

Unit 6

Philosophy of Social Science

Contents

- 6.1 Introduction
- 6.2 Foundations of Science
- 6.3 Science, Modernity and Sociology
- 6.4 Rethinking Science
- 6.5 Crisis in Foundation
- 6.6 Conclusion

Learning Objectives



It is expected that after reading the Unit 6, you will be able to answer the following questions

- ❖ What were the diverse philosophical influences on sociology?
- ❖ What are the major currents of thinking in sociology like the positivist tradition and interpretative thinking?
- ❖ How were Enlightenment and the project of modernity idealised in sociology?
- ❖ How was modernity shattered by the post-modernist critique?

6.1 Introduction

Social science or, to put it more specifically, sociology is a formal body of knowledge that has grown, evolved, created a community of scholars, and established a distinctive tradition of learning. This is possible because it has a method, a set of principles or guidelines for observing the social reality, and constructing a systematic body of knowledge. In other words, it has a philosophy.

You can make out that here we are using the word philosophy not in the metaphysical or spiritual sense of the term. By philosophy we mean a way of seeing and observing, a way of thinking, arguing and arriving at truth. It is, therefore, important to understand the philosophy of social science. Only then can you comprehend how social scientists think, argue and construct the knowledge of society, and how it differs from the other branches of knowledge. A couple of examples would make it clear.

You may have read epics like the *Ramayana* and the *Mahabharata*. These are extraordinarily rich narratives that give you a glimpse of social history. But then, when modern historians write the history of the ancient period, their way of constructing history is qualitatively different from these epics. They may have used these epics as possible sources, but they are not storytellers, their goal is not to adore, glorify or condemn certain characters, or mythologise the past. They seek to remain 'neutral', rely on all possible facts, and write about the politico-economic life,

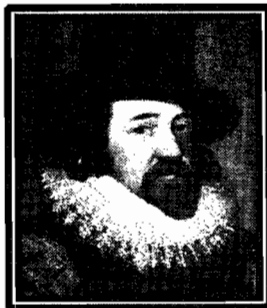
social formations, tools and technologies used in the given period. Modern history, it is therefore argued, is not fiction, or a narrative, or mythical account. Instead, it is a kind of science based on hard facts and empirical evidence.

Likewise, when M.N. Srinivas (1966) came forward with the notion of 'Sanskritisation', a process that indicates how the lower castes emulate the norms, values, practices of the forward castes, it was based on hard empirical evidence. It was, therefore, different from the textual account of the rigid and immobile caste system. In other words, the sociological reading of caste, which is based on a field view, is qualitatively different from the way it is being seen in the scriptures.

As a matter of fact, mythologies, folk tales, epics, travelogues and literature are innumerable sources from which we come to know about human society. But what give a distinctive identity to modern social science are its philosophy, its method of enquiry, and its ways of acquiring knowledge. No wonder you often say that history is not mythology, cultural anthropology is not travelogue, sociology is not journalism, and political science is not an election speech. This is not to suggest that mythology and travelogue, or journalism and election speeches, are domains of falsehood. The point we are trying to make is that the methodology of social science is qualitatively different. It is a formal, structured body of knowledge having its own technical idioms and vocabulary, and distinctive ways of collecting data and arriving at generalisations. Social scientists, it is argued, are "objective" and "value-neutral"; they rely on hard empirical facts, and the social science account is, therefore, not an ideological, subjective, valorisation or condemnation of social reality. It is often believed that understanding this methodology is like comprehending the very philosophy of modern science that gave an identity to social science. In this unit you would learn about this intellectual trajectory: how modern social sciences grew and evolved

6.2 Foundations of Science

We call it social science. But what is science? Science, you often tend to



Francis Bacon
(1561-1626)

believe, is objective. Science is based on facts; science needs rational and dispassionate analysis, not an emotional or sentimental judgment. In order to make sense of the philosophic roots of modern science, we would briefly refer to two distinguished thinkers, Francis Bacon (1561-1626) and René Descartes (1564-1650), because it is generally agreed that their contributions in the seventeenth century provided the foundations of modern science.

out the book of nature as it is, how to observe it without any pre-selection and bias. For Bacon, there are many delusions that act as obstacles and divert us from truth. As a result, we confuse the reality with our own subjective idea of it. We must overcome all these delusions that Bacon regarded as the 'idols of mind'. There are four species of idols that Bacon (1970: 89-96) identified.

