INFORMATION TO USERS

This reproduction was made from a copy of a document sent to us for microfilming. While the most advanced technology has been used to photograph and reproduce this document, the quality of the reproduction is heavily dependent upon the quality of the material submitted.

The following explanation of techniques is provided to help clarify markings or notations which may appear on this reproduction.

1. The sign or "target" for pages apparently lacking from the document photographed is "Missing Page(s)". If it was possible to obtain the missing page(s) or section, they are spliced into the film along with adjacent pages. This may have necessitated cutting through an image and duplicating adjacent pages to assure complete continuity.

2. When an image on the film is obliterated with a round black mark, it is an indication of either blurred copy because of movement during exposure, duplicate copy, or copyrighted materials that should not have been filmed. For blurred pages, a good image of the page can be found in the adjacent frame. If copyrighted materials were deleted, a target note will appear listing the pages in the adjacent frame.

3. When a map, drawing or chart, etc., is part of the material being photographed, a definite method of "sectioning" the material has been followed. It is customary to begin filming at the upper left hand corner of a large sheet and to continue from left to right in equal sections with small overlaps. If necessary, sectioning is continued again—beginning below the first row and continuing on until complete.

4. For illustrations that cannot be satisfactorily reproduced by xerographic means, photographic prints can be purchased at additional cost and inserted into your xerographic copy. These prints are available upon request from the Dissertations Customer Services Department.

5. Some pages in any document may have indistinct print. In all cases the best available copy has been filmed.

University Microfilms International
300 N. Zeeb Road
Ann Arbor, MI 48106

Yang, Seung-Tae

HUMAN NATURE AND POLITICAL SCIENCE: A CRITIQUE OF JOHN STUART MILL'S THEORY OF THE SOCIAL SCIENCES

Northwestern University PH.D. 1982

NORTHWESTERN UNIVERSITY

HUMAN NATURE AND POLITICAL SCIENCE:
A CRITIQUE OF JOHN STUART MILL'S THEORY OF THE SOCIAL SCIENCES

A DISSERTATION

SUBMITTED TO THE GRADUATE SCHOOL

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS

for the degree

DOCTOR OF PHILOSOPHY

Field of Political Science

By

SEUNG-TAE YANG

Evanston, Illinois

June 1982

To

The Memory of

My Father

ABSTRACT

Human Nature and Political Science:

A Critique of John Stuart Mill's Theory of the Social Sciences

Seung-Tae Yang

The present dissertation is intended to be a contribution to the resolution of the current paradigmatic crisis in political science, by throwing a new light upon the traditional concept of Basic Human Nature. It will be a 'new' treatment of the concept in two respects: First, human nature will be shown to be the fundamental criterion by which any empirical generalization of social phenomena is validated or rejected. Secondly, we will identify human nature as inseparable from scientific inquiry per se, i.e., man's nature that does science. This very familiar aspect of human nature has been totally obfuscated since David Hume declared that all science has relation to human nature.

In this connection an examination of John Stuart Mill's theory of the social sciences appears as the main obstacle to be overcome, because Mill is seen not only as the founder of the behavioral social sciences but also as the first theorist in this tradition who realized the necessary link between Human Nature and the objective study of social behavior.

There emerge basically three questions which must be asked as regards Mill's psychological associationism as his theory of human nature: 1) Does Mill's associationism sufficiently, and with no untoward logical difficulty, explain the formation of ideas in the mind? 2) Does it contain it itself a theory of action, without which

it would lose relevance to the study of the social sciences? 3) Is the human mind, understood in the manner of Mill's associationism, able to comprehend social phenomena as distinct from individual phenomena?

It turns out, however, that Mill's psychological associationism fails totally to resolve any of these questions. Such a total failure on Mill's part suggests, however, the direction in which he should have gone in order to overcome the present paradigmatic confusion in the political and social sciences. The dissertation delineates three requirements which must be satisfied by any new, synthetic theory of human nature, particularly as applied to the social sciences. 1) The unity or coherence of man as the thinking and action subject. 2) The unity of man as the object of social science and as the subject doing social science at the same time. 3) The inseparability of the mind, as such, from the ideas in the mind.

ACKNOWLEDGMENTS

Customarily this is the place where the writer acknowledges his debts to others who have been helpful, in one way or another, to him in writing the work concerned. Particularly for a dissertation it is the place for the writer to express his thanks to his dissertation supervisor. It is, however, hardly possible for me,with my poor English and even with my native language Korean, to express properly my deep gratitude to my advisor Prof. D.A. Strickland for his intellectual guide since I first came here to Northwestern six years ago, for his valuable criticisms and suggestions in writing this dissertation, for his financial assistance when I was in need, and for his travel guide when he and I, with my wife, made a long driving trip to the West in 1979. I hope he will forgive me for my dedicating this work to my parents.

I would also like to thank Prof. Errol E.Harris for his having permitted me to attend his seminar on Hegel's logic, which helped me greatly in clarifying my idea. There are many others who have been helpful in a variety of ways. I should like to extend my many thanks to Profs. George Blanksten and Ronald Herring for their helpful advices; to my friend and graduate colleague Mr. Donghwi Lee who has stimulated my thinking through our daily conversations in the Northwestern Library.

Lastly, by no means least, I am very grateful to my wife Chungkeun for her help in too many ways throughout the last four years while I have been working on this dissertation. Korean traditional custom,* however, does not allow me to express my deepest appreciation to her.

---

*In Korea they call a man hundred-percent fool who praises his wife in front of others.

Yet even this opportunity of acknowledgments would simply be impossible without my parents. I dedicate this dissertation, poor as it is, to them, especially to my father who, to my inexpressible sorrows, suddenly died last year not to see my graduation.

TABLE OF CONTENTS

Whenever they (the Tübingen theologians) read anything contrary to their convictions ...and manage to sense some truth in it, they say: "Yes, that's probably so." Then they go to bed, and in the morning they drink their coffee and pour it out for others, as if nothing had happened. Otherwise, they put up with anything that's offered them and that keeps them in their humdrum system.

- Hegel to Schelling, 1795 -

To be radical means to get at the root of the things, and the root is man.

- Karl Marx ... and Heinz Eulau -

I. PRELIMINARY DISCUSSION

John Stuart Mill (1806-1873) died over a century ago leaving a great imprint on the Western mind as the leading exponent of liberal political-ethical ideas, as a textbook writer of the classical political economy, as a Fabian socialist, and as a publicist of the logic and philosophy of science. Almost every nook and cranny of his thought has ever since been the object of scholary examination, and as a result we are now provided with a comprehensive bibliography on his thought.(1) Do there still remain more problems in his thought to be explored?

Obviously there could be no such thing as terminus ad quem in the study of so-called great philosophers. Every issue in the study of a philosopher or a philosophy could be newly raised and newly appreciated in light of varying intellectual or social developments. What is peculiar to the contemporary Mill's scholarship in general and particularly to those so-called methodologists in the social sciences is that one of the important contributions made by Mill is rarely mentioned and is far less appreciated than it deserves to be. The allusion here is to Mill's theory of the social sciences, especially his theorizing about human nature. Blame for such intellectual neglect must be laid upon the political behavioralists, especially upon the professed methodologists among them, because Mill's position on the nature of social science and its methodology largely underlies their methodological pronouncements even though they have hardly ever made explicit their

---

(1)For a recent anthology of works on Mill, see Philosopher's Index (1981) and its Retrospective Index (1940-1980).

intellectual debt to Mill (Peter Winch, 1958, p. 44). This is the main reason why we have a renewed concern in Mill's theory of the social sciences.

However, one may immediately suspect that this concern is merely a matter of purely intellectual curiosity, having no immediate relevance to political research. David Eason (1969) has after all proclaimed a "Post-Behavioralism," and few political scientists these days would argue that the behavioralistic approach is the only one alternative to political inquiry.(2) In fact, we find that in recent years methodological issues seem to have become less and less attractive to political scientists. The intellectual fervour and passion in terms of which the debate over such issues proceeded have almost disappeared, and we also observe a significantly diminishing number of publications about

---

(2)Richard Bernstein (1976) identifies four competing paradigms currently prevailing in the social sciences in general. They are (in his terms): Empirical Theory, Theory of Language Analysis, Phenomenology, and Critical Theory. We find that each of these schools has its representatives in political science too. It is obviously beyond the limited scope of the present work to discuss in detail the theories of these schools, although some of them will be briefly mentioned if necessary for argument. However, it must be noted that there is a school which Bernstein has omitted, and which is peculiar to the discipline of political science. It is the school, if we may give it the name, of Political Philosophy or Theory, as represented by the late professor Leo Strauss, which is almost exclusively concerned with interpretation of the works of the classical theorists in politics. It is, in a sense, quite a strange phenomenon in political science that Science and Philosophy coexist in the same discipline wherein the scientists deny any essential tie with the old philosophies whereas the philosophers show hardly any concern with the study of the empirical world. This is a serious question which seems never to have been satisfactorily elucidated. The Division of Labor is meaningful only if the divided sectors are mutually inseparable from one another for a common goal. How can such a disparity between Philosophy and Science in political science be overcome? See Storing (1962) for Leo Straussians' critique of behavioralism, where they argued that the proper way of understanding politics is 'philosophical', not 'scientific' as if philosophy and science were essentially incompatible with each other.

such subjects.(3) If so, why bother again with such dated issues? Why should we be concerned with the diminishing influence of political behavioralism? What is the significance of John Stuart Mill's philosophy in this context?

