa* (a clean slate) and that no individual came into this world with inborn ideas, as all knowledge comes from experience. What he means is that we knew nothing prior to being born and that it is only here in this world that we begin to form ideas as we encounter reality through our perception with the five senses. In his work titled *An Essay Concerning Human Understanding*', he stated that all ideas come from sensation or reflection and went on to add that we may suppose the mind to be, as we say, a white paper, void of all characters, without ideas. He asks, how then does an idea enter into the mind? How does the mind form images and create endless variety of memories? What furnishes the mind with all the materials of reason and knowledge? To these questions, Locke answers in one word: from experience (Omoregbe, 1991: 60).

Locke totally believes that nothing enters into the human mind without first passing through the senses. The mind he claims is incapable of forming its own ideas and is therefore reliant on sense experience for knowledge formation. From Minima's, quotation of Locke in his paper titled *Problems in Locke's Theory of Knowledge*,' Locke admonished thus; Let anyone examine his own thoughts and thoroughly search into his understanding and then let him tell me whether all the original ideas he has there are any other than from the senses; or of the operation of his mind considered as objects of his reflection: and how great a mass of knowledge so ever he imagines to be lodged there, he will, upon taking a strict view see that he had not any idea in his mind but what one of these two' have imprinted; though perhaps with infinite variety compounded and enlarged by the understanding (Omoregbe, 1991: 62).

By these two as stated above, Locke (Omoregbe, 1991: 63) was making reference to (1) simple ideas and (2) complex ideas which he had earlier discoursed in his *Essay Concerning Human Understanding*. Simple ideas are basically individual products of experiences as conceived by the senses while complex ideas are formed through a combination of various simple ideas through the power of the mind. For instance, a man is a

simple idea, a lion‘ is another simple idea but the combination of the properties of a man and the properties of a lion to create an image of a man with a lion‘s head would form a complex idea. The senses cannot furnish us with the image of a man with a lion‘s head, as nothing of such is believed to exist. It takes the power of the mind through reason to create such a complex idea. Meanwhile, reason cannot do this without relying on information from the senses. This is why once again; Locke believes that we cannot find any information in the human mind that is not a product of the senses.

1.3.3 Rationalism

This segment discusses rationalism as a branch of epistemology. On certain occasions, you may have encountered people who speak so highly of ideas or knowledge beyond the physical. Sometimes, we hear people talk about the physical world as being a dream or a mere passage into the real world. Such people may not deny that there is such a reality as the physical world which is accessible by the senses but believe that things in the physical world are mere phenomena or shadows of the ideal, metaphysical or real world which is accessible by reason. Rationalism is that school of thought in epistemology which holds that knowledge comes from reason. It advocates the reality and priority of *apriori* knowledge, that is, knowledge that is acquired without the aid of the senses. Plato is a well-known rationalist who made a distinction between the Physical World and the Intelligible World (severally referred to as Ideal or Real World, World of Forms and Ideas). In Plato‘s theory of the Divided Line, he broadly divided reality into two levels: the intelligible world occupying the higher level and the visible world occupying the lower level and stated thus; Take a line divided into two unequal parts, one to represent the visible order, the other the intelligible; and divide each part again in the same proportion, symbolizing degrees of comparative clearness or obscurity (Omoregbe. 1991: 68).

Plato‘s description is such that the higher level which is occupied by the intelligible world is the world of pure knowledge, rationality, thought and the Forms, while the lower level which is occupied by the visible world is the world of opinion, belief, imagination, things, shadows and images. He believes that things in the visible world have no reality in themselves as they rely on the intelligible world for their reality. This is why he calls visible world a mere phenomenon of the intelligible world, shadow of the Forms or prototype of the archetype.

René Descartes is another rationalist who did not agree that the senses are capable of leading anyone to true, certain and indubitable knowledge. He

casts doubts on the senses saying that they are deceptive and unreliable. With this claim, he refuted the position of the empiricists claiming that it is unreliable. He believes that reason alone can furnish a person with the certainty of knowledge. This is because reason is capable of abstraction, intuition and apprehension of reality. He arrived at the ability of reason to attain certainty of knowledge through his principle of the Methodic Doubt. For he said; Because I wished to give myself entirely to the search after truth, I thought that it was necessary for me to adopt apparently opposite course and reject as absolutely false everything concerning which I could imagine the least ground of doubt, in order to see whether afterwards there remained anything in my beliefs which was entirely certain (Lawhead, 2002: 232).

In the process doubting and setting aside all that he ever admitted as true or real, he came to the conclusion that he was certain about the fact the he was thinking. All attempts to doubt the fact of this process was a further confirmation of the existence of his thought. This is not far from the fact that the act of doubting is an act of thinking. Since to doubt is to think, it follows that thought is irrefutable and it takes only an existing being to think. This was how he arrived at his famous dictum, "cogito ergo sum" ("I think therefore, I exist"). Descartes's doubt lead him to the discovery of the certainty of thought and the existence of the self (Lawhead, 2002: 232).

1.3.4 Nature of epistemology

One of the conditions for accepting a belief as true is that such a belief must have a justifier. An instance of a justifier would be the availability of proof, evidence or reason given in support of a claim. For instance, if there was no power supply while on your way out of the house, yet you put a cup of water in the refrigerator only to return and discover that there was ice in the refrigerator and the water was frozen. In this situation, the frozen water and the ice in the refrigerator are reasons or proofs which serve as justification for the belief that there had been power supply while you were away.

Theory of justification in epistemology offers a comprehensive and legitimate account for beliefs. Epistemologists are interested in different forms of belief which exhibit justificatory grounds as motivation behind why an individual holds a belief to be either true or false. It is at this point that we see a very close relationship between knowledge and truth. For a claim to pass as knowledge, it must first be true and indubitable. In the event that an individual makes a case, and another at that point offers a reason to doubt it, the proper course of action for the individual who makes the case would typically be to give support or justification for his

or her position. Epistemologically, there are different theories for offering justifications for knowledge claims. This includes; correspondence theory, coherence theory and foundationalism.

1.3.5 Correspondence Theory

Correspondence as a theory of knowledge justification is very important in the establishment of claims. Newscasters, when reporting a state of affairs from their studio often rely on a correspondence reporter who is present at the scene of the event to provide pictures, audios and videos or conduct interviews in support of the claim made by a reporter in the studio. We see that it is not just enough to report to the world that ballot boxes were snatched during an election. Such a claim, when backed with a correspondence report gives credence to it.

The correspondence theory holds that a fact is an agreement, a harmony or correspondence of a state of affairs with the real world. As it were, a belief must concur with the situation on ground as a general rule before it can pass as convincing. Roderick Chisholm is of the view that, a state of affairs p is identical with a state of affairs q if and only if, necessarily, p occurs 'if and only if' q also occurs. He went on to say in another work that whoever believes p believes q, and vice versa (Chisholm, 1981: 118).

For a state of affairs to be true, it must exist and be verifiable. This means that the mode of talking about truth that appears to be most appealing in epistemology is that truth would always have a representation on the ground. This gives us a reason to say that truth is a reflection of reality, as such, whatever knowledge claim that is made must evidently conform to reality. Along these lines, we see that truth produces knowledge. When a state of affair has been established as true or false, the certainty of the status of that condition gives us knowledge about the condition.

1.3.6 Coherence Theory

One way of comprehending the term coherentism is to think about a spider web. The spider begins to spin from a very tiny spot at the middle and continues to form somewhat irregular concentric circles around the spot until it gets big enough to trap insects for food. A careful look at the web would reveal several strands of thread woven to form the web and most importantly, each strand is connected to the next and continuously. The one provides support for the other in a way that leads to the overall strength of the web. In the same way, when a strand is broken, it weakens the overall strength of the web as a whole.

Coherentism holds that a statement is true if there is coherence or

agreement between the statement and a systematic body of statements already known to be true. Laurence BonJour (1998:43) stated that beliefs are justified by virtue of their coherence with each other and Ernest Sosa (1998: 200) is of the view that a belief is justified if and only if it has a place within a system of beliefs that is coherent and comprehensive.

According to coherentists, the primary objects of justification are not individual beliefs but, rather, belief systems. A belief system is justified if other parts of the belief system agrees or coheres appropriately. Individual beliefs are justified by virtue of belonging to such a set of beliefs. Therefore, for the coherentist, epistemic justification is a holistic notion rather than a hierarchical one as implied in foundationalism. The picture is not of basic beliefs being intrinsically justified and then passing on their justification to other beliefs. It is, rather, of justification emerging when one‘s belief system hangs together, or coheres (Fooley 1998: 4248).

Coherence among beliefs is then, a matter of consistency. If a set of beliefs is inconsistent, it is impossible for all the beliefs in the set to be true, and hence they are not mutually supportive. However, consistency is not enough for coherence; beliefs that are altogether unrelated to one another are consistent, but they are not mutually supportive. Some coherentists suggest that mutual entailment is required for coherence in such a way that every member of a coherent set should be deductible from other members of the set. However, BonJour thinks of coherence as more than mere consistency but less than mutual entailment, saying that it comes in degrees, with the degree increasing with the number of inferential connections among the component beliefs of the set and decreasing with the number of unexplained anomalies. Coherentism is viewed as a denial of foundationalism. It is thus a claim that not all knowledge and justified beliefs rest ultimately on a foundation of self-referential knowledge.

1.3.7 Foundationalism

When we hear of the word foundation‘, what comes to mind most probably is a building. There can be no building without a foundation. It serves as the base upon which the entire building rests. In addition, as is popularly said, when the foundation is faulty, the building is doomed to collapse. Foundationalism in epistemology entails basic, self-justifying and self-referential beliefs that give justificatory support to other beliefs. Some philosophers who are referred to as foundationalists are of the opinion that just like the building as mentioned above, sure and incorrigible knowledge must be founded on foundations that are already known to be fixed and unshakable.

One might say, with a level of assurance that the primary aim of foundationalists is to invalidate the claim of some skeptics who opine that it is impossible to acquire absolute knowledge. In the event that foundationalists have already lay claim to absolute knowledge, just as would anyone whose claim is rebuffed, it is expected that the foundationalists should offer convincingly justificatory grounds for the legitimization of their position.

Okoye (2011:36) stated that two things are required for foundationalist claim to stand. The first is that there should be an account of known basic beliefs that are indubitable. The Second is that there should be an epistemic assent to what we believe. This for him is what differentiates foundationalism from other justificatory theories. Generally, it is believed that these basic beliefs do not stand in need of justification simply because they are self-evident and other beliefs are justified through them. Therefore, these basic beliefs provide foundations for epistemic justifications.

The construction of a new foundation for any building involves pulling down the entire structure. Rene Descartes (1978: 27) who is a popular foundationalist is of the view that it is not simply for aesthetic reasons that a building is rebuilt, because some buildings are rebuilt and modified necessarily in light of the fact that their foundations are defective. His methodic doubt was his own way of reconstructing the entire building of knowledge. He questioned and dismissed everything that beclouds the mind‘s view in its endeavour to attain certainty. In the process of his doubt, he found a reality that was impossible for him to question or doubt. This reality was the affirmation of his thought. He saw over the span of his doubting process that he could not question or doubt the fact that he doubted. In other words, he could not doubt the reality of the fact that he was thinking. It is this according to Descartes, which led to the clear proof of his existence. Since to doubt is to think, to think is to exist. He went on to say that; he had chosen to doubt that everything that had been registered in his mind could possibly be products of hallucinations or simply dreams. Yet, almost immediately he discovered that while he was attempting to discredit everything as false, it must be that he who was thinking was in fact something (a being).

This is why Descartes said, I have an unmistakable thought of myself as a thinking, non-extended thing, and a credible thought of my body as extended and non-thinking thing and that the mind which is capable of thinking can exist separately from its body. Along these lines, the mind is a substance unmistakably different from the body and whose nature is thought.

Given that the essential principle of foundationalism as earlier stated is the supposition that there are foundational or basic knowledge from which other non-basic claims are determined, and more so that foundationalism holds that these basic beliefs are self-justifying and therefore need no further justification, Descartes resolved that thinking 'is the most profound state of affairs that cannot be denied without running into contradiction. Thinking then, became the foundation upon which the entire edifice of his belief system was built. It is from this position that he went on to provide justification for his other epistemic claims about the existence of himself, other beings and ultimately God.

1.3.8 The Problems of Epistemology

From the above, we can tell that there are different positions like empiricism and rationalism when it comes to knowledge claims. In the same way, there are different positions competing for prominence when it comes to offering justification for knowledge such as foundationalism, correspondence and coherence theories. The major problem of epistemology therefore, revolves around responding to the challenges posed by skeptics and being able to offer irrefutable justifications for knowledge claims. We shall now consider a few of the problems.

Skepticism: Skepticism, an orientation in epistemology is constantly challenging the quest for absolutely certain knowledge. The skeptics deny the possibility of certainty in epistemic claims. In fact, there is a sense in which the entire project of epistemology is an attempt to meet this skeptical challenge by proving that knowledge is possible. Skepticism as an idea connotes the critical spirit, the tendency of not being easily satisfied with superficial evidence and striving to accept only incorrigible beliefs that are absolutely certain.

According to Omoregbe (1991: 6) the central problem of modern epistemology is the problem of knowing whether our inner representations were accurate, the problem of knowing how the mind can faithfully represent or mirror an external reality.| The sceptical challenge has been instrumental to the advancement of knowledge, as epistemologists on their part have tried to proffer justifications that will stand the criticisms of the most rigorous sceptic. Justification of knowledge is necessary because, when an individual says he knows something, and a sceptic casts doubt on it, it becomes necessary for the claimant to proffer evidence for holding such a claim. For this reason, another task of the epistemologist is to respond to the criticisms of the sceptics thereby advancing the course of knowledge. There are universal sceptics who claim that no one can know anything at all, believing that knowledge is impossible. Gorgias is an example of an advocate of this

school of thought. He believes that if there is anything, it cannot be known; that if anything can be known, it cannot be communicated by one person to another (Anthony, 2004: 31) therefore, nothing exists. But there are individuals who believe that they at least know some things and are certain about the existence of such things. Descartes who was initially sceptical about all things came to the conclusion that one can at least be certain about his or her existence as a thinking being. There have been responses to absolute denial of knowledge as held by Gorgias.

St. Augustine for instance, is of the view that if anyone says we cannot know anything for certain, we should ask him if he is certain about what he claims. If he says no, we should disregard him for he cannot be taken seriously but, if he says yes, then he should be aware that he is at least certain that he cannot know anything for certain. In other words, anyone who doubts the possibility of knowing anything for certain knows at least one thing for certain, and that is the fact that he doubts (Omoregbe, 1990: 16). With this response, Augustine was able to show that it is contradictory to hold that knowledge is absolutely impossible.

Immanuel Kant in his work *Critique of Pure Reason* (1978: 21) held that, things in themselves are forever inaccessible to the human mind. For him, this is because we only know things empirically through sense experience. Any attempt to begin to find underlying factors or principles beneath things leads to metaphysics. Therefore, we know things as they appear to us. We know them through their attributes and qualities. He concluded that knowledge concerning the soul, the world and God are not genuine because they are ―mere thought entities, fictions of the brain, or pseudo objects.

The Problem of Appearance and Reality: The problem of appearance and reality arises as a result of the difficulty in differentiating between them. We often times make reference to the onein place of the other, the same way an uncritical mind finds it difficult to distinguish between knowledge and opinion. The way the world appears to us most times is not what it really is. For instance, when we look into the sky, we see the sun rising from the East and setting in the West. This rising and setting to the ordinary eyes connotes movement but it has been scientifically proven with justification from images taken from the moon that the sun is motionless. Meaning that while the sun appears to move, in reality it does not move.

We may have seen a stick or a rod when partially immersed in a pool of water appearing bent to the sight but when completely out of the water, it is straight. There are instances of mirages and illusions which make us wonder if we can be certain about the true nature of things. If this is the

case, what guarantee do we have for our claims to knowledge no matter the epistemic orientation we hold?

Self-Assessment 1

1. Pick out the odd choice (a) Descartes (b) Spinoza (c) Plato (d) Locke

2. _____ says that a belief system is justifiedif other parts of the belief system agrees or coheres appropriately

1.4 Relationship Between Epistemology and The Social Sciences

The technical term for theory of Knowledge is 'epistemology'. In the seventeenth-century disputes about philosophy and science there were two main alternative views, in opposition to each other. Generally, the master-builders had a 'rationalist' view of the nature of knowledge. They were very impressed by mathematics, which seemed to arrive at absolutely certain conclusions by formal reasoning. The seventeenth century French philosopher Descartes is perhaps the best known of the rationalists. His method of systematically doubting everything that could be doubted led him to the conclusion that even as he doubted he must at least be thinking. So what could not be doubted was his own existence as a thinking being. This provided the certain foundation from which he was able (at least to his own satisfaction!) to begin the task of reconstructing the whole edifice of knowledge. The rival theory of knowledge, generally associated with the under-labourer view, was 'empiricism'.

For the empiricist philosophers (Honderich 1999: 35), the sole source of knowledge about the world was the evidence of our senses. At birth, they held, the human mind is a blank sheet, as it were, and our knowledge is acquired subsequently, through learning to recognize recurrent patterns in our experience, and attaching general ideas to them. Genuine knowledge (as distinct from mere belief, or prejudice) is limited to the statement of these patterns in experience, and what can be inferred from them. The apparent certainty of the conclusions of mathematical and logical arguments, which the rationalists were so impressed by, is due to the fact that they are true by definition. So the certainty of such statements as 'All bachelors are male', or '2+2=4', tells us nothing we didn't already know about the world. They are statements in which we make explicit the implications of the way we define certain words, or mathematical operations. As we will see, the empiricist view of knowledge has been the one that most natural and social scientists have appealed to when making out their claims to provide genuine or authoritative knowledge. It is also

the view of knowledge which is closest to most people's common-sense intuitions: 'Seeing is believing,' 'I saw it with my own eyes.'

The history of theories of knowledge has been closely bound up with each other. Sciences such as physics and chemistry, which rely a great deal on observation and experiment, have tended to justify their methods and knowledge-claims in terms of the empiricist view of knowledge. Empiricist philosophers have tended to return the compliment, by treating science as the highest form of genuine knowledge, or often even the only one. In the twentieth century, empiricist philosophers (particularly those, such as R. Carnap (1966), and the British philosopher A. J. Ayer (1946), who are known as the 'logical positivists') have been especially concerned to draw a clear dividing line between science, as genuine knowledge, and various belief-systems such as religion, metaphysics, psychoanalysis and Marxism. In the empiricist view, these belief systems, which sometimes present themselves as scientific, can be shown to be 'pseudo-sciences' (though it is a bit more complicated than this – one of the leading logical positivists, Otto Neurath, was also a Marxist). One of the difficulties they have encountered in trying to do this is that a very strict criterion of scientific status, which is adequate to the job of keeping out Marxism, psychoanalysis and the rest, generally also rules out a great deal of established science!

Although empiricist philosophy is concerned with the nature and scope of knowledge in general, our concern is more narrowly with its account of natural science. We will also be working with an 'ideal-typical' construct of empiricist philosophy, which does not take much notice of the many different versions of empiricism. Anyone who wants to take these debates further will need to read more widely to get an idea of the more sophisticated variants of empiricism. For our purposes, the empiricist view of science can be characterized in terms of seven basic doctrines:

a. The individual human mind starts out as a 'blank sheet'. We acquire our knowledge from our sensory experience of the world and our interaction with it;
b. Any genuine knowledge-claim is testable by experience (observation or experiment);
c. This rules out knowledge-claims about beings or entities which cannot be observed;
d. Scientific laws are statements about general, recurring patterns of experience;
e. To explain a phenomenon scientifically is to show that it is an instance of a scientific law. This is sometimes referred to as the 'covering law' model of scientific explanation;
f. If explaining a phenomenon is a matter of showing that it is an

example or 'instance' of a general law, then knowing the law should enable us to predict future occurrences of phenomena of that type. The logic of prediction and explanation is the same. This is sometimes known as the thesis of the 'symmetry of explanation and prediction'; and

g. Scientific objectivity rests on a clear separation of (testable) factual statements from (subjective) value judgements.

We can now put some flesh on these bare bones. The first doctrine of empiricism is associated with it historically, but it is not essential. In the seventeenth and eighteenth centuries, empiricists tended to accept some version of the association of ideas as their theory of how the mind works, and how learning takes place. This governed their view of how individuals acquire their knowledge (that is, from experience, and not from the inheritance of innate ideas, or instinct). Today's empiricists are not bound to accept this, and they generally make an important distinction between the process of gaining or acquiring knowledge (a matter for psychology) and the process of testing whether beliefs or hypotheses (however we acquired them) are true. In the terminology of Karl Popper, this is the distinction between the 'context ofdiscovery' and the 'context of justification'.

The second doctrine of empiricism is at the core of this philosophical approach. The basic point the empiricists are making is that if you want us to accept any claim as true, you should be able to state what the evidence for it is. If you can go on claiming it is true whatever evidence turns up, then you are not making a factual statement at all. If the manufacturer of a food additive claims that it is safe for human consumption, but cannot give evidence that anyone has yet consumed it, we would expect the official body concerned with food safety standards to refuse to accept their assurances. If they then provide results of tests on animal and subsequently human consumers of the product which show unexpected instances of symptoms of food-poisoning, but continue to insist the product is safe, we might start to suspect that they are not interested in the truth, but solely in selling the product. Thus far, this doctrine of empiricism accords very closely with widely held (and very reasonable!) intuitions.