- ❖ ***Idols of the tribe:*** These idols are common to the human species as such, and emanate from the typical human weakness: our urge to see what we like to see in the world, our search for regularity, and our obsession with our own beliefs. Human minds, Bacon (1970: 92) argued, are like 'uneven mirrors' that distort the reality. Superstitions and prejudices continue to prevail because of these idols. In fact, the human being's 'feelings imbue and corrupt his understanding in innumerable and sometimes imperceptible ways'.
- ❖ ***Idols of the den:*** These idols, unlike the idols of the tribe, are unique to specific individuals. Each individual has his/her own dispositions and idols. Some, for instance, are inherently optimistic, some are pessimistic, and some strive for antiquity; some love change and innovation. All these individual peculiarities tend to affect one's ways of seeing, and hence distort the reality.
- ❖ ***Idols of the market:*** These idols are those that emanate out of human interaction, and cause severe linguistic confusion. Our language often proves to be inadequate to describe the reality as it is. No wonder, Bacon (1970: 94) said that 'the great and solemn disputes of learned men often terminate in controversies about words and names'.
- ❖ ***Idols of the theater:*** These are those idols 'that have crept into men's minds from the various dogmas of peculiar systems of philosophy' (Bacon 1970: 90).

For Bacon, these idols are essentially obstacles and must be overcome. Only then is it possible to see and observe the world without bias. In other words, nature exists out there, and it is only pure empiricism (not contaminated by our feelings and sentiments) that can grasp it. And this objective knowledge, he believed, would enable human beings to establish their superiority over nature. It is in this sense that knowledge is indeed power. And the relationship between the knower and the known is detached and impersonal; the vulnerability of the self of the knower is controlled, and the act of knowing becomes a dispassionate exercise.

If Francis Bacon provided the foundations of empiricism or what is known as the method of induction, Rene Descartes taught us the fundamental lessons of rationalism (or deductive reasoning). Descartes privileged the mental and intellectual, and argued that it was through clear ideas, or pure rationality, that human beings could arrive at truth and become free from all uncertainties and errors. For him, the sense could not be

reliable source of knowledge; the senses could deceive one. As a result, in an act of *meditation*, Descartes (1641: 439-440) began to doubt everything that he learned through the senses.

I will assume therefore that not God, who is supremely good and the source of truth, but rather some malicious demon of the utmost power and cunning who has employed all his energies in order to deceive me. I shall think that the sky, the air, the earth, colors, shapes, sounds and all external things are merely the delusions of dreams, which he has devised to ensnare my judgment. I shall consider myself as not having hands or eyes, or flesh, or blood or senses, but as falsely believing that I have all these things.

Yet there was one thing Descartes felt certain about. Even if a demon deceived him, the fact that he was being deceived confirmed his existence as a thinking being. Descartes (1641: 440) wrote,

I have convinced myself that there is absolutely nothing in the world, no sky, no earth, no mind, and no body. Does it follow that I too did not exist? Not if I convinced myself of something, then I certainly existed. But there is a deceiver of supreme power and cunning who is deliberately and constantly deceiving me. In that case I too undoubtedly exist, even if he is deceiving me; and let him deceive as much as he can, he will never bring it about that I am nothing so long as I think that I am something. So after considering everything very thoroughly, I must finally conclude that this proposition *I am, I exist*, is certainly true whenever it is put forward by me or conceived in my mind.

In other words, as Descartes argued, 'man is a thing that thinks'. This led him to privilege the indivisible mind that makes one think, and separate it from the non-thinking body. While one cannot separate oneself from one's mind, one can, however, exist without one's body! Descartes (1641: 467) said,

There is a great difference between the mind and the body, inasmuch as the body is by its very nature always divisible. For when I consider the mind or myself in so far as I am merely a thinking thing, I am unable to distinguish any parts within myself. I understand myself to be quite single and complete. Although the whole mind seems to be united to the whole body, I recognise that if a foot or arm or any other part of the body is out off, nothing has thereby been taken away from the mind.

For Descartes, this mind/body dualism is absolutely important. The message he conveyed was clear. What provides solid foundations is a distinctively clear/ rational thought emanating from the *Indivisible, integrated, coherent mind*. And this rational thought is pure, abstract, disembodied, completely dissociated from the senses, from pain and pleasure, from feelings and emotions.

Needless to add, these two fundamentals, namely, objective empiricism and disembodied rationality, gave a momentum to modern science. But then, it was the Enlightenment in the eighteenth century (it was a logical culmination of European Renaissance, Reformation and Industrial Revolution (for details see Box 6.1 and Block 1 of ESO 13 of IGNOU's B A programme) that was really a turning point, a breakthrough that generated a new way of seeing, and celebrated the science of Bacon,

Descartes and Newton as the most cherished and legitimate body of knowledge.

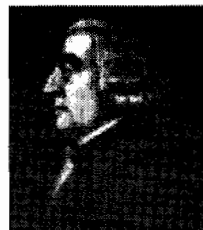
Box 6.1 The Enlightenment

The Enlightenment refers to an intellectual movement, primarily in France and Britain, that spans approximately one hundred years from the 1680s to 1789. Preceding and setting the stage for the Enlightenment were writers and scientists who investigated the natural world and systems of thought, writers such as Galileo Galilei, Issac Newton, Francis Bacon, and René Descartes. Enlightenment writers include Hobbes, Locke, Diderot, Montesquieu, and Rousseau. The French writers were sometimes called the philosophers. The leading representatives were religious skeptics, political reformers, cultural critics, historians and social theorists (Zeitlin 1990:1).