Despite the anti-behavioralists'(4) criticisms and denunciations of its theoretical incoherence and confusion as a systematic paradigm, political behavioralism must not be underestimated in its significant contribution to the development of political science. It lies in the behavioralist's persistent effort to make "scientific" (on the basis of his own understanding of the nature of science) the study of politics. Even if it may have resulted in a trivialization of the study of politics, a failure to explore anything significant, or in a helplessness on the part of political science in explaining the vital issues in concrete domestic and international politics,(5) it has since its

---

(3)In the case of the American Political Science Review there have appeared only two articles concerning this subject for the last few years. They are: Wahlke (1979) and Miller (1981). John Wahlke's article in particular is at the very least arguable, particularly so for being a presidential address. Yet, strangely enough, it has not been followed by any criticism.

(4)The critique of political behavioralism may be too complex to be classified in complete manner. Yet to the four "schools" we have noted the traditionalists' critique of behavioralism should be added. By 'traditionalism' is here meant what David Easton once described as "denying the very possibility of a science of politics"(1969, p. 1051). See, for example, for the critique of behavioralism in its earlier phase, Crick (1959), Storing (1962). And for its later phase, McCoy et.al. (1967), Graham et.al. (1972).

(5)For the critique of behavioralism in this respect see especially McCoy et.al.(1967). And also see the often quoted result of an opinion poll for the American political scientists that the majority of them agreed that much of this profession is "superficial and trivial" and "little more than hair splitting and jargon"(Somit et.al., 1965, p. 14)

emergence, given students of politics an impetus for being self-conscious of what they are doing. This is very important.

Such an effort presupposes the ideal state of what the study of politics should be like as distinct from what it is like, and thus it could prevent students of politics from being easily caught up in a dogmatic mediocrity which regards the routine practices of research conducted by the majority of professed scholars as the totality of the study of politics. In point of fact, discrepancies among the behavioralists as to the very definition of behavioralism (Bentley and Truman's emphasis on governmental process rather than formal institutions (Truman, 1951; Bentley, 1935), Laswell's psycho-analytic study of political personality (1930; 1948), Eulau's stress on individual political behavior as the unit of political analysis (1963), and Easton's attachment to 'system' prior to any accumulation of facts (1953)(6)) may be construed as their groping for a more reliable knowledge of politics. This can be said to have begun with David Easton's definition that political behavioralism is committed to "... a science of politics modeled after the methodological assumptions of the natural sciences"(1965, p. 8). What today's political behavioralists are doing in the name of research -- survey research, statistical data analysis, experimentation, mathematical modelling, simulation, etc. -- may be a reflection of their faithful observance of the behavioralism espoused by Easton.

---

(6)See Crick (1959) for a critical appraisal of the history of American political science from Alexander Hamilton to Harold Lasswell. See also Strickland (Forthcoming, esp. pp. 1-2, pp. 14-20).

At any event the essential point is that Easton's emphasis on the need for natural science methodologies in the study of politics was made not because he believed that bare adoption of such methodologies would make the study of politics more scientific in appearance, but because he believed that their adoption would be more conductive than any other method to our obtaining a reliable knowledge of politics. Easton was in fact keen-minded enough to accept, shrewdly ahead of the other behavioralists, the various challenges against behavioralism in the name of a "Post-Behavioral Revolution," at this time identifying clearly the history of the behavioralist movement with "the search for a reliable understanding of politics."(1969, p. 1051) Yet at this time he was not perceptive enough to get at the root of the problems and difficulties posed by behavioralism. He admitted that most charges against behavioralism were relevant -- the charges of its excessive emphasis on technique at the price of substance, of its empirical conservatism, of its weak relevance to reality, etc. But he argued further that such problems are not due to a theoretical deficiency in behavioralism but due only to its shallow history, which will be resolved eventually as the bulk of reliable knowledge provided by behavioral research grows with time. This conviction is summed up in his expression of the "dilemma of contemporary political science," that,

> Fierce pressures are building up for solution to immediate problems. Yet the nature of basic research is to shift the focus away from current concerns and to delay the application of knowledge until we are more secure about its reliability.(1969, pp. 1053-4)(7)

---

(7)This view-point is shared by John Wahlke, another former president of the discipline, who asserted ten years after Easton's proclamation, that political science is still in a "pre-behavioralistic" state (see 1979).

Perhaps so, perhaps not. In either case such a conviction cannot avoid the charge of dogmatism, because Easton never presented a justification of the nature of political phenomena, and why they are susceptible to the methods of natural science. Nor did he even clarify how we can observe man's political behavior as such, still less what the nature of the relationship is between the study of the natural sciences and the methods of natural science. Not until these questions are sufficiently resolved can we answer, more or less definitively, whether behavioralism's difficulties are derived from its theoretical defects or are merely practical ones, to be resolved by time.

There is no doubt that the natural sciences have achieved phenomenal successes, and few political scientists would deny the desirability of such success in the study of politics. Political behavioralism is the very attempt to achieve such a goal in the study of politics. Any attempt to overcome the current paradigmatic crisis in political science must begin with in-depth treatment of these questions, rather than with a mere repetition of certain philosophical systems. The present work starts from a conviction that those questions can ultimately be reduced to the problem of the relation between the concept of Basic Human Nature and the idea of Science. It is intended to be a contribution to the exploration of this problem -- and hence, ultimately, to the resolution of the current paradigmatic crisis -- by throwing fresh light on John Stuart Mill's concept of human nature and on his idea of social science.

A) The Nature of Human Nature[8]

Today human nature seems to be one of the forgotten topics of the academic arena, except for some portion of scholars who are seeking out biological or genetic elements in man's social behavior.[9] It is not only unpopular but, as a student of this subject once put it, the mere mention of the term "human nature" evokes deep suspicion. According to him, "to many empirically oriented social scientists it suggests simplistic generalizations and premature closure on a subject that should properly be open to scientific investigation, while among some normatively oriented scholars it raises the specter of arch political conservatism -- and possibly racism."(Corning, 1977, p.20) Hence the most common attitude in political science toward the question of human nature may be rightly summed up in this phrase; "ignore it, laugh at it, or conceptualize it out of existence."(Davis, 1963, p. 1)[10] Such

---

(8)It is neither possible nor necessary here to go deeply into the highly complex concept of Nature and its historical transformation in the western intellectual tradition. Our analysis will be made on the basis of other scholars' works on the concept. But the reader may refer to Collingwood (1945; 1946) or Harris (1954) for comprehensive treatments of such issues. The same will be the case for the concept of Human Nature. As the common denominator suggests, the two concepts, nature and human nature, are closely related; and the historical transformation of each concept must be understood in close conjunction with each other. An enormous amount of research -- historical, theoretical, empirical -- has been done on the concept of human nature; but there seems to be no work which explores the historical transformation of the concept of human nature from ancient times to the contemporary, under such a title as Human Nature: A History of the Concept. See Pennock et.al.(1977) for a full bibliography on the subject.

(9)The allusion here is to those political scientists who work on "biopolitics," a recent trend in political science which has paralleled other trends in sociology, economics, and anthropology. This 'school' will be reviewed below.

(10)In the same vein an eminent American psychologist who deplored

a scornful attitude on the part of the social scientists in general toward the subject of human nature is in fact not without theoretical grounding.

The term "nature" in western thought is used in three basic and sometimes interrelated senses. According to Mulford Q.Sibley (1977, p. 6):

> (1) ... as indicating everything in the nonhuman realm which is regarded as being more primitive than man in the scale of things;
>
> (2) as referring to that which is fundamental or characteristic about a thing, species, or individual;
>
> (3) and as designating a postulated or actual primitive state of man in which he is very close to nonhuman Nature and has not yet entered civilization. In this sense, we often speak of states of Nature.

There can be no doubt that when we speak of human nature we refer to the second sense of nature, namely human nature as human essence. Yet this identification is merely the beginning of the series of thorny questions, because we must ask first of all how we discern what is "fundamental" "essential" or "characteristic" about a thing, a species, or an individual.

