Chapter Eight

Social Sciences A Distinct Science

I do accept much of the criticism hurled against positivist trend in social sciences. Positivism, which started with Augustus Comte and St. Simone in 19th century, culminated with Logical Positivism and Vienna School in the early twentieth century. Positivism believed in hierarchy of sciences with physics and mathematics taking the top positions. Influenced by the contributions of Newton, Copernicus and Darwin, the positivists attempted to make the study of man and society scientific by applying methods and techniques applied in natural sciences. According to it only the social phenomena which are sensually perceivable and measurable are worthy of scientific study. The trend took the form of behavioralism in Political Science, which in the name of making the study of politics scientific, emphasized on keeping values out of the scientific study and used empirical techniques and methods for collection and analysis of data. Positivism believed that through what it claimed to be scientific method, it is possible to

comprehend the objective social reality and express the same in neutral language in an unbiased way. The basic assumptions of positivism came in for sharp criticism by the critics. It was rightly pointed out that while investigating a social phenomenon of which a researcher is a part, there is no objective Archimedean point from which expert engineer may move people and manage societies. It is difficult to be value neutral and much of the social data are qualitative and subjective in nature. It was also shown that the techniques and methods advocated by positivists only helped in studying the appearances and external relations of social phenomena, not their inherent and essential contractions. It is correctly pointed out that in the name of science and objectivity, the positivist trends in social sciences upheld the status-quo and mystified the power conflicts and the struggles for hegemony inherent in capitalist societies. (See Igor Naletov (1984): **Alternatives to Positivism**, Progress Publishers, Moscow; Terence Ball and James Farr (1984): **After Marx**, Cambridge University Press, 1984).

However, the limitations of positivism have led some intellectuals to take to another extreme position of questioning the very possibility and desirability of seeking objective social reality. These intellectuals see human beings as unique creatures, highly individualistic and value loaded. They

believe that human beings are so subjective and irrational that they are not amenable to any natural and materialistic laws. Consequently they think that it is impossible to describe, analyze and predict human behavior. In their view, any attempt to study human society and behavior result in denial of particularities and uniqueness of human subject. These thinkers are extremely suspicious of anything defended in the name of reason and science. Such kinds of subjectivist and relativistic ideas are found in theories propounded by anarchists like Nietzsche, conservatives like Oakshott, existentialists like Sartre and Critical theorists like Adorno and Horkheimer. Later the trend took the form of post-modernism. The post-modernists argue that all Enlightenment theories that stressed on unity, coherence and objectivity are bound to be defective, since in reality there is no coherent human subject and all that we see is flexible, relative and fragmented. As here is no possibility of objective truth, all that we valorize as science is at best a narrative. According to post-modernists all that justified as science and knowledge by the Enlightenment theorists is basically Eurocentric, white-racist capitalist and patriarchal rationalizations of fragmented social reality. They are all meta-narratives, which actually hide internal differences and differentiations, and serve the interests of particular dominant categories of people against

others. Refusing to see the differences and qualitative breaks within the modernist traditions, the post-modernists club both positivism and Marxism as false, oppressive, meta-theories, which need to be counter posed by local narratives of oppressed and marginalized communities. To them, the world being a text, everything that describes, and analyze it is only a narrative, just a point of view. Instead of claiming to tell the truth, the post-modernists argue that through deconstruction they expose silences. inconsistencies and differences inherent in all claims to truth. As such post-modernism builds case for giving up the search for real meaning or objective truth. Projecting themselves to be more radicals than Marxists, the post-modernists lend support to the suppressed voices of the marginalized women, the indigenous peoples, the homosexuals etc., and encourage their local narratives to destabilize the hegemonic and oppressive narratives of the dominant groups, which tend to rationalize particular interests as objective truth.