It is important to note that our statement of the second doctrine of empiricism could be misleading. For empiricism, a statement can be accepted in this sense as genuine knowledge, or as scientific, without being true. The important point is that statements must be capable of being shown to be true *or false*, by referring to actual or possible sources of evidence. On this criterion, 'The moon is made of green cheese' is acceptable, because it can be made clear what evidence of the senses will

count for it, and what evidence will count against it. A statement such as 'God will reward the faithful' is ruled out because it cannot be made clear what evidence would count for or against it, or because believers continue to believe in it whatever evidence turns up. This latter possibility is significant, since for some empiricists the testability of a statement is not so much a matter of the properties of the statement as of the way believers in it respond to experiences which appear to count against it.

But once we recognize that there might be a choice about whether to give up our beliefs when we face evidence which seems to count against them, this raises problems about what it is to test a belief, or knowledge-claim. In a recently reported case, it was claimed by a group of researchers that rates of recovery of patients suffering from a potentially fatal disease who were undergoing additional treatment at a complementary clinic were actually worse than those of patients not undergoing this treatment. This appeared to be strong evidence that the treatment was ineffective, if not actually harmful. Would it have been right for the clinic to have accepted these findings, and to have closed down forthwith? In the event, subsequent analysis of the data suggested that patients selected for the additional treatment had, on average, poorer prognoses than those who were not. They were, in any case, less likely to recover, so that the research did not, after all, show the treatment to be ineffective or even harmful. Even had advocates of the 'complementary' treatment not been able to show this weakness in the research design, they might well have argued that a more prolonged investigation, or one which included the results of a number of different clinics offering the same sort of treatment, might have come up with more favourable evidence.

In this case, a potentially beneficial treatment might have been abandoned if its advocates had been too ready to accept apparent evidence against it. On the other hand, to keep hanging on to a belief against repeated failure of test expectations starts to look suspicious. However, because tests rarely, if ever, provide conclusive proof or disproof of a knowledge-claim, judgement is generally involved in deciding how to weigh the significance of new evidence. In practice it can be very difficult to see where to draw the line between someone who is being reasonably cautious in not abandoning their beliefs, and someone who is dogmatically hanging on to them come what may. This is a big problem for the empiricist philosophers of science who want a sharp dividing line between science and pseudo-science, and want to base it on the criterion of 'testability' by observation or experiment. To preserve the distinctive status of scientific knowledge-claims they need to reduce the scope for legitimate disagreement about how to weigh evidence for or against a hypothesis. There are two obvious ways of doing this. One is to be very strict about what can count as a hypothesis, or scientific statement, so that the

knowledge-claims it makes are very closely tied to the evidence for or against it. A general statement which just summarizes descriptions of direct observations might satisfy this requirement.

Self-Assessment Exercise 2

1. For the British scholar, named _____" The individual human mind starts out as a 'blank sheet.'"

2. _____rests on a clear separation of (testable) factual statements from (subjective) value judgments

1.5 Summary

Knowledge of epistemology is very central to our acquisition of social knowledge which in turn determines our thinking and acting in the society. Epistemology studies the meaning, nature, basis, means of acquisition of knowledge. It goes further to question our means of acquisition of knowledge. It addressed the theories of knowledge such as correspondence theory, coherence theory and foundationalism. We also examined the problems of epistemology. We also discussed the relationship between epistemology and the social sciences and discovered that epistemology is very essential to the study of the social sciences. We discovered that there is need for studies in the social sciences to be guided by the principles of epistemology to enable the scholar present facts that are devoid of deception and hallucination.

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1.7 Possible Answers to SAEs

Self-Assessment Exercise 1:

1. (d);
2. Coherentism

Self-Assessment Exercise 2:

1. John Locke;
2. Scientific objectivity

UNIT 2 METAPHYSICS AND THE SOCIAL SCIENCES

Unit Structure

2.1 Introduction

This unit examines the meaning, nature and divisions of Metaphysics as well as some problems in Metaphysics, such as the problem of universals and particulars, the problem of the existence of God, the problem of evil and the mind-body problem and relevance of metaphysics to the social sciences. Philosophers generally disagree about the nature of metaphysics but this does not mean that the concept itself is completely elusive. Aristotle and the medieval philosophers have given different opinions about what metaphysics is all about. They have opined that it is the attempt to identify the first causes, in particular, God or the Unmoved Mover and also, they conceive of it as the very general science of being *qua* being.

The term metaphysics‘ derives from the Greek word *meta-physika*, meaning the work after physics, that is to say, the works after those that concern natural things. Apparently, Andronicus of Rhodes who edited Aristotle‘s work gave this name to one of the books in the collection of the writings of Aristotle, a book that is a broad research into the more general categories of being. It seemed that Andronicus named this book the metaphysics‘ just because he made it the next volume after the physics. However, the subsequent mistranslation of the Greek prefix *meta,* which means ‗transcending‘ or beyond‘ promoted the misconception that metaphysics is the study of the supernatural (Hoffman, 2011:1).

Basically, metaphysics is what Aristotle described as the first philosophy‘ or first science‘, a comprehensive inquiry into the ultimate nature of reality. As such, metaphysics consist of a systematic study of the more general categories of being, and of the more general ways of relating entities.

2.2 Learning Outcomes

By the end of this unit, you will be able to:

- examine the meaning of ontology;
- examine the various traditions in ontology; and
- know the relationships between various traditions and the social sciences.

2.3 Metaphysics as a Branch of Philosophy

Metaphysics is a branch of philosophy that deals with fundamental questions about the nature of reality. The etymological definition of metaphysics holds that the term metaphysics is derived from the Greek words *meta-physika,* meaning after physics or transcending the physical. Among philosophers, from Descartes onwards, the term metaphysical has come to have the distinct sense of having to do with what lies beyond what is visibly available to the senses. In its simplest form, metaphysics represents a science that seeks ultimate knowledge of reality which broadly comprises ontology and cosmology. Metaphysics as is generally understood, therefore furnishes us with knowledge of reality transcending the world of science, common sense or the phenomenal world.

2.3.1 Divisions of Metaphysics

What are the divisions of metaphysics? They are: cosmogony ontology and cosmology and each of them will be treated soon.

Ontology: Metaphysics, as have been roughly analysed, can be described as the science and study of the first cause or ultimate cause and of the first and most universal principle of reality. Metaphysics includes ontology, the science of being, concerned with the general categorisation of what exists and of what could exist. It is the study of what kinds of things exist and what entities there are in the universe. Ontology is the study of being‘, as it has been understood from the time of Parmenides, Plato, Aristotle and Thomas Aquinas up to the present (Omoregbe, 1990: 45). Ontology beinga division of metaphysics, can be regarded as a speculative philosophy which investigates the nature of human existence, causality, the notion of God and a number of other subject matter which call for introspection andanalysis. Metaphysics which is the most general of all disciplines aims to identify the nature and structure of all that there is, and central to this project is the delineation of the categories of being (Omoregbe, 1990: 45).Ontology does not just examine the essential classes of being and how they identify with each other, it is concerned about we come to know whether classifications of being are basic and talks about what sense the things in those classes might be said to exist. It is the investigation into being in so much as it is being, that is being qua being‘, or into beings to the extent that they exist.

The word is 'has two different uses in English, differentiated in ontology. It can mean existence as in there is an elephant in the room'. It can also signify the possession of a property by an object as in the 'elephant is grey' i.e. the elephant has grayness. A few rationalists likewise incorporate sub-classing as a third form of is-ness' or being, as in the elephant is a mammal'. Ontology gives a record of which words allude to entities, which do not, why, and what classes result (Omoregbe, 1990: 46).

***Cosmology*:** Cosmogony deals specifically with the origin of the universe while cosmology is the study of the universe as well as the material structure and laws governing the universe conceived as an ordered set.

Cosmology: Cosmology is a division of metaphysics that deals with the world as the totality of all phenomena in space and time. It aims to study the world and to explain it in its totality, a venture which appears unattainable owing to the fact thatit is impossible to have experience of all phenomena in their entirety. Historically, it has been shown to have a broad scope which in many caseswas traceable to religion. However, in modern times, it addresses questions about the Universe which are beyond the scope of the physical sciences. It is distinguished from religious cosmology in that it approaches these questions using philosophical methods such as dialectics. Cosmology tries to address questions such as; what is the originof the Universe? What is its first cause? Is its existence necessary? What are the ultimate material components of the Universe? What is the ultimate reason for the existence of the Universe? Does the cosmos havea purpose? Cosmology is the science of reality as an orderly whole, concerned with the general characterization of reality as an ordered, law governed system. As such, ontological and cosmological concerns intertwine. Cosmology seeks to understand the origin and meaning of the universe by thought alone.

2.3.2 Some Metaphysical Problems

Problem of Universals and Particulars: This problem originates from a famous passage in Porphyry's Introduction to Aristotle's Categories: Isagoge'. The treatise which was translated by Boethius appears at the beginning of the above mentioned work and it raised the following problem: are genera and species real, or are they empty inventions of the intellect? MacLeod and Rubenstein (2008: 22) describe Universals as a class of mind-independent entities, usually contrasted with individuals or particulars, postulated to ground and explain relations of qualitative identity and resemblance among individuals. They stated that individuals are similar in virtue of sharing universals. For example, an apple and a ruby are both red, and their common redness results from sharing a universal'. They believe that if they are both red at the same time, then

the universal, red, must be in two places at once. They therefore concluded that this makes universals quite different from individuals; and it makes them controversial.

The problem of universals alludes to the issue of whether properties exist, and assuming this is the case, what are they like? Properties are characteristics or relations that at least two elements share for all intents and purpose. The different sorts of properties, for example, qualities and relations, are alluded to as universals. For instance, one can envision three cup holders on a table, that share for all intents and purpose the nature of being round or epitomizing circularity or two girls that share practically speaking, being the female offsprings of Frank. There are numerous such properties, for example, being human, red, male or female, fluid, enormous or little, taller than, father of, and so on. While Philosophers concur that people discuss and think about properties, they differ on whether these universals exist in all actuality or just in the mind.

It is commonly said that all humans are one with regard to their humanity. So defenders of realism conclude that there must be humanity outside of the mind, which exists in the same way in all singular men. Aquinas is of the view that even if a particular individual, Socrates as an example, is a human being and that another individual, Plato as an example, is a human being, it is not necessary that both have numerically the same humanity any more than it is necessary for two white things to have numerically the same whiteness. On the contrary, it is only necessary that the one resemble the other in having an individual humanity just as the other does. It is for this reason that the mind, when it considers an individual humanity, not as belonging to this or that individual, but as such forms a concept that is common to them all.

The world seems to contain many individual things, both physical such as tables, books and cars, and abstract such as love, beauty and number. The former objects are called particulars. Particulars are said to have attributes such as size, shape, colour and location, and two particulars may have some such attributes in common. The nature of these attributes and whether they have any real existence, and if so of what kind, is a long-standing metaphysical problem in philosophy. Metaphysicians concerned with questions about universals or particulars are interested in the nature of objects and their properties, and the relationship between the two. Some like Plato, argue that properties are abstract objects, existing outside of space and time, to which particular objects bear special relations. Others maintain that particulars are a bundle or collection of properties.

The Problem of the Existence of God: If God is conceived as the Supreme Being, Being Itself, the source and Creator of all beings, then the question of his existence is of great importance. It is indeed

paradoxical that there would be a need to prove the existence of this Being of all beings, yet that is precisely the situation philosophers and theologians find themselves in, since God cannot be perceived by human senses. The overall theistic explanation is that God transcends finite forms of being and thus cannot be reached directly by finite human minds, although indirect rational proofs may be possible. The opposite position concludes that God cannot be perceived because he simply does not exist. This leads to the essential question of the meaning of existence‘ as it applies to God.

Anselm‘s argument for the existence of God is ontological in nature. He believes that the notion of God can be couched in the idea of something than which nothing greater can be conceived‘ because to be greater connotes better perfection. For this reason, something than which nothing more perfect can be conceived has to be more perfect. Also, for the reason that humans have this knowledge, Anselm concludes that, something than which nothing greater can be conceived, at least exists in our minds as an object of thought. One may want to ask at this point if this Being also exist in reality? Anselm argues in the affirmative saying that if nothing than which nothing greater can be conceived does not exist in reality, then, we would not be able to conceive it.

Leibniz‘s argument for God‘s existence is also ontological in nature. Considering the perfect harmony that exists among substances which do not communicate with each other, for him is a pointer to the fact that a supremely intelligent being must be the cause of the harmony. According to Leibniz (1968: 33), whatever follows from the idea or definition of anything can be predicated of that thing. Since the most perfect being includes all perfection, among which is existence, existence follows from the idea of God…therefore existence can be predicated of God.

The Problem of Evil: The existence of evil and suffering in our world seems to pose a serious challenge to belief in the existence of a perfect God. If God were all- knowing, it seems that God would know about all of the horrible things that happen in our world. If God were all-powerful, God would be able to do something about all of the evil and suffering. Furthermore, if God were morally perfect, then surely God would want to do something about it. And yet we find that our world is filled with countless instances of evil and suffering. These facts about evil and suffering seem to conflict with the orthodox theist claim that there exists a perfectly good God. The challenged posed by this apparent conflict has come to be known as the problem of evil.

The meaning of evil extends to all that is bad, harmful or vile. Something is evil if it is likely to cause harm or cause trouble. As such, evil covers something that is not good as it relates particularly to actions, events,

thoughts, disposition, and utterances. Evil is that which obstructs the efforts of man to achieve a good and worthwhile existence. With regards to the character of evil, the Manichean view holds that evil is an autonomous power and a reality existing alongside the good. On the other hand, the Augustinian view is that evil is a privation of the good or perfection. In this sense, evil is present when some qualities that a thing should have are lacking in that thing. Thus, evil arises because certain things that are created intrinsically good have become corrupted.

The harmony in the world led Leibniz (1968: 34) to opine that God created the best of all possible worlds. He argued that necessary truths, including modal truths such as; that unicorns are possible, must exist somewhere… He located these truths as acts of thought or ideas in the mind of an omniscient, necessarily existent God who contemplates them. In his Monadology', Leibniz held that in the ideas of God, there is infinity of possible worlds, and as only one can exist, there must be a sufficient reason which made God to choose one rather than the other. And this reason can be no other than perfection or fitness, derived from the different degrees of perfection which these worlds contain, each possible world having a claim to exist according to the measure of perfection which it enfolds. And this is the cause of the existence of that best, which the wisdom of God discerns, which his goodness chooses, and his power effects.

Nevertheless, if this world which is God's own creation and choice is the best of all possible worlds, then our idea of good and evil becomes questionable. With the evidences of evils and catastrophes in the world, it is difficult for anyone to say that this is the best of all possible worlds that a Being, most benevolent can offer. Indeed, for Leibniz, to say that this world is the best of all possible worlds is a confirmation that we do not have a proper idea of good and evil. Evil he said is a necessary and unavoidable consequence of God's having chosen to create the best of all possible worlds. However bad we might think things are in our world, they would be worse in any other.|26 So, Leibniz is saying that we cannot understand the necessity of what we consider evil if we only look at a particular individual act of evil. This is because some things that appear evil to us sometimes ultimately turn out to be good and that the omniscientGod who has made it so has sufficient reasons for making them so.

***The Mind-Body Problem*:** The mind-body dualism is a metaphysical problem originating from the view that mental phenomena are, in some respects, non-physical, or that the mind and body are different entities that are separable. Thus, it focuseson a set of views about the relationship between mind and matter, and between subject and object. One of the variants of dualism is substance dualism. Substance dualism also known

as Cartesian dualism is a type of dualism most famously defended by Rene Descartes, which states that there are two kinds of reality; the mental and the physical which corresponds to themind and the body respectively. Substance dualism affirms an ontologicaldistinction between properties of the mind and the body, and that consciousness is ontologically irreducible to neurobiology and physics. This philosophy states that the mind can exist outside of the body and thatit can think, will, opine, reflect and ponder, functions which the body cannot perform. As a philosophical position, substance dualism is compatible with most theologies which claim that immoral souls occupy an independent realm of existence distinct from that of the physical world.It disagrees with the view that matter or the living human bodies can be appropriately organized in a way that would yield mental properties. The mind-body problem originating from this dualism revolves around the possibility and place of interaction between the mind and body. That minds and bodies interact causally is not easily disputable since our decision to act leads us to move our body in a particular way. The activities in the body result in conscious sensory experiences. When we are hungry and need to get some food from the kitchen, the moment we conceive of the idea of moving to the kitchen in our minds, our body responds in movement. When we have satisfied our hunger, our minds respond as we become happy. However, it is hard to see how such interaction could occur if minds are non-material substances and bodies are material and extended. Descartes is of the opinion that the mind and the body do interact and that man is essentially a thinking being who possesses a body and that this is the reason we feel pain when we hurt ourbody. He believes that the mind influences the body and the body also influences the mind, but encountered a problem trying to show where this interaction takes place.

Self-Assessment Exercise 1

1. _____ deals specifically with the origin of the universe while cosmology is the study of the universe as well as the material structure and laws governing the universe conceived as an ordered set.
2. Metaphysics has _____ divisions

2.4 The Relevance of Metaphysics to the Social Sciences

In the history of philosophy the many different ways of answering this question can be loosely divided into four main traditions. ‘Materialists’ have argued that the world is made up entirely of matter (or ‘matter in motion’), and the different characteristics of material objects, living things, people, societies and so on can in principle be explained in terms of the greater or lesser complexity of the organization of matter. By contrast, ‘idealists’ have argued that the ultimate reality is mental, or

spiritual. This may be because they, like Descartes, think that their experience of their own inner, conscious life is the thing they can be most certain of. If one begins with this, then it can seem reasonable to think of the material objects and other bodies one encounters as constructs of one's own inner thought processes.

Constructivist's views of the external world, with historical roots in Descartes's philosophy, have become fashionable in sociology and related disciplines. But idealists do have difficulty in being fully convincing when they deny the independent materiality of the external world, and, similarly, materialists have difficulty being fully convincing in explaining away the distinctive character of subjective experience. This is why a third option has been quite popular in the history of philosophy. This is referred to as 'dualism'. Again, Descartes is a convenient and well-known example. Having convinced himself of his own existence as a thinking being, it seemed to him that there was a further question as to whether he existed as an embodied, material being.

Eventually, he was able to be certain of that, but in the process came to see body and mind as two quite different kinds of thing, or 'substance'. So human individuals were, for him, a rather mysterious and contingent combination of a mechanical body with a ghostly mind, or soul (Ryle 1976:21). In Descartes' discourse we see a close connection between epistemology, or theory of knowledge, on the one hand, and ontology, on the other: what is accepted as *existing* depends on how confident we can be about our *knowledge* of it. For some philosophers, the apparent difficulty of being sure about the nature of anything beyond the limits of our own conscious experience leads them to 'agnosticism'. This is not justthe don't-know option in the philosophers' public opinion poll. Rather, it is the positive doctrine that the nature of the world as it exists independently of our subjective experience just cannot be known.

This rather crude division of philosophers into rival materialist, idealist, dualist and agnostic traditions does have some relevance to debates in the social sciences, and we can find many echoes of the debates among philosophers here. However, the disputes in the social sciences tend to be more localized in character. They usually concern not philosophical ontology, but what we might call regional or special ontology. So, insteadof asking 'What kinds of things are there in the world?', we might, as biologists, ask 'What kinds of things are living organisms made up of, andhow are they put together?' As chemists, we might ask: 'How many elements are there, what are their properties, how do they interact, and so on?' Each discipline has its own regional ontology, its own way of listing, describing and classifying the range of things, relations or processes it deals with; this is the range of things which it claims to give us knowledge of.

In the case of the social sciences, there are deep, on-going controversies about what the constituents of the social world are. One of the most basic disputes has to do with whether society itself is an independent reality in its own right (a 'reality *sui generis*', as Durkheim put it). So-called 'methodological individualists' argue against this. For them, society is nothing over and above the collection of individual people who make it up. Another ontological dispute concerns whether sociologists are justified in referring to social and economic structures and processes which exist independently of the symbolic or cultural meanings of social actors. Are we justified, for example, in talking sociologically about social classes and class interests in societies where individual social actors have no concept of themselves as belonging to social classes?

Self-Assessment Exercise 2

1. The French philosopher, _____ has ideas with constructivists outlook

2. _____ is the theory of social sciences that reality is made up of independent personal realities

2.4 Summary

Discourse in social sciences are anchored on the ontological foundation of the society. Metaphysics is concerned with explaining the way things are' in the world. It is concerned primarily with being as being' that is with anythingin so far as it exists. However, metaphysics is not concerned with examining the physical properties of things that exist, but is, instead, the study of the underlying principles that give rise to the unified natural world. As such, the problem of evil is a metaphysical one because it deals with the object evil' as opposed to good' which is a metaphysical subject, whereas the statement that all things are composed of atoms, which are in turn composed of electrons, protons, and neutrons' is definitely not metaphysics, but the concern of the physical sciences.

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1.7 Possible Answers to SAEs

Self-Assessment Exercise 1

1. Cosmogony;
2. Three

Self-Assessment Exercise 2

1. Rene Descartes;
2. Methodological individualism

UNIT 3 LOGIC AND SOCIAL SCIENCES

Unit Structures

3.1 Introduction

This unit examines logic as the foundation of the social sciences discourse. Constantly in our everyday life, weare engaged in thoughts and arguments bordering on several issues ranging from personal ones to the ones that have to do with religion, economics, culture, politics and so on. Logic helps us to cultivate skills for critical thinking and the ability to build proper and convincing lines ofreasoning. It helps us to formulate our views and opinions with clarity and precision. Our ability to make unbiased, valid and sound judgements in the course of our arguments depends on our ability to make proper evaluation of such arguments. Logic aids us in developing the ability and skills required for assessing arguments in practical situations and making proper judgements.