Sibley also designates two classical ways of understanding the second category of the term "nature":

> In the first place, its nature is grasped by taking it apart and analyzing it into its basic constituents, somewhat as one might say that the nature of the watch is to be discovered by examining the watchworks in detail... The other way of discovering the nature of a thing is to center on its telos, or goal or purpose... according to this view, the nature of anything can be understood only by asking what end it serves.(1977, pp. 8-9)

(cont'd) the psychologists' indifference to the subject of human nature, indicated that they regarded it as "fuzzy, unscientific, tender-minded, mystical."(Maslow, 1972, p. 4)

As will be noted later, each of the two ways of understanding represent the modern-mechanical and the ancient-teleological world-views. And each approach is said to correspond to its own view of human nature, psychological or biological and teleological (see Sibley, 1977, pp. 9-17, for a brief summary of the three[11] views of human nature). But even if the nature of human nature, and approaches to it, are identified in this manner, it does not provide a reliable practical guide to inquiry into human nature.

Whatever point of view and whatever approach one may take in inquiring into human nature, there may be only one form of proposition by which one draws a conclusion about human nature, namely the proposition that "Man is by nature ..." And the predicate (whatever it is) varies greatly according to individual human-nature theorists. A student of human nature thus once indicated that:

> ... man has been by nature a political animal; a social animal; a bio-social animal; a selfish, cunning animal; an economic animal; a religious creature shaped in the image of the Creator; and not an animal at all. Human nature has variously been poetic, mathematical, musical, militaristic, spiritual, and hedonistic.(Mitchell, 1972, p. 23)

Confronted with such an awesome variety, we must ask ourselves along with this author:

> Seemingly, there is nothing man is not. If indeed, there is nothing which man is not, is there anything precisely which he <u>is</u>?(Mitchell, 1972, p. 23)

Insofar as all the propositions concerning human nature are in one way or another based upon some hard <u>facts</u> about being human, it would

---

(11)To these two views is added the Judeo-Christian view of human nature, whereby man is seen to be situated in-between: divinely and beast-like, paradise and fall. See also, Scheler (1961, p. 5).

be logically impossible to discard any of them in favor of some others. All claim validity or orthodoxy as theories of human nature, even if some of them contradict one another.(12) This deep paradox in human-nature-theorizing may perhaps have led modern scholars to abandon the subject itself as irrelevant to sound scholarly reasoning.(13)

> Most modern theory suggests that man simply is what he does. Some men are tame, others wild; some sharing, others hoarding; some monogamous, others polygamous; some religious, others blasphemous; ... You see, so the argument goes, there is no human nature at all, only human behavior. The possibilities are infinite as to the behavior a given man, or given society, may embark upon. This point of view, ... the man-as-neutral concept of human nature, is probably the most widely accepted posture concerning human nature among the 20th century intellectual community.(Mitchell, 1977, pp. 23-24)

Yet the fundamental dilemma lies in the fact that even this apparently plausible break-through does not give us the final resolution of the problematic, but rather forces us to regress to the starting-point.

First of all, if there were no such thing as human nature and there were no ultimate criterion for what man essentially is (as distinct from other things and animals), it is simply meaningless to speak of <u>human</u> behavior at all. For we do not know what human behavior is as distinct from (say) animal behavior. As another adherent of human

---

(12)Probably the best example of this case would be the conflict between the view of man as "cooperative, sharing and loving" and the view of man as "aggressive, exploitive and selfish." See Mitchell (1972, pp. 277-388) for a collection of the views representing each side.

(13)See Pennock (1977, pp. 6-9) for a brief account of how human nature theorizing had declined toward the turn of this century. He, however, only pointed out a difficulty often noticed in derivation of a normative political theory from a certain conception of human nature, namely that "opposing assumptions about human nature led to opposing theories about desirable forms of government; ... Even a slight variation in the initial assumptions -- witness Hobbes and Locke -- could produce a striking difference in the political conclusion."(Ibid., p. 7) In other words he failed to recognize the inherent logical problem in human nature theorizing.

nature warns,

> ... if man has no nature all his own, if no feature of humanity is rooted in objective fact, then permissible experimentation and manipulation can have no bounds. Our objections to the inhuman use of human beings are rooted only partially in abstract judgements of individual worth and the value of freedom, judgements that we are prepared to back up with argument; they rely just as heavily on an inherited sense of what is, literally, "human" and "inhuman," what is natural and unnatural for man.(Lisa H. Newton, 1977, pp. 142-143)

If so, we are not entitled to "conceptualize it (human nature) out of existence," even if in the last resort we "ignore it or laugh at it." (See Davis, Ibid.)

We, at least as social scientists, indeed do not have to bother with human nature if it does not make any difference to our effort to understand society and social phenomena -- whether or not we know what human nature is.(14) But do we really have the choice?

One of the co-editors of Human Nature in Politics, the most recent anthology of articles concerning the issue in political science, proclaimed that "In short, the subject of human nature seems to be staging a comeback."(Pennock, 1977, p. 9) He did not, however, demonstrate why the study of human nature is necessary to the study of political science. He only indicated a recent trend. But obviously it is one thing to indicate that there is such a tendency among political scien-

---

(14)John Mitchell's answer to the question, "Why Study Human Nature" is unsatisfactory and even disappointing. He suggests three reasons: "it is impossible to know what human nature is if it were not studied; it is contrary to man's nature to live without attempting to define; there seems no way for man to know what he is not until he holds some definition of what he is ..."(1972, p. 32) Even setting aside the second answer above, which commits the logical fallacy of petitio principii, all the answers do not provide any reason why we have to study human nature besides some kind of intellectual curiosity.

tists, and quite another to argue that the trend is necessary and inevitable for the development of political science. And if there were no logically necessary connection between a) the study of human nature and b) the study of political science, the subject could be safely set outside the proper concerns of political science.(15) It is the purpose of the following section to demonstrate that there is a logical, inseparable connection between a) the concept of human nature and b) the study of social science; and that the latter is impossible without the former.

B) Natural Science and Natural World-view

Let us for the moment revert to David Easton's definition of political behavioralism previously quoted: "a science of politics modelled after the methodological assumptions of the natural sciences." (1965, p. 8) This remark reflects a crucial, but usually uncritically accepted and never thoroughly specified, assumption: namely a belief in the methodological unity of all the empirical sciences (see Kirn, 1977, pp. 96-97). According to this doctrine all the sciences, no matter what their subject-matters, are methodologically of the same species, and therefore the various empirical sciences share the same

---

(15)There is one contributor in the volume quoted above who tried to explore the implications of human nature for social scientific research, Peter Corning (1977). But it is to be noted here that the fundamental problem with his theory, perhaps with most of the human nature theorists today, lies in his dogmatic assumption, expressed in this statement: "Human nature -- in the sense of certain biological needs and givens that play a significant role in human social life -- is a fact ..."(1977, p. 21)

methods (A. Kaplan, quoted in Kirn, 1977, p. 97).(16) It involves the conviction (especially with reference to the social sciences) that "human behavior is amenable to the orthodox procedures of observation, hypothesis, and empirical test."(W.G. Runciman, quoted in Kirn, 1977, p. 97) It also implies not only that social science should adopt the natural scientific methodologies (unless it is to be deprived of the title science), but also that social phenomena, as the object of scientific inquiry, are simply given us, and the underlying laws of such phenomena will automatically appear to us if only the proper methodologies are duly applied to them. This assumption is in fact originally John Stuart Mill's, although there is a big disparity between Mill and the behavioralists in the use of human nature in this regard. At any event, does this assumption hold good?

In order to assess this tacit assumption in political behavioralism, we seem to have to turn our attention to the nature of the relationship between the object of inquiry and the process of inquiry,namely the nature of scientific theories -- their genetics and structure -- as has been explored by the contemporary philosophy of science. For if the assumption -- let us call it methodological unionism hereafter -- should be validated, it requires that there be no inseparable tie between method and object, and that all the sciences be essentially the same at least as respects the form of the objects studied, namely the form of phenomena, classified broadly as natural and social.(17)

---

(16)Karl Popper also supports the unison of all the sciences in terms of their methodological homogeneity (see 1957, vi-vii, p. 130).

(17)As we shall see later in Chap.II this position is also reflected in J.S. Mill in the form of "phenomenal realism." And it is also one of our subjects to be discussed below: whether there can be any valid criterion for the departmentalization of sciences on the basis of such phenomenal realism.

In relying on certain key contributions to the philosophy of science, we must be cautious. We should not be content with simply quoting the explanations of some scientific philosophers uncritically, as if their notoriety could guarantee the truth of their overall account of the nature of science.(18) The point is that we cannot overlook what theoretical discrepancies or conflicts may exist among the various alternative theories of the nature of scientific theories, on a mere pretext or self-consolation that such subjects are beyond our proper concern and intellectual responsibility. Therefore, we will consider, first, the history of natural science -- the record of the actual undertakings of the scientists, rather than the philosophy of science -- in order to prevent our thinking from being preoccupied with a certain fixed, formalized preconception of the nature of scientific theory.