In contrast to systems of thought where the sacred had dominated and where questioning was discouraged, Enlightenment thinkers viewed human reason as dominant. No subjects of study were to be forbidden, there were no unaskable questions, with all aspects of human life appropriate for examination and study. In doing this, Enlightenment thinkers combined the philosophic tradition of abstract rational thought of Descartes and other philosophers with the tradition of experimentation or empirical philosophy from Galilei, Newton, Bacon and others. The result was a new system of human inquiry that attacked the old order and privileges, put emphasis and faith on science, the scientific method and education, and acquired the practical function of asking critical questions about existing institutions and demanding that the unreasonable ones, those contrary to human nature, be changed. All social obstacles to human perfectibility were to be progressively eliminated. (Zeitlin1990: 2).

The writings of the Enlightenment profoundly affected politics and the development of sociology. The French Revolution (1789) and the American Revolution (1776) had many causes but many Enlightenment ideas and ways of thinking had a great effect on these political and social changes. The slogans of "liberty, equality, fraternity" and "life, liberty, and pursuit of happiness" state the political ideals of these revolutions and reflect the ideas of Enlightenment thought.

Possibly it is hard to speak of a singular/unifying Enlightenment agenda, because the philosophers, such as Voltaire (1694-1778), Monstesquieu(1689-1755), Immanuel Kant (1724-1804) and Adam Smith (1723-1790), did not necessarily speak the same language. Nevertheless, from these Enlightenment philosophers it is not altogether impossible to identify a series of the following salient features of the new thinking.



Adam Smith
(1723-1790)

- ❖ Instead of a God ordained society, Enlightenment spoke of the primacy of reason. It fought a great battle against Christianity,

particularly its implicit notion of originals in and imperfectability. Voltaire asserted that human beings were neither good nor evil as such; instead, the specificity of circumstances would matter a great deal in unfolding the potential of human beings (as mentioned in Mary 1996). In other words, it is possible for human beings to shape their destiny and create a better world. In that sense, the Enlightenment agenda was future-oriented and optimistic.

- ❖ Its optimism was sustained by its epistemology: its spirit of critical enquiry. 'Our age', wrote Immanuel Kant (1783), 'is in a special degree, the age of criticism, and to criticism everything must submit'. Nothing was therefore taken for granted. This criticality gave a new momentum, enabled humankind to come out of the trap of closed/dogmatic thinking, and finally revealed a positive relationship between reason and freedom, science and truth.
- ❖ This criticality was not necessarily negative in nature. As a matter of fact, it destroyed as well as constructed. It did not oppose the ethical/spiritual core of Christianity. It opposed only the closed/dogmatic character of Christianity and provided the foundations of a new world based on a secular/liberal worldview. In other words, the roots of *modernity*: a project that celebrates scientificity, rationality and individuality could be found in the Enlightenment agenda itself. It was progressive. It believed in a linear/historical progress, which gave a new dynamism to the exploration of knowledge, innovation and experimentation.
- ❖ As far as the knowledge of human society was concerned, the philosophy of the Enlightenment gave a new direction, as outlined below.
 - i) Society exists out there readily amenable to empirical observation.
 - ii) This knowledge of society can be objective and universal, and hence cumulative and progressive.
 - iii) This knowledge is different from and superior to ideological distortions and religious beliefs.
 - iv) This knowledge is positively useful for the restructuring of human society.

Let us now discuss in more detail the interface between science, modernity and sociology.

6.3 Science, Modernity and Sociology

It would not be wrong to say that the modern social sciences emerged out of this epistemological optimism. It was, therefore, not surprising that right from its inception modern sociology, to take a specific example,

was guided by these two philosophic foundations: a) objective/universal science, and b) progressive and historically inevitable modernity. Sociology saw itself as a science: a scientific study of society. As an objective, value neutral and empirical science, it differentiated itself from religion, metaphysics and commonsense. As you have been learning about positivism and even classical sociology and the way both grew in the late nineteenth- and early twentieth-century, you would discover the immense impact of Enlightenment philosophers on sociology and its methodology. Likewise, sociology emerged in order to make sense of the new age. Sociology, it is often said, was a product of Enlightenment modernity (Nisbet 1967). Not solely that. The leading sociologists of the late nineteenth and early twentieth century, from Auguste Comte to Karl Marx, were the children of modernity. In their own specific ways, they celebrated the new age and wrote substantially about it. We would take some examples to make this point clear (see Box 6.2 for examples).

Box 6.2 Examples of Emile Durkheim and Karl Marx

Emile Durkheim

First, recall Emile Durkheim (1858-1917), who wrote *The Rules of Sociological Method* (1895, English translation published in 1938/ 1964). He believed in the scientific study of society, and wanted sociology to project itself as a science of social facts, not a political/partisan ideology. And one of his major writings, *The Division of Labour* (1893, English translation published in 1964), was an attempt to conceptualise the formation of modern industrial societies characterised by heightened differentiation, specialisation and a complex form of division of labor. He made a distinction between such a modern society with its 'organic solidarity' and a simple and/ or traditional society having 'mechanical solidarity'.