Their doubts regarding the possibility and desirability of pursuing social reality make one attempt to place post-modernists as skeptics of science. But interestingly the post-modernists justify their apparently anti-science stand, basing primarily on recent developments in certain fields of science, especially in quantum physics. Recently Alan Sokal, a leftist and a renowned physicist,

published an article in a post-modern journal named, *Social Text,* posing himself as a post-modernist. Later Sokal refuted all that he wrote in the journal as non-sense. The exercise which came to be known as Sokal Hoax clearly exposed how little the post-modernists really understood modern scientific developments and how they misuse and misinterpret developments in sciences to justify their preconceived theories. (Alan D. Sokal and Jean Bricmont (1998) : **Fashionable Nonsense: Postmodern Intellectual's Abuse of Science**, Picador, New York). To make sense of the scientific pretensions of post-modernists, one may discuss in little depth the Heisenberg's theory of uncertainty and examine how far the post-modernists' reliance on such theory is relevant or irrelevant to the understanding of society and social processes. Werner Heisenberg, a German physicist, showed that it is impossible to determine simultaneously with the desired accuracy both position and velocity of a particle (electron). The more certain a particle's position, he observed, the more uncertain is its momentum, and vice versa. Indeed it is very difficult to establish precisely the position and velocity of particle that moves at 5,000 miles per second in different directions. To decide on the position of an electron, one should first be able to look at it using a powerful microscope. But Heisenberg contends that when we use a microscope, we are actually striking electron with

a particle of light, i.e., a photon. Since photon is a particle, it will inevitably disturb the momentum of the electron that it seek to obseve. In other words, we change the position of electrons by the very act of observation. The dilemma that Heisenberg explains is indeed real at this stage of development of science and technology. But to conclude from this that the scientists could never be able to determine the position and velocity at the same time appears to be like the assertions of the earlier physicists who argued that atom was the last particle that could not be cut further. Instead of looking at uncertainty principle as a special aspect of quantum theory at this stage in its development, Heisenberg postulated it as a general philosophy, as if indeterminacy is a fundamental and universal law of nature and that all forms of matter are indeterminate by their very nature. From this confusion arose the Copenhagen School, which questioned the causality and objectivity of electrons. The Copenhagen School used the practical difficulties that we encounter in determining the position and velocity of the particle to claim that the particle does not have a definite position or velocity. The school argued that reality comes into being when we observe it. Following this interpretation, some physicists also took the view that material reality is unthinkable without human consciousness. From the positivist idea that it is meaningless to discuss the existence

of something which cannot be measured, came this subjectivist conclusion that since position and velocity cannot be measured, the particle is unreal, a causeless 'possibility', which achieves actuality only upon observation. (Refer Christopher Caudwell (1949): **The Crisis in Physics**, London; Shibdas Ghosh (1992): **Selected Works, Vol.11** SUCI, Calcutta).

These philosophical conclusions of Heisenberg and Copenhagen School were not accepted by many scientists such as Einstein, Max Planck, Louis de Broglie and Erwin Schrodinger, who are equally known figures in the field of quantum physics. Einstein through his theory of relativity proved that mass and energy are equivalents. He was the one to discover that light can be quantized in the form of photons. Louis De Broglie demonstrated that all matter has the wave/particle character. These scientists showed that not only in the macro world, even in quantum physics, there are many things, which can be determined with mathematical precision. The fact that Heisenberg explained the level of uncertainty with mathematical formula actually indicates that there is determinism even in the motion of uncertain micro-particles. The post–modernists ignore the contributions of other scientists in quantum physics and project as if quantum physics begins and ends with Heisenberg's contributions.

The post–modernists' obsession with Heisenberg's philosophy makes them propound queer theories about society and social processes. Drawing parallels between the subatomic world and the world of human beings, the post–modernists assert that the events that happen in the social world are influenced by the very act of observation. To them social realities reflect the fusion of the researcher's observation and the issues and objects that are observed. Since they believe that social reality is 'socially constructed', to them the question of objectivity becomes a lost cause. According to them all social realities should therefore be understood and seen as participatory realities. Naturally they contend that the conventional social science research methods fail to encapsulate these complexities of social realities and hence the need for post-modern ways of looking at and understanding the social events and processes.