What attracts our attention in this regard is the existence of a natural or cosmological world-view which has undergone historical transformation along with the historical development of the natural sciences from ancient times to the present. It is peculiar to the philosophy of science that most members of this circle have long turned deaf ears to one of the major accomplishments in the history of science.

---

(18)That advocates and opponents alike of political behavioralism have been relying heavily on the works of philosophy of science for defence of their own views is already pointed out by Michael Kirn. He observed that the works of Carl Hempel, Karl Popper, and those of their followers, have been presented by behavioralists as the accurate and authoritative accounts of all scientific inquiry and the nature of science; whereas many post-behavioralist critics of behavioralism have relied no less upon the works of Paul Feyerabend, Thomas Kuhn, Stephen Toulmin, and the so-called unorthodox scholars of the philosophy of science (Kirn, 1977, pp. 85-87 passim.). Among the latter group of scholars Thomas Kuhn is in a somewhat peculiar position, because he has been used both for and against behavioralism. He will thus receive special attentions below.

For the philosophers of science belonging to the orthodox camp, so to speak,[19] have hardly ever attempted to integrate their world-view into their philosophizing about the nature of science.[20] Yet it is a genuine historical fact, confirmed by the major researches in the history of science, that a certain natural world-view always underlies scientific research, and that the scientific revolution during the sixteenth and seventeenth centuries -- the archetypical scientific -- revolution was accompanied by gradual substitution of new world-views for old ones. It would not, however, suffice and would be another argumentum ad verecundiam if we merely relied on the works of some eminent historians of science and on some unorthodox philosophers of science in order to justify the thesis that such world-view is essential to the scientific inquiry and is an indispensable element of scientific theory. We must ask why this is so and whether there is any epistemological necessity for the existence of such a 'subjective' or 'metaphysical' element in 'objective scientific' theory.

In this connection the name of Galileo (1564-1642) arises, for he was the first modern, as distinct from ancient and Aristotelian, physicist who touched upon the methodological meaning of modern physics

---

(19)We allude to the majority in the philosophy of science, who are basically committed to what Hilary Putnan called "the Received View on Theories" or Karl Popper's "Hypothetico-Deductivism." See Suppe (1977b)for a comprehensive and illuminating discussion about the development of "the Received View." And see Popper (1959) for his "Hypothetico-Deductivism."

(20)See, for example, Carl Hempel's extremely brief comment on Kuhn's work (1970a)in the former's textbook published five years later than Kuhn's. Hempel mentions Kuhn only in one place, as "a provocative general conception of the rise and fall of scientific theories ...," ignoring thereby the contradiction between Kuhn's theory and his own explanation of the nature of scientific theories (1966, p. 40n).

prior to Newton. For the purpose of ridiculing his Aristotelian colleagues at Padua University, Galileo had his spokesman "Matteo" tell this story in his Dialogue Concerning the Two New Stars:

> What has philosophy got to do with measuring? You know that a cobbler's helper can't figure out buckles. It's the Mathematicians you've got to believe. They are surveyors of empty air, just like I survey fields and can rightly tell you how long they are, and how wide... If they (Mathematicians) just stick to measuring, what do they care whether or not something can be created? If it was made of polenta, couldn't they still see it all right? That couldn't make it any bigger or smaller, would it? (Stillman Drake trans., 1976, p. 38)

The contemporary behavioral social scientist may be delighted with his statement, since what he has been arguing for is harmonious with that of one of the scientists par excellence in the human history.

Galileo in fact disregarded such essentialistic questions -- as respects the problem of stars, substance, nature, and the creation of stars -- as beyond the proper scope of mathematical physics because he believed that what constitutes physical reality is only what can be mathematically described, and that which lies beyond mathematical description belongs to the scope of 'philosophy', where complete and final understanding could never be obtained (Drake, 1976, p. 14). He is thus quoted as having said that the book of the universe was written in mathematical language, and its alphabet consisted of triangles, circles and geometrical[21] figures (Butterfield, 1957, p.102). In light of the fact that geometrical reasoning and description were

---

(21)It must be noted that, in the time of Galileo and back to the ancient Greeks, geometry meant mathematics par excellence; and astronomy itself was regarded as a part of geometry. This was, as E.A. Burtt noted, in part due to the higher dignity ascribed to heavenly bodies and to the fact that the main uses of "arithmetic" were commercial (1952, p. 46).

the only methods available to Galileo before the experimental method was established[22] and of the fact that he believed that the physical phenomena are simply given to the observer, it appears quite plausible that Galileo endorsed the scientific position of the twentieth century behavioral social scientists as described above in the name of methodological unionism. Yet such reasoning is based on a superficial understanding of the meaning of Galileo's argument above and in fact Galileo himself did not come to a recognition of the very presupposition underlying his idea of the new mathematical physics.

To begin with, as far as the use of mathematics for the description of the astronomical phenomena is concerned there is no difference between Galileo and Ptolemy, whose Almagest, the book that "epitomizes the greatest achievements of ancient astronomy, was the first systematic mathematical treatise to give a complete, detailed, and quantitative account of all the celestial motions."(Kuhn, 1957, pp. 72-73; his emphasis) Nor is there any difference between them in respect to the view of astronomy as the geometry of the heavens where the relation of the world of geometry to that of astronomy was hardly more than methodological (Burtt, 1952, pp. 44-45 passim). The essential difference between the two masters, and even between Galileo and his disciples in the field of mechanics -- such as Beekman, Torricelli, Gassendi, and so on, who were at first inclined to adopt a cautious attitude in respect to their master's cosmology -- is the plain fact that the former applied his mathematical theories in mechanics not only to terrestrial motion, but to celestial movement as well (Butterfield, 1957,

---

(22)Most historians of science now agree that there is no historical evidence for Galileo's legendary experiment of falling cannon balls from the Leaning Tower of Pisa. See Dampier (1944, p. 130), Butterfield (1957, pp. 93-94, and Harris (1970, p. 95-96).

pp. 81-84). Such a seemingly simple extended application of mathematics by Galileo bears, however, revolutionary implications for the advancement of the modern science, because it ultimately required the breakdown of the whole system of Aristotelian science. But, interestingly enough, the germ of this revolution is found in Ptolemy himself whose astronomical theory was the target Galileo tried to refute.

One of the most important contributions made by Ptolemy to the ancient astronomy was his systematic explanation of the "irregular" motions of the five planets known to the ancient astronomers, namely, Mercury, Venus, Mars, Jupiter, and Saturn.(23) Ptolemy's deliberate effort to map geometrically the observed motions of the planets had produced many eccentrics, epicycles, deferents, etc. in addition to the very simplistic original scheme of what Thomas Kuhn termed the two-sphere universe, consisting of an interior sphere for man and an exterior sphere for the stars (Kuhn, 1957, p. 27). This result seems to have made Ptolemy a bit nervous because it deviates significantly from the inherited scheme of cosmological structure which he himself had endorsed at the outset of The Almagest.(24) Ptolemy thus tried to harmonize his 'new' theory with the original scheme in book XIII, the

---

(23)See Kuhn (1957, pp. 1-99) for an illuminating and insightful exposition of how the "irregular" -- irregular in respect to the apparently circular motions of the other celestial bodies -- motions of the planets had long caused the main challenge to the two-sphere system of the ancient astronomy; and of how the problem was tentatively resolved by Ptolemy, whereby his name came to be identified with the ancient astronomy. The following description of the astronomical system of the ancient science is based on this work.

(24)It is composed of several mutually dependent assumptions such as: the spherical motion of the heavens; the spherical shape of the earth; the central position of the earth in the spherical heavens; the immovability of the earth; etc.(see The Almagest Book I).

last book, of The Almagest,[25] emphasizing the priority of observation to any theoretical assumption.

Ptolemy wrote:

> ... it is proper to try and fit as far as possible the simpler hypotheses to the movements in the heavens; and if this does not succeed, then any hypotheses possible. Once all the appearances are saved by the consequences of the hypotheses, why should it seem strange that such complications can come about in the movements of heavenly things? ...it is not proper to judge the simplicity of heavenly things by those which seem so with us, when here not even to all of us does the same thing seem likewise simple... We should instead judge their simplicity from the unchangeableness of the natures in the heavens and their movements.(Almagest, Book XIII-chap. 2)

But if Ptolemy had clung consistently to the priority of observation he would not have had to bother with whether the heavenly movements should be simplistic or unchangeable, or whether the terrestrial motions are complicated, changeable or not. Nor would there by any reason why the 'complicated' terrestrial motions could not be observed and mapped geometrically in the same manner as celestial motion. What caused him, then, to waver between the two positions? That is, between 1) the priority of "pure" observation and 2) the importance of an inherited, basic scheme of the universe.[26]

---

(25)Books IX to XII are devoted to the exposition of the planetary motions.