According to Gila Sher (2011: 355), We have much to gain by having a well-founded logical system and much to lose without one. Due to our biological, psychological, intellectual and other limitations, he says that we as agents of knowledge can establish no more than a small part of our knowledge directly or even relatively directly. Most items of knowledge, he concludes, have to be established through inference, or at least with considerable help of inference.

3.2 Learning Outcomes

The objectives of this study are:

- to know the meaning of logic;
- to examine the nature of logic; and
- to discuss the logical foundation of the discourse in social sciences.

3.3 Meaning and Nature of Logic

What is logic? How can we learn about its importance? Logic, in its traditional sense, is the study of correct inference. It studies formal structures and non-formal relations which hold between evidence and

hypothesis, reasons and belief, or premises and conclusion. It is the study of both conclusive and inconclusive inferences or, as it is also commonly described, the study of both entailments and inductions. Specifically, logic involves the detailed study of formal systems designed to exhibit such entailments and inductions. More generally, though, it is the study of those conditions under which evidence rightly can be said to justify, entail, imply, support, corroborate, confirm or falsify a conclusion.

According to Magnus (2006:5) Logic is thus the science of reason involved in the business of evaluating arguments by sorting out good ones from bad ones, using sound principles or techniques of good reasoning. Arguments, as understood in logic, consist of arguing for a position by means of conclusive or highly probable evidence. Hence, in an argument, there is a conclusion (the position being held or argued for) and premise(s) (the evidence(s) or reason(s) for holding the position).

In some arguments, premises provide conclusive or undeniable grounds for accepting the conclusion; these arguments are referred to as deductive arguments. In such arguments, it will be a contradiction to accept the premises and deny the conclusion. In some other arguments, the premises provide only sufficient but not conclusive or necessary basis for accepting the conclusion; thus, making the conclusion only highly probable. In this case, the argument is an inductive one where one does not fall into a contradiction by accepting the premise and denying the conclusion.

The importance of logic as the principles and techniques for good reasoning and well- constructed arguments becomes obvious as a feature of philosophy. This indicates that integral as a feature of philosophy is making sound arguments and analyses, providing good reasons for holding a position or supporting one, and engaging in a logical and coherent assessment of arguments.

Logic, as the science of reasoning, provides the needed training for the philosopher. This is why Logic is a core discipline in any philosophy curriculum. That logic is very essential for good reasoning in general, accounts for the reason why every student in a tertiary institution in Nigeria is made to be trained, at least, in the elementary aspects of logical tools and techniques, particularly at the first year of study. This is because the formators of the country‘s education curriculum are well aware that every student needs logic for good reasoning and assessment of arguments in any field of study.

Philosophy‘s case is not exceptional. In fact, philosophy students are privileged to excavate deeper into the rich soil of logic over and over again before graduation. The obvious preferential treatment accorded

philosophy students in the study of logic stems from the fact that logic is the philosophy student‘s most effective tool in carrying out his or her assignment. In fact, logic is ingrained in the study of philosophy and can never be left out of it at any point in time. For example, the student is trained on the laws of thought, namely the law of identity, the law of non-contradiction, and the law of excluded middle, and how or where they can be applied. The student is also taught the fallacies that should be avoided when arguing for a position, such as the fallacies of relevance and fallacies of ambiguity. The student is also trained in the techniques and rules of formal logic and how breaking such principles can weaken an argument. For instance, in a syllogistic argument, one does not use a particular term in two sense. The term ruler could mean a measuring tool or a leader of a people. When the term is used in a syllogistic argument, it must be used in just one of the senses to avoid ambiguity or vagueness. If this rule is broken, the writer commits the Fallacy of Equivocation. Also, the fact that a term is used in more than one sense in the same argument suggests implicitly that the argument contain more than the required number of three terms that a good syllogism should have. The argument also therefore commits the Fallacy of Four Terms. Consider the following example:

A ruler straightens things
David is a Ruler
Therefore, David should straighten things

In the argument, the term ruler is used in different senses and can be misleading. This makes the argument fallacious. The philosopher is also trained by the use of brain tasking calculations and exercises in formal logic, involving the application of valid rules to arguments such as the rules of inference, the rule of replacement, the rule of conditional proof and the rule of indirect proof. The application of these rules exercises the brain and makes the student to think faster and sharply about issues. Therefore, the importance of logic and argument as a feature of philosophy cannot be overlooked. Related to the deployment of arguments in philosophy to make a claim,is the question of who bears the burden of proof in an argument. Roughly,the person who asserts or otherwise relies upon the truth of a proposition for the cogency of his position bears what is usually referred to as the burden of proof. It should however be stated here that it is impossible to prove every proposition. In every science, some propositions are considered as basic or taken-for-granted assumptions. They are simply assumed without proof. In geometry, these principles are axioms, which traditionally were considered self-evident.

In this vein, there are many propositions, which, although are not self-evident, need not be proven every time they are used, since the evidence

for them is very familiar. For example, it need not be proven that the world is round and very old; that humans use languages to communicate, and so on. On the other hand, in most contexts, you should not simply assume that only one object exists or that non-human animals use languages to communicate. These are controversial views and need support.

1.3.2 Value of Logic to Society

The logical dimensions of the discourse in social sciences are highly essential going by the discourse of the logical positivist philosophers. The logical dimensions of social sciences often refer to the disputes, disagreements, arguments and so on which go on among philosophers and social scientists. If we examine the texts in which these disputes are conducted, we will often find stereotyping and caricaturing of one another's views, outright misrepresentation, questioning of political motives, allegations of bias and so on. While these tactics might have a lot of rhetorical and persuasive force, they are not the same thing as good arguments.

The discipline of logic is an attempt to set down in a systematic way what makes the difference between a good and a bad argument. When we construct an argument we are usually attempting to show why a particular statement (our 'conclusion') should be accepted as true. In order to do this, we bring together other statements, which give an account of the relevant evidence, or other considerations, which provide the grounds for believing the truth of the conclusions. These statements are the 'premises of the argument. A 'valid argument' is one in which the conclusion follows from the premises. It is one in which anyone who accepts the premises *must* accept the conclusion. This does not mean that the conclusion itself must be true, only that it is as reliable or as well established as the premises from which it is derived. For example: If there is a peace settlement in Nigeria, this government has at least one great achievement to its credit. There is a peace settlement in Nigeria. Therefore: This government has at least one great achievement to its credit. This is a valid argument, because the conclusion does follow from the premises. However, the conclusion could still be false, because there might turn out not to be a peace settlement in Ireland, or because even if there is, it might not be an achievement of the government. Interestingly, the conclusion could also turn out to be true, even though the premises turned out to be false, because the government might, for example, have failed to settle the Irish question, but have found a permanent solution to the problem of unemployment instead. What the validity of the argument *does* rule out is the possibility that both premises could be true and the conclusion false.

However, this is not an essay on formal logic, and most of the time we will have to rely on our intuitive sense of when an argument is or is not valid. The important thing to keep in mind is that the validity of an argument is a matter of the logical relationship between sets of statements. It is not a matter of how good or bad the evidence is for or against any particular factual claim (though, confusingly, in research methods courses, there is a completely different use of the term 'validity' to refer to the adequacy of a measure to quantify the thing it is supposed to be measuring).

It Cultivates Sound Minds in the Members of the Society: The different ideologies of people in the society are informed by the way they think. The thinking processes of people can have various impacts on the society leading to changes in laws, economic systems and even war as well as overthrow of governments. Ikuli and Ojimba (2018:31) are of the opinion that philosophy (and logic in particular) has been the catalysts to the development of any nation. This is, because, every society requires critical minds and trained intelligence to chart the cause of its past, present and future, as well as harness the available resources for maximum development. Logic guides a nation in understanding itself and in acquisition of concrete outlook on life and of its proximate and ultimate ends. They believe that logic seeks to establish for the nation, a scale of values for the conduct of its people. In addition, it stimulates the fullest power of man to think rationally and eliminate emotional and irrational approach to situations by inculcating the habit of clear, exact, logical and critical thinking. To this extent, it cultivates sound minds in the society and a developed society is nothing but a congregation of sound minds. Thus, it serves as a navigating life compass for any nation and instils in its members, the right attitude needed for development.

It helps in the Resolution of Conflicts: Misunderstandings and conflicts can result from unclear and imprecise expression of desires which sooner or later can lead to more serious problems like chaos and wars between peoples and nations. Most dilemmas between friends, family members and other member of society result from ignorance on the proper usage of language. These and many other problems confronting today's society could have been solved, even before they commenced if only people learn how to study the structure of arguments and ascertain its validity and truthfulness. Indeed, the study Logic is a very vital necessity which could lead to a more vivid, harmonious and progressive future. These are some of the numerous good reasons why it is helpful to study logic. Logic allows people to improve the quality of the arguments that they create. When we make rational arguments, we are apt to convince other people to agree with our claims and people are much less likely to believe that we have a valid point when we give them accurate and logical

justifications.

Logic helps in Detecting Fake **News:** We presently live in society that is saturated by media information, especially the social media, where we are constantly being bombarded on all sides by unsubstantiated and sometimes, doctored information all in an effort to draw media traffic for selfish gains. Politicians, advertisers, media persons and even private individuals are all trying to convince people online to buy what they are selling. It is also the case that a lot of fake enterprises are taking place online with the sole aim of defrauding the innocent and uncritical minds. The impact of fake news in the society has turned trust into a very scarce commodity. Relationships are built on one fundamental principle, and that principle is trust. However, the erosion of morals has affected the level of trust between people. This is pervasive and everything from friendships to business transactions is severely constricted. The society can only rely on the knowledge of logic to navigate their ways out of the uncertainties presented by the media. Logic is the science of how to evaluate arguments and reasoning, and critical thinking is a process of evaluation that uses logic to separate truth from falsehood, and reasonable from unreasonable beliefs. If you want to better evaluate the various claims, ideas and arguments you encounter, you need a better understanding of basic logic and the process of critical thinking. Logic is not a matter of opinion, when it comes to evaluating arguments, there are specific principles and criteria that logic affords us. This is important because sometimes people do not realise that what sounds reasonable is not necessarily logical.

Self-Assessment Exercise

1. Logic helps in detecting fake news (a) True (b) Undetermined (c) False (d) Necessarily False

2. _____ is the science of how to evaluate arguments and reasoning

3.4 Summary

It appears factual that the use of logic in discourse, arguments and analysis are necessary in the pursuit of truthful and verifiable presentations in the social sciences and other disciplines. The discourse above brings to the fore the meaning, use and necessity of logic in the social sciences. It presents the meaning of logic, its use in daily discourse and conversations, its necessity in analysis of arguments and its verifiability principles.

3.5 References/Further Readings/Web Resources

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1.6 Possible Answers to SAEs

Self-Assessment Exercise:
1. (a);
2. Logic

UNIT 4 ETHICS (MORALITY) AND THE SOCIAL SCIENCES

Unit Structure

4.1 Introduction

This unit discusses the place and relevance of ethics to the discourse in the social sciences. In the process it affirms the fact that moral issues emerge at several different moment and places in the social sciences discourse. Discourse in sociology often entails disclosure of the beliefs and practices of the people. Ina similar vein, discourse in several disciplines the social sciences entail falsification of standards of analysis of issues.

4.2 Learning Outcomes

By the end of unit, you would be able to:

- Understand the moral dimension of the social sciences;
- Examine the moral foundation of social sciences discourse; and
- Analyse the place of morality in social sciences discourse

4.3 Ethics and the Social Sciences

Welcome to this discussion on Ethics and the social sciences. The question of how the idea of ethics came about has been a recurring one. Is ethics an intrinsic part of human nature or is it an idea that developed out of socialisation? Stuart is of the opinion that 'If men were angels, no government would be necessary'. 'If angels were to govern men neither external nor internal controls on government would be necessary' (Gilman, 2005: 7). However, men are not angels and angels do not govern men. The story of Alexander Selkirk's solitary sojourn on Mas a Tierra Island 'now popularly known as Isla Robinson Crusoe' easily comes to mind when one begins to ponder on whether or not it is possible to conceive of any ethical or moral principle when in isolation. One ethical question which shows whether an action is right or wrong is, who does the action hurt? 'If no one is hurt, probably then, no wrong has been done

and going by the egoistic nature of man, that is, the desire to always follow one's self interest, no one would under normal circumstances want to hurt him or herself. The implication of this is that without the other', judgements about rightness or wrongness will not occur. How then can we define ethics?

Ethics has a very close link with morality. The idea of morality can be traced to when humans started living in societies and began to distinguish between good or acceptable and bad or unacceptable ways to relate with others. It is these acceptable and unacceptable ways that developed into customs, ways of life and codes of conduct of a people which now constitute the interest and subject matter of ethics. What then is ethics? It refers to a code or set of principles by which men live (Popkin 1969: 1). It is a branch of philosophy also known as moral philosophy, that prescribes how men ought to behave and live the good life'. Just as logic is the systematic study of the fundamental principles of correct thinking, and theology is the systematic study of the fundamental tenets of religion, ethics is the systematic reflection on our moral values or beliefs (Popkin, 1969: 2) This, therefore, gives us insights that ethics could only have come into existence when human beings started to reflect on the best way to live. This reflective stage emerged long after human societies had developed some kind of morality, usually in the form of customary standards of right and wrong conduct. The process of reflection tended to arise from such customs, even if in the end, it may have found them wanting. Accordingly, ethics began with the introduction of the moral codes (Popkin, 1969: 5).

Omoregbe (1990: 34) sees the meaning of the word moral as having to do with good or bad with reference to ethical codes or laid down rules. He also affirms that the term is best suited for responsible humans. The term immoral is the direct opposite of moral. It means to be morally wrong or morally bad such that it could attract blame and punishment. Responsible humans are also the culpable agents involved here. The literal meaning of the word amoral' is non-moral'; this means that what is being referred to has nothing to do with morality since the agents involved cannot be held morally responsible. The word is therefore best suited for animals, mentally deranged persons and human infants.

There are also, terms that have to do with manners and social etiquettes which are sometimes used in close relation to morals and ethics in our day-to-day life. In fact, we sometimes make no distinction in their usage from when we are talking about morals, when indeed they are actually outside the realm of ethics or morals. Ethics and morals as have been stated, are concerned with right and wrong, good, and bad conducts but matters of manners and social etiquettes are concerned with preferences,

predilections, or tastes and could be described as non-moral. There is a familiar practice in some parts of Nigeria for instance where children are scolded for eating or receiving presents with their left hand. There are practices also especially in the Yoruba speaking areas of the country where it is believe that males should prostrate to greet an elderly person while the females kneel down to do so. These practices have nothing to do with right or wrong, good or bad because they are simply matters of preferences. Therefore, a male who decides to kneel down to greet an elderly person and a female who decides to prostrate to do the same may not have conformed to the ethos of the social group in terms of way of greeting, but he or she cannot be said to have acted immorally. Besides, there are some other cultures in the country especially that of the Hausa/Fulani speaking areas where males kneel down and do not bow down to greet. From what has been argued thus far, how can we attain value judgements?

We can only arrive at judgements concerning wrongs or rights when the agent involved has an alternative or alternatives opened to him or her. In other words, the agent must have the freedom to make choices. It is at this point we begin to ask why the individual chooses to act in a particular way and not the other. It is this, therefore, that warrants the apportioning of praise or blame as the case may be. When we do this, we invariably show that the agent or individual is responsible for his or her action. In a situation where no option is available and no room for choice is open, the agent or individual would act necessarily and his or her actions cannot be judged to be right or wrong, praiseworthy, or blameworthy. This is because the agent or individual was not responsible for the action taken and no one should be punished for what he cannot help (Omoregbe, 1990: 22). Since it is our idea of right and wrong and the responsibility of the agent involved that leads us into making moral or ethical judgements, one would want to ask, how should we judge the actions of infants and the mentally deranged persons since they cannot be held responsible for their actions, knowing that they do not act based on rational judgements and therefore cannot make informed decisions and choices? Can we refer to their actions as moral or immoral? The answer is an obvious No!

When we use the terms ethical or moral, we clearly as will be shown later, have certain agents in mind. The terms ethical and moral are used only when the agent involved can be held morally responsible for their actions or conducts. In this case, only responsible humans fall within this category. Animals cannot be said to have acted in a moral or an immoral manner and therefore cannot be held responsible for any of their actions. Infants cannot be said to be moral or immoral and likewise the mentally deranged no matter what they do. This is because they do not have the knowledge of right and wrong and cannot rationally make a distinction

between them. A dog may kill another dog or harm a human being. This action may result in the entire community hunting around for the dog and probably killing it. However, the killing of the dog cannot be viewed as punishment because the dog cannot be placed on a scale of moral judgement. Let us also consider this example; when a child puts off his or her clothes, jumps into the rain, begins to dance as he or she takes his or her bathe in public view, no one would frown at such an action, when a mentally deranged person does this, people will overlook it but, when a full grown and responsible adult male or female does this, the response of members of the society would certainly be quite different. This is because the actions of the child and the mentally deranged cannot be judged to be moral or immoral but amoral.

Ethical questions arise at many points in the course of social scientific research. Sociologists are often involved in uncovering information about the beliefs and practices of the people they study which might put those people at risk. Sometimes this might be because the practices concerned are socially stigmatized, and the researcher might be concerned not to jeopardize the anonymity of her or his informants. Alternatively, the researcher might well feel that her discovery of corrupt or unjustly discriminatory practices in official organizations ought to be made public. But doing so would at the same time be a betrayal of trust, and might also jeopardize the possibility of further research. Often, too, researchers may be employed to carry out research for projects they did not design, or for organizations whose aims they might not sympathize with. To what extent should they keep quiet about their reservations in order to keep their career prospects open. These are moral quandaries which frequently arise in the course of research practice. There are other ethical questions which are intrinsic to the research process itself. These have to do with the power relations between researcher and researched. In most social research there is inequality of social status between the two, and even where there is not, the social scientist is implicitly claiming the authority to interpret and represent the beliefs or attitudes of those who are the objects of study. Where there are class, gender, ethnic or other social differences between researcher and researched, such ethical issues necessarily arise.

Finally, sociologists and anthropologists, especially, are constantly confronted by the enormous diversity of human cultures and subcultures. Part of this diversity is diversity in moral values. Because of the ethnographic requirement to interpret other cultures in terms available to the participants in those cultures, these social scientists must be able to suspend their own judgements. The ethical sensitivity which goes along with this, and reflexivity about the power relations between researcher and researched, leads many sociologists and anthropologists towards a position of ‘moral relativism. In other words, they tend to resist the idea

that there are universally obligatory moral values, applicable across all cultures. Morality comes to be seen as a matter of what participants in each culture take to be acceptable or unacceptable. No one culture has a right to dictate to any other what rules it should live by. On the other hand, closer examination shows that cultures themselves tend not to be so consensual internally as this picture assumes. If there are ethical conflicts *within* a culture, the relativist view is not much help. Also, it can be argued that the relativist position itself rests on a universal principle – that all cultures have a right to their own autonomy and integrity. Finally, it is much easier to adopt the stance of a moral relativist in the abstract than when confronted with a real moral issue. When they encounter cultures in which systematic torture, female circumcision, endemic racism or capital punishment is accepted as morally proper, most social scientists are liable to find their capacity to suspend judgement sorely tested. So, there seems to be plenty of room for the help of moral philosophy in the work of the social sciences.

Issues about norms, and rules enter the social sciences in two rather different ways. On one hand, the norm, values s, values, and rules of specific societies are part of what the social sciences study. On the other, there are norms, values, and rules that social scientists recognize and are part of *their own* society. Let us begin with the second. The idea that democracies do not wage war on other democracies has figured in the rhetoric and practice of American foreign policy. That social science should support social policy in this way is not surprising. Indeed, one might argue that the only way to create effective social programs is to know how the social world works. This line of thought presupposes that social science and social policy are independent. Some critics have argued that the expediencies of American foreign policy influenced the social scientific investigation of the democratic peace hypothesis. What can we learn from all of these?

As you might imagine, defining "democracy" and "peace" is crucial to the research. Critics argue that these concepts cannot be defined in ways that are completely independent of political values. In essence, commitments to how we ought to be conducting our foreign policy influence the data and theories on which policy is based. In this way social scientists become involved in disputes over social policy, and they have to defend their results as the results of "objective" inquiry. We will explore several issuessurrounding values and objectivity. The primary question concerns *value freedom.*. Must social scientific research be conducted without commitment to ethical or political values? Many philosophers of social science think that the answer is "no"; some kind of commitment is alwayspresent, even necessary. This answer opens new questions. There are a variety of ways in which moral and political values

figure in social scientific research. Selecting data to fit a preconceived agenda obviously constitutes a bias and undermines objectivity. The consequences of other influences are not so obvious. We need to understand the variety of ways in which science can be value-laden. Then we need to ask: If the social sciences are not value- free (in a particular way), can they be objective? This question links the epistemology of the social sciences to the question of value freedom. Thequestion of value freedom is made more complicated by the fact that many projects in the social sciences are explicitly political. Critical theory, feminist research, and various forms of participatory action research aim at social change. They seek to develop knowledge that will make societies more just and humans more free. Can these projects produce social scientific knowledge?

One might be initially reluctant to say so, but if we exclude them, then what are we to think about research that aims to improve student learning or reduce crime? Social science is often used in "engineering" projects that are explicitly in the service of social policy. These projects challenge us to think more deeply about what constitutes objectivity in the social sciences.

Questions about the role of values in the social sciences ultimately ask about the ways in which we conceptualize "fact" and "value." In the social sciences, these issues arise when theorists try to develop accounts of the values, norms, and rules operative in human societies. In the discussion of free riders, above, we saw some of the ways that the social sciences often invoke norms in their theories.

