SOCIOLOGY

SOCIOLOGY AS SCIENCE

Science, scientific method and critique Sociology as Science: Science is a systematically acquired, organized body of certified and changing knowledge which is based upon observable facts and methods used to acquire this knowledge. Saint Simon Spencer Comte Durkheim Weber were attempts to develop sociology on the basis of natural sciences. Science is characterized by: Empiricism observable, verifiable, quantifiable facts Objectivity and value neutrality Reliability, validity, predictability and generalizations Self-corrective open to reflection and takes spatial and temporal variations into consideration Theoretical orientation and cumulativeness Hence, as Giddens puts it, sociology is a scientific endeavour according to this definition, as it involves systematic methods of empirical investigation, analysis of data and assessment of theories in light of evidence and logical argument. There are four sets of postulates which social scientists apply to their disciplines which determines the degree of science involved. These are: Ontological | Epistemological | Human Nature | Methodological To determine if sociology is a science, different schools of thought delved into the nature of these assumptions. And hence we get two approaches along the subjective objective dimension. Non- or anti- positivism | Positivism Ontology constructionist and nominalism | objectivist and realism Epistemology interpretivist | empiricist Human nature voluntarism | determinism Methodology ideographic | nomothetic According to Comte, there is a hierarchy of sciences in which sociology is at the top. And hence, with progressively increasing time and efforts, it will achieve empiricism, value neutrality, testability and universal theories and thus the status of a positive science. Karl Popper, Goode and Hutt and antipositivists see science as a method of approaching and studying a phenomenon and hence claim that sociology is a science in itself Critique: Jacques Barzun writes that blindly believing the conclusions of science, gives science a divinity. Science is evolving into a new form of divination and it is a faith as fanatical as any in history. Theodor Adorno states that in the 17th and 18th century, science attempted to study nature, in 19th century it exploited nature, 20th century saw the destructive power of science, and in the 21st century, science has been colonized by the state. So, we should not celebrate science. Carl Jung states that subjective things like happiness, beauty, pleasure, etc. cannot be measured with methods of science, and so methodology should be discipline specific. Experimentation has both practical and ethical limitations in sociology. However, there are mature sciences like Astronomy, where experimentation is not possible. Quantification large aspects of sociological phenomenon are qualitative in nature Generalization

human behavior often does not follow recurrent patterns like physical objects Objectivity Scientific Method: Theodorson and Theodorson define scientific method as building of a body of knowledge through observation, experimentation, generalization and verification. It is a procedure followed while conducting research, and steps of scientific research as listed by Horton and Hunt are: 1. Identification of problem of research, driven by scientific consideration 2. Literature review 3. Construction of hypothesis - a tentative generalization, the validity of which is yet not tested. Speaks about which aspect of reality is going to be studied 4. Plan the research design 5. Collection of data by using scientific tools and techniques 6. Check reliability, validity and authenticity of data 7. Generation of theory - draw conclusion 8. Replicate the study Critique: Scientific method is just one method among many as a means to an end. Glorification of any one method is bad for the growth of knowledge. It is often based on induction and does not promote refutability. Before research is initiated, result is already known, hence not innovative or creative but rather very predictable. Karl Popper suggests falsification as a counter to this. It kills creative spirit and freedom of thought the result of following any scientific method. Adorno states that science is suffocating and kills creativity. 33 Neha Bhosle - Rank 15, UPSC CSE 2019 Paul Feyerabend . He sees scientific method as one method of looking at truth and stated that there are many more manners of looking at the truth and they need to be explored and thus expand the scientific method types. Science is thus limitless and epistemological. Binding it to a methodology restrains it. In The Structure of Scientific Revolutions , Thomas Kuhn states that even with non-scientific methods, many disciplines, like history and philosophy have grown and matured. A researcher using a scientific method also makes certain assumptions, so it is wrong to glorify the method. Phenomenologists like Peter Berger, Thomas Luckmann and Alfred Schutz out rightly reject scientific method. JS Mills suggests methodological pluralism instead of dependence on any one method. Possibility of value biasness Conflicting paradigms a paradigm exists and researcher tries to prove it and ignores anything contrary Problem of understanding cause and effect Durkheim found a correlation between rates of suicide and seasons of the year. This may lead to conclusion that temperature affects the rates, but in reality, it is because in spring and summer people are more active socially than in winter Karl Popper in points out that because scientific methods are based upon existing scientific theories, they are vulnerable just like any other methods Social life cannot be laboratorized,