(26)Cf. Burtt (1952) for a different account of Ptolemy's position in this respect. He argued that Ptolemy had pursued the relativity of geometrical values to effect that it is legitimate for us to interpret him as having believed in the priority of pure observation to "save the phenomena ... no matter whose metaphysics might be upset." Only his conception of the physical structure of the earth, Burtt continues, prevented him from carrying through in earnest this principle of relativity (pp. 46-47). However, Ptolemy not only never used such a strong expression as "no matter whose ...," but Burtt's account is too simplistic to describe correctly Ptolemy's theoretical dilemma,because Ptolemy's conception of the physical structure of the earth is not separable, as it is understood by Burtt,from the conception of the heavenly bodies.

Ptolemy was simply unable to extend his geometrical description to the terrestrial motions; not merely because, as Burtt noted, his conception of the physical structure of the earth prevented him from doing so, but because it would have required the breakdown of his whole conceptual framework, which would in turn break down his already established theory of the celestial motion. To have extended (supposedly) his mathematical method to the realm of the "complicated" and "ever-changing" terrestrial motions certainly does not mean that Ptolemy was at complete liberty to generalize such phenomena by resort only to geometrical reasoning. He must first of all have explained away the theory of terrestrial motions already in existence. The theory is, as is well-known, Aristotle's physics -- wherein there can be, and need be, no room for such a thing as geometrical description.(27)

The Aristotelian theory of motion can be summarized as follows: Every motion has a direction and a purpose, because motion in itself is due to vitality or soul; and thus all heavy terrestrial bodies in the sublunar region move toward the center of the earth, because that is the natural place for such bodies to go. Motion in any other direction would be violent motion, because it contradicts the natural tendency of a body. Aristotle's explanation of projectile motion was, thus,that unless moved by an external push a stone either remains at rest or moves in a straight line towards the center of the earth (see Butterfield, 1957, p. 15; Collingwood, 1945, p. 3; Kuhn, 1957, pp. 118-119; Sarton, 1952, p. 515).

---

(27)The main reason for the Paduan philosophers' -- notably, Cesare Cremonini (1552-1631) -- refutation of Galileo's mathematical physics was that it is not physics at all (see Drake, 1976).

Insofar as the direction of every motion is already predetermined, it is needless to bother with its mathematical description. Therefore, if Ptolemy had refuted this theory and offered his own mathematical theory of motion, the very attempt would have led to a denial of the division of the universe into two essentially distinct parts: a) the sublunar world and b) an outer sphere. This view would ultimately lead to a denial of the circular movement of the celestial sphere round the "center" of the universe, i.e., the earth, which would immediately result in a denial of the central position of the earth in the universe. All this would obviously contradict Ptolemy's accomplishment in explaining celestial motion.(28)

If Ptolemy had thus extended his mathematical method to terrestrial motion, he would have had to reformulate radically a whole theoretical framework, one which gave coherency, meaning, and regularity to all particular observations and theories pertaining to particular objects. Such an all-comprehensive conceptual framework can be called the 'natural world-view'. And the world-view in the ancient natural sciences has thus been best phrased as the 'teleological world-view'. Within the teleological world-view it is impossible and totally incoherent to explain a natural phenomenon only in terms of material motions or mechanisms (Sarton, p. 515). It must be explained not only in terms of its physical causes but also, more importantly, in terms of its efficient, formal, and final causes (see Aristotle, Metaphysics, esp. 1013a 24-1014a 26). The same kind of methodology could thus entail a radically

---

(28)See Kuhn (1957, pp. 100-133) and Butterfield (1957, pp. 13-28) for an exposition of how theoretical anomalies in the Aristotelian theory of motion opened the door to modern "impetus" theory and finally to the establishment of the modern physics.

different meaning according to the view of what the world essentially is.

It was thus simply impossible for an individual scholar, Ptolemy, to overcome all the theoretical obstacles once and for all in his short span of life-time. Not only all the natural sciences but also the ethical and socio-political philosophies in the ancient times were in one way or another related to the teleological world-view.(29) In fact it required almost two millenia for the germ of the scientific revolution implicitly raised by Ptolemy to grow in full blossom. In the meantime there had been accumulated in various intellectual fields theoretical preparations for a new scientific revolution, revolution in the sense of drastic change of world-view.

Notably in the field of astronomy there had been the great contributions made by Copernicus and Kepler, and also in mechanics there had been theories that directly, although not perfectly, contradicted the Aristotelian theory of motions (see Kuhn, 1957, pp. 115-122). Such theorizing, along with the invention of the telescope, may have induced Galileo to view the universe essentially as a big mechanism, and based on this view he proclaimed so confidently that mathematics is the sole proper method for the study of physics. This was the initial systematic formulation of the new mechanistic world-view, and it is in this contribution, not in his use of mathematical method, that the name of

---

(29)This does not mean that there is no other alternative world-view than the teleological one in the ancient times. The point is that other alternatives -- such as Democritos' atomistic world-view which came to gain growing intellectual dominance with the rise of the modern mechanical science -- were far less comprehensive than the teleological world in explaining systematically all the particular phenomena, therefore had remained unorthodox.

Galileo had obtained a permanent fame in the history of science. As Herbert Butterfield nicely put it, he

> stands as a testimony to the fact that it was vain to attack the Aristotelian teaching merely at a single point ... which was only like filling the gap in one jigsan puzzle altogether. What was needed was a large-scale change of design -- the substitution of one highly dovetailed system for another -- and in a sense it appeared to be the case that the whole Aristotelian synthesis had to be overturned at once.(1957,p.80)

And yet humanity had to wait for another genius to reformulate modern science in complete manner, namely Issac Newton. Newton's achievement completed what Galileo had left imperfect -- imperfect in the sense that Galileo could not build up 1) a theory of motion that could describe accurately both terrestrial and celestial movements, and 2) a theory of optics with which he could rationalize the very observational process of the telescope. These theories were essential for the mechanical world-view to work as a new conceptual framework substituting for the old teleological world-view. It is indeed a kind of miracle in the history of science that all these tasks were dramatically synthesized in one personality with a few mechanical, optical laws. What is, however, more phenomenal about Newton's achievement is that he made the mechanical world-view much more coherent not only by discovering the universal law of gravity but also by having taken advantage of the rise of the corpuscular philosophy which had gained growing intellectual dominance in the seventeenth century (see in this regard, Butterfield, p. 132). Hence modern science attained its complete shape -- a science of the mechanico-atomistic world-view supported by the universal law of gravity.

This world-view -- the mechanical system composed of non-dissectable, mutually external elements -- gradually came to expand and

dominate not only other branches of natural sciences (such as chemistry and physiology) but also philosophical epistemology and social political philosophies for the next two centuries.(30) Only on this system can the belief, that the regularities underlying the physical motions can be mathematically described in great precision, be given intellectual coherence. It is only this assumption that rationalizes simple mathematical description as sufficiently representing physical motions.

The foregoing discussion has made it clear that there cannot exist methodology as such which is separable from a conceptual outlook, and which is always ready to be applied to any given phenomena. A method cannot simply be "an" approach to reality. In order for a method to be a true, effective method of inquiry it must be in inseparable conjunction with a certain concept of reality, which functions in actual research as the fundamental postulate that limits the scope of a scientific inquiry, determines what kind of method to choose, and confirms or discards the outcomes of research as meaningful, relevant or meaningless, irrelevant.(31)

---

(30)See Butterfield (1957, pp. 129-150) for the impact of the Newtonian revolution on the other sciences. Basil Willey aptly describes the changes of intellectual outlook in the seventeenth century:

> ... what is important for us is that now mechanico-materialistic explanations began to be 'felt as facts', felt, that is, as affording that picture of reality, of things-in-themselves, which alone would satisfy contemporary demands ... The mechanical explanation was the 'philosophical' explanation; all others were, on the other hand, vulgar, superstitious, and superficial; or, on the other hand, they were 'Aristotelian' or 'scholastic'.(1934, p. 7)

It is very important to note in this connection that the term 'scientific' came to be gradually substituted for the term 'philosophical' in this sense.

(31)To these functions there must be added the most fundamental function the concept of reality fulfill in scientific research. It is

It is in this context that the fundamental theoretical defect of the contemporary methodological unionism of science is automatically revealed. By failing to perceive, or perhaps ignoring, the mechanico-atomistic world-view of the modern sciences and by taking for granted what the natural scientists are actually doing as all there is to be about science, the philosophers of science in the orthodox camp seem to have come to the belief that the essence of science lies in the use of a certain kind of methods commonly found in the researches of the natural scientists. That such a belief is due to a misconception of the nature of natural science is also confirmed by the existence of another scientific revolution which we ourselves are today experiencing.