Rosa Parks thought that racial segregation was *wrong,* and this was an important reason for her action. It has been suggested that one of the ways that social movements and revolutions overcome the free-rider problem is that the norms and shared values of social groups obligate their members to act. From this theoretical point of view, it is relevant that Rosa Parks was secretary of the Montgomery NAACP, and that the NAACP quickly organized the bus boycott in response. Social scientific theorizing often makes appeal to norms, rules, and values when explaining both individual action and social-level events like social movements or revolutions. In so doing, they must make metaphysical commitments about what norms *are* and how they are related to individual and group action. These are fundamental questions of value theory.

Self-Assessment Exercise

1. Sociologists and anthropologists, especially, are constantly confronted by the enormous diversity of human cultures and subcultures. (a) Probably True (b) Certainly False (c) Certainly True (d) Probably False

2. Critical theory, feminist research, and various forms of participatory action research aim at _____. (a) Social norms (b) Social evolution (c) Social sciences (d) Social biology

4.4 Summary

Morality is a necessity in the social sciences in several ways. There is need for trust, agreement and disagreement in moral discourse but there is need for knowledge of moral discourse, agreement, disagreement so as to enable the society to move forward. Moral discourse is essential in the social sciences in that there is need to ascertain the veracity of discourse in the disciplines. Part of the challengesto the veracity of moral discourse is the issue of moral relativism and universalism which continues to create serious quagmire in moral balance.

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1.6 Possible Answers to SAEs

Self-Assessment Exercise:
1. (c);
2. (b)

End of Module Questions

1. Pick out the odd choice (a) Descartes (b) Spinoza (c) Plato (d) Locke

2. _____ says that a belief system is justifiedif other parts of the belief system agrees or coheres appropriately

3. Pick the odd choice (a) Aristotle (b) Locke (c) Kant (d) Hobbes

4. _____deals specifically with the origin of the universe while cosmology is the study of the universe as well as the material structure and laws governing the universe conceived as an ordered set.

5. _____ is the science of how to evaluate arguments and reasoning

MODULE 3 METHODS OF SOCIAL SCIENCES INTRODUCTION

UNIT 1 THE GENERALLY OBSERVED METHODS OF SOCIAL SCIENCES

Unit Structure

1.1 Introduction

This unit captures the generally observed methods of social sciences. In the process, it discusses the basic procedures of social sciences in contradistinction to the methods of the natural sciences.

1.1 Learning Outcomes

The objectives of this study are to enable students to:

- Know the general methods of research that are being used in the social sciences;
- Analyse the basic issues in the established methods of the social sciences; and
- Examine the issues involves in the general methods of research in the social sciences.

1.3 A Discourse on the Method of Social Sciences

What are the methods of the social sciences? How do they assist us to understand the fundamentals of human society? These are the two questions that we seek to interrogate in this section. To get to the root of this question, it is important to first understand the scientific method.

The basic procedures of the scientific method are as important in social science as in physical science. Social scientists must observe carefully, classify and analyze their facts, make generalizations, and attempt to develop and test hypotheses to explain their generalizations. Their problem, however, is often more difficult than that of physical scientists. The facts gathered by the social scientist for example, those concerning the cultures of different peoples have similarities, but each fact may also be unique in significant respects. Facts of this kind are difficult to classify and interpret. Further, as we have already noted, the generalizations or laws that the social scientist can make are likely to be less definite and certain than those of the physical scientist.

The difficulty of discovering relatively exact laws that govern social life results from several circumstances. First, the things of greatest importance in our social life—satisfactions, social progress, democracy—are not really measurable. Second, society is extremely complex. It is difficult and usually impossible to find and evaluate all the many causes of a given situation, though often we can discover the factors that were most important in bringing it about. Third, in every social situation there is the human element. Frequently, the course of social events depends on the reaction of a few individuals who are leaders, and, except in routine situations, we can seldom predict individual behaviour with complete certainty.

If the social scientist finally does succeed in finding uniformities or "laws" of social behaviour and in setting up hypotheses to explain them, there is still another difficulty— namely, that investigators can seldom employ controlled experiments to test their hypotheses. To a considerable extent, the social scientist must substitute careful observation and the mental process of abstraction for experiments. The investigator abstracts from a given situation some one factor in order to consider what effect it would have if acting alone. To do this, the investigator imagines that any other factors present remain constant or inert and asks, for example, a question such as: If other factors affecting economic life remained constant, what would be the economic effect of raising tariff rates on imports?

A social scientist with a thorough knowledge of a situation may correctly calculate the effect of a given causal factor by assuming that all other things remain equal. However, to reach correct conclusions by this method, the investigator must be both competent and painstaking. Even then, the dangers of error are great. If anything, there is more need for competence in the social scientist than in the physical scientist. The theories of a physical scientist often can be proved right or wrong by experiments, but this is seldom true of those of the social scientist. An unfortunate result is that it is easier in social science than in physical

science to be needlessly vague, to perpetuate errors, and to cover up incompetence.

Social scientists also have more difficulty than physical scientists in being objective. Because they deal with human beings and are human themselves, social scientists find it hard to put aside their own likes and dislikes, their sympathies, prejudices, and frustrations. As a result, they sometimes fall into the trap of trying to justify their own hopes, beliefs, or biases instead of seeking to discover the truth. We should always be on guard against those who pose as social scientists but who, in fact, substitute propaganda and charisma for objectivity and competence.

This does not mean that social science is any less scientific than the natural sciences, or that it is less objective. It simply means that social scientists must be continually on guard against such traps and must be as clear and objective as possible. The differences between physical science and social science lead to slightly different structures of research. Although there is no ideal structure, a reasonable approach to a problem in social science is the following:

a. Observe
b. Define the problem.
c. Review the literature. (Become familiar with what others have observed.)
d. Observe some more
e. Develop a theoretical framework and formulate a hypothesis
f. Choose the research design
g. Collect the necessary data
h. Analyze the results
i. Draw conclusions.

Using this outline as a rough guide, and recognizing that the specific project and each specific social science determine the exact nature of the methodology to be used, you have a reasonably good method of attack.

a. ***Observing:*** Notice that social science begins with observation. Social science is about the real world, and the best way to know about the real world is to observe it.

b. ***Defining the problem:*** Of the various research steps listed, this one is probably the most important. If you've carefully defined your terms, you can save an enormous amount of energy. Put simply, if you don't know what you're doing, no matter how well you do it, you're not going to end up with much. The topic might be chosen for a variety of reasons, perhaps becauseit raises issues of fundamental social science importance, perhaps becauseit has suddenly become a focus of controversy, or perhaps because research funds have become available to investigate it.

c. ***Reviewing the literature:*** Knowledge of the relevant literature is essential because it provides background, suggests approaches, indicates what has already been covered and what hasn't, and saves you from redoing what has already been done. It is a way of using other people's observations.

d. ***Observing some more:*** After you have defined your problem and reviewed the literature, your observation will be sharper. You will know more precisely what you are looking for and how to look for it.

e. ***Developing a theoretical framework and formulating a hypothesis:*** Make a statement predicting your results and then clarify what each of the terms in the statement means within the framework of your research.Suppose your hypothesis is: "High price increases sales of fashionable magazines." You should specify how high is high, and compared to whatspecific price is the price stated to be high; how much of an increase issignificant over the circulation the magazine enjoyed at the lower price;what sales are included (newsstand, subscription, or both); and what is"fashionable." Different researchers may define the same term differently, which is one of the reasons why the same research subject can producedifferent results.

f. ***Choosing a research design:*** Pick a means of gathering data—a survey, an experiment, an observational study, use of existing sources, or a combination. Weigh this choice carefully because your plan is the crux of the research process.

g. ***Collecting the necessary data:*** Data are what one collects from careful observation. Your conclusions will be only as good as your data, so take great care in collecting and, especially, in recording your data. If you cannot document what you have done, you might as well not have done it.

h. ***Analyzing the results:*** When all the data are in, classify facts, identify trends, recognize relationships, and tabulate the information so that it can be accurately analyzed and interpreted. A given set of facts may be interpreted two different ways by two different analysts, so give your analysis careful, objective attention. After this step has been taken, your hypothesis can then be confirmed, rejected, or modified.

i. ***Drawing conclusions:*** Now you can prepare a report, summarizing the steps you've followed and discussing what you've found. A good report will relate your conclusions to the

existing body of research, suggest where current assumptions may be modified because of new evidence, and possibly identify unanswered questions for further study. Different researchers may define the same term differently, which is one of the reasons why thesame research subject can produce different results.

These steps differ slightly from those used by a natural scientist, but only slightly—the primary difference comes in testing a hypothesis. In some natural sciences, it is possible to conduct controlled experiments in which the same experiment can be repeated again and again under highly regulated conditions. In the social sciences, such controlled experiments are more difficult to construct.

The line between social science and natural science is not fixed. In some natural sciences, perfectly controlled experiments are impossible. In cosmological physics, for example, one can't create the universe again and again. Thus, one must speculate about a hypothesis, draw conclusions from that hypothesis, and see whether the conclusions match what one observes in the universe. Alternatively, in the social science of psychology, certain controlled experiments are possible—for example, individuals can be given specific stimuli under specific conditions again and again. Thus, the difference between the way one deals with the natural sciences and the way one deals with the social sciences can be blurry.

Let us take an example of the use of the social science method—Joseph Holz's study of the implications of teen pregnancy. First, he studied all the writing on teen pregnancy. Then he set up the following hypothesis: Teen motherhood causes the mothers to be economically and socially worse off than they otherwise would have been. To test this hypothesis, he used data that had been collected over many years tracking the lives of teenage women. From that he extracted two groups—a set of teenagers who had become pregnant and borne the child and a set of teenagers who had become pregnant but had miscarried. He then compared their economic and social positions when they were in their mid-thirties. If teen motherhood caused the mother to be worse off, then the teens that had borne their babies should have been in a worse position than those who miscarried. They weren't. He found no significant difference between the two groups: Both were low income, significantly dependent on welfare benefits, and had completed the same number of years of school.

The initial hypothesis was false. Teen pregnancy did not make mothers worse off; it was simply a symptom of a larger set of problems. This larger set of problems was so severe that whether mothers had borne a child in their teens made little difference to their economic and social positions. Holz's findings were published as the government was conducting a

costly campaign against teen motherhood, and his conclusions were unpopular with both liberals and conservatives. Liberals did not like them because his study suggested that much of the family planning advice and sex education developed by liberals was of little help in improving these women's lives. Conservatives didn't like them because his study implied that more substantive changes than simply eliminating teen motherhood were needed to improve these women's lives and break the cycle of poverty. But good social science methodology is not about pleasing anybody—it is about understanding social issues and social problems.

Although Holz's experiment was not fully controlled, it was as close as one could come to a controlled experiment in the social sciences. It selected similar groups to compare in such a way that no obvious reason existed as to why these two groups should differ. As you review the literature about various social science studies, you will see that social scientists can use many different approaches and methods as they study problems. We first consider alternative approaches; then we consider alternative methods.

Self-Assessment Exercise

1. Joseph Holz's study of the implications of teen pregnancy (a) Joseph Fletcher (b) Joseph Holz (c) Joseph Stalin (d) Joseph Plantinga
2. There are _____ number of steps for social scientists

1.4 Summary

The method of research in the social sciences has its merits and demerits. While it do give some important and correct results, it is also misleading. We may not be certain that if we follow a controlled selection and observation we are most likely to achieve the desired result. The methods discussed above refer to the basic and routine method of research in the social sciences. It has been taken for granted that such is the basic way of achieving the desired result of research.

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1.6 Possible Answers to SAEs

Self-Assessment Exercise:

1. (b);
2. 9

UNIT 2 ALTERNATIVE APPROACH

Unit Structure

2.1 Introduction

This unit discusses the alternative approach to the generally observed method of research in the social sciences. In the process, it discusses the various theoretical approaches to research in the social sciences.

2.2 Learning Outcomes

The objectives of this study are:

- To know the alternative methods of research that are being used in thesocial sciences;
- To analyse the theories in the established methods of the social sciences; and
- To examine the issues involves in theories of research in the social sciences.

2.3 Some Alternative Methods of the Social Sciences

The approach one takes when analyzing a problem reflects one's worldview—the lens through which one sees the world. Four approaches that social scientists use are the functionalist theory approach, the exchange theory approach, the conflict theory approach, and the symbolic interaction theory approach.

a. ***The functionalist theory approach:*** This approach emphasizes the interconnectedness of social life and the difficulty of affecting only one part of society with a policy. Followers of the functionalist theory approach are hesitant to make social judgments because all aspects of society have certain functions.

b. ***The exchange theory approach:*** Closely related to the functionalist approach, the exchange theory approach emphasizes the voluntary exchanges of individuals as reflecting individuals' choices. Thus, the structure of society reflects individuals' desires.

The exchange theory approach lens is one of relative harmony in society, sometimes upset by dysfunctional elements.

c. ***The conflict theory approach:*** The conflict theory approach sees far less harmony than the exchange theory approach. Followers of this approach see social behaviour in termsof conflict and tension among competing groups or classes. Whereas the exchange theory approach sees individuals' voluntary choices, the conflict theory approach sees force and power directing individual actions.

d. ***The symbolic interaction theory approach:*** The symbolic interaction theory sees individuals as deriving meaning from the symbols they learn from. Followers of this approach see reality as reflecting less what people do and more what they think andfeel. Their motives and perceptions, rather than actions, are emphasized. These approaches are not necessarily independent of one another. Some social scientists use a combination of approaches to study problems, whilesome use one at one time and another at another time.

In addition to the above, we need to consider some other important methods that are employed by the social sciences. In other words, there are other different approaches, social scientists also use different methods. These include thehistorical method, the case method, and the comparative and cross- cultural methods.

a. ***The historical method:*** Because most social developments—such as the government of the United States—have unique characteristics, in order to understand themas fully as possible the social scientist must rely heavily on a study of their historical background. We can never understand completely how any historical situation came to exist, because there are limits to our historical knowledge and causes become increasingly complex and uncertain as we trace them further into the past. We can, however, make both historical events and present social situations much more intelligibly by using the historical method—tracing the principal past developments that seem to have been directly significant in bringing about a social situation. To tracethese past developments, a historian will use many of the same methods as other social scientists such as collecting birth and marriage certificates and classifying those data. It has been noted that history never really repeats itself. Nevertheless, present and past situations often have such striking similarities that a knowledge of the past can give us insights into present situations and sometimes into future trends.

b. ***The case method:*** Writers on the methodology of social research have devoted a great deal of attention to the case method—its characteristics, its variations, the usesit can serve, its advantages, and its limitations. Here we only describe its basic nature. The case method involves making a detailed examination and analysis of a particular issue or problem situation. This can involve a case study of a single person such as that by a psychologist of his client, a single area or town such as a sociologist's study of why a town changes,or even a study of whole countries such as an economist's when comparing various countries.

A case study can be intended to discover how to bring about desirable changes in a particular problem situation: for example, to find the most effective ways of upgrading or rehabilitating a slum area. More often, the chief purpose of a case study is to throw light on many similar situations that exist in a society. The hope is that an understanding of one or a few cases will illuminate the others and thus aidin solving the social problems they present. The case or cases selected should be typical of the group they purport to represent.

The preceding requirement can be a limiting factor in the usefulness of the case method. Suppose we wanted to make a study of the class structureof U.S. society as a whole. Obviously, it would be easier to select as casesfor study several relatively small and isolated cities in various sections of the country. But it is questionable whether these would give us a true picture of the country as a whole, because today a great proportion of our people live in large metropolitan areas where the class structure is likely to be much more complex than in smaller and more isolated communities. However, to study and describe in detail the class structure of such an area may be prohibitively difficult and expensive, and therefore impractical.

c. ***The comparative and cross-cultural methods:*** The comparative method was formerly often employed in the hope of discovering evolutionary sequences in the development of human institutions—that is, patterns of social development or progress that would be universal. For example, it was sometimes assumed that definite stages existed in the development of governmental institutions, and it was thought that these stages could be discovered by comparing a society at one level of development with some other society at a different level. Today, this attempt to find patterns of social evolution that can be appliedto all societies has been largely abandoned.

However, comparison of different societies still plays an important rolein anthropological studies through what is called the cross-cultural method. This method consists of making detailed studies of the culture patterns of a number of societies for the purpose of comparing the different ways in which their people meet similar needs. These studies sometimes show surprising similarities in the cultural traits of widely separated peoples who appear to have had no direct or indirect contacts with one another.

Comparison of the characteristics of different societies involves problems. At times, it is difficult to decide whether two or more societies are independent or should be treated as one. Or consider definitions: If weare comparing the family institution in different societies, we must define *family* broadly enough to cover cultural variations yet specifically enough to make comparisons meaningful. Sociologists do not always agree on just what a family is. Again, if we are comparing unemployment in urban-industrial societies, we must agree on what we mean by *unemployment.* For example, in the early 1980s, the unemployment rate in Mexico, computed by U.S. standards, was approximately 30 percent. Mexican economists, however, argued that this figure was meaningless because Mexican work habits and culture were different from those in the United States. Much of what was measured as unemployment, they said, was actually individuals working at home and not earning money in the marketplace. Thus, although they had nonmarket jobs, they had been counted as unemployed.

d. ***Common Sense in the Social Sciences:*** Probably the most important lesson to remember when conducting any research is that you should use what might be called an educated common sense. You can understand the analytic argument for common sense by considering the mind as a supercomputer storing enormous amounts of information, not all of which may lie at the surface of recall. This holds true even with the vast increase in computer power. Processing speeds of computers double every eighteen months, according to Moore's Law. That increase has made it possible to do enormous things even with home computers. However, compared with the capabilities of the human mind, even the most powerful computer counts by using its fingers and toes. Themind processes trillions of pieces of information in millinano seconds (wedon't know what they are either, but we do know they are very small).When the results of the models and the minds diverge, it seems reasonable to rely on the more powerful computer—the mind. It makes sense to do so, however, only if the best information has been input into the mind. Common sense is not sufficient; we must use educated commonsense.

To see the difference between common sense and *educated* common sense, consider the problem: Does the earth circle the sun or does the sun circle the earth? Uneducated common sense tells us that the sun circles the earth, and that commonsense conclusion became built into society and society's view of itself throughout the Middle Ages. To believe otherwise was heresy. In 1540, Copernicus tried to fit that commonsense view with observations that classical Greeks had made of the heavens. As he went about this task, he discovered that he could get a good fit of the data with the theory only if he assumed the earth moved around the sun. His was an educated common sense—rational thought based on observation and the best information available. It was that kind of educated common sense that ultimately led to the scientific method. As specialization makes us focus on narrower and narrower issues, it is important to keep in the back of our minds that scientific analysis has made us look at only part of the problem and that we must also use our educated common sense to interpret the results reasonably.

e. ***The Use of Statistics:*** Whenever possible, social scientists rely on quantitative data—data that can be reduced to numbers—but often quantitative data are not available, so social scientists must rely on qualitative data such as interviews or heuristic summaries of information in the literature. When using qualitative data, it is much more difficult to draw specific inferences from the data, because the "facts" one finds depend on how one interprets the qualitative data. One way to partially overcome such "interpretive problems" is the "Delphic method" in which another specialist in the field reviews your interpretation and then you modify your interpretation in response if you see fit, explaining your reasons for accepting or rejecting the suggested modifications. Another way is to translate the qualitative data into quantitative data, creating "proxies" (stand-ins) for any missing quantitative data, although that often simply hides the interpretative issues rather than eliminating them.

If quantitative data are available, social scientists rely on statistical analysis—information in numerical form that has been assembled and classified—to provide the social scientist with the information needed to understand social relationships and processes. Statistics do not enable us to measure directly such basic social values as good citizenship, happiness, or welfare, but they are useful in measuring other factors that underlie social life, such as the size of the population of a country, or the number of families whose incomes fall below some level that we set as the minimum for

> decent and healthful living. Statistical relationships also give us insights into social problems. If we find that the proportion of males in juvenile detention centres who come from broken homes is substantially greater than the proportion of males in the population at large who come from such homes, this suggeststhat broken homes may be an important factor contributing to juvenile delinquency. But statistics must always be interpreted with care, for it canbe easy to read into them conclusions they do not justify. Also, it is sometimes possible to manipulate them so that they appear to show what we want them to show.

Although statistics measure the results of social activity and highlight trends, they have other useful functions: testing theories and discovering relationships. For example, *correlation* is the relationship between two sets of data. A high correlation between sets of data means that if an element in one set rises, its corresponding element in the other set is also likely to rise. Other statistics determine how sure we are of a relationship. We do not discuss these statistics because an introductory social science course is not the place to learn them, but it *is* the place to learn that such techniques of testing relationships exist, and they may be worth your while to study at some point in the future.

If we are going to use statistics, we must have data. Data are the raw numbers describing an event, occurrence, or situation. Social scientists' data come from measuring and counting all occurrences of a particular happening. For example, we might find, "In 2007, there were *x* number of murders and *y* number of suicides." One way to get data is to conduct a survey, a method whereby data are collected from individuals or institutions by means of questionnaires or interviews. For instance, we might conduct a survey in which selected people are questioned or polled on such matters as their incomes, their beliefs on certain issues, or the political candidate for whom they intend to vote. Statistics can tell us how large a portion of a group must be surveyed before we can be reasonably sure that the results will reflect the views of the entire group. Such techniques are used extensively in surveys such as the Gallup or Harris public opinion polls.

The use of statistics has been greatly facilitated, and therefore greatly expanded, by the computer. The computer has made it possible to record, arrange, and rearrange voluminous information quickly and analytically. Today, enormous amounts of data and other resources are available to anyone with a computer or other access to the Internet. With the expansion of social data and the enormous increase in computing power, it is increasingly possible for social scientists to look for relationships in the data alone, rather than to be guided in that search by theories. Using

highly sophisticated statistical techniques, social scientists analyze data, looking for patterns. After they find a pattern, they fit that pattern to a theory. For example, social scientists Stephen Levitt and John Donohue searched the data and found a relationship between the passage of the abortion rights law in the United States and a decrease in crime in later periods. Based on this evidence, they argued that because abortion reduced the number of unwanted children, those children who were born had more guidance, and that it was the law making abortion legal, not any change in law enforcement or increase in the number of inmates.