Karl Marx

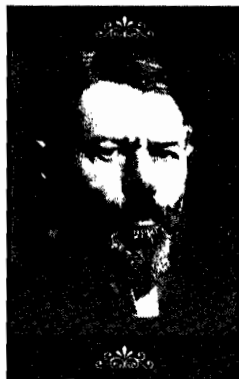
Second, think of Karl Marx (1818-1883), who believed in the Enlightenment affirmation of scientific reasoning. He seemed to be heavily influenced by Newton (1642-1727) and Darwin (1809-1882). And it is now well known that he sought to dedicate the second volume of *Capital* (1867) to Charles Darwin. Marx's 'scientificity' could be seen in his urge to discover the 'iron laws' of capitalist development, his inclination to plead for universal generalisations like 'the history of hitherto existing societies is the history of class struggle' and the distinction he made between historical materialism and ideology. Ideology, he argued almost like Francis Bacon, distorts and falsifies the reality, whereas the science of historical materialism enables us to see the reality as it is: how the mode of production seeks to govern the socio-cultural life and resultant conflicts and contradictions in society. Marx's affinity with modernity could be seen in his faith in historical progress, in science, in urbanity. No wonder, he didn't appreciate the 'Asiatic mode of production' or 'oriental despotism', and saw immense possibilities in the British rule in India because it enabled us to overcome our isolation and stagnation, and experience the light of modern civilisation!

It is not our contention to argue that these thinkers were blind champions of modernity. They were great scholars, and immensely sensitive. They could see the pathologies of modernity. You already know that Durkheim was concerned about anomie: the growing normlessness in modern

societies (see Block 3 of ESO 13 of IGNOU's B A programme). You also know that Marx was a great humanist who critiqued the fragmented character of capitalism, and its alienation[®]. And you are also aware that Max Weber, yet another great sociologist of the classical era, spoke of the pathos of disenchantment[®] inherent in the modern age. But you need to appreciate the essential point. Even when they saw problems with modernity, they did not want to regress to a non-modern age. Instead, they retained their faith in the foundations of modernity and science, and sought to accomplish the agenda of modernity by making it more humane and egalitarian.

As you can see, science with its central principles of objectivity, universalisation and causal explanation did have a tremendous impact on the formation of modern social science. This, however, does not mean that there was absolute agreement on the 'unity of method'. True, positivism, a dominant mode of sociological enquiry in the nineteenth and early twentieth century, did not see much qualitative difference in the study of nature and socio-cultural domain. But then, there were many who differed, and pleaded for a separate mode of enquiry in social and cultural sciences. Its roots could be seen in Immanuel Kant (1724-1804), one of the leading Enlightenment philosophers. While meditating on nature, he spoke of the two distinct principles— a) the physical component being enslaved by the senses, and b) the moral component that strives for truth, justice and beauty (Seidman 1983). No wonder, one aspect of the Enlightenment social theory that spoke of human beings' conditioning gave birth to material/ structural analysis, and the other mode of enquiry that spoke of human beings' freedom gave importance to voluntarism, human agency, creativity and reflexivity.

Herein lies the point of departure. There are social scientists who would argue that unlike an object in the physico-chemical or biological world, the human being is a creative/reflexive creature, and human society is,



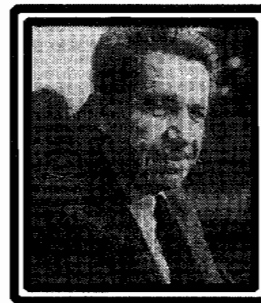
Max Weber
1864-1930

therefore, a domain of meanings, not just an 'external thing' constraining us. In other words, human society, it is argued, has to be seen as a product of creative accomplishment on the part of the social actors. The task of social science is to understand and interpret these meanings. Max Weber, as you will learn in Unit 7, emerged out of this philosophic tradition. For Weber (1949), sociology is an interpretative study of the subjective meaning complex of social actions. He regarded it as *verstehen*[®], a method of understanding the conscious/subjective meanings social actors attach

to the world. It was in this sense that Weber saw beyond mere economism, and interpreted early capitalism[®] as a domain of meanings that the proponents of Protestantism or Calvinism attached to the world (for details Block 4 of ESO 13 of IGNOU's B A programme).

Well, Weber did speak of the human agency. But this does not mean that his sociology was “subjective” in nature. Instead, he sought to unite the interpretative study of subjective meanings with an objective causal analysis. He was not against the basic tenets of science: objectivity, value neutrality and causal explanation. What he was objecting to was the positivist urge to equate society with nature, and undermine the domain of meanings. He was therefore talking about ‘[Ⓢ]ideal types’, which were more like models rather than exact scientific laws.