For it is indisputably true that this revolution -- which had begun toward the end of the last century associated with the names of such figures as Max Planck, Niels Bohr, Albert Einstein, and Paul Dirac -- had begun with the new challenge to the very metaphysical foundation of the Newtonian physics as described above: The basic elementary particle is no longer non-dissectable; the essential idea of a substance, as something extended in space and persistent in time, is now meaningless, since neither space nor time is either absolute or real (Dampier, p. 409); matter and energy are now regarded as mutually exchangeable; the movements of the cosmological bodies are no more mechanical since they, too, are subject to the process of generation

---

(cont'd) the function or rather must be identified with science as such that without the concept of reality there can be no such thing as phenomena at all. This is in fact the main thesis we shall discuss in Chap. IV below.

and expiration; and so on.[32](See Taylor, 1972 & 1973) In this connection what one of the leading physicist in this century once proclaimed about the new revolution is very suggestive: "The new epistemological outlook is the very heart of the theory, supplanting a fallacious system of thought which was barring progress."(Eddington, 1958, p. 55)

It might now be needless to comment more about the methodological unionism in the context of the social sciences. It would amount to abandonment of doing social science to cling further to this erroneous doctrine. If so, what would be, then, in social science in general and in political science in particular, the concept of reality as essential and indispensable to the scientific study of social phenomena?

C) Human Nature and the Social Sciences

The answer should be the concept of Basic Human Nature, in that all kinds of social phenomena result from the actions of man, and we cannot think of any form of society independent of man's actions. It follows that the problem of human nature is and should be the central question, inseparable from our doing social science as a whole, including methodological inquiries. We can by no means conceptualize human nature out of existence, neither ignore it nor laugh at it. Without resolving the problem of human nature, methodological discussions are vain efforts at

---

(32)Collingwood, about four decades ago, suggested more boldly five important changes in the world-view of the new revolution, such as: a) Change no longer cyclical, but progressive b) Nature no longer mechanical c) Teleology reintroduced d) Substance resolved into function e) Minimum space and minimum time for any substance (see 1945, pp. 13-27, 158-177).

trying to find out the shortest route without knowing the destination.

In order for this basic framework to be actualized in the study of political science as well as of other social sciences, some other basic and inter-related problems should be resolved. They are: How should basic human nature be approached? What is the relationship between natural World-view and human nature? Does the role of human nature in social science exactly correspond to that of natural world-view in natural science with no modification? What is the meaning of departmentalization in the study of social science, in light of the proposition that all the social sciences cannot but be one, a science of human nature? Can each branch of social science have its own concept of human nature such as Homo Economicus, Homo Politicus, or something like Homo Anthropologicus -- somewhat grotesque as this word may look -- regardless of whether its concept is in conflict with those of other branches?

It is in this context that we have to shed new light on John Stuart Mill's theory of the social sciences. For he was not only the propounder of inductive logic in the philosophy of science, he was the first systematizer of a philosophy of social science, in which he attempted to combine the inductive study of social phenomena with the basic laws of human nature. And it is at this juncture that Mill should be distinguished from, as rather more advanced than, his twentieth-century offspring. We shall find that some of the issues just raised, concerning the problem of human nature in the actual inquiry of social science, have already been touched upon by Mill. This aspect of Mill's philosophy seems forgotten or ignored by social scientists today though they still cling, consciously or unconsciously, to the idea of social science espoused by Mill over a century ago. What is more suprising is that

few students of Mill mention the extreme importance of his concept of human nature to his theory of the social sciences, and few philosophers of social science after Mill have tried to link Human Nature to the theory of social science.(33)

Hence Mill's theory of the social sciences appears to be the main obstacle to a human-nature framework for the social sciences today. In this connection our task is to analyse some key concepts in his theory and to examine closely whether there is any theoretical difficulty with his system. The next chapter is thus devoted to an analysis of the idea of science embodied in his concepts of 'things', 'deduction', and 'induction'. The subsequent step will be to identify Mill's idea of social science and his theory of human nature, and, to see whether he was successful in establishing the social sciences on the foundation of his theory of human nature. Chaps. III and IV will treat this problem. A new direction is then suggested toward the resolution of the present paradigmatic crisis of political science.

---

(33)As Bruce Mazlish pointed out, the growing controversy in the later nineteenth century in terms of a presumed opposition between the Naturwissenschaften and the Geisteswissenschaften raised by such German philosophers as Dilthey, Richert, and Windelband, raged mainly against Comte and positivism, while the name of Mill was totally forgotten -- in spite of the fact Mill was more systematic than Comte in arguing for the unity of the natural and moral sciences(see Mazlish, 1975, p. 422).

II. J.S. MILL'S IDEA OF SCIENCE

It was mentioned in the last chapter that the great synthesis of Newton -- the synthesis of the universal law of gravity, the 'universal' laws of kinetics and of optics within the whole mechanico-atomistic world-view -- had begun to expand into other intellectual fields. Its intellectual impact was so immense that E.A. Burtt once remarked that the subsequent history of nearly a hundred years can be regarded as a fuller appreciation and a further application of Newton's achievement (1952, p. 207).[1] This trend is also characteristic of the development of British empirical philosophy in the eighteenth century.

Most empirical philosophers of this period regarded Newtonian physics as the ideal science (see, in this regard, Halévy, 1971; Willey, 1940).[2] Though there were among them philosophers like Bishop Berkeley, who admired Newton but did not agree with him on specific issues (see Brook, 1973). In this connection, however, we have to be very cautious not to oversimplify because, as R.D. Cumming aptly says (1969, II, p. 178), every interpretation of Newtonian physics varies with the individual philosopher (see also Guerlac, 1965).

To reiterate, the essence of Newtonian physics lies in its

---

(1)This, however, must be accepted with some qualification, because it is also in the Eighteenth century that serious reactions to this movement are perceived, associated with such names as Vico,Herder, Rousseau on the Continent, and later, in a different context, Wordworth and Coleridge in England.

(2)We are even told the droll story that at Cambridge around the middle of this century mathematics long suffered from a mistaken patriotism, which resented any improvement upon the methods of Newton (Stephen, 1900, I, p. 45).

synthesis of a few 'universal' laws of mechanics and optics within the framework of a mechanico-atomistic world-view. Insofar as man, belonging to this universe, cannot help being subject to its essential limits, it is quite natural (and logically consistent as well) to approach the problem of man and society from the same mechanico-atomistic perspective. And we have already the great system of Thomas Hobbes, who coherently expounded such an approach. Newton also demonstrated his theoretical consistency when, following Hobbes, he extended his mechanical world-view to a view of man as such.(3) Such a mechanical view of man is further elaborated systematically in the works of David Hartley (1966), Jeremy Bentham (1789), and James Mill (1869) whose theories are directly related to J.S. Mill's. This line of thought seems, at the risk of simplication, to have constituted the stream of British empiricism that culminated in the nineteenth-century utilitarianism.(4)

Whatever its theoretical defects, the merit in this tradition lies in its attempt at a unified explanation of man's thinking and action, systematically and in mechanical terms. It is in this respect that the other stream of British empiricism, represented by Locke (1960; 1959)

---

(3)According to E.A. Burtt, in Newton,

> "... Full assent is given to the now orthodox view. Man's soul ... is locked within his body and has no immediate contact whatsoever with the outside world; it is present in a particular part of the brain, called for that reason the sensorium, to which motions are conveyed from external objects by the nerves, and from which motions are transmitted to the muscles by the animal spirit."(1952, p. 233)

(4)Considering that Bentham was a Tory, not liberal (Halévy, 1972, p. 144), and that utilitarian view of man -- man as pleasure-seeking -- is common to British philosophy in general from Hobbes onward (see Macpherson, 1962), the best way to identify utilitarianism seems to lie in the utilitarians' search for objective social science after the model of the Newtonian physics.

and Hume (1978; 1955), differed essentially from the former tradition. In Locke, man ceased to be a 'machine' and the Newtonian system is reflected both in Locke's atomistic treatment of human understanding -- i.e., man's thinking as the interaction or association of elementary ideas -- and in his individualistic contract theory, according to which an individual's property-seeking and -securing actions are the basic impetus to forming a civil government.(5) Nevertheless, there was in Locke no connection between the two aspects of man; and man's action in the so-called State of Nature was thus simply presupposed in complete separation from the mechanical structure of the universe that Newtonian physics had projected.(6)

The same kind of scheme we also find in David Hume, who had first proclaimed that all the sciences have a relation to human nature(7)

---

(5)See Macpherson (1962) for an illuminating analysis of English liberalism in this respect. As to what Macpherson calls 'possessive individualism', all British liberal philosophers seem to share the same conception of man. Yet there is, as noted above, a significant difference in theoretical framework which must not be overlooked: namely, the difference as to whether the problem of man and society be approached on the basis of the unity of Man and Nature or on the basis of the assumption of uniqueness of Man from the rest in Nature.

(6)Locke simply relied on Scriptual exegesis for the rationalization of his belief in the dignity of man's existence, as superior to other existences in the universe. As such he still remains a mystic (see 1960, esp. Bk.I-30).