Self-Assessment Exercise

1. _____emphasizes the interconnectedness of social life and the difficulty of affecting only one part of society with a policy

2. The _____sees individuals as deriving meaning from the symbols they learn from.

2.4 Summary

These methods of investigation in the social sciences seem plausible and reputed by the scholars in the social sciences but in the light of modern discourse they need to be re-examined and modified in the light of the contemporary realities. This unit addressed the methods that are popularly used in the social sciences beginning with the generally accepted methods of the social sciences and the alternative approach to their methods. These methods areheld with high esteem but they have come under serious scrutiny which has exposed their weaknesses.

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1.6 Possible Answer to SAE

Self-Assessment Exercise:

1. Functionalist theory;
2. symbolic interaction theory

UNIT 3 NATURALISM

Unit Structure

3.1 Introduction

This unit studies naturalism as a foundation of the discourse in the social sciences. It holds that nature is the totality of all that is needed to be known. Nature is thought to be source and touchstone of the social sciences. Naturalism has been a label for a variety of distinct positions which have little, if anything, in common. In ethics, naturalism is a form of moral realism which contends that ethical properties are objective in virtue of being reducible to or identical to natural properties, where natural properties are simply the properties investigated by various sciences. In metaphysics, naturalism typically takes a form of materialism or physicalism: Everything that exists is either physical or supervenient upon the physical. Naturalism in epistemology contends that the role of epistemology is to describe how knowledge is obtained rather than to set out *apriori* criteria for the justification of beliefs; thereby a naturalized epistemology provides theories of knowledge and justification which eliminate normative standards by using only scientific concepts.

3.2 Learning Outcomes

By the end of this unit; you will be able to:

- To study the theory of naturalism;
- To examine the basic discourse in naturalism; and
- To know nature as the foundation of social sciences.

3.3 Meaning and Definition of Naturalism

One of the most common versions of naturalism is the position that everything that exists is natural. Robert Audi defines naturalism, broadly construed, as "the view that nature is all there is and all basic truths are truths of nature" (1996: 372). Rem B. Edwards offers a similar definition: "The naturalist is one who affirms that only nature exists and by

implication that the supernatural does not exist... The [natural] world is all of reality; it is all there is; there is no 'other world' " (Edwards, 1972: 135). Although these definitions capture some of the most fundamental features of naturalism, I think that naturalism can be and thus should be defined less strongly. Alan Lacey captures the heart of naturalism when he writes: "What naturalism insists on is that the world of nature should form a single sphere without incursions from outside by souls or spirits, divine or human" (Lacey, 1995: 604).

I think that most naturalists would agree that naturalism at least entails that nature is a closed system containing only natural causes and their effects. Fundamentally, naturalism is a metaphysical position about what sorts of causal relations exist it is the position that every caused event within the natural world has a natural cause. This definition of naturalism is weaker than "everything that exists is natural" because it leaves open the possibility that the natural world does not exhaust all of reality: There may be some aspects of reality which exist outside of nature. Which aspects of reality are non-natural in this sense will vary with the different definitions of nature or natural being used. It may even be impossible in principle to know that such non-natural realms exist. But this weaker definition retains the fundamental core of naturalism by denying that supernatural causation exists. It would thus be better to say that naturalism is the position that everything that exists within nature is itself natural and is solely influenced by natural causes. Is there any other way of conceiving naturalism?

Naturalism, as I conceive it, thus allows the existence of both nature and realms that may exist outside of nature; it simply stipulates that any non-natural realms which may exist cannot causally influence the natural world. Even the possibility of non-natural causation is not ruled out so long as both the cause and effect reside in some non-natural realm. Thus naturalism allows for the existence of both the natural and the non-natural--including instances of natural and non-natural causation--as long as these domains are causally separate. A supernatural cause, on this view, would be a non-natural cause of an event within nature. The phrase 'supernatural event' is best taken to refer to an event within nature which has a supernatural cause. The phrase 'natural event' can refer to either an event with a natural cause or an event in the natural world. We should distinguish between these two, so I will not use the phrase 'natural event'. Instead, I will use the phrases 'naturally-caused event' and 'event within nature' (or the natural world), respectively, to mark this distinction. Naturalism is thus best construed as the denial of the existence of any genuine instances of supernatural causation, whereas supernaturalism is the affirmation of the existence of such instances.

Arthur C. Danto (1971: 448) comes closest to explicitly defining naturalism in this way when he characterizes naturalism as entailing that "The entire knowable universe is composed of natural objects--that is, objects which come into and pass out of existence in consequence of the operation of 'natural causes' ". But what is a natural cause? According to Danto, A natural cause is a natural object or an episode in the history of a natural object which brings about a change in some other natural object... It is solely with reference to natural causes that we explain changes in the behaviour of natural objects. This may require reference to objects which we cannot directly experience, but these will nevertheless still be natural objects, and we need never go outside the system of natural objects for explanations of what takes place within it. Reference to non-natural objects is never explanatory insofar as the meaning of the term 'natural' is not made explicit, the definition above leaves open the possibility that 'natural cause' might be defined broadly as any cause of a change in the behaviour of a natural object. Such a broad definition of 'natural cause' clearly begs the question: That all causes of events within nature are natural causes is precisely the issue in question. We certainly don't want this thesis to be true by definition--that is, true in a trivial sense. Rather, we want naturalism to bea position which--if true--is informative.

The poignant feature of Danto's definition which seems most essential to naturalism is the thesis that we never need to look to something outside of the natural world to explain anything within the natural world. On Danto's definition, we may not always be able to directly experiencea natural cause, but presumably we should be able to experience it indirectly, as when we think of atoms as natural objects. While Danto never states how he distinguishes between directly experiencing an object and indirectly experiencing it, I will presume that he means something like the following: An object is directly experienced if it is immediately present to our senses; it is indirectly experienced if we must infer its presence to explain the behaviour of other objects which are immediately present to our senses. Danto's discussion of non-natural objects indicates that he does not intend 'natural cause' to refer simply to any cause of a change in a natural object: The universe may in addition contain one or another sort of non-natural object, but we have no reason for allowing the existence of non-natural objects unless they have impact on the observable behaviour of natural objects, for natural objects are the only objects about which we know directly, and it would be only with reference to their perturbations that wemight secure indirect knowledge of non-natural objects, should there be any (Danto, 1972: 448). Suppose we grant Danto his assumption that onlynatural objects can be known directly. A crucial question still arises: Among indirectly-known objects, how do we distinguish between those which are natural and those which are non-natural?

Danto's definition of a natural cause, while capturing very general features of natural causation and natural causal explanation, does not shed much light on what is meant by the term 'natural' itself. One obvious candidate for what is meant by the term 'natural' is physical. The earliest forms of naturalism, in fact, were versions of materialism or physicalism which maintained that everything that exists is physical. As I have construed naturalism, simple (reductive) physicalism maintains that everything that exists within nature is physical and solely influenced by physical causes. However, the prominent twentieth century debate over materialism in the philosophy of mind has revealed several difficulties with reductive physicalism as a solution to the mind-body problem.

One of the most persistent difficulties for reductive physicalism has been the apparent inability of physicalistic explanations to capture qualitative features of conscious experience. It has been persuasively argued that qualia--the experiential feels of 'what it is like' to be in a conscious mental state--cannot be captured by any physicalistic explanations in principle because physicalistic explanations inherently refer to objective or public features of phenomena, whereas the experiential features of consciousness are inherently subjective or private (Teller, 1992: 190-191). While such arguments for the irreducibility of consciousness are not the last word on the subject, they have not been decisively refuted either--at least not in the view of several prominent philosophers. Although such difficulties may be resolved in the future, their current resistance to a clear resolution that gains widespread acceptance gives us good reason to resist simply identifying the natural with the physical.

In the contemporary philosophy of mind, an attractive alternative to reductive physicalism is some version of nonreductive physicalism or property dualism. According to nonreductive physicalism, mental states are not simply identical to certain physical states (such as brain states), as reductive physicalists hold; rather, mental states are supervenient upon those physical states. There have been several competing definitions of supervenience suggested in the philosophical literature. In general, however, to say that mental states supervene upon physical states is to say that there can be no differences between mental states without a physical difference between the objects which instantiate those states (Beckermann, 1992: 11). This physical difference usually amounts to a difference in brain states, though the same mental states may be supervenient upon the physical states of an advanced computer or of an extraterrestrial brain. For our purposes, it is sufficient to say that for a mental state to be supervenient upon a physical state entails that a mental state is dependent upon and determined by that physical state without necessarily being identical to it.

But if mental states are supervenient upon some physical states and are not identical to any physical states, this means that mental states are--by definition--nonphysical. If we accept nonreductive physicalism (or even admit it as a reasonable position) and want to retain naturalism, we do not want to say that 'natural' is simply equivalent to 'physical'. However, the driving idea behind nonreductive physicalism allows us to consider another candidate for the natural: perhaps the term 'natural' means physical or supervenient upon the physical. On my definition of naturalism, nonreductive physicalism maintains that everything that exists within nature is either physical or supervenient upon the physical and solely influenced by physical causes or causes which are supervenient upon physical causes. A more economical statement of this form of naturalism would drop the idea of supervenient causation: everything that exists within nature is either physical or supervenient upon the physical and solely influenced by physical causes. Most reductive and nonreductive physicalists alike subscribe to the causal closure of the physical--the view that all caused events in the physical world must have physical causes (Gulick, 1992: 160). Moreover, nonphysical causation is unlikely given that the brain would behave noticeably differently under the constant influence of nonphysical causes than it would in the absence of such influence and we see no evidence for nonphysical influences on the brain.

If naturalism is construed as the position that everything that exists is natural, the definition of natural as 'physical or supervenient upon the physical'--though initially promising--runs into potential difficulties. Consider the philosophical debate over the existence of abstract objects. According to Platonism, there exists a class of mind-independent entities called abstract objects (Hale, 1987: 11). On traditional Platonic accounts, abstract objects are immutable and timeless entities which are incapable of being involved in causal interactions--that is, are acausal--because they exist outside of space and time in a Platonic realm of unchanging and eternal forms. A paradigm candidate for a genuine abstract object is a number:

> Numbers, sets and other stock examples of the abstract have neither spatial nor temporal position. Someone who seriously persisted in asking after the whereabouts of the number 3, say, or when it began to exist, or how long it will endure, etc., could only be supposed to be the victim ofa gross misconception concerning what kind of thing numbers are (or are taken to be). With such paradigmatic examples of the abstract in mind, it is natural to propose that the distinguishing feature of abstract objects is lack of spatial or temporal location

(Hale, 1987: 48).

However, it is questionable whether Platonism must be characterized in this way. For example, Bob Hale points out that while all candidates for abstract objects are nonspatial, certain candidates for abstract objects, such as the game of chess and the English language, have an origin in time (Hale, 1987: 49). One could argue that such examples are not genuine abstract objects after all, though Hale thinks that this is implausible. Despite this assessment, however, Hale does concede that "the vast majority of abstract objects surely are wholly atemporal as well as non-spatial" (Hale, 1987: 253). Perhaps the only abstract objects which we are forced to countenance as real, if we are forced to countenance any at all, are those which clearly exist outside of space and time. This would explain why abstract objects are in some sense acausal. Hale points out that while it isn't obvious that abstract objects must be completely acausal, "when abstract objects are said to be constitutionally incapable of causal involvement, what is meant is that they cannot be causes of change, and perhaps also that they cannot undergo change" (Hale, 1987: 2). Given Danto's understanding of a cause as something "which brings about a change" in an object, abstract objects are acausal in the sense of causality that we are interested in.

In any case, I will confine our exploration of the controversy over abstract objects to paradigm cases of abstract objects like numbers where the traditional definition of abstract objects does apply. There is nothing we can point to within space and time and say 'that is the number 4'. Furthermore, numbers and the relations between them are unchanging and mathematical truths like 2+2=4 seem timelessly true. Physical objects such as acorns can be arranged such that we can say that there are only four of those objects within a given space, but these objects exemplify instances of the number 4--they are not equivalent to '4' itself. On a Platonic account, four acorns are a concrete and particular exemplification of this abstract and universal form. So 4 is a universal concept rather than a particular one. The number 4 is also an abstract concept rather than a concrete one, unlike the idea of an acorn. We cannot point to the number 4 in the way we can point to an acorn--this is the essence of what being an abstract object is.

Does naturalism allow the existence of abstract objects? Alan Lacey thinks that naturalism construes the natural world as a closed system of natural causes and effects "without having to accommodate strange entities like non-natural values or substantive abstract universals" (Lacey, 1995: 604). Similarly, Arthur C. Danto thinks that naturalism entails the denial of the existence of abstract objects. Danto argues that formal sciences like mathematics no more entail a Platonistic ontology than [the

empirical sciences do], nor are we, in using algorithms, committed to the existence of numerical entities as nonnatural objects. If the formal sciences are about anything, it will at least not be a realm of timeless numerical essences, and at any rate logic and mathematics are properly appreciated in terms not of subject matter but of function, as instruments for coping with this world rather than as descriptions of another one (Danto, 1972: 449).

Robert Audi (2000: 31), by contrast, thinks that naturalists can admit the existence of abstract objects, noting that they would still be naturalists 'about the world': "A naturalist does not have to be a radical physicalist taking the position that only physical phenomena are real, not even excepting such well-behaved abstract entities as sets". Audi (2000: 32) argues that abstract objects may be essential for any adequate ontology: "It is even more obvious that it could turn out to be impossible to give an adequate account of science, not to mention philosophy, without positing some kinds of abstract entities, such as numbers, propositions, and possible worlds."

3.1.1 Contributions of Naturalism to research in the Social Sciences

The precise character and scope of contemporary naturalism remain disputed issues, yet projects under that label do show discernible commonalities. In particular, naturalists grant exceptional cognitive status to the empirical sciences, although they do this in ways that vary from one author to another. Many, following John Dewey, strive to ground their view of human life in evolutionary biology and, more broadly, to replace traditional metaphysical and epistemological approaches with theories and methods continuous with those of the sciences. Some concentrate on the natural sciences, others take guidance from broader scientific disciplines. A strong version of naturalism, by Hans Reichenbach (1949: 74), runs as follows:

> Modern scientists refuse to recognize the authority of the philosopher who claims to know the truth from intuition, from insight into a world of ideas or the nature of reason or the principles of being, or from whatever super empirical source. There is no separate entrance to truth for philosophers. The path of the philosopher is indicated by that of the scientist.

Not all contemporary naturalist positions aim to cover as much as Reichenbach's package, however. Positions differ regarding the theses they hold. Two especially prominent are (to first approximation):

1. Ontological naturalism, which asserts that all reality, including

human life and society, is exhausted by what exists in the causal order of nature. This includes the view that all properties related to the mind depend ontologically on natural entities. Ontological naturalism thus rejects the existence of supernatural entities. Its various options include such positions as supervenient physicalism (e.g. Papineau, 1993) and broader pluralisms (e.g. Bunge, 1977, 1979).

2. Epistemological naturalism holds that there is no higher tribunal for knowledge than science. Different views on scientific knowledge make for different renditions of this thesis, but unifying traits include an emphasis on scientific justification, and a learned distrust of ideas thought to be immune to empirical findings (rejection of apriorism). From the perspective of naturalism (presented sometimes as "Methodological Naturalism"), one makes the most sense of things by avoiding non- scientific approaches to knowing—research should pursue the kind and level of warrant the natural sciences achieve for their best hypotheses.

Naturalists who, like Reichenbach, support both theses use natural science and its methodologies as framework for the discussion of "philosophical" problems—the study of knowledge, worries regarding the history of inquiry, epistemology, ontology, the rise and nature of mind and ethics, and so forth. In modern science the earliest credible advances of strong naturalism came from evolutionary biology, especially as part of the discussion of Darwin's work. Building on the naturalization of biology proposed in the *Origin*, a subsequent book by Darwin, *The Descent of Man*, introduced a proposal to understand psychology and the rise of mind that ran contrary to traditional explanations in terms of vital forces and spiritualism. Darwin went as far as to propose that freedom and moral values might be rooted in natural selection. His daring way of looking at organic life and the mind has been an inspiration to naturalists ever since.

Radical naturalists draw ontological lessons from Darwin, especially against dualism—a doctrine they think has become untenable (Danto, 1972: 448). As noted earlier, by affirming the continuity between all levels of reality naturalism opposes "supernaturalism" and "transcendentalism" (Ferrater Mora, 1990: 2315), with the consequence that, if naturalism is correct, neither human beings nor their cultural products can be considered supernatural—there is simply no room for spiritualist explanation (see Galparsoro's chapter in this volume).

Perhaps the distinctive question of the philosophy of social science is whether and how the social sciences differ from the natural sciences. The sciences are paradigms of empirical knowledge, both of what can be known and how it should be established. Not all sciences are equal.

Alchemy and astrology were once proclaimed "sciences," but nobody now takes their theories as knowledge.

On the other hand, physics, particularly Newtonian mechanics, is widely taken as a model for scientific knowledge. The question of whether social science is like natural science has therefore been central to the legitimacy of the social sciences since their inception. "Naturalism" is the name for a variety of views holding that the social sciences should be like the natural sciences in some important way. Those who think that the social sciences need a distinctive method, form of theorizing, or ontology are—you guessed it—anti-naturalists. Unfortunately, the term is used in a variety of ways. Itwill therefore be useful to engage in a little bit of stipulative definition.

Since the issues debated cover a wide variety of topics, it will be useful at the outset to distinguish epistemological naturalism from metaphysical naturalism. Epistemological forms of naturalism concern issues about theory, explanation, and method. In literature on social scientific methodology one often encounters a distinction between "qualitative" and "quantitative" research. Qualitative research uses interviews, participant observation, focus groups, and similar methods. It expresses its research results in narrative form, often relying on illustrative cases and analyzing long passages of text. Quantitative research relies on methods that measure in some way, perhaps through surveys or experiments. It aims to uncover correlations and causes, and it may rely on mathematically formulated models. When this distinction is introduced in the methodology literature, it is usually insisted that qualitative research is deeply different from quantitative research. Authors who take this position are therefore adopting some form of epistemological anti-naturalism.

Metaphysical naturalists hold that humans are part of the natural world, and therefore they must be understood in terms of the same causes and mechanisms that animate all other creatures. Those who oppose metaphysical naturalism argue that humans or human societies are distinctive in some deep way. The arch anti-naturalist of a metaphysical stripe would be Rene Descartes, since he held that human minds were a non-physical sort of substance. What makes us human is literally not part of the natural world. In contemporary social science, evolutionary and psychological approaches have recently taken on a new importance. These are typically naturalistic in the metaphysical sense. Evolutionary explanations of how cooperation could arise, for example, treat human beings as sharing most traits with other animals. The challenge is to explain how our specific traits, like altruistic cooperation, could arise through selection. At the deepest level, the dispute over metaphysical

naturalism is about whether human nature is part of the natural world or outside of it.

Naturalism is best understood as a nexus of closely related philosophical debates. The real work of answering the question—should social scientific theories/methods/ontologies be like the natural sciences?—is carried out at a much lower level of abstraction. Several issues to be discussed in later chapters thus fall within the theme of naturalism. A pair of questions forms the core of the debate over epistemic naturalism. Does understanding human behaviour require special *methods?* And does it require forms of *theory* different from those in the natural sciences? In the discussion of Rosa Parks and the civil rights movement, above, the problem was framed in terms of "free riders." Given this perspective, the social scientist may use the resources of game theory to analyze and explain social movements. Formalizing the preferences of abstract actors in a social movement, the main claims of the theory can be mathematically expressed. Some people think that because it abstracts away from the historical individuals, this sort of theory misses important issues. The real question is how Rosa Parks and other civil rights leaders were thinking about the challenges they faced. This cannot be expressed in terms of correlations or game-theoretical analyses. The "qualitative" methods, mentioned above, were developed to find out how historical agents like Rosa Parks were thinking about their situation.

Questions about causality are staples of both epistemology and metaphysics. They arise across the sciences, but in the social sciences they have particular resonance. The question of free will asks whether human action is causally determined. In the social sciences, this question turns into one about explanation: Can human action be causally explained? Anti-naturalists argue that it cannot because humans act for reasons, and reasons are not causes.

The empiricist analysis of causation, handed down from Hume, holds that causes require laws. Are there laws of the social world? The democratic peace is sometimes put forward as a law, but this is debated. Many have thought that the creativity and complexity of human behaviour precludes the kind of lawfulness found in the natural sciences. In the last several decades, analyses of causation that do not tie causes to laws so tightly have become popular.

Law or not, the democratic peace hypothesis asserts a causal relationship between democracy and peace. How could such a causal hypothesis be tested in the social sciences? The problem, as readers of Hume well know, is that the evidence for a hypothesis like the democratic peace is a correlation: no observed democracies have gone to war with each other.

The theory asserts an unobserved cause. The social sciences have developed several methodologies that purport to solve this epistemological problem.

A final broad issue that invokes the theme of naturalism is the role of rationality and rules in social scientific understanding. This issue intersects with the theme of normativity; but here we are concerned with the place of rules in social scientific theory. Social scientists often appeal to rules, but one might wonder whether rules really explain anything.

Does the fact that Hannah *ought* to do something explain why she does it? Naturalists of a metaphysical stripe often argue that it does not, but this depends to some extent on how norms, rules, and values are conceptualized.

Self-Assessment Exercise

1. On _____ definition, we may not always be able to directly experience a natural cause, but presumably we should be able to experience it indirectly, as when we think of atoms as natural objects.