In the twentieth century the the tradition of interpretative sociology was further developed through phenomenological and ethno-methodological traditions (Giddens 1976). The central thrust of these traditions is that the world is largely a world experienced by human beings, and the task of social science is to describe, understand and make sense of this world: how people themselves define and construct it. Alfred Schutz (1899-1959), a major proponent of the phenomenological tradition, spoke of the inter-subjective world in which people interact, communicate and understand one another through the process of typification[Ⓢ]: a process that enables people to fix and define one another, and have a shared role-expectation. It is through this process of typification, that a meaningful and stable social order is possible. For Schutz (1972) the everyday world in which people interact is the *paramount reality*. It is taken far granted. And that makes society possible. But then, there are other realms, like the realm of dreams, or the realm of scientific theorising, in which people experience the world. All these finite provinces of meaning have their own notions of time and space, and shifts from one realm to the other involve ‘shock’. But then, for Schutz (1972), the paramount reality is most important, and all of us have to come back to it and experience the world as direct/ real actors. Sociology, for Schutz (1972), must describe and understand how people experience the world. This means that sociology must take people’s descriptions and definitions seriously.



Alfred Schutz
(1899-1959)

It is in this sense that sociological constructs are ‘second order constructs’. Likewise, Harold Garfinkel (1967) spoke of ethno-methodology, or ‘people’s methodology’. The task is to describe how people themselves define their world, not to `explain it in terms of some context-free, abstract, universal generalisation. In other words, in these traditions you are witnessing a shift from abstract explanation to meaningful understanding, from universality to specificity, from theory to description, from structural causes to people’s lived experiences.

Let us complete Reflection and Acion 6.1 to fully grasp the notion of construction of meaning.

Reflection and Action 6.1

Hygiene is an example of social construction. What might be considered hygienic pure and proper in one culture might be considered improper or unhygienic in another culture. What might be considered a tradition might be a crime according to some. For instance, female circumcision in parts of Africa is a custom for some cultures, but many oppose it as an act of violence. In India, when Sati, the burning of the widow, was performed, in Rajasthan, in 1986, it was upheld by a section of the community as valorisation of womanhood and tradition while it was considered a criminal act by the Indian State.

While there are typical and peculiar social constructions very relative to one's culture, so much so that understanding them might involve interpreting them in one's own cultural logic, there are also such aspects of society which are universally found among cultures and across cultures.

In the light of the above examples and statements, write down answers to the following questions on a separate sheet of paper.

Questions

- ❖ Can one be value-neutral in situations such as female infanticide and sati?
- ❖ If meanings are relative to the cultures that construct them, then is it possible to compare two differently oriented cultures?
- ❖ Can you think of more examples of such relative constructions of meanings?

The two traditions of social science, positivist and interpretative, have a point of convergence, because both these traditions emerged out of Enlightenment modernity. In the positivist tradition you can see the Enlightenment affirmation of the legitimacy of scientific explanation. And in the interpretative tradition you can find the affirmation of the Enlightenment optimism centered on human beings' agency and their ability to create their own world.

But then, as you would learn, these very foundations are in a crisis, since all these modern principles, scientific objectivity, historical progress, coherent/rational self, and the agency/ freedom of the actor, are doubted, particularly with the advent of post modernity. And it has caused a severe philosophic crisis, and sociology has to cope with it.

6.4 Rethinking Science

Before you learn more about the challenges that post-modernists have posed to the discipline, it is important to devote some attention to the philosophy of science (see Unit 1). Science, as you have already learnt, provided the foundations of modern social science. But then the very notion of science has undergone dramatic changes in our times, and the philosophers of science have made us rethink science. No wonder, this intense debate on the nature of science did have its impact on the philosophy of social science. It is, therefore, important that you learn something meaningful about this debate.

Let us begin with Karl Popper (1902-1994), a leading philosopher of science in the twentieth century, who changed our understanding of science and society. Popper grew up in Vienna, taught in New Zealand and England, encountered logical positivism and Marxism, and came forward with his distinctive idea of science (Popper 1972). He was heavily

influenced by the changes in physics that emerged out of Einstein's theory of relativity; it revealed that Newtonian physics, which was dominant for more than two hundred years, could be interrogated. This led him to plead for the relative character of science. Science is not something solid and stable, or eternally valid. Instead, science, for him, is a set of conjectures subject to falsification and refutation. No wonder, as Popper (1972: 37) asserted, the creation of the scientific status of a theory is its falsifiability, or refutability or testability. A theory which is not refutable by any conceivable event, he reminded us, is non-scientific. Contrary to popular belief, irrefutability is not a virtue of science. The challenge confronting the scientific community is not to search for confirmations/ verifications of the existing theory, but to search for falsification and refutation. It is not at all necessary to absolutise or sanctify any particular source of knowledge, be it Baconian empiricism or Cartesian rationality, and think that the knowledge gained through it is a domain of absolute certainty. This would lead to dogmatic thinking and generate a false belief that the world is full of verifications of the existing theory. Popper, however, critiqued this dogmatic thinking, and argued that science could progress only through an open culture promoting the spirit of refutability and falsifiability. See below a quotation from Popper (1972: 27).



