Lesson 2 Nature and Scope of Sociology-I

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2. NATURE AND SCOPE OF SOCIOLOGY

Objectives

By the end of this lesson, you will be able to understand and learn about:

- What is Science?
- Objections Against Scientific Nature of Sociology
- Nature of Sociology

2.1 Introduction to science

The founding father of sociology Auguste Comte introduced a science of society, which uses the natural science methods to analyze the social phenomenon. But many of scholars raised question mark on the natural science of society. It is debated that there can be possible a “natural science of society”. It is a long standing controversy on the nature of sociology. Before knowing the nature of sociology it is essential to understand that what is science? It is essential because the founding father Comte declared that it is a science as well as other natural science, like physics, chemistry, biology etc.

In the popular imagination, science is sometimes associated with a particular content, such as protons, neutrons, cells, skeletons, skulls or stars. For a common student, it is only physics, biology or chemistry are sciences, which have big laboratories fitted with jars, balances, test tubes and many other instruments and equipment. This identification of science with particular kinds of content or with laboratorial experiments is not correct. Today, it is generally agreed that science is not a body of content but a method of approach to any content. Long back, philosopher of science, Karl Pearson (Grammar of Science) said that "the unity of all sciences lies only in their method and not in the material they study. The classification of facts, the recognition of their sequence and relative significance is the function of science".

Science has been defined in many ways. For our purpose two definitions will suffice. According to Churchman and Akoff (1950), "science is a systematic method of getting knowledge". A.W. Green (1952) wrote, "Science is a way of

investigation". In modern times, science is seen chiefly in two distinct though related ways as systematic knowledge and as method of study.

- Science as systematic knowledge

  As systematic knowledge, science is an accumulation of organized and verified knowledge, based on reliable observation and organized into a system of general propositions and laws.

- Science as method of study

  Science is a method of approach to the entire empirical world. It is an approach by which systematic, accurate and verified knowledge is acquired. This method of getting knowledge is opposed to the intuition, speculation, revelations, traditions or authorities. 'Method Of approach' is a mode of analysis that permits the scientists to state proposition in the form of 'if and then'. Science, both as knowledge (goal) and as method (means), incorporates two essential elements—rationality and empiricism. As substantive knowledge, science is made up of logical related propositions that must also be supported by empirical evidence. As method, it places emphasis on reliable and objective observation and logical analysis. Neither of these elements alone constitutes science.

2.2 Characteristics of Science/Scientific method

The following are the main characteristics of science and scientific method:

(i) Objectivity

Scientific knowledge is objective. Objectivity simple means the ability to see and accept facts as they are, not as one might wish them to be. To be objective, one has to guard against his own biases, wishes, values and preferences. Objectivity demands that one set aside all sorts of the subjective considerations and prejudices.

(ii) Verifiability

Science rests upon sense data, i.e., data gathered through our senses—eye, ear, nose, tongue and touch. Scientific knowledge is based on

verifiable evidence (concrete factual observations) so that other observers can observe, weigh or measure the same phenomena and check out observation for accuracy. Is there a God? Is 'varna' system ethical or questions pertaining to the existence of soul, heaven or hell is not scientific questions because they cannot be treated factually. The evidence regarding their existence cannot be gathered through our senses. Science does not have answers for everything. It deals with only those questions about which verifiable evidence can be found.

(iii) Ethical neutrality

Science is ethically neutral. It only seeks knowledge. How this knowledge is to be used, is determined by societal values. Knowledge can be put to differing uses; Knowledge about atomic energy can be used to cure diseases or to wage atomic warfare. Ethical neutrality not means that the scientist has no values. It here only means that he must not allow his values to distort the design and conduct of research. Thus, scientific knowledge is value-neutral or value free.

(iv) Systematic exploration

Scientific research adopts a certain sequential procedure, an organized plan or design of research for collecting and analysis of facts about the problem under study. Generally, this plan includes a few scientific steps—formulation of hypothesis, collection of facts, analysis of facts (classification, coding and tabulation) and scientific generalization and predication.

(v) Reliability

Scientific knowledge must occur under the prescribed circumstances not once but repeatedly. It is reproducible under the circumstances stated anywhere and anytime. Conclusions based on casual recollections are not very reliable.

(vi) Precision

Scientific knowledge is precise. It is not vague like some literary writing. Tennyson wrote, "every moment dies a man; every moment one is born", is good literature but not science. To be a good science, it should be written as: "In India, according to the 2001 census, every 10th second, on the average, dies a man; every 4th second, on the average, an infant is born." Precision requires giving exact number or measurement. Instead of saying "most of the people are against love marriages," a scientific researcher says, "Ninety per cent people are against love marriages".