(7)It may be Socrates who is to be given the credit as the originator of this idea in the Western philosophical tradition, with his celebrated utterance of the Delphic Oracle "Know Thyself," in order perhaps to stress the priority of knowledge of what man is over knowledge of the external world, namely, 'science'(see Sarton, 1952, p.261, for an interpretation of Socrates in this manner). At any rate it is quite strange in the history of the Western Philosophy that this issue had been ignored for almost two millennia until the time of David Hume. Unfortunately its importance is inadequately appreciated even today.

(1978, p. xv). He rightly recognized that "even Mathematics, Natural Philosophy, and Natural Religion, are in some measure dependent on the science of Man; since they lie under the cognizance of man, and are judged of by their powers and faculties."(p. xv)

Yet the inquiry into human nature cannot proceed from nothing; it must be supported by existing knowledge of the world and things; and, conversely, reflection on human nature may again influence our knowledge of the external world. Hume, too, expressed his admiration for Newton's achievements in physics and astronomy, and wished to achieve the same thing by applying Newton's scheme to the study of human nature (see 1955, p. 24). However, what he understood by the essence of the Newtonian physics was the existence of a few universal laws to which all kinds of natural phenomena are believed to be reducible. He thus failed to relate human nature to the essential nature of the universe; and his own atomistic treatment of human understanding (as an aspect of human nature) turned out to have no internal relation to a theory of action and morals, another aspect of human nature.(8)

All this constitutes the major theoretical challenge that John Stuart Mill -- hereafter JSM -- faced, or ought to face. How did he resolve the problem of the triadic relation among World-view, Human

---

(8)We shall return to this subject later in chap.IV. But compare in this regard Elie Halévy (1972), probably the standard work on Utilitarianism, which presents Newtonian physics and Lockean associationism merely as two foundations of utilitarianism, failing to explore the internal connection between the two (see p. 6). Compare also Cumming (1969, II) who, despite his illuminating treatment of the problem of human nature in British liberal philosophy, fails to discern the fact that although Hume had proclaimed the unity of all the sciences in the name of human nature, there is no necessary tie among the various aspects in his conception of human nature -- which virtually places him in the same theoretical tradition with Locke, not Hobbes. See, especially, pp. 155-158.

Nature, and Science? What was his understanding of the nature of social science, and how did he grasp the relation between human nature and social science? To the latter question the following two chapters will be devoted. Nevertheless, this question is inseparable from the former ones, and it could never be even attempted until they are adequately explored.

As regards the first question it must be noted that this problematic had hardly ever been clearly articulated by JSM's predecessors in in British empiricism, even though their theoretical gropings as a whole imply it. But as the lineage of this tradition came down to JSM, the problematic itself had totally disappeared from the philosophical horizon. Rather, the term 'philosophical' itself may not be appropriate to JSM's system: For 'science' appears to him to have essentially nothing to do with such problems as world-view or even the epistemological process of the human mind. According to him:

> All science consists of data and conclusions from data, of proofs and what they prove: now logic points out what relations must subsist between data and whatever can be concluded from them, between proof and everything which it can prove.(1970, Intorduction-Sec.5)(9)

In this sense JSM calls logic the science of science.

Logic in this sense obviously corresponds to what the Twentieth

---

(9)Hereafter called Logic. All the references from now on, unless specified otherwise, are to this book following this formula: I-iii-4, for example, indicates Book I-Chap.III-section 4 of JSM's A System of Logic. Compared with other aspects of JSM's philosophy his logic has received much less scholarly attention than it deserves to. Some important contributions on JSM's Logic are: Anschutz (1953), Kubitz (1932), Jovons (1890). These works, however, are rarely referred to in the present work, because, even if they correctly pointed out JSM's inconsistencies or fluctuations in developing his logic, they seem to have failed to get at the root of JSM's problem.

century logical positivists[10] generated as a new and the only meaningful object of philosophy, namely "the" 'philosophy of science'. Yet JSM's philosophy of science is formulated in a less radical way than his Twentieth century offspring. He did not refute the traditional metaphysics. Instead, he accepted it as the proper field of the study of man's intuitive knowledge -- as knowledge of the furniture of the mind, the nature of matter, conception, memory, etc. -- which should be, according to him, distinguished from perceptual or observational knowledge: the object of genuine science[11](Intro-4). Hence, this is the only species of knowledge of which logic, by his lights, can partake.[12]

Such a conception of logic and science has a revolutionary -- for better or for worse -- meaning for the history of British empiricism. For, by viewing science essentially as data-processing (with its related version of logic as the formal method of such processing), JSM's philosophy of science disconnected itself from the actual, rich contents of nature and from the epistemological processes of the human mind. This new position toward science and logic in fact opened the gate for "the great revival of formal logic that has marked so deeply the fact of philosophy in the last century,"(Sparshott, 1978, xvii)

---

(10)For a general introduction of this philosophy, see Ayer (1959).

(11)However, we have never been told by JSM how we can get such metaphysical knowledge.

(12)This position is more clearly expressed in his "Auguste Comte and Positivism" as follows:

> The Philosophy of a Science means the science itself, considered not as to its results, the truths which it ascertains, but as to the processes by which the mind attains them, the marks by which it recognizes them, and the co-ordinating and methodizing of them with a view to the greatest clearness of conception and the fullest and readiest availability for use: in one word, the logic of science (Works X, p. 291).

that culminated in a sense in Bertrand Russell's logical atomism early in this century, which in turn had a decisive influence upon the formation of logical positivism[13](see Ayer, 1957).

Yet what is peculiar to JSM is that he did not endorse traditional formal logic as the proper method of science (see Sparshott, 1977; and the following examination of JSM's Logic). What then would he mean by the method of science or by logic? If the term 'logic' means anything and if we should consider JSM's fundamental distinction between metaphysics and science or between metaphysics and logic, it must signify at least a formal rule which, supposedly, underlay universally any scientific inquiry and, simultaneously, it must be emptied of any non-perceptual or non-observable knowledge. Did JSM succeed in building up a logic under these absolutely inviolable conditions?

A) Names and Propositions

Inferring from JSM's classification of Knowledge or Truth -- regarded as the same by him -- we may safely conclude that by 'metaphysical' and 'scientific' he considers truth as what science is also

---

(13)John Passmore once remarked the place of JSM's Logic (a single work in which his whole idea of philosophy of science is embodied) in the history of ideas, that it is a "natural boundary" that demarcates the line between contemporary philosophy and the older ones; "if on the one side it stimulated, whether in reaction or in admiration, many of the most notable developments in contemporary philosophy, on the other side it is the culmination of later eighteenth-century thought."(1957, p.11) JSM, however, cannot be regarded as the originator or philosophy of science in the contemporary sense. It is William Whewell, with his Philosophy of the Inductive Sciences (first published in 1837), who deserves the title. And in view of the contributions made by contemporary philosophy of science, Whewell surpasses JSM in many respects (see Ryan, 1974, p.59). But in terms of the magnitude of their intellectual heritage, Whewell can hardly be treated on the same level with JSM.

aimed at. And truth for him means simply a True Proposition -- defined, following the conventional definition, as a discourse in which something is affirmed or denied (I-i-2). What is, however, somewhat characteristic of JSM's position on the nature of propositions in the history of formal logic is his strong emphasis on a clear distinction between the form of proposition (usually identified with the indicative sentence), the 'objective' factor signified by Proposition, and the 'subjective' judgment that believes a proposition to be true or false. It is to this, the 'objective' factor -- "not the art of believing, but the thing believed" -- that JSM refers throughout his quest for the relevance of propositions to scientific inquiry (see Prior, 1976, pp.18-19, also see I-v-1).

Seeing that propositions consist of subject, predicate, and copula, and believing that subject and predicate are but names, JSM starts with an analysis of names, since they are the fundamental elements of any propositions and thus of any scientific truth. His analysis of names is also very important because any data for scientific analysis ultimately take the form of name or of cluster of names. And it commands our attention because it is imbued -- contrary to his initial assertion of the dualism between 'scientific' and 'metaphysical' -- with metaphysical premisses.

Every name, he claims, is the name of a thing itself, not merely of our idea of a thing (I-ii-1). Names are thus always related to things, whether these are real or imaginary. This is Mill's fundamental postulate, recurring again and again throughout the whole discourse. As to this postulate questions must be raised such as: What is the thing and does it differ from the name representing it? On

what ground is a real thing distinguished from an imaginary thing? How do we confirm that a name is the right name of the right thing? Is our idea of a thing by nature distinct from the thing itself? As to these issues we are not given JSM's own analysis or answers. What we are provided are only philosophical premisses, which cannot be taken for granted as self-evident presuppositions, as they are in JSM.

One of these premisses is the strict distinction between our sensation on the one side (as the sole source of our knowledge) and the external body on the other (which in his own expression causes the sensation, and yet which is completely unknown to us). Let us follow JSM's line of argument on this point.