Science, scientific method and critique

SOCIOLOGY AS SCIENCE Praveen Kishore Notebook - Pages 17 to 54 Also to read in brief - Haralambos - Sociology and Science - Pages 944 to 948 Empirical, theoretical, cumulative and value neutral 'Scientific' quantitative methodology - positivism, falsification, laboratory experiment, field experiments, comparative method Interpretive and qualitative methodology - interpretive approach of Weber, symbolic interactionism, phenomenology Pure science - exploration of knowledge | applied science - findings of pure science are applied to practical life Science is a systematic body of certified and changing knowledge which is based upon observable and verifiable facts and the methods used to acquire this knowledge. Use of systematic methods of empirical investigation, analysis of data, theoretical thinking and logical assessment of arguments to develop the body of knowledge about a particular subject matter With rise of Renaissance only empirical evidence became important - earlier had testimonial, circumstantial, ethical evidences too Science is: self-corrective, objective, value free, rational - Science is not a product of faith rather it is a product of questioning - continuing journey with a definite start point but no end point Immanuel Kant - There are 2 sources of obtaining knowledge for humans - knowledge coming out of philosophy, knowledge gathered through science - philosophy deals with statement of values, science with statement of facts Nomothetic v/s ideographic - qualitative v/s quantitative - values are important v/s facts are important - subjectivity v/s objectivity - general enquiry v/s specific enquiry ARRB - sociology follows nomothetic method of inquiry so a science, while positivists say the opposite Weber - SUOR - so socio neither ideographic nor normative - sociology must be value free Anthony Giddens - Physics, Chemistry are hard sciences, Sociology is a soft science. Sociology began as a systematic and scientific study of society - Comte Physics - scientific method help tide over the material crisis, so was thought can help tide over social crisis as well - called it Social Physics - theory of hierarchy of sciences - will take time and efforts but will become a positive science Spencer - evolution is the twin process of differentiation and integration - comparative method (another name for scientific method) - more differentiation, more evolved the society is Durkheim - social facts - science as amenable to sensory observations and exploratory generalizations can be made using positive methods - 'Rules of Sociological Method' - comparative method: 1. within a society (Married and Unmarried in same society) 2. different societies at a point of time (Spain Catholic, Germany Protestant) 3. over a period of time (based on level of development) - comparative method is also called indirect experiment - social facts should be treated as ‘things’ and one social fact must be explained with another social fact