Karl Popper
(1902-1994)

So my answer to the questions how do you know? What is the source or the basis of your assertion? What observations have led you to it? would be: I do not know: my assertion was merely a guess. Never mind the source, or the sources, from which it may spring, there are many possible sources and I may not be aware of half of them; and origins or pedigrees have in any case little bearing upon truth. But if you are interested in the problem which I tried to solve by my tentative assertion, you may help me by criticising it as severely as you can, and if you can design some experimental test which you think might refute my assertion, I shall gladly, and to the best of my power, help you to refute it.

It is only through this culture of "critical rationalism" that science progresses. Science is inherently critical and democratic, perpetually progressing through trial and error, conjectures and refutations. But pseudo-science[®] is dogmatic; it is too certain of its explanatory power, it sees only confirmations and verifications. With this understanding of science Popper critiqued logical positivism, determinism and Marxism. For instance, Marxism, Popper alleged, is not genuinely interested in falsifiability. Instead, it is dogmatic, desperately striving for confirmations and verifications. Popper (1972: 35) said:

A Marxist could not open a newspaper without finding on every page confirming evidence of his interpretation of history; not only in news, but also in its presentation, which revealed the class bias of the paper – and especially of course in what the paper did not say.

Moreover, Marxism as a doctrine of historicism[®], as Popper (1972: 337) argued, is inclined to large-scale historical prophecies. But then, 'the kind of prophecies which Marxism offers are in their logical character more akin to those of the Old Testament than to those of modern physics'. This sort of prophecy is possible only in a domain that is well isolated, stationary and recurrent, say the solar system. But unlike the solar system, human society cannot be separated from our deeds. Society, far from being repetitive, is perpetually changing, evolving and growing, 'The fact that we can predict eclipses does not, therefore, provide a valid reason for explicating that we can predict revolutions' (Popper 1970: 340).

In other words, Karl Popper gave a new meaning to science. He sought to free science from positivistic certainties. Science, for him, is relative; science is like myth-making. And what promotes science is not the arrogance emanating from cognitive certainty, but a spirit of humbleness that encourages the possibility of falsifiability and refutability.

Thomas Kuhn (1922-1996) was yet another major philosopher of science



Thomas Kuhn
(1922-1996)

who taught us about normal science and its inherent conservatism, and extraordinary science leading to scientific revolutions. For Kuhn, *normal science* relies on the centrality of the paradigm that a particular scientific community takes for granted. To use Kuhn's, (1970: 10) own words, 'paradigms are some accepted examples of actual scientific practice, examples which include law, theory, application, and instrumentation together, that provide models from which arise particular coherent traditions of scientific research'. A paradigm, in other words, provides the background, and directs the trajectory of normal science. Its power lies in its ability to attract an enduring group of adherents away from competing modes of scientific activity. It was in this sense that Newton's *Principia and Optics*, Franklin's *Electricity* and Einstein's *Theory of Relativity* acted as paradigms at different junctures of scientific history. For Kuhn, normal science does not seek to refute, falsify or interrogate the prevalent paradigm. Instead, it seeks to actualise the potential of the paradigm itself, and resolve all residual ambiguities through further elaboration, experimentation and fact-gathering activities. Kuhn (1970: 23-24) said,

Normal science consists in the actualisation of that promise, an actualisation achieved by extending the knowledge of those facts that the paradigm displays as particularly revealing, by increasing the extent of the match between those facts and the paradigm's predictions, and by further articulation of the paradigm itself.

Kuhn characterised this entire process as a 'puzzle solving' activity. The reason is that the problems normal science investigates are more like puzzles that can be solved only through the rules provided by the paradigm

itself. Whatever does not fit into the paradigm is kept aside. Kuhn (1970: 37) elaborated:

A paradigm can insulate the community from those socially important problems that are not reducible to the puzzle form, because they cannot be stated in terms of the conceptual and instrumental tools the paradigm supplies. One of the reasons why normal science seeks to progress so rapidly is that its practitioners concentrate on problems that only their own lack of ingenuity should keep them from solving.

No wonder, the centrality of the paradigm, the commitment to it, and its specificity give a concrete direction to science. It becomes a profession with its specific adherents and specialists, with its journals and publications. And, paradoxically, it is this conservatism that leads to the cumulative progress of normal science. But then, there are situations when the crisis/ anomaly begins to confront the scientific community. It may arise because of the persistent failure of normal science to make sense of the new phenomenon. This crisis situation leads to extraordinary science. It is extraordinary because, unlike normal science, it acknowledges the crisis, interrogates the established paradigm, and dares to become innovative. Kuhn (1970: 90-91) held,

Confronted with anomaly or with crisis, scientists take a different attitude toward existing paradigms, and the nature of their research changes accordingly. The proliferation of competing articulations, the willingness to try anything, the expression of explicit discontent, the recourse to philosophy and to debate over fundamentals, all these are symptoms of a transition from normal to extraordinary research.