Abhorring more or less the ambiguities attaching to such words as 'being', 'existence', and 'entity', and preferring the commonly used word 'thing', JSM classifies 'things' into the three categories: Feeling, Substance, and Attribute. This classification may be redivided as two, i.e., internal things (to which Feelings belong) and external things (to which Substance and Attribute belong).(14)

Feeling, which is viewed as the equivalent expression to consciousness, is a genus, of which Sensation, Emotion, Volition, and Thought, are subordinate species (I-iii-3). As to the question on what ground or criterion such internal things are to be regarded as 'things' in the same respect as 'the external things', we are not, strangely enough, provided any enlightenment by JSM. Even as to the question of how they originate in the mind -- a term frequently used but never defined -- he

---

(14)This is not the classification JSM himself made. But considering that he defined thought as whatever passes in the mind itself, not an object external to the mind (I-iii-3), it may not be contrary to JSM's intention to interpret his terms in this manner.

simply ignored it, probably because he believed it a metaphysical question and therefore beyond the proper bounds of logic. That there exist such mental phenomena is simply accepted as 'psychological fact', self-evident and beyond any doubt.

> ... they are psychological facts, facts which take place in the mind, and are to be carefully distinguished from the external or physical facts with which they may be connected either as effects or as causes.(I-iii-4)

Here the name 'fact' is suddenly substituted for 'thing', with no further account of whether or not it is merely a verbal difference denoting the same thing. In either case the reader of his Logic is here forced to believe that the existence of 'facts' is so intuitively self-evident that nobody of sound mind could dispute it. This is one of the most fundamental philosophical postulates underlying JSM's whole system. This postulate we shall call 'Phenomenal Realism'. To JSM's regret, however, what is intuitively evident is not the self-evidence of the existence of facts. The claim is nothing less than a dogma, the epistemological defect of which will immediately become clear when it is extended to the question of the nature of body and mind (external and internal things in general), and of human knowledge about them.

JSM lays it down:

> Of the outward world, we know and can know nothing, except the sensations which we experience from it... All that we know is therefore phenomenal -- phenomenal of the unknown. (I-iii-7)

Unknown, except that the body is an unknown exciting cause of, or recipient of, any and all sensation (I-iii-8). But what is the exact meaning of the somewhat modest expression, unknown. If body and mind are something essentially unknown to us, what are those things that are avowedly believed by JSM himself to constitute them -- i.e., sensations,

thoughts, emotions (on the one hand) and substances, attributes, and relations (on the other)? We have hitherto been told emphatically by JSM that these constituents are the original 'things', which give birth to the 'names' that are to be distinguished from our internal 'ideas'. Yet, JSM here argues that all things are mere 'phenomena', floating on the screen of our sensorium, while we are completely ignorant of that which brings forth the phenomena. This contrast, however, carries with it a serious contradiction which eventually induces the total anomaly to JSM's logical system as a whole.

If they are mere 'phenomena' -- in the sense that their existence is known only by perception of what appears to our sensations, their reality being unknown -- it would be groundless to classify the 'things' into the two categories, internal and external. We would never know which phenomena are caused by external things, which by internal. Or it would be meaningless to assert, as JSM did, that 'names' are always the name of things. We do not know, if JSM's expression 'unknown' is properly understood, whether 'names' are the reflections of 'things' or of the esoteric or mysterious. Even if that classification were possible, the very existence of such a classification contradicts JSM's other philosophical postulates, that mind is nothing but the reflection of the outward world through sensation and that there are no innate ideas(15) which exist in the mind independently of the 'objective'

---

(15)The Lockean denial of innate ideas is the subject never thoroughly discussed in JSM, yet one of his essential philosophical positions that underlies almost every social and philosophical argument ever made by him. One may refer to his letter to John Sterling for an express but brief statement on the position (Works XIII: p. 412), to Logic: I-v-1, III-xxi, III-ii-4, II-iii-6, to his review of Samuel Bailey's "Review of Berkeley's Theory of Vision," in The Westminster Review (Works Vol.XI: pp.247-269), or to "Bain's Psychology."(Works Vol.XI: pp.341-373) This subject will be treated in more detail in the following chapters.

world. For insofar as what constitutes sensations, thoughts, emotions in the mind is nothing but what is reflected by objective bodies, it must be ontologically discriminated from outward things. Internal and external things must not be mixed indiscriminately in the name of mere phenomena. If both kinds of things are to be treated the same, as perceptible to our sensations, one must (at least) be more than phenomena.

This is obviously a contradiction. And it seems to have been induced by JSM's dogmatic acceptance of the existence of allegedly sensible facts or phenomena as if their existence were self-evident, without giving any justification of their existence. As a matter of fact, he did have his own theory regarding the process of perception and conception in the mind, which will be treated in the following chapters. But the point is that such a theory was formulated in a totally different context from his logic, as if the problem of logic had nothing to do with man's cognitive processes. The same theoretical problem is also found in his understanding of 'proposition'.

As was mentioned previously, 'truth' according to JSM is but a true proposition; and it is in true propositions that the scientific truth is also embodied. In this connection again he starts the analysis reaffirming his original emphasis on the objective factor, which is believed to be essential to names and propositions. A proposition is for him by no means identical with a judgment which, he believes, is concerned only with ideas. "What I believe," he illustrates with an example of gold and yellow, "is a fact relating to the outward thing, gold, and to the impression made by that outward thing upon the human organs; not a fact relating to my conception of gold, which would be a

fact in my mental history, not a fact of external nature."(I-v-1) Such a conception of 'proposition' -- a proposition understood as representing the relation between external things, not merely between ideas -- has a very significant implication for the understanding of JSM's philosophy of science, because it is directly related to his concept of scientific theory.

He argues strongly that 'proposition' seen in terms of the relation between the two ideas, instead of two phenomena, is one of the most grievous errors ever introduced into the philosophy of science; and he urges that the actual undertaking of scientific inquiry carried out not on the basis of that erroneous notion, but on his own terms (I-v-1). What is the relevance of the form of discourse called 'proposition' to scientific research, and on what ground is a proposition determined to be true or untrue, according to JSM?

Opposed to the Hobbesian notion of proposition -- in which the predicate is the name of the same thing of which the subject is a name (I-v-2), or that predication consists in referring something to a class (I-v-3) -- he emphasizes that since the meaning of all names (except proper names) is connotative, the relation between subject and predicate in a proposition must be connotative. And the conformity between them, he asserts, does not depend upon the meanings of the both terms, but on the attributes which they connote. Therefore,

> ... the possibility of a concurrent application of the two names, is a mere consequence of the conjunction between the two attributes, and was, in most cases, never thought of when the names were introduced and their signification fixed. That the diamond is combustible, was a proposition certainly not dreamt of when the words Diamond and Combustible first received their meaning... It was found out by a very different process,

> namely, by exerting the senses, and learning from them, that the attribute of combustibility existed in the diamonds upon which the experiment was tried.(I-v-2)

Since JSM believed that what we understand by the attributes of a thing is nothing but the phenomena, the function of a proposition consists of the affirmation or denial of phenomena in terms of the following five kinds of subject-predicate relation, namely: Existence, Co-existence, Sequence, Causation, Resemblance[16](I-v-5,6). Every proposition, if it is not merely verbal, thus belongs to one of these kinds, including ethical propositions.[17] He thus distinguishes between 'essential' and 'accidental' or 'non-essential' propositions. What he defines as an 'essential' proposition is one which is purely verbal and conveys no knowledge except that which is already connoted in the subject. It is a proposition that does not, supposedly, link 'attributes', as an accidental proposition does. It is exclusively 'non-essential' or 'accidental' propositions that are 'real' and truly instructive (I-vi-2,4).

In denying the cognitive validity of essential propositions (see also I-vi-2), JSM is at least logically consistent with his inviolable doctrine of phenomenal realism. Does he, however, maintain this

---

(16)These five relations cannot be regarded as mutually exclusive from one another. There must exist hierarchical levels of understanding among them. Sequence, for example, may be a lower level of understanding than causation. Strangely enough, this question is not expressly dealt with by JSM.

(17)An ethical proposition, such as "Prudence is a virtue," is understood by JSM as a proposition of sequence. For instance "benefit to society, or that the approval of God, is consequent on, and caused by Prudence."(I-v-7) This position on the nature of ethical proposition is closely linked with JSM's life-long effort to prove the 'utility principle' to be the universal foundation of every ethical action (see his "utilitarianism," Works Vol.X, esp. pp. 203-209).

consistency even when he defines 'definition' -- one of the indispensable steps in scientific inquiry -- in the same context? There can apparently never be a definition which does not take the form of a proposition. Can the concept of definition founded on JSM's theory of proposition work in scientific inquiry?

A definition or a definitional proposition obviously needs a subject which is to be defined. One feature of a definitional proposition, which distinguishes it from other propositions, is the subordinate relation between subject and predicate, in what JSM terms the substance-attributes relation. But in