preceding it - defines social facts as “ways of acting, thinking and feeling, external to the individual, and endowed with a power of coercion by reason of which they control him”. For him explanation of social facts meant the study of functions and causes. The causes could be derived through the use of the comparative method. Further, it follows the empiricist method, which is valid in the natural sciences, biology in particular, observation, classification and explanation through the help of ‘laws’ arrived by means of the comparative method - example of social fact: you walk barefoot in garden is your choice, barefoot in temple is social fact, not your choice, it is an external constraint. Because of habit, socialization and internalization, we tend to experience social facts as natural and spontaneous Social facts as things need to be distinguished from their individual manifestations. In fact, Durkheim held that social facts 'acquire a body, a tangible form, and constitute a reality in their own right, quite distinct from the individual facts which produce it'. For example, codified legal and moral rules, or articles of faith wherein religious groups condense their beliefs; none of these can be found entirely reproduced in the applications made of them by individuals. Yet, sociologically it is important to categorize their tangible, crystallized. aspects as social facts, not their individual manifestations. Take, for instance, punishment as a social fact. For Durkheim, its cause is the intensity of the collective sentiments that the crime offends. Likewise, its function is to maintain these very sentiments at the same degree of intensity. Merton's Four Institutional Imperatives of Science Science is universal. The validity of a scientific statement does not depend on any particularistic criterion. It is against all sorts of ethnocentrism. It is valid for ail. • Science implies the communism of knowledge: Scientist, it is argued, want nothing more than esteem and recognition. Scientist's findings and discoveries, far from remaining a private property, become a collective heritage. It is this shared culture that enables science to evolve, grow and progress dramatically. • • Science demands disinterestedness: a process of rigorous scrutinization and examination of one's findings without any bias. Science is organized skepticism that distinguishes it. Everything for science is an object of critical enquiry. There is nothing sacred or profane. Science investigates, examines and problematizes everything. That is the success story of science. • ARRB, Malinowski, Parsons, Chicago School - sociology as positive science Goode and Hutt - science is not a discipline but a method of approach - methods applied in the study of a subject matter 3 components - empirical observation, experimentation (to prove a hypothesis) and verification - also called inductivism (inductive generalization) or positivism - but then you are focused on proving the hypothesis and ignore contradictory data Ultimate purpose

to arrive at a law, intermediate purpose to classify based on common attribute so that future predictions can be made Empiricism - David Hume, John Locke, Francis Bacon - knowledge only through sensory experience Empiricism - What our senses experience is a reality --> counter view is called interpretivism Karl Popper and deductionism, falsification - hypothetico deductivism - constructionist ontology and interpretive epistemology are the postulates of hypothetico deductive method - initial probability is 0 and slowly try to move towards 1 and get a universal law - goal is value neutrality and recognizes the limits of empirical observation - 'The Logic of Scientific Discovery' Extrapolation is inductive (apple falls, all fruits will fall), interpolation is deductive (apple seeds will also fall) Human possesses consciousness - objective, only product of external factors, no speculation or interpretation - positivists - versus. divine consciousness - idealist or non-positivists Kant - every single human being possesses unique consciousness and everyone has ability to make an autonomous choice - 2 sources of knowledge: knowledge coming out of philosophy (statements of value) and knowledge gathered through science (statements of facts). Hegel - changed Kant to social consciousness and dialectical idealism which Marx changed to dialectical materialism Spencer - social Darwinist - social evolution - sociology can discover law of nature - common origin, interdependence of heterogenous entities, always increasing size - population rises, needs rise, specialization or differentiation, integration and cooperation - he defines social evolution as a change from a state of relatively unstable, indefinite, incoherent homogeneity to a state of relatively stable, definite, coherent heterogeneity - society types: simple, compound, double compound, trebly compound - theory of internal regulation system - military vs industrial - depends on complexity - FUNCTIONALISM - Durkheim social facts, conscience collective inspired from this Lewis Coser - refutes Spencer's unilinear social change or evolution - depends on relationship of society with its neighbours, and not just on internal complexity Thomas Kuhn - does not see any significant difference between inductivism and HTD method - both talk of progressive generalization and linear progress of science - 'paradigm' - a set of fixed principles and assumptions that describe reality - pre paradigmatic and paradigmatic stages - 2nd is science - socio has not reached yet - once a paradigm accepted by all, only attempt to increase precision of existing theories - contemporary sociologists say different paradigms like functionalism, conflict theory, also possible in science so socio is a science Normal science - reinforces the existing paradigm, revolutionary science - research throws some facts that question the existing paradigm and lead to change of existing facts - paradigmatic shift It was Kuhn, who

first suggested that development within a discipline, especially science is not a gradual process but in fact takes place quite suddenly. Kuhn's book entitled 'The Structure of Scientific Revolution'. Kuhn calls these sudden charges as "paradiadigm shifts". According to Kuhn, science and by extension social science undergoes its process in three phases which are discernible.