2. _____hold that humans are part of the natural world, and therefore they must be understood in terms of the same causes and mechanisms that animate all other creatures.

3.4 Summary

Human beings, their existences, thinking and acting may have been brought into existence by nature but it is unthinkable to state that nature is the totality of human being. This unit discussed the basic issues in naturalism holding on the thought that nature is the totality, source and touchstone of the society. Nature tend to determine all beings that exist and it also determines human thinking and actions.

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1.6 Possible Answers to SAE

Self-Assessment Exercise

1. Danto's;
2. Metaphysical naturalists

UNIT 4 REDUCTIONISM

Unit Structure

4.1 Introduction

This unit addresses the basic thought of reductionism. It is anchored on the thinking that discourse in the various disciplines varies in terms of difficulty and respect from the sciences through the social sciences to other disciplines. It is thought to encompass both metaphysical ad epistemological discourse. Reductionism is one of the most important epistemological and methodological issues that arise when considering both the relationships between different levels of organization of matter and the links between different scientific disciplines (sociology, psychology, biology, physics, etc.). In the domain of psychology, reductionism is often linked with the mind/body problem. The issue of reductionism is also connected with the examination of research methods of psychology as a science, particularly the treatment of the analysis of psychological phenomena into their components as research strategy.

4.1 Learning Outcomes

The objectives of this study are:
- To know the basic issues in reductionism;
- To analyse the various issues in reductionism; and
- To know the relevance of reductionism to the social sciences

4.1.1 The Role of Reductionism in the Naturalism Sciences

Broadly speaking, ‘reductionism’ is used in philosophy to refer to doctrines according to which one can explain some object by reducing it to a different, usually more simple, level – for example, the meaningful to the physical as in behaviourism, knowledge to sense data as in phenomenalism, the social to the biological as in sociobiology. The reductions are not made merely as a way of simplifying complexity, but of locating what their advocates believe to be the causes or sources of the explananda.
Anti-reductionists argue that the explananda are irreducible, that even

though they may depend on the things to which reductionists appeal - thought on brain cell activity, for example - they have *emergent properties* or powers which cannot be reduced to those of their constituents without residue. Anti-reductionists therefore argue for a *stratified ontology*, in which any higher stratum presupposes lower strata but not vice versa – as in the asymmetric relation of the biological to the physical. The strata usually cited are the physical, the chemical, the biological and the social, but further strata may be invoked within each of these. The plausibility of the idea that the world is stratified arguably provides a warrant for the existence of different disciplines: the physical, the chemical, the biological and the social deal with different strata of reality. However, as we shall see, the subdivision of social science into disciplines has a much less clear relation to stratification. In part, the rise of different social sciences seems to correspond to the differentiation of spheres in modernity – politics, law and economics, for example - rather than to different strata, though some might argue that psychology is an exception.1 A third group argues against both these positions, arguing that all objects and processes are on the same level within a relational field, and that what eventuates are products of interaction rather than emergence.

Reductionism has been defined as an epistemological and methodological stance which absolutizes the reduction of complex systems or problems to their simple components or elements. The term "reduction" originates from the Latin term "reducere" which meant to lead back, bring back, and restore. Reduction is a legitimate and useful method of scientific investigation of complex systems and problems through analysis of their components. The reduction of the higher-level structures to lower-level components is constructive only when the researchers are aware of the specific characteristics of the subject of their investigation, the conditions, and the limitation of reduction. Reductionism as the opposite of holism accepts the view that all objects or systems are reducible to lower levels in the hierarchy of their constitution.

At least three types of reductionism can be distinguished: ontological, methodological, and theoretical. Ontological reductionism is the position that the higher-level structures are reducible to lower level structures. The world is not homogeneous, but stratified and composed of different levels of organization with varying degrees of complexity.

However, ontological reductionism leads to the elimination of the higher level to a single, lower level substance. Methodological reductionism is a research strategy based on the presentation of analysis as the only scientific approach to the explanation of the higher level of organization in terms of the lower level. Reducing methods of psychology and other

sciences to methods of physics is a typical form of methodological reductionism (Jones, 2000: 22). Reductionism as a research strategy has at least three main characteristics: quantification, a linear-serial way of proceeding, and a deductive and analytical way of reasoning (Verschuren, 2001: 50).

Theoretical reductionism is an attempt to explain the terms and laws of a theory of higher-level phenomena on the basis of the terms and laws of another theory of lower-level phenomena. In the 1930s, logical positivists with their program "Unity of Science" argued that all scientific sentences should be in a physical language (Ney, 2008: 43). Science is presented by logical positivists as a single unified system, in which higher-level sciences such as sociology and psychology are reducible to basic science (physics) (Bem & Loorende Jong, 2001:21).

Physicalism is based on a reduction of all sciences – including social sciences – to physics which pretends to provide the ultimate "explanations." Disciplinary imperialism produces claims that the particular discipline (physics) is more fundamental than any other disciplines.

In social science, the term 'reductionism' is used largely pejoratively, as in the accusation of 'biological reductionism' or 'psychologism' used by sociologists against those who seek to explain social behaviour in biological or psychological terms. It is often used with reference to stratification and emergence held to exist within the stratum of the social, as in accusations of 'vulgar materialism', where actors' beliefs are treated wholly as a function of their material circumstances. Some arguments about reductionism centre not on reduction as such – though they may claim to do so - but the form and direction of the reduction. For example, some opponents of the reduction of the social to the biological may advocate not a stratified ontology in which the social has irreducible emergent powers from the biological, but in effect that the biological is reducible to the social or cultural. In other words an upwards reduction may be substituted for a downwards reduction. Upward reductions have become common with the rise of cultural studies and the prioritisation of discourse. Support has also grown in some parts of social science, particularly anthropology, for the third, 'flat ontology' position (e.g. Ingold, 2000: 45).

There are also looser usages of the term, again invariably pejorative, which refer not to the reduction of higher strata objects or processes to lower strata ones (or vice versa) but simply to reductions the explanations of multiply determined processes to a few elements, ignoring others within the same stratum that are believed to be significant. (These might

be called horizontal reductionism). The reduction of capitalism to market exchange might be an example of this. For advocates, such reductions provide a way of simplifying and clarifying what they claim would otherwise be unmanageably complex, and they may invoke the prerogative of scientific abstraction and the ideal of explanatory elegance and parsimony to legitimate this. For critics, they involve misattributions of causality and misinterpretations of the meaning of discourses. Thus, for example, the reduction of capitalism to exchange might be argued to allow the effects of power imbalances in control over key resources to be attributed to free exchange.

This last example indicates that reductionism is not merely an arcane matter internal to scientific and philosophical inquiry and lacking wider interest. Reductionism is common in everyday thought and discourse, and it can take forms which have great political significance. Thus, attributing people's behavioural characteristics in reductionist fashion to their genes has important implications for how we evaluate them and respond to them. Stances on reductionism underlie whether we respond to behavioural pathologies by administering drugs or providing therapy and changing the social environment. Individualistic explanation is a particularly important form of reductionism: by reducing the social to the individual, it attributes to individuals sole responsibility for their fates, so that, for example, individuals are solely responsible for their class and life chances. This is mirrored by a form of sociological reductionism in which individuals have no influence or responsibility for their actions or character and are merely products of wider forces, intersections in discursive networks, etc. These two opposed reductionisms, albeit in more moderate forms, are fundamental to the political divide between right and left. As is usual with reductionism, it is easier to identify the problems of such positions than how to resolve and avoid them.

In this critical commentary on reductionism I shall include both the more technical and looser senses of reductionism, for both cover matters of considerable political significance, though I shall focus mainly on vertical reductionism. Although I'm interested in reductionism primarily as an issue in the social sciences, given the importance of relationships between the social and the biological and the physical, it would of course be reductionist (in a pejorative sense) to ignore these. It is also difficult to say much about reductionism without straying into matters of dualism, but I assume that in this context this should be a productive.

Any general position on reductionism implies some kind of wider philosophical standpoint regarding ontology and metaphysics, in terms of which more specific arguments about reductionism, explanation and interpretation are developed. It is therefore necessary to give some

background on this standpoint, which derives in my case from critical realist philosophy. This opposes reductionism and supports a stratified ontology in which emergent powers figure prominently. The main part of the paper develops this approach, offering explanations of emergence, critiques of reductionism and flat ontology positions, and discussions of the implications of interaction among mechanisms at different strata. The second part discusses some influential forms of reductionism in social science - strong social constructionism and its essentialist 'other', the reduction of actors to causal agents and meaning makers, reductionist approaches to values and reason produced by the fact-value family of dualisms, and finally, and briefly, reductionist treatments of responsibility, whether individualist or socially determinist. But before launching into this there is a preliminary matter which must be dealt with – the influence of rivalries between academic disciplines and their imperialistic tendencies in driving reductionism.

The issue of reductionism, of whether one kind of view of the world can be reduced to (and hence replaced by) another without loss, throws different kinds of knowledge into competition, whether for the same ground or over an appropriate division of territory. Raising the issue invites not only debate but competition among disciplines, and hence is liable also to invite that most tedious of academic tendencies - disciplinary imperialism (Sayer, 2000a). Disciplinary imperialism is itself a form of reductionism, at once both imperialistic and parochial, claiming ever greater scope and vision for a particular discipline while remaining within its restricted point of view. The shackling of individual academic ambition to the fortunes of institutionalised disciplines produces claims from each discipline that it is more fundamental and/or comprehensive, than any other discipline. Given disciplinary imperialism, one is tempted to say that economists would say that everything can be reduced to a matter of choice, wouldn't they? - just as anthropologists would attempt to say everything is cultural, and sociologists would claim that everything is socially-constructed. Particularly between disciplines which are close or overlapping in their objects one finds not only competition but mutual aversions, such as those of sociology and psychology or economics and sociology. These are evident in sociologists' fear of being accused by colleagues of 'psychologism' (reduction of the social to the psychological), which tends to make them refuse to concede anything to psychology, even where doing so would help their own explanations. It is also evident in economists' scarcely-veiled contempt for sociology, often buttressed by the curious claim that sociologists deal with the irrational and economists with the rational aspects of behaviour (which can hardly escape a corresponding implied inequality in status), and by a methodological imperialism which considers deductive reasoning, preferably in mathematical form, as the only kind of approach that warrants the honorific label 'scientific'.

Disciplinary imperialism invites members of disciplines (who are more 'the disciplined' than 'the disciples') to assess theories or explanations not according to any general standards of empirical adequacy, rigour, coherence, etc., but according to whether they advance the imperialistic ambitions of their discipline. Of course, they rarely do so deliberately; rather they respond to the positive incentives to do so in terms of their personal reputation and that of their discipline, while the arguments of the natives who are being displaced are unlikely to be understood or taken seriously, since they come from another discipline. Individual academics can advance their careers by showing that what was previously imagined to lie outside their discipline's territory can in fact be better explained by their own discipline's tropes and theories. Public choice theory in economics, which claims to be able to explain any social behaviour, not just that generally seen as economic, in terms of the supposedly rational choices of narrowly self-interested individuals, is just one example. Sometimes, of course, they may be right; this is not a defence of existing disciplinary boundaries – far from it - but a warning of the dangers of such explorations being conducted in a spirit of disciplinary imperialism rather than post-disciplinary learning.

One doesn't have to fall for a sociological reductionism to acknowledge that the competitions of the academic field for status and power so brilliantly analysed by Pierre Bourdieu in *Homo Academicus* (Bourdieu, 1988: 62) has something to do with the way debates about reductionism and the relation of different kinds of discipline, explanation and theory develop in the context of a field of competing actors and institutions. As Bourdieu argued, the point of acknowledging such tendencies is not to invite a sociologically imperialist reduction of the structure and content of knowledge to a competition for power among academics, but precisely to identify, and hence to limit, the distortion of our understanding of the world by that form of institutionalised competition (Bourdieu, 2004: 58).

Philosophers have often envisioned the sciences as arranged in a hierarchy. Physics is the foundation on which chemistry is built, followed in turn by biology, psychology, and then the social sciences. Having built such a house of cards, one wonders how much it would take to flatten it. Can the social sciences be reduced to psychology, which in turn reduces to biology? Does everything ultimately reduce to physics? These are the questions of reductionism.

Like naturalism, reductionism is a theme that encompasses several issues, and like naturalism it comes in both epistemological and metaphysical varieties. The difference between the varieties depends on how "reduce" is to be understood. Some have held that reduction is a relationship between theories. Epistemological reductionism holds that theories at one

level can be replaced by theories at a lower level. Everything explicable by sociology, for example, is ultimately explicable in terms of psychology. (One need not continue, of course; there may be reasons why psychology does not reduce to biology.) Metaphysical claims about reduction, on the other hand, contend that entities, properties, processes, or events at one level are nothing but objects at another. Minds do not exist, the reductionist might say, only brains. Like the distinction between epistemological and metaphysical naturalism, it is possible to adopt (anti-)reductionism of both flavours. It is also possible to be one sort of reductionist without being the other. We will encounter a number of philosophers and social scientists who accept a metaphysical reductionism but do *not* think that theories of the social sciences could be replaced by psychology.

The themes of reductionism and naturalism overlap, but they are not coextensive. Many who argue for reductionism (either epistemological or metaphysical) are motivated by naturalistic commitments. That is, one might argue that because there is one, causally connected world and humans are part of it (metaphysical naturalism), social and psychological properties must reduce to physical properties. As a rough generalization, it is probably fair to say that all reductionists are naturalists. But the converse is not true: not all naturalists are reductionists. It could be that the natural world contains a variety of fundamental kinds of things which are not all reducible to some substrate, and at the same time the social and natural sciences need to use the same theory structures and methodologies. Once again, it is difficult to resolve the issues when they are considered at this abstract level. The broad theme of reductionism gets substance fromseveral specific issues in the philosophy of social science.

Students of the social sciences are likely to encounter the phrase "methodological individualism" in the course of their studies. It is the requirement that social theories must explain social events in terms of the choices, beliefs, and attitudes of individual people. Expressed this way, it is an epistemologically reductionist thesis. However, arguments for methodological individualism are often a mix of metaphysical and epistemological considerations, and the metaphysical question is whether churches, schools, armies, and so on are things that exist over and above the individuals. The reductionist regards a social movement or a democratic nation as nothing more than patterns of individual actions.

Game theory has been a particularly powerful tool for analyzing the way that group properties could emerge from individual choices. For examine these tools and their application throughout the sections that invoke reductionist themes.

Methodological individualism reduces social-level objects to individual choice and action. Most Scholars who advocate this sort of reductionism do not go on to explain individual choices in terms of psychological or biological properties. This raises the question of whether agency and individual action have a kind of explanatory priority. A number of recent research programs in the social sciences have added new dimensions to this question. Game theory is a paradigmatic form of individualism insofar as it assumes that individuals rationally pursue actions with the greatest utility. Recent work in behavioural economics has revealed striking ways in which humans fail to satisfy this assumption. These experiments are consonant with much work in cognitive psychology which seems to explain large-scale features of human behaviour in terms of sub-conscious, or better, sub-personal processes (The mechanisms discovered by contemporary cognitive psychology and neuroscience would be examples of "sub-personal" processes or properties). This family of empirical theories suggests a picture where the level of agency (belief, intention, choice) is eliminated and replaced by sub-personal cognitive capacities and super-personal social patterns. Not exactly your father's reductionism, but spooky nonetheless.

Anti-reductionists, or "holists" as they are often called, can point to at least two social phenomena that seem to be impossible to explain or analyze in individualistic terms: normativity and joint action. It is a philosophical commonplace to say that "ought" cannot be reduced to "is";a norm or rule cannot be identified with a pattern of behaviour.

Joint actions are things that a single person cannot do alone, such as singa duet or defeat Napoleon's army. In the last two decades, there has beena flurry of work in philosophy on the question of whether joint actionscan be explained or understood as an aggregate of individual intentional actions, or whether there is some sort of joint intentionality.

Self-Assessment Exercise

1. _____ reduces social-level objects to individual choice and action
.
2. At least three types of reductionism can be distinguished (a) Two (b) Two (c) Three (d) Four

4.4 Summary

Reductionism seems attractive and convincing but leaves a lot to be imagined. This unit discussed the basic issues in reductionism. It has argued that social activities could be explained in terms of individual actions or groupaction.

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1.6 Possible Answer to SAE

Self-Assessment Exercise:

1. Methodological individualism;
2. (c)

End of Module Exercise

1. There are _____ numbers of steps adopted as methodology by the social scientists (a) 7 (b) 9 (c) 8 (d) 5

2. At least three types of reductionism can be distinguished (a) Two (b) Two (c) Three (d) Four

3. _____ has been defined as an epistemological and methodologicalstance which absolutizes the reduction of complex systems or problems to their simple components or elements.

4. _____ hold that humans are part of the natural world, and therefore they must be understood in terms of the same causes and mechanisms that animate all other creatures.

MODULE 4 THE FUTURE OF THE SOCIAL SCIENCES

UNIT 1 MPIRICISM AND THE THEORY OF KNOWLEDGE

Unit Structure

1.1 Introduction

This unit discusses the burning issues in empiricism in the contemporary discourse of epistemology. In the process, it brings to bear the basic arguments and analyses of the divergent discourse on the relationships between positivism and epistemology.

1.2 Learning Outcomes

The objectives of the study are:

- To expose the basic components of positivism and epistemology;
- To analyse the various arguments on the relationships between positivism and epistemology; and
- To know the implications of the discourse between positivism and epistemology on the social sciences.

1.3 The Empirical Approach to Knowledge Acquisition

What is the empirical idea of knowledge? How does it help the social sciences? The history of modern science and the history of theories of knowledge have been closely bound up with each other. Sciences such as physics and chemistry, which rely a great deal on observation and experiment, have tended to justify their methods and knowledge-claims

in terms of the empiricist view of knowledge. Empiricist philosophers have tended to return the compliment, by treating science as the highest form of genuine knowledge, or often even the only one. In the twentieth century, empiricist philosophers (particularly those, such as R. Carnap (1966), andthe British philosopher A. J. Ayer (1946), who are known as the 'logical positivists') have been especially concerned to draw a clear dividing line between science, as genuine knowledge, and various belief-systems such as religion, metaphysics, psychoanalysis and Marxism. In the empiricist view, these belief systems, which sometimes present themselves as scientific, can be shown to be 'pseudo-sciences' (though it is a bit more complicated than this – one of the leading logical positivists, Otto Neurath, was also a Marxist). One of the difficulties they have encountered in trying to do this is that a very strict criterion of scientific status, which is adequate to the job of keeping out Marxism, psychoanalysis and the rest, generally also rules out a great deal of established science.

Although empiricist philosophy is concerned with the nature and scope of knowledge in general, our concern is more narrowly with its account of natural science. We will also be working with an 'ideal-typical' construct of empiricist philosophy, which does not take much notice of the many different versions of empiricism. Anyone who wants to take these debates further will need to read more widely to get an idea of the more sophisticated variants of empiricism. For our purposes, the empiricist view of science can be characterized in terms of seven basic doctrines:

a. The individual human mind starts out as a 'blank sheet'. We acquire our knowledge from our sensory experience of the world and our interaction with it.
b. Any genuine knowledge-claim is testable by experience (observation or experiment).
c. This rules out knowledge-claims about beings or entities which cannot be observed.
d. Scientific laws are statements about general, recurring patterns of experience.
e. To explain a phenomenon scientifically is to show that it is an instance of a scientific law. This is sometimes referred to as the 'covering law' model of scientific explanation.
f. If explaining a phenomenon is a matter of showing that it is an example or 'instance' of a general law, then knowing the law should enable us to predict future occurrences of phenomena of that type. The logic of prediction and explanation is the same. This is sometimes known as the thesis of the 'symmetry of explanation and prediction'.
g. Scientific objectivity rests on a clear separation of (testable) factual statements from (subjective) value judgements.

We can now put some flesh on these bare bones. The first doctrine of empiricism is associated with it historically, but it is not essential. In the seventeenth and eighteenth centuries, empiricists tended to accept some version of the association of ideas as their theory of how the mind works, and how learning takes place. This governed their view of how individuals acquire their knowledge (that is, from experience, and not from the inheritance of innate ideas, or instinct).

Today's empiricists are not bound to accept this, and they generally make an important distinction between the process of gaining or acquiring knowledge (a matter for psychology) and the process of testing whether beliefs or hypotheses (however we acquired them) are true. In the terminology of Karl Popper, this is the distinction between the 'context of discovery' and the 'context of justification'.

The second doctrine of empiricism is at the core of this philosophical approach. What does this mean? The basic point the empiricists are making is that if you want us to accept any claim as true, you should be able to state what the evidence for it is. If you can go on claiming it is true whatever evidence turns up, then you are not making a factual statement at all. If the manufacturer of a food additive claims that it is safe for human consumption, but cannot give evidence that anyone has yet consumed it, we would expect the official body concerned with food safety standardsto refuse to accept their assurances. If they then provide results of tests on animal and subsequently human consumers of the product which show unexpected instances of symptoms of food-poisoning, but continue to insist the product is safe, we might start to suspect that they are not interested in the truth, but solely in selling the product. Thus far, this doctrine of empiricism accords very closely with widely held (and very reasonable!) intuitions.

It is important to note that our statement of the second doctrine of empiricism could be misleading. For empiricism, a statement can be accepted in this sense as genuine knowledge, or as scientific, without being true. The important point is that statements must be capable of being shown to be true *or false*, by referring to actual or possible sources of evidence. On this criterion, 'The moon is made of green cheese' is acceptable, because it can be made clear what evidence of the senses will count for it, and what evidence will count against it. A statement such as 'God will reward the faithful' is ruled out because it cannot be made clear what evidence would count for or against it, or because believers continue to believe in it whatever evidence turns up.