(vii) Accuracy

Scientific knowledge is accurate. A physician, like a common man, will not say that the patient has slight temperature or having very high temperature but after measuring with the help of thermometer, he will pronounce that the patient is having 102.2 F temperature, Accuracy simply means truth or correctness of a statement or describing things in exact words as they are without jumping to unwarranted conclusions.

(viii) Abstractness

Science proceeds on a plane of abstraction. A general scientific principle is highly abstract. It is not interested in giving a realistic picture.

(ix) Predictability

Scientists do not merely describe the phenomena being studied, but also attempt to explain and predict as well. It is typical of social sciences that they have a far lower predictability compared to natural sciences. The most obvious reasons are the complexity of the subject matter and inadequacy at control etc.

- **Basic Principles (Phases) of Scientific Procedure**

There is a little bit disagreement among social scientists about at the number of steps in a scientific research. Some scientists, like Roy G. Francis (1954), have enumerated as many as twelve steps while others have condensed them into four or five steps. The important phases of research process are as follows:

Formulation of working hypothesis

A working hypothesis is a penetrating hunch, guess or the provisional explanation of the problem under study. This is found on the basis of preliminary observations of the facts related to the problem. In brief, the problem is stated in the form of a proposition, i.e., 'iP and 'then'. Hypothesis serves as tentative explanation which can be tested empirically. It guides the researcher in the selection of pertinent facts needed to explain the problem at hand. Here, one thing is to be noted that hypothesis is not needed in all researches. Some researches develop hypotheses as the end results of a preliminary inquiry for further testing.

Preparation of research design

A research design is a detailed plan or a strategy of conducting research. It answers the questions—what, how, when/where, and why about the facts to be collected for the study. 'It is a process of making decisions with respect to: (a) types of data required; (b) sources of data and field of study; (c) method of data collection and preparation of tools (Questionnaire, Interview Schedule etc); and (d) sample design.

Collection of data

Actual gathering of data and information begins in accordance with the research design. By collecting the data, the researcher tests the hypotheses which he may ultimately accept, change, or abandon.

Analysis of data

After the data are collected, they must be assembled, organised and classified in such a way that the hypothesis can be tested. It is said that mere collection of facts is no science. Facts become meaningful when they are logically connected with other facts and sorted according to their nature. Broadly, this step of scientific research includes coding, classification and tabulation of gathered data. These days, much of this work is done by computers. The computer gives the desired computations and comparisons including data for statistical tests.

Drawing conclusions in the form of theoretical formulations and generalizations

Scientists are not concerned with isolated phenomena or events. They aim to discover under the surface layer of diversity of these events, a thread of uniformity. On the basis of this uniformity they try to formulate generalizations or a scientific theory. A generalization is a' Statement about a number of events rather than about a unique event. Thus, the 01åginal hypothesis, if formulated in the beginning of the research, is either confirmed or rejected.

Sociology as a science

Sociology is a science because the scientific theory is used in it, the factors are collected by the inspection observation method, and are formed in a series and system, the results are found without discrimination and the principles are constructed. The main basis of accepting Sociology as a science, are the following:

The base of sociological knowledge is scientific method:

To collect the factors of sociology, a scientist uses the method. To study the abstract and concrete source factors, Sociology uses various scientific

methods. For example, socio-metric, observation method, schedule or questionnaire method, social review method, individual study method, statistical method, interview method, historical method etc. are used. Using these methods, social events are studied. Various steps of scientific method have been described in this lesson. Sociological knowledge or social factors are got by using these steps.

The factors are collected by the method of observation in Sociology:

The other base to accept Sociology as a science is to inspect or observe for collecting the factors by the investigator. Imaginative and philosophical opinions are not given a place in sociology. In it the investigator, himself inspects the events and collects the factors by reaching at the spot. If sociologists have to study the problem of child-crime or prostitution or have to inquire about mob's behaviours then he will collect the related factors by observing himself the events.

The classification and Analysis of factors are done in Sociology:

It is not possible to put out the scientific result on the basis of unrelated or scattered factors. It is essential to put out correct result that received factors should be systematic and orderly. Factors are divided into various classes on the basis of equality for them. This work comes under classification. After that the factors are analyzed carefully. The main reason of accepting sociology as a science is that the factors are classified and analyzed to get correct result in it.

What it is described in sociology:

In other words, the real events are investigated in sociology. This science does not consider what is good or bad, or what should be or what should be not. The events or factors are posturized in their actual form by it. 'What is' is described by it. For example, on the basis of received factors, the combined family or caste system are described in their actual form, not tells that they are good or bad.