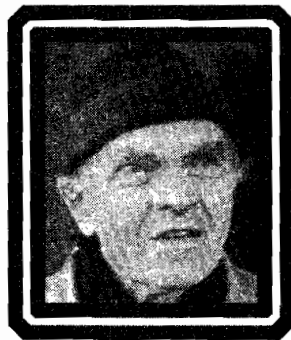
And eventually, it is this extraordinary science that leads to a 'paradigm shift' resulting in scientific revolutions. It was the way Einstein, to take a specific example, made a revolution in physics. The revolutionary or new paradigm is incompatible with the earlier one. Indeed, Kuhn repeatedly emphasised on the 'incommensurability of paradigms'. There are substantial differences between successive paradigms. For instance, in one solutions are compounds, in the other mixtures. One is embedded in a flat, the other in a curved matrix of space. The result is that the two groups of scientists see different things when they look from the same point in the same direction.

It is not easy for the scientific community, as Kuhn reminded us, to accept the new paradigm, because massive conservatism/ dogmatism characterises the community of normal scientists. It is, however, important to realise that, despite this resistance, the new paradigm succeeds in attracting more and more adherents, and eventually establishes its hegemony. The new paradigm appeals because it is said to be 'neater', 'more suitable', or 'simpler' than the old.

What are the implications of this understanding of science for us? Normal science, because of the centrality of the paradigm, is extremely focused. It is also narrow and conservative because it does not wish to see beyond the paradigm. Things are, however, different in other creative fields

like music, graphic arts and literature, and even the social sciences, the field that, unlike natural science, cannot be said to have a hegemonic paradigm to follow. No wonder, in these fields learners are made aware of competing and often incommensurable approaches, and they must ultimately choose for themselves. An example would make this difference clear. Students of physics working on optics would feel so confident about the dominant paradigm that they would find no reason to entertain any other competing theory. That is precisely what the success of a paradigm is all about, its ability to defeat all competing approaches. But imagine students of sociology working on religion. For them, there is no hegemonic paradigm. Instead, they are likely to be aware of multiple, competing and even incommensurable approaches to religion, say, the Durkheimian, Weberian and Marxist approaches. This makes social science more 'open ended' and fluid.

Paul Feyerabend (1924-1994) was another leading thinker who critiqued



Paul Feyerabend
1924-1994

the hegemony of scientific method. No method, even the most successful one, for Feyerabend (1982), has the right to subdue and marginalise other methods. No wonder, he refused to give his consent to scientism[®], that is, the belief that science is the only valid form of knowledge. Instead, he revealed the politics of science, its relationship with power, and the way through propaganda and other strategies it murdered all alternative forms of knowledge. Scientism, he insisted, would go against the true spirit of a

democratic society, because democracy should imply the plurality of knowledge systems, methods and traditions of enquiry. Each tradition, each fairy tale, each story, for Feyerabend (1982), has its validity. Nothing is dead or meaningless. It is important that we embrace an 'anarchist theory of knowledge' implying that everything is possible.

You may be wondering why we are discussing so much the philosophy of science. If you think deeply, you would realise that it is meaningful for social science. There are two lessons that you can learn.

- i) Positivism that seeks to legitimise the 'certainty' of science gets eroded. For Popper, science is like a conjecture subject to refutation; for Kuhn, science is conservative, and prevails because scientists too, like any other group of people, are being guided by peer group pressure and other socialising forces; and for Feyerabend, science has its own history of domination and violence. In other words, it speeds the process of de-legitimation of the positivistic foundation of social science.
- ii) With the demystification of science, sociology tends to become more sensitive to the plurality of methods and traditions. It acquires the courage to come out of the shadow of natural science.

In order to fully grasp the arguments presented above, let us complete Reflection and Action 6.2 and then proceed with the discussion on crisis in foundations of the social sciences.

Reflection and Action 6.2

Science as the only legitimate explanation is coming under increasing criticism. While it is acknowledged that science and technology have made immense progress and have made efforts to solve many of human problems such as hunger and disease and have tamed to some extent the wrath of the elements of nature, they have not been able to solve all of human problems, questions and search for meanings. This inability of science is one reason given for the increasing presence of religion in the everyday lives of people the world over. And if science is not the only legitimate explanatory avenue then what are the alternatives?

Some firm believers of Christianity contend that "evolution is a fantasy that scientists and other secularists cling to because it explains humankind through a process other than God's divine hand". They wish "the creation angle could be worked into the school curriculum somehow as another possible explanation. It could even be presented as a "theory"..." (source: <http://lashawnbarber.com>)

In the context of the above statements, write the answers to the following questions on a separate sheet of paper.

Questions

- ❖ Do you think the rising religiosity among people has anything to do with the fact that science does not answer all our questions and needs?
- ❖ Should we be offering an alternative explanation to understand the deeper question of existence in our school curriculums, as some Christians have argued it?
- ❖ What according to you is a proper explanation which is worthy of being considered as a theory or as a part of a social science discipline?

*** SPECIAL NOTE FOR THE COUNSELLOR OF M A SOCIOLOGY FOR AN ACTIVITY DURING THE COUNSELLING SESSION:** Please, form a discussion group from the learners of M A Sociology at your Study Center and discuss the last question in the group. Organise a debate on this topic and prepare a programme for broadcasting by Gyanvani in collaboration with the IGNOU Regional Centre in your area.