This latter possibility is significant, since for some empiricists the testability of a statement is not so much a matter of the properties of the statement as of the way believers in it respond to experiences which appear to count against it. But once we recognize that there might be a choice about whether to give up our beliefs when we face evidence which seems to count against them, this raises problems about what it is to test a belief, or knowledge-claim. In a recently reported case, it was claimed by a group of researchers that rates of recovery of patients suffering from a potentially fatal disease who were undergoing additional treatment at a complementary clinic were actually worse than those of patients not undergoing this treatment.

This appeared to be strong evidence that the treatment was ineffective, if not actually harmful. Would it have been right for the clinic to have accepted these findings, and to have closed down forthwith? In the event, subsequent analysis of the data suggested that patients selected for the additional treatment had, on average, poorer prognoses than those who were not. They were, in any case, less likely to recover, so that the research did not, after all, show the treatment to be ineffective or even harmful. Even had advocates of the 'complementary' treatment not been able to show this weakness in the research design, they might well have argued that a more prolonged investigation, or one which included the results of a number of different clinics offering the same sort of treatment, might have come up with more favourable evidence.

In this case, a potentially beneficial treatment might have been abandoned if its advocates had been too ready to accept apparent evidence against it. On the other hand, to keep hanging on to a belief against repeated failure of test expectations starts to look suspicious. However, because tests rarely, if ever, provide conclusive proof or disproof of a knowledge-claim, judgement is generally involved in deciding how to weigh the significance of new evidence. In practice it can be very difficult to see where to draw the line between someone who is being reasonably cautious in not abandoning their beliefs, and someone who is dogmatically hanging on to them come what may. This is a big problem for the empiricist philosophers of science who want a sharp dividing line between science and pseudo-science, and want to base it on the criterion of 'testability' by observation or experiment. To preserve the distinctive status of scientific knowledge-claims they need to reduce the scope for legitimate disagreement about how to weigh evidence for or against a hypothesis.

There are two obvious ways of doing this. One is to be very strict about what can count as a hypothesis, or scientific statement, so that the knowledge-claims it makes are very closely tied to the evidence for or against it. A general statement which just summarizes descriptions of

direct observations might satisfy this requirement. A standard example is 'All swans are white.' This is supported by every observation of a white swan, and actually disproved by any single observation of a non-white swan. This example can also be used to illustrate the second way of tightening up on testability. If we consider the implications of the claim that all swans are white, it is clear that it is about an indefinitely large class of possible observations. Someone interested in testing it could go out and observe large numbers of swans of different species, in different habitats and in different countries.

The more swans observed without encountering a non-white one, the more confidence the researcher is likely to have that the universal statement is true: each successive observation will tend to add to this confidence, and be counted as confirmation. This seems to be common sense, but, as we will see, there are serious problems with it. However, for empiricist philosophers of science, the issue is seen as one of finding a set of rules which will enable us to measure the degree of confidence we are entitled to have in the truth of a knowledge-claim (the degree of confirmation it has) on the basis of any given finite set of observations. A great deal of ingenuity has gone into applying mathematical probability theory to this problem.

The third doctrine of empiricism was initially meant to rule out as unscientific appeals to God's intentions, or nature's purposes, as explanatory principles. How can we understand this?

Darwin's explanation of the adaptive character of many features of living organisms in terms of differential reproduction rates of random individual variations over many generations made it possible to explain the *appearance* of design in nature without reference to God, the designer. But in many scientific, or would-be scientific, disciplines, researchers appeal to entities or forces which are not observable. Newton's famous law of universal gravitation, for example, has been used to explain the rotation of the earth around the sun, the orbit of the moon, the motion of the tides, the path of projectiles, the acceleration of freely falling bodies near the earth's surface and many other things. However, no one has ever seen gravity. It has been similar with the theory that matter is made up of minute particles, or atoms. This theory was accepted as scientific long before instruments were developed to detect atomic- and molecular-level processes. And even now those instruments have been developed; the interpretation of observations and measurements made with them depends on theoretical assumptions – including the assumption that the atomic view of matter is true! Other appeals to unobservable entities and forces have not been accepted.

These include the view, widely held among biologists until the middle of the last century, that there were fundamental differences between living and nonliving things. Living things displayed 'spontaneity', in the sense that they did not behave predictably in response to external influences, and they also showed something like 'purposiveness' in the way individuals develop from single cells to adult organisms. These distinctive features of living things were attributed, by 'vitalist' biologists, to an additional force, the 'vital force'. The opponents of this view had several different criticisms of it. Some were philosophical materialists in their ontology, and were committed to finding explanations in terms of the chemistry of living things. But the vitalists were also criticized in empiricist terms for believing in unobservable forces and 'essences'. More recently, the empiricists have directed their attention to psychoanalysis as a pseudo-science which postulates unobservable entities such as the unconscious, the superego and so on (Cioffi 1970: 80; Craib 1989: 65).

The fourth doctrine of empiricism is its account of the nature of scientific laws. It is acknowledged that a very large part of the achievement of modern science is its accumulation of general statements about regularities in nature. These are termed 'scientific laws', or 'laws of nature'. We have already mentioned Newton's law of gravitation. Put simply, this states that all bodies in the universe attract each other with a force that is proportional to their masses, but also gets weaker the further they are apart. Not all laws are obviously universal in this way.

For example, some naturally occurring materials are unstable and give off radiation. The elements concerned (such as uranium, radium and plutonium) exist in more than one form. The unstable form (or 'isotope') tends to emit radiation as its atoms 'decay'. Depending on the isotope concerned, a constant proportion of its atoms will decay over a given time period. The law governing radioactive decay for each isotope is therefore statistical, or probabilistic, like a lot of the generalizations thatare familiar in the social sciences.

A common way of representing this is to state the time period over which, for each isotope, half of its atoms undergo decay. So, the half-life of uranium- 235 is 700 million years, that of radon-220 a mere 52 seconds. Of course, this can also be represented as a universal law in the sense that each and every sample of radon-220 will show the same statistical pattern. In biology, it is harder to find generalizations which can count as universal in the same way. One of the best-known examples is provided by the work of the nineteenth-century Augustinian monk Gregor Mendel. He was interested in explaining how the characteristics of organisms get passed on from generation to generation. He did breeding experiments on

different varieties of pea plants, using pairs of contrasting characteristics, or 'traits', such as round- versus wrinkled-seed shapes, and yellow versus green colour. He showed that the offspring of cross-bleedings did not, as might be expected, show blending of these characters. On the contrary, the offspring in successive generations showed definite statistical patterns of occurrence of each of the parental traits. These statistical patterns are Mendel's laws, and Mendel is generally acknowledged as the founder of modern genetics.

However, Mendel did not stop at simply making these statistical generalizations. He reasoned back from them to their implications for the nature of the process of biological inheritance itself. His results showed that some factor in the reproductive cells of the pea plants is responsible for each of the traits, that this factor remains constant through the generations, and that when two different factors are present in the same cell (as must be the case for at least some of the offspring of cross-breeding), only one of them is active in producing the observed trait.

Subsequently, it became conventional to refer to these factors as 'genes', and to distinguish between 'dominant' and 'recessive' genes according to which trait was produced when the genes for both were present together. This way of thinking also led to an important distinction between two different ways of describing the nature of an organism: in terms of its observable characteristics or traits (the phenotype), and in terms of its genetic constitution (the genotype). With these examples of scientific generalizations in mind, we can see how well or badly the empiricist view fits them. As we saw above, empiricists are committed to accepting as scientific only those statements which are testable by observation or experiment. The most straightforward way to meet this requirement, we saw, was to limit scientific generalizations to mere summaries of observations. But it would be hard to represent Newton's law of universal gravitation in this way. For one thing, the rotation of the earth and planets around the sun is affected to some degree by the gravitational forces of bodies outside the solar system.

These forces have to be treated as constant, or for practical purposes as irrelevant, if the pattern of motions within the solar system is to be analyzed as the outcome of gravitational attractions operating between the sun and the planets, and among the planets themselves. The law of universal gravitation is therefore not a summary of observations, but the outcome of quite complex calculations on the basis of both empirical observations and theoretical assumptions. Moreover, it could be arrived at only by virtue of the fact that the solar system exists as a naturally occurring closed system, in the sense that the gravitational forces operating between the sun and planets are very large compared with

external influences. But Newton's law cannot be treated as a mere summary of observations for another reason, namely that it applies to the relationship between any bodies in the universe. The scope of the law, and so the range of possible observations required to conclusively establish its truth is indefinitely large.

No matter how many observations have been made, it is always possible that the next one will show that the law is false. It is, of course, also the case that we cannot go back in time to carry out the necessary measurements to find out if the law held throughout the past history of the universe. Nor will we ever know whether it holds in parts of the universe beyond the reach of measuring instruments. In fact, subsequent scientific developments have modified the status of Newton's law to an approximation with restricted scope. However, it is arguable that if the law had not made a *claim* to universality, then the subsequent progress of science in testing its limitations and so revising it could not have taken place. This suggests that it is in the nature of scientific laws that they make claims which go beyond the necessarily limited set of observations or experimental results upon which they are based. Having established that the half-life of radon is 52 seconds from a small number of samples, scientists simply assume that this will be true of any other sample.

As we will see, this has been regarded as a fundamental flaw in scientific reasoning. It simply does not follow logically, from the fact that some regularity has been observed repeatedly and without exception so far, that it will continue into the future. The leap that scientific laws make from the observation of a finite number of examples to a universal claim that 'always' this will happen cannot be justified by logic. This problem was made famous by the eighteenth-century Scottish philosopher David Hume, and it is known as the problem of 'induction'. A common illustration (not unconnected with Newton's law) is that we all expect the sun to rise tomorrow because it has always been observed to do so in the past, but we have no logical justification for expecting the future to be like the past.

In fact, our past observations are simply a limited series, and so the logic is the same as if we were to say 'It has been sunny every day this week, so it will be sunny tomorrow,' or 'Stock markets have risen constantly for the last ten years, so they will carry on doing so.' As we saw above, a possible response to this problem for empiricists is to resort to a relatively weak criterion of testability, such that statements can be accepted as testable if they can be confirmed *to a greater or lesser degree* by accumulated observations. Intuitively, it seems that the more observations we have which support a universal law, without encountering any disconfirming instances, the more likely it is that the law is true.

Unfortunately, this does not affect the logic of the problem of induction. No matter how many confirming instances we have, they remain an infinitesimally small proportion of the indefinitely large set of possible observations implied by a universal claim. So, in the terms allowed by empiricism, it seems that we are faced with a dilemma: either scientific laws must be excluded as unscientific, or it has to be accepted that science rests on an untestable and metaphysical faith in the uniformity and regularity of nature. This brings us to the empiricist account of what it is to explain something scientifically.

The best that can be said of current scientific beliefs is that they have so far not been falsified. So, for Popper, the testability of a statement is a matter of whether it is open to falsification. Unfortunately, as Popper himself acknowledged, this doesn't solve all the problems. As we saw above, evidence which appears to count against a belief or even to disprove it may itself be open to question. Countless experiments conducted in school science labs 'disprove' basic laws of electricity, magnetism, chemistry and so on, but scientists don't see this as a reason for abandoning them. The assumption is that there were technical defects in the way the experiments were set up, instruments were misread or results were wrongly interpreted.

Whether we view testability as a matter of verification or falsification, it cannot be avoided that *judgements* have to be made about whether any particular piece of evidence justifies abandonment or retention of existing beliefs. For this reason, Popper argued that in the end the distinguishing feature of science was not so much a matter of the logical relation between hypotheses and evidence as one of the normative commitment of researchers to the fallibility of their own knowledge-claims. The empiricist aim of establishing the distinctive character and status of science implies separating out types of statements which can be scientific from those which cannot. We already saw that this means excluding statements which *look* like factual statements, but in the empiricist view are not, because they are not testable by experience (for example, statements of religious belief, utopian political programmes and so on). Moral or ethical judgements pose special problems for empiricists. They are not obviously factual, but when someone says that torture is evil, for example, they do seem to be making a substantive statement about something in the world.

Empiricists have tended to adopt one or another of two alternative approaches to moral judgements. One is to accept them as a special kind of factual judgement, by defining moral concepts in terms of observable properties. Utilitarian moral theory is the best-known example. In its classical form, utilitarianism defines 'good' in terms of 'happiness',

which is defined, in turn, in terms of the favourable balance of pleasure over pain. So, an action (or rule) is morally right if it (tends) to optimize the balance of pleasure over pain across all sentient beings. However, in more recent empiricist philosophy of science it has been much more common to adopt the alternative approach to moral judgements. This is to say that they get their rhetorical or persuasive force from having a grammatical form which makes us think they are saying something factual. However, this is misleading, as all we are really doing when we make a moral judgement is expressing our subjective attitude to it, or feelings about it. This, interestingly, implies that there are no generally obligatory moral principles, and so leads to the position known as moral relativism.

Self-Assessment Exercise

1. _____ have tended to adopt one or another of two alternative approaches to moral judgements.

2. _____explanation of the adaptive character of many features of living organisms in terms of differential reproduction rates of random individual variations over many generations made it possible to explain the *appearance* of design in nature without reference to God, the designer. But in many scientific, or would-be scientific, disciplines, researchers appeal to entities or forces which are not observable.

1.4 Summary

Scientific views are always thought to be always correct but investigations have shown that such is not always the case. This unit discussed the basic issues in empiricism as it contributes to the contemporary discourse in epistemology. In the process, it examined the basic issues in positivism which is thought to be a development from the metaphysical stage of thinking and acting to the scientific stage. It goes further to analyse the basic thinking of epistemology and discovered that most scientific conclusions need further verifications

1.5 References/Further Readings/Web Resources

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1.6 Possible Answer to SAE

Self-Assessment Exercise

1. Empiricist;
2. Darwin's

UNIT 2 POSITIVISM AND SOCIOLOGY

Unit Structure

1.1 Introduction

This unit discusses the basic issues in the relationship between positivism and sociology. In the process, it discusses the development of sociology by Auguste Comte as being influenced by the desire to develop a science of the society. It goes further to discuss the influence of positivism on the development of sociology.

1.2 Learning Outcomes

The objectives of the study are:

- To discuss the foundation and development of sociology;
- To analyze the influence of positivism on the development of sociology; and
- To know the contemporary issues on the relationships between positivism and sociology.

1.3 Positivism and Sociology

What is positivism? How does it inform sociology? These are the twon questions that we shall engage in this section.

The nineteenth-century French philosopher Auguste Comte is generally credited with inventing both of the terms ‘positivism’ and ‘sociology’ (Andreski 1974: 66). Comte was very much influenced in his early days by the utopian socialist Saint Simon, and he went on to develop his own view of history as governed by a progressive shift from one type of knowledge, or belief-system, to another. There are three basic stages in this developmental process. The initial, theological stage gives way to the metaphysical, in which events are explained in terms of abstract entities. This, in turn, is surpassed by the scientific stage, in which knowledge is based on observation and experiment.

Writing in the wake of the French Revolution, and desiring the return of normality and social stability, Comte was inclined to explain continuing conflict and disorder in terms of the persistence of outdated metaphysical principles such as the rights of man. Such concepts and principles were effective for the 'negative' task of criticizing and opposing the old order of society, but in the post-revolutionary period what was needed was 'positive' knowledge for rebuilding social harmony. This positive knowledge was, of course, science. However, the problem as Comte saw it was that each branch of knowledge goes through the three stages, but that they don't all reach scientific maturity at the same time. Astronomy, physics, chemistry and biology had all, Comte argued, arrived at the scientific stage, but accounts of human mental and social life were still languishing in the pre-scientific, metaphysical stage. The time was now ripe for setting the study of human social life on scientific foundations, and Comte set out to establish 'social physics', or 'sociology', as a scientific discipline. Since Comte's day the term 'positivism' has been used extensively to characterize (often with derogatory connotations) approaches to social science which have made use of large data sets, quantitative measurement and statistical methods of analysis. We will try to use the term in a more precise and narrow sense than this, to describe those approaches which share the following four features:

a. The empiricist account of the natural sciences is accepted;
b. Science is valued as the highest or even the only genuine form of knowledge (since this is the view of most modern empiricists, it could conveniently be included under 1);
c. Scientific method, as represented by the empiricists, can and should be extended to the study of human mental and social life, to establish these disciplines as social *sciences*; and
d. Once reliable social scientific knowledge has been established, it will be possible to apply it to control, or regulate the behaviour of individuals or groups in society. Social problems and conflicts can be identified and resolved one by one on the basis of expert knowledge offered by social scientists; in much the same way as natural scientific expertise is involved in solving practical problems in engineering and technology. This approach to the role of social science in projects for social reform is sometimes called 'social engineering'.

There are several reasons why positivists might want to use the natural sciences as the model for work in the social sciences. The most obvious one is the enormous cultural authority possessed by the natural sciences. Governments routinely take advice on difficult matters of technical policy-making, from food safety to animal welfare and building standards, from committees largely composed of scientific experts. In public debate (until quite recently) scientists have had a largely

unchallenged role in media discussions of such issues. Social scientists might well want to present their disciplines as sufficiently well established for them to be accorded this sort of authority. Not unconnected with this is the still controversial status of the social sciences within academic institutions.

Strong claims made by social scientists about the reliability, objectivity and usefulness of the knowledge they have to offer may be used to support their claim to be well represented in university staffing and research council funding for their research. This was, of course, of particular significance in the nineteenth-century heyday of positivism when the newly emerging social sciences were still struggling for recognition. In his classic work on suicide (Durkheim 1896, 1952), Durkheim drew on a vast array of statistical sources to show that there were consistent patterns in suicide rates. He showed that these patterns could not be accounted for in terms of a series of non-social factors, such as race, heredity, psychological disorder, climate, season and so on. He then went on to show that they *could* be accounted for in terms of variations in religious faith, marital status, and employment in civilian or military occupations, sudden changes in income (in either direction) and so on.

In his book on suicide, and his methodological classic *The Rules of Sociological Method* (1895, 1982), Durkheim uses a series of arguments to establish that society is a reality in its own right. The facts, 'social facts', of which this reality is made up exist independently of each individual, and exert what he calls a 'coercive power' over us. For example, each individual is born into a society whose institutions and practices are already in existence. Each of us, if we are to participate in our society, communicate with others and so on, must learn the necessary skills, including those involved in speaking and understanding the local language. In this sense, as well as in more obvious respects, we are coerced into following the established rules of our 'social environment', or 'milieu'. There is a particularly powerful statement of this towards the end of *Suicide*: It is not true that society is made up only of individuals; it also includes material things, which play an essential role in the common life.

The social fact is sometimes so far materialized as to become an element of the external world. For instance, a definite type of architecture is a social phenomenon; but it is partially embodied in houses and buildings of all sorts which, once constructed, become autonomous realities, independent of individuals. It is the same with avenues of communication and transportation, with instruments and machines used in industry or private life which express the state of technology at any moment in history, of written language, and so on. Social life, which is thus

crystallized, as it were, and fixed on material supports, is by just so much externalized, and acts upon us from without. Avenues of communication which have been constructed before our time give a definite direction to our activities (Durkheim 1952: 314).

This is enough for Durkheim to show that there is an order of facts, social facts, which are distinct from facts about individual people and their mental states, or biological characteristics. This class of facts, most obviously detected through the analysis of statistical patterns, justifies the existence of a distinct science – sociology – which takes it for its subject-matter. This science, having its own distinct subject-matter, will not be reducible to biology, or to psychology.

However, a further step in the argument is required. As practising participants in social life, it could be argued that all of us possess knowledge of it – this seems to be implied in Durkheim's own argument. If this is so, why do we need a specialist science to tell us what we already know? In answer to this Durkheim could point out that his analysis of statistical patterns in the occurrence of suicide had come up with results which most people would find surprising. This apparently most individual and lonely of acts, when studied sociologically, turns out to be determined by variable features of the social environment. In the *Rules of Sociological Method* he offers us a more general argument. As the facts of social life exist prior to each individual, are independent of their will, and exert a coercive power, they resemble facts of nature.

We all interact with natural materials and objects, and we do so through 'lay' or common-sense understandings of their properties, but just because of this we would not generally claim that there was no need for natural science. The history of the natural sciences shows innumerable instances of common-sense beliefs being corrected in the face of new scientific evidence and theory. So why should we assume that common-sense assumptions and prejudices give us reliable knowledge of the *social* world? If, in general, science progresses by increasingly distancing itself from common-sense assumptions, and gaining deeper understanding of its subject-matter, we should expect this to be true of the social sciences too.

Self-Assessment Exercise

1. _____ was very much influenced in his early days by the utopian socialist Saint Simon, and he went on to develop his own view of history as governed by a progressive shift from one type of knowledge, or belief-system, to another.

2. "For empiricism, Science is valued as the highest or even the only genuine form of knowledge." This statement is (a) Certainly True (b) Probably False (c) Certainly False (d) None of these

2.4 Summary

Positivism has played a vital role in the development of sociology as a disciple. The unit examines the development of sociology as a discipline and the role played by positivism in the development of sociology.

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1.6 Possible Answer to SAE

Self-Assessment Exercise:

1. Comte
2. (a)

UNIT 3 CRITIQUE OF POSITIVISM

Unit Structure

3.1 Introduction

This unit presents a critique of the positivism and brings the strength and weaknesses of positivism to the fore.

3.2 Learning Outcomes

By the end of this unit; you will be able to:

- To critique positivism;
- To expose the strength and weaknesses of positivism; and
- To analyze the positivism

3.3 Some Problems of Positivism in Science

What are the challenges that positivism faces? Positivism in social science can be seen as an attempt to put the study of human social life on a scientific footing by extending the methods and forms of explanation which have been successful in the natural sciences. In doing this, positivists have generally relied on some version of the empiricist theory of knowledge, and have been committed to the application of social scientific knowledge in programmes of social reform. We now come to our consideration of some of the criticisms which have been made of positivism in social science.