All the postulates and contentions of post–modernism can be accepted as valid if only the social world is a mere reflection of the subatomic world. Uncertainties that one confronts in the social world are far more complex and unique in their own ways, and they have little to do with uncertainties that are part of the subatomic world. The social movements, processes and relations involving large number of peoples and several communities cannot be affected by the act of

observation by the researchers, the way the photons influence the position and velocity of electrons. The problems involved in scientifically studying the human behavior and social processes have altogether a different base than the ones that one comes across in quantum physics. (Sajal Nag and H. Srikanth (2002): "Persisting Question", **Economic and Political Weekly**, August 10)

Both positivist and post–modernist interpretations of social reality rely on developments in natural sciences. They make use of natural science methods, assumptions and techniques to describe and analyze human world. Such an approach to the study of society is bound to fail, since the social world is qualitatively different from the natural world. When I say that the human world is different, I do not mean that the human beings are above the material world and are not influenced by material laws. What I am trying to point it out to this matter, it is not something homogenous. It exists in different forms. Each material form has its own laws guiding it. Different branches of science–physics, mathematics, chemistry, biology etc., came into existence to study the material laws guiding different forms of motion of the matter. Each science has to develop its own methods and techniques appropriate to the study of that particular form of matter and its motion. As matter exists in different forms, any attempt to impose one scientific method to explain all forms

of matter are bound to fail. To be more specific, scientific methods appropriate to natural sciences prove to be inadequate or inappropriate to the study of human behavior and social processes. This inapplicability of natural sciences methods and techniques in no way proves that society and social processes cannot be studied scientifically. It only shows that human society is a distinct material form of existence, with its own material laws determining its structures and processes. Since the subject matter of social sciences differs from the study of other animate and inanimate forms of existence, its methods and techniques of study are also bound to be different from that of natural sciences. Hence instead of blindly aping the natural scientists, it is necessary for the social scientists to develop appropriate techniques of collection of data and methods of analysis relevant to the study of human behavior in social settings.

As it is not an apt forum to discuss in depth all that is relevant and essential to make the study of society scientific, I seek to throw light on certain specificities of human existence and make certain general observations about the science of society on the basis of classical Marxist teachings:

1. Society is neither static nor homogenous. Society comprises of so many classes, communities and groups of people, interacting, competing and conflicting with one another. Social sciences need to encapsulate the complex

social changes that emanate from the interplay of multiple social contradictions. Human beings are to be seen here as active social agents influencing and influenced by the social structures and processes of which they are a part.

2. Social reality is independent of the values that one holds. It is true that at a given point of time certain values are incompatible with the pursuit of truth about, say, patiarchy or capitalism. Just because some values hold us from understanding the social reality, we should not jump to the conclusion that everything is social construction and that the objective social reality does exist. That the capitalists extract surplus value created by the working class and that the patiarchal system comes in the say of gender equality are not just points of view of certain groups or classes of people. They are objective truths, which exist independent of what the human beings think or fail to think.
3. It is neither possible nor desirable to keep values out of the study of human society. In situations, where certain values appear to come in the way of pursuit of truth, what is desirable is not to become value free, but to adopt those values which are compatible with the pursuit of truth.

4. Positivists looking for universal truths often ignore the specificities and particularities of human situations and make generalizations that tend to conceal differences and contradictions inherent in the given social structure. Their findings, which hide as much as they reveal, conceal the differences and tend to project social structures as unified and homogenous entities. But the post–modern celebration of differences is not a solution to this impasse created by positivism. It is necessary to be conscious of the presence of differences or internal contradictions in social structures and social phenomena. But at the same time one should also be aware that despite contradictions and differences there exists some kind of unity, which gives structure, form and function to social phenomena. Although unity may be temporary, at a given point of time unity in some form is a reality. It is true that there are contradictions between the working class and the bourgeoisie. Yet they are related and dependent on each other at a given point of time in history. Hence we have capitalist system, despite all its inherent contradictions. Social scientists seeking truth should therefore look at both contradictions and unity; the particularities as well as the generalities, all in their interrelationships.
5. As society is dynamic and is always in motion,

the social scientists also need to be dialectical in their approach. They should study society and social processes, not only in their interrelationships, but also in their contradictions, change and development. They need to update their knowledge about the dynamic world and be equipped with most advanced techniques and tools of knowing and analyzing the changing social structures and processes.

6. Finally, we need to realize that the objective of social sciences is not merely to describe and analyze the social phenomena. We examine regularities behind the human behavior, understand the nature and forms of social relations and explore the laws guiding the social change - all with the avowed purpose of changing the world for better. Even the natural scientists do not stop at merely describing the physical and biological phenomena. They seek ways and means to use their knowledge of the natural world for the benefit of the humanity. Social scientists, who directly work among the people, within the communities, cannot then lag behind the natural scientists in putting to use their knowledge of society and social processes for making the world a better place for the human beings to live.

—H. Srikanth