6.5 Crisis in Foundation

It is, however, the advent of post-modernity that has caused a severe crisis to the philosophic foundation of the social sciences. As you already know, social science or sociology was a product of Enlightenment modernity. Its foundations lay in its adherence to scientific objectivity, its belief in reason and progress and its acceptance of the supremacy of western modernity. Post-modernity deconstructs all these foundations, and asserts that there is no universal truth, there is no culture that can claim itself to be superior to others, and the world is a site of differences. In other words, for post-modernists, there is no grand truth on science, progress and modernity. Instead, there are multiple voices, and the very notion of a rational/ coherent subject is questioned (Harvey 1989).

There are many reasons for the disillusionment with the project of modernity. The experience of war, violence and totalitarianism in the twentieth century, the growing assertion of the colonised people, and the resultant decline in the legitimacy of western power, the arousal of subaltern voices, the proliferation of new technologies of communication, and the rising consumer culture making a distinction between 'high' and 'low' meaningless— all these factors, as you would learn, led many sensitive thinkers in the West to rethink and interrogate the very foundations of modernity. The question is: what are its implications for sociology? In MSO 001, you would learn more about post-modernity. Nevertheless, it is not difficult to identify some implications as shown in Box 6.3.

Box 6.3 Implications of Post-modernism[®] for Sociology

Sociology, from Comte to Marx, was heavily influenced by science. Its objectivity, its universality and explanatory power. Hence sociology was seen as different from ideology/ narrative/ fiction/ metaphysics. Sociology as a science of society was thought to be more objective and true, a piece of reliable knowledge. But then, for post-modernists, science has lost its sole claim to truth; science itself is being seen as yet another narrative, a story, and an ideology. And, therefore, science cannot be seen as the master narrative. There is no master truth, no totalising theory. Instead, in this world of multivocality there are diverse stories and truths. It is a world without consensus, without coherence, without a meta-theory.

❖ Hence all these modern sociologies with their *totalising claims*, Comte's law of three stages, Durkheim's division of labor leading to organic solidarity, Weber's modernity as widespread rationalisation, and Marx's theory of class analysis, lose their significance. And sociology becomes, to use Zygmunt Bauman's (1987) words, "merely an act of translation of multiple traditions without any claim for legitimating the grand truth". And as science is being deprived of its validity claim sociologists in the post-modern setting become free to play with innumerable sources: narratives, life histories, fictions, popular cinema and music.

❖ Post-modernists questioned the sanctity of knowledge as an objective quest for truth. As Michel Foucault would argue, knowledge is never separated from power, and power from knowledge (discussed in Sheridan 1980). For example, psychiatry can be seen as an integral component of a disciplinary society. With its notion of 'normalcy' it seeks to modulate /control sexuality or madness. It is like formulating a concept like discourse[®] that embodies knowledge as well as power, and has a principle of exclusion and inclusion. Hence we have a discourse on madness or sexuality that allows psychiatrists, doctors and other 'normalising judges' to categorise people as 'mad' or 'sexually deviant'. In other words, everything is constructed, and there is no natural/ permanent truth. Furthermore, the idea of an emancipatory modern

society gets challenged, and we are told about a disciplinary society characterised by a widespread network of surveillance machinery.

Yes, post-modernists have caused a severe crisis. For them, there is no foundational truth (as put forward by Bacon and Descartes) that can prove to be objective, there is no universal/ totalising theory (like Marxism) that can overcome local contexts and heterogeneity, and there is no "superior" method (like science or positivism). Here is a situation, a typical post-modern condition, leading to relativism, incoherence and schizophrenia.

But then, there are social scientists who do not give their consent to post-modernism, even when they see problems with modernity and science. And this debate goes on. As you progress you will learn more about it and also participate in the debate.

6.6 Conclusion

In this unit we have tried to understand the philosophical bases of the social sciences and how different epistemological and metaphysical issues dealt within philosophy have had a bearing on various perspectives and methodologies of the social sciences. As you can see from the discussion in this unit, there has been no single paradigm or theory which has dominated the social sciences, including sociology. Though sociology was influenced by natural science and its methodologies, especially in its early stages, in an attempt to establish itself as a discipline, it has realised that the subject matter of sociology, involving as it is human beings, is not amenable to generalisations and laws of the Newtonian kind. With the discovery of increasingly different worldviews and particular cultures, it became difficult for sociologists to come up with universal explanations. Even if they did, the same came under heavy criticism. The increasing need to represent plurality has produced a new wave of critique leading to a post-modernist's valorisation of many methods and in that almost everything is acceptable.

Further Reading

Phillip, Derek L. 1973. *Abandoning Method*. Jossey-Brass: New York (For a critique the epistemological foundations of common research procedures)

Coser, Lewis A. 1969. *Sociological Theory*. Macmillan: London (For a general collection of key passages from classic writings in sociological theory)