The relation of work-reason is analyzed in sociology:

Sociology does not satisfy with the description of 'what is.' It is tried to find events, factors and the relation of work-reason of various problems. This science discovers the reasons of any event or problem. It considers that any event happens by various specific reasons not by some miracle which are found and discovered by a sociologist. The principle of class-struggle of **Karl Marx** and the principle of **Suicide of Durkheim** clear the co-relation of work-reason.

2.4 Objection against scientific nature of sociology

Not everyone regard sociology as science because sociology does not possess all the dimensions of science as it is defined. Most of these objections arc of two

kinds. First, it has argued that human beings cannot be treated in the same way as objects in the natural world because, among other things, they have the capacity to reason and to make active of their world. The second objection to the positivists' of sociology is that, unlike natural sciences, sociology cannot be separated from value judgments about social behaviour. While the first argument is related with the subject matter of sociology, i.e., human being and their social behaviour, the second argument pertains to the method of study, which is pursued in sociology. These arguments run as under:

(i) Subject matter of sociology, i.e., human behaviour and social life is too complex, which cannot be studied scientifically. It is full of vested interests.
(ii) Sociology is too young a discipline to have developed the kinds of laws and principles found in the natural sciences.
(iii) Sociology lacks scientific objectivity.
(iv) Sociology has no laboratories to conduct controlled experiments to verify facts.
(v) Sociology is incapable of measuring its subject matter.
(vi) Sociology has no predictability.
(vii) Sociology is not an exact science.
(viii) Sociology is incapable of maintaining detachment of the researcher from his subject matter of study.

Nature of Sociology

Robert Bierstedt has in his book 'The Social Order" mentioned the following characteristics of the nature of sociology:

Before discussing the nature of Sociology, it is better to know about the nature of a subject. The nature of a subject refers to its internal characteristics which help one to understand what kind of science it is.

Every branch of knowledge has its own nature. Thus, Sociology as a branch of knowledge had its own nature or characteristic which distinguishes it from other social sciences and helps to understand what kind of science it is.

The nature of Sociology is as follows:

(1) Sociology is an independent science:
Sociology is not treated and studied as a branch of any other science like philosophy, history. Now it has emerged into an independent science. As an independent science it has its own field of study.

(2) Sociology is a social science and not a physical science:

All the sciences are divided into two categories: natural sciences and social sciences. Natural sciences study physical phenomena where as social sciences study social phenomena. Social sciences include Economics, Political Science, and Anthropology etc. Sociology belongs to the family of social sciences. As a social science it concentrates its attention on man, his social behaviour, activities and social life. In other words, it studies man as a social being.

(3) Sociology is a pure science and not an applied science:

The aim of applied science is to apply the acquired knowledge into life and to put it to use. But the aim of pure sciences is the acquisition of knowledge and it is not bothered whether the acquired knowledge is useful or can be put to use. Sociology is a pure science, because it aims at the acquisition of knowledge about human society, hot the utilisation of the knowledge.

(4) Sociology is an abstract science and not a concrete science:

This doesn't mean that Sociology is an art and not a science. It only refers that Sociology is not interested in concrete manifestations of human events. It is more concerned with the form of human events and their patterns. Similarly, Sociology does not confine itself to the study of this society or that particular society. It simply means that Sociology is an abstract science, not a concrete science.

(5) Sociology is a categorical and not a normative discipline:

Sociology "confines itself about what is, not what should be or ought to be." As a science it is silent about questions of value. It does not make any kind of value judgment. It only means Sociology as a discipline cannot deal with problems of good and evil, right and wrong.

(6) Sociology is a generalising and not a particularising science:

Sociology does not study each and every event that takes place in society. It makes generalization on the basis of some selected events. For example, not by studying or examining all the secondary groups but by observing a few secondary groups, a sociologist makes generalization of secondary groups.

(7) Sociology is a general science and not a special social science:
The area of inquiry of Sociology is general and not specialised. Social sciences like Political Science, History, Economics, etc. study human interaction but not all

about human interactions. But Sociology does not investigate special kind of phenomena in relation to human life, and activities but it only studies human activities in a general way.

(8) Sociology is both a rational and empirical science:

Empiricism is the approach that emphasizes experiences and the facts that result from observation and experimentation. On the other hand, rationalism stresses reason and theories that result from logical inference. The empiricist collects facts, the rationalist co-ordinates and arranges them. In sociological theory both are significant. Thus, Sociology is both a rational and empirical science.

Thus, from the above discussion we come to know that the nature of Sociology is independent, social, a categorical, pure, abstract, and generalizing; both are a rational and an empirical social science.

2.6 References and Suggested Reading

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