These criticisms are of two main kinds, and we will be dealing with them in separate discourse. The criticisms which have been most widely made and accepted among social scientists themselves concern the extension of scientific methods to the domain of human social life. Anti-positivists who take this line of argument point out that there are fundamental differences between human social life and the facts of nature which are the subject-matter of the natural sciences. These differences include the alleged unpredictability of human behaviour, which stems from our

unique possession of free will; the 'rule-governed', as distinct from law governed, character of social life; and the role of consciousness and meaning in human society. Connected with these ontological differences between the natural and the social worlds, it is argued, the relations between social scientists and their subject-matter are very different from those between natural scientists and the things and processes they study.

One such difference has to do with the way moral or political values enter into the selection of topics for investigation. Social scientists will be guided by value orientations to seek explanations of particular social phenomena or historical processes, so that social explanation will be value-relevant, and concerned with particulars. By contrast, natural scientists are concerned with discovery of general laws by methods which exclude value judgements. Another difference derives directly from recognition of the role of consciousness and meaning in social life. When social scientists come to the systematic study of social life, they encounter a subject-matter which already has an understanding of itself. Moreover, the social scientist will often see herself to be part of that social life, and will in any case have to learn to communicate with it in its own terms in order to gain `understanding of it. This, again, is very different from the external relation between natural scientists and their subject-matters. These arguments are, of course, very persuasive.

However, for the moment we will be considering a quite different line of criticism of positivism. The key point here is not so much whether it makes sense to extend the methods of science to the study of society, but *what account of science* one draws on in doing that. As we saw, the empiricist account of science is broadly accepted by positivists as the model for a scientific approach to society. But there are some serious and unresolved difficulties in the empiricist account of science and there are now, in addition, some quite well-established alternative accounts of science. These are based more on historical studies, and on sociological investigation of science in action.

It is very important to explore these further because they open up more possibilities for thinking about what the social sciences are or could be. In particular, it has been (and still is) very common for philosophers of social science to contrast positivist with interpretivist views, as if this exhausted all the alternatives. But there are other alternatives. For example, it is possible to reject positivism because of its empiricist account of science, but still keep open the possibility that society might be studied scientifically, drawing on an alternative account of what *natural* science is like. Of course, even with an alternative view of what science is, it may still be held that human society cannot be studied scientifically. But to ask this question with alternative models of science in mind is likely to raise new and interesting issues about just where the

differences and similarities lie between natural science and the study of society.

Concepts and Experience: The empiricist view that all knowledge is acquired by experience, and thatthere are no innate ideas, has been called into question by developmentsin a number of disciplines. Noam Chomsky (Lyons 1977: 32 - 34), widelyregarded as the founder of contemporary scientific approaches to language, has argued that the child's experience of language is far too limited and fragmentary for us to explain language acquisition in empiricist terms. Our ability to produce an indefinite number of well- formed sentences presupposes not just an innate disposition to learn language, but also innate knowledge of the 'depth grammar' common to all languages. Much more controversially, selfsty led 'evolutionary psychologists' and sociobiologists argue that many of our basic thought processes and behaviours are expressions of our genetic inheritance (Pinker 1997: 21).

Our ability to identify people, recognize faces, interpret a landscape and so on is not just a matter of having sense-organs which are in good order, but it also involves active processes of conceptual ordering and interpretation of which we are mostly unaware. As the philosopher of science N. R. Hanson once put it: 'There is more to seeing than meets the eyeball' (Hanson 1965: 7). On this view, then, experience is a complex synthesis of sensory impressions and conceptual ordering and selection. All experience is to some extent shaped by our previously acquired conceptual map of the world. As far as scientific observation is concerned, this is even more clearly the case. For an experience to count as a scientific observation it must be put into language, as a statement which can be understood and tested by other scientists. The activity of putting an experience into language is, precisely, to give conceptual order to it.

On the other hand, some very basic capacities for conceptual ordering do seem to be presupposed for learning itself to be possible. The eighteenth century German philosopher Immanuel Kant developed some of the most powerful arguments for this view. On his account, the ordering of the flow of our sensory experience in terms of sequences through time and locations in space was necessary to the making of all 'judgements of experience'. It is similar with the ability to judge identity and difference, to distinguish between things and their characteristics, and to think in terms of cause and effect. So, for example, we can learn from experience that touching a piece of burning wood causes pain, but the concept of 'cause' could not *itself* be derived from experience. In Kant's view, these very basic organizing concepts (the 'forms of intuition' and 'categories of the understanding') are presupposed in all experiential judgements, and so must be considered both innate, and universal to humankind. Ever since Kant, the main alternative approaches to empiricism have taken his

work as their point of departure.

Scientific Laws, Testability and Interpretation: We have already explored some of the difficulties with the empiricist demand that scientific statements must be empirically testable. If this demand is made very strictly, then it would require scientists to be much more restrictive in the nature of the hypotheses they advance than they generally are. In particular, scientific laws would have to be treated as mere summaries of observations, as empirical generalizations. But if this were done, scientific explanations would lose their explanatory power, scientific prediction would be impossible, science would be deprived of an important stimulus to further research and so on. These features of scientific statements depend on an interpretation of scientific laws such that they make claims which go beyond what is strictly implied by the existing evidence. To preserve this feature of scientific laws it is necessary to adopt a looser criterion of testability, which acknowledges that new observations may count for or against a hypothesis, but can never conclusively prove or disprove it.

Attempts to develop a rigorous quantitative measure of the degree to which hypotheses are supported, or confirmed, by the available evidence fall foul of the fact that any finite set of evidence will be vanishingly small compared with the indefinitely large class of *possible* evidence which may be relevant. In addition, the more relaxed empiricists become in loosening the requirement of testability (for example, some *possible* observation must be *relevant* to the truth or falsity of the hypothesis), the more difficult it becomes to make clear and defensible distinctions between genuine science and the non-scientific belief-systems which empiricists are generally committed to excluding. But there is a further difficulty with testability which relates more closely to what was said above about the relationship between experience and interpretation. If every statement of experience is at the same time an interpretation, then in principle every factual statement is open to *re*interpretation.

The possibility of different interpretations of the same body of evidence raises serious problems for the empiricist account of scientific practice. Apparently conflicting evidence can always be rendered consistent with a favourite hypothesis by reinterpreting either the hypothesis or the new evidence. Though such ‘conventionalist’ tactics tend to be disapproved of by empiricists, it is hard to show that they are never justified. But the most important problem posed by ambiguity and interpretation is at the level of rivalry between major theoretical orientations. So, for example, in the controversy between the proponents of Darwinian evolutionary theory and its theologically oriented opponents, fossil evidence which favoured the view that there was historical change in organic forms was contested

as a temptation laid by the devil.

The remarkable adaptations of organisms to the requirements of their conditions of life again were interpreted as the result of design by the theological tradition, but as the result of natural selection by Darwinians. In this way, rival theories are able to offer alternative interpretations of the available evidence in such a way that whatever the evidence, each can with logical consistency maintain its own account of things. This situation of systematic disparities of interpretation between two (or more) theoretical perspectives implies debate which is invariably at cross purposes, and the absence of anything that will serve as a crucial experiment, or decisive test-case. When rival theories have this sort of relation to one another they are said to be 'incommensurable'. A great deal depends on how far this concept accurately captures situations of theoretical rivalry in science, and on how common such rivalry is.

Theoretical Entities in Science: A very strict version of empiricism will rule out any reference to theoretical entities which cannot be directly observed. However, a great part of the explanatory work of the natural science involves inventing classes of entities which, if they exist, and behave as described, can explain observed phenomena. In chemistry, the ways in which elements combine with others to form a compound is a clear example. The duck- rabbit compounds, and the energy exchanges which take place when this happens, are explained in terms of the structure of the atoms and molecules involved. In physics, there are well-known laws governing the relationship between the temperature, the pressure and the volume of a fixed mass of a gas. These relationships can be explained in terms of the collisions between the molecules of the gas and between them and the walls of the container.

Mendel explained observable patterns in the characteristics of successive generations of pea plants in terms of some unknown factor passed on in the germ cells from one generation to the next. These later were termed genes, and subsequently identified with sequences of the complex organic molecule 'DNA'. There are several ways in which empiricists can approach this feature of science. One way is to adopt a looser criterion of observability, and to accept observations made indirectly with instruments which themselves take for granted many theoretical assumptions. In this way, claims about the existence of entities which are not observable may be held to be testable in the sense that some indirect observation or measurement may count for or against them.

Again, however, these concessions on the part of empiricists make it harder for them to maintain the special and superior status of science compared with other sorts of knowledge-claims. Another empiricist approach to the problem of theoretical entities is to treat statements about

them as useful fictions, which enable scientific prediction in virtue of their formal (mathematical) content. No claim as to the real, physical existence of atoms, molecules and the like need be involved. This sort of approach is called 'instrumentalism'.

The Role of Theories in Scientific Explanation: This grudging approach on the part of empiricism to the issue of theoretical entities seems at odds with the huge proliferation of new classes of entity with which modern science has filled the world as we now know it (Latour 1987: 93). From quarks, quasars and black holes, through bacilli, retroviruses and prions to protons, neutrinos and photons, the very content of scientific advance seems to consist in the progressive uncovering of hitherto unimagined complexity in the macro- and microstructures of the world we inhabit.

At issue here is the view we take of the nature and role of theories in scientific explanation. The 'covering law' model of scientific explanation is an attempt to show the logic of a simple explanation at the level of observable patterns of phenomena. However, if we return to our example of the simultaneous spring emergence of some species of dragonfly, this sort of explanation clearly does not exhaust the possible roles for science. Indeed, on some accounts, the gathering of evidence for observational generalizations belongs to an early, 'natural history' phase of science.

The properly scientific work only begins when such observational generalizations have been acquired, and scientific theory is required to explain them. There are (at least) three further sets of questions that might be asked once such observational generalizations are established. One set has to do with the part played by simultaneous emergence in the mode of life of the dragonfly species concerned. One plausible answer is that when populations have relatively short flight periods, simultaneous emergence maximizes the chances that members of the opposite sex find each other and successfully reproduce. This is recognizable as a 'functional' explanation: it purports to tell us what part the piece of behaviour concerned plays in the wider whole constituted by the mode of life of the population and its reproduction. The second set of questions has to do with the 'historical narrative' whereby this pattern of dragonfly behaviour itself emerged, and became established in the population.

Most biologists today would draw on some version of Darwinian natural selection to answer this set of questions, though in fact the currently most favoured version of this theory has difficulty in explaining the establishment of mutual adaptations of this kind. The third set of questions has to do with the internal structures and processes whereby external stimuli such as temperature and day length switch on metamorphic change in the dragonfly larva. This entails research into the

anatomy and physiology of growth and development in the relevant species. In turn, this may lead to further questions about the interaction between the physiological processes (such as hormone secretion, cell division and differentiation) involved in growth and development, and the genetic mechanisms which regulate and are in turn regulated by them.

Reasoning and Creativity in the Invention of Theories: Theories are invented as plausible answers to questions posed by reflection on already-acquired observational generalizations. The process whereby such answers are invented involves scientific imagination and creativity. For this reason, empiricist philosophers of science tend to treat it as outside their sphere of concern, relegating it to psychology. For them,philosophy of science is concerned only with such matters as the logical structure and openness to empirical testing of scientific theories once theyhave been invented (the 'context of justification'). However, it is clear that something more can be said about the logic and, more broadly, the sorts of reasoning involved in the *invention* of theories. For one thing, not just anything will count as a *plausible* candidate for an explanation. It might be proposed, for example, that our dragonfly larvae note the appropriate temperature rise, and signal to each other that it is time to get on with their metamorphosis. However, what is known about the nervous system of dragonflies, and more generally about the physiology of insect metamorphosis makes it unlikely that this sort of conscious regulation of activity is available to dragonfly larvae. In this way both background knowledge and experimental intervention can narrow down the range of plausible explanations of the phenomenon.

3.3.1 Types of Theoretical Explanation

Scientific theorizing may be invoked to answer a number of different kinds of question. In the case of the simultaneous emergence of dragonflies, we noted three sorts of answer which could reasonably be called 'theoretical'. One of these is *functional explanation*, and it answers questions about the relationship between elements, or parts, and the wholes to which they belong. Often functional explanations will be concerned with the way in which specific properties or activities of elements enable the continued existence or reproduction of the more complex totalities, or systems, to which they belong. So, for example, the heart functions to circulate the blood round the body, and the circulation of the blood, in turn, functions to deliver oxygen and nutrients to tissues, and carbon dioxide and other waste products of metabolism to the lungs and kidneys, which, in turn, function to – and so on.

Functional explanations are extensively used in both the biological and the social sciences, and remain controversial. The second sort of

explanation involving theory is *historical-narrative* explanation. It is frequently confused with functional explanation, but is really quite distinct. The question of how an object, class of beings, or pattern of phenomena came into being is distinct from the question of how it now sustains itself or is sustained (the functional question). The former question requires the construction of a historical narrative – the characterization of a particular sequence of events or processes through time. For this to be more than description of 'one damn thing after another', and even for the narrative to work with criteria of what is relevant, what irrelevant to the telling of the story, some reference, implicit or explicit, has to be made to causal mechanisms. Generally, the story will make reference to numerous, interacting causal mechanisms which are at work, and coming into play at different points in the narrative. Here, the role of theory is to provide accounts of the key causal mechanisms at work, and, perhaps, some characterization of typical patterns of interaction. An example here is the relationship between Darwinian evolutionary theory, on the one hand, and a genealogical account of the emergence of a particular species or lineage through time, on the other.

The third sort of theoretical explanation in science is the one fore-grounded in most philosophical accounts of science, and we will devote more detailed discussion to it here, returning in the next section to a further consideration of narrative explanation in relation to the issue of explanation and prediction. This third sort of theoretical explanation begins with patterns of observable phenomena (such as the characteristics of successive generations of pea plants, or the relationships between day length, temperature and emergence in dragonflies) and proceeds to investigate the causal relations involved by analysis of the microstructure underlying the observations. In the case of these biological examples, this will involve analysis of the formation of tissues and organs, of cell division and differentiation, and, at a still more fundamental level of analysis, of the activity of genes in the cell nuclei. The basic idea here is that to find out how a thing works one should take it to pieces, and study its components. The deeper one searches for an explanation, the more onewill need to divide up the pieces into their components and so on.

Explanation and Prediction: This takes us on to the question of the relationship between theoretical explanation and prediction. The hypothetico-deductive model of scientific theories displays this relationship very clearly. However, whatis much less clear is whether this model applies to *all* sorts of scientific explanation. As we saw, the phenomenon of simultaneous emergence in populations of dragonflies could pose questions of a historical-narrative kind about how and why it came about in the course of the evolution of the species concerned. One of the relevant theory in this case would be some version of Darwinian

evolution. Darwin's specific achievement was to arrive at a plausible hypothesis about the mechanism which brought about organic change in the direction of closer adaptation of organisms to their environments. To simplify somewhat, his theory consisted of the following statements:

1. In any population of animals or plants, there are many individual variations;
2. At least some of these are inherited from one generation to the next;
3. In any generation, many more offspring are produced than will survive to reproduce themselves; and
4. Depending on the nature of the environment in which they live, some variations will be more likely to survive and reproduce than others ('natural selection').

These four propositions, appropriately formally stated, combined with the assumption that the environment remains stable in the relevant respects, yield the conclusion that those variations which confer enhanced survival and reproductive chances on their bearers will become progressively more common in the population over a series of generations. Cumulative change over numerous generations will eventually yield sufficiently different features for the population to be designated a new species.

Darwin's hypothesis is generally recognized as a theory, but it does not hypothesize any theoretical entities. Moreover, it does not lead to any specific predictions about the formation of any particular species, or what its characteristics will be. The widespread acceptance of the theory must be based on something other than successful predictions.

There are several reasons why Darwin's theory cannot be used to predict the formation of particular new species. One is that nature only 'selects' from among the available variant forms which happen to exist in a population. The processes of genetic mutation and recombination which give rise to these variant forms are not explained in the theory, which simply works on the assumption that they are random with respect to any adaptive function which they may contingently turn out to have. Another reason is that the theory has nothing to tell us about the precise environmental pressures and affordances which may be operating on any particular population at any particular time. In several places, Darwin emphasized the immense diversity of ways in which survival chances are affected by environmental pressures, referring to the face of nature as like 'a hundred thousand wedges'. He noted that almost nothing was known about this complexity in particular cases. So, in the case of Darwinian evolutionism, applying the theory to the explanation of a particular case is not merely a matter of applying a law to a description of existing 'initial conditions' and deducing the phenomenon to be explained. In fact, all the theory does is to provide some heuristic indications to guide substantive

research towards an adequate historical narrative in each case. In part, this much more modest (but still indispensable) role for theory in what might be called 'historical sciences' is a consequence of the fact that the mechanism specified by the theory (in this example, natural selection) is only one of a number of mechanisms (for example, mutation, recombination, predation, climate, food supply, parasitism, disease, reproductive isolation, molecular drive, genetic drift and so on), each of which may partially constitute, interact with, determine or modify the effects of natural selection.

3.3.2 Values in Science

Empiricists have two basic options for thinking about the nature of value judgements. These can be treated either as disguised factual statements, about, for example, the consequences of actions for the balance of pleasure and pain in the world, or as mere subjective expressions of feeling or preference. The latter, 'subjectivist', view of value judgements has been the most widespread among empiricists in the twentieth century, and empiricists accordingly tend to argue for the exclusion of value judgements from science. For them, science is a rigorous attempt to represent the world as it is, using observation, experiment and formal reasoning.

The intrusion of the personal values of the scientist would clearly undermine this objective. However, as we saw above, science necessarily involves more than experiment, observation and formal logic. Active processes of conceptual interpretation are involved in all observation; theory construction is an imaginative, creative activity; and the role of metaphor in science commonly involves drawing ideas from the wider culture. If all this is so, how could science fail to incorporate value commitments? One empiricist response to this relies on distinguishing between the creative activity of *inventing* theories, on the one hand, and the processes of critically evaluating and empirically *testing* them, on the other. These latter processes are governed by formal rules of logic and methodological rigour which can be expected to iron out biases deriving from value preferences of individual scientists.

The second tenet, it may be remembered, was the notion that science is the highest, most authoritative, even the sole source of genuine knowledge. According to Comte's three-stage 'law' of social development, theological modes of thought give way to metaphysical ones, and these, in turn, to scientific ones. There are two claims distinguishable, here. One, the claim of 'functional equivalence', is that science, metaphysics and theology are competitors, in the sense that they are alternative modes of thought, covering the full range of purposes for which human societies require knowledge, so that it makes sense to think

of each as replacing the others. The second claim is that the scientific mode of thought is superior to the others, and so represents progress in the sphere of thought to match industrial and social progress.

The first claim, of functional equivalence, is open to two sorts of objection. First, theology and metaphysics are not solely concerned with giving accounts of the nature of the world – they also attempt to derive authoritative norms for human conduct. They provide their adherents with reasons for obedience to certain rules of conduct, and for accepting some kinds of institutional arrangements rather than others. By contrast, the exclusion of values in the empiricist view of science restricts science to the narrow task of predicting what *would* be the consequence *if* such and such policy were to be implemented. Science, on this view, cannot pronounce on the desirability or otherwise of either the policy or its predicted consequence.

The third tenet of positivism is its advocacy of extending the methods of the natural sciences (as represented in the empiricist view of knowledge) to the study of human social life. The arguments Max Weber, Peter Winch and Jürgen Habermas, who have offered strong arguments against this will soon come to the fore. The view that there is, or could be, such a thing as a scientific study of society, in the same sense (but not necessarily using the same methods) as natural processes can be studied scientifically is often termed '*naturalism*'. Weber, Winch and Habermas are, in this sense, antinaturalists, and positivists such as Comte are naturalists. However, the criticisms of the empiricist view of science, and the fact that we now have quite well-worked-out alternatives to empiricism open up the possibility of forms of naturalism which are not positivist.

It may be that there cannot be an *empiricist* science of social life, but the social sciences might count as scientific from the point of view of alternative, non-empiricist models of science. The question, 'What might a social science modelled on natural science might be like?' could be asked on the basis of any of these alternatives. The answers would not be positivist in our strict sense of the term, and would no doubt raise interesting philosophical issues. We do not have the space to explore all of these possibilities, but we do give more detailed consideration to the implications of two non-empiricist understandings of science for the practice of social science.

Self-Assessment Exercise

1. _____ are concerned with discovery of general laws by methods whichexclude value judgements

2. There are _____ tenets of positivism (a) One (b) Two (c) Three (d)

3.4 Summary

Positivism has influenced the development and the discourse of most disciplines in the social sciences and ought to be commended. The discourse in this unit has presented a critique of the doctrine of positivism showing the strength and weaknesses of the theory.

3.5 References/Further Readings/Web Resources

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1.6 Possible Answer to SAE

Self-Assessment Exercise:

1. Natural scientists
2. (c)

End of Module Exercise

1. _____ explanation of the adaptive character of many features of living organisms in terms of differential reproduction rates of random individual variations over many generations made it possible to explain the *appearance* of design in nature without reference to God, the designer. But in many scientific, or would-be scientific, disciplines, researchers appeal to entities or forces which are not observable.

2. "For empiricism, Science is valued as the highest or even the only genuine form of knowledge." This statement is (a) Certainly True (b) Probably False (c) Certainly False (d) None of these

3. _____ in social science can be seen as an attempt to put the study of human social life on a scientific footing by extending the methods and forms of explanation which have been successful in the natural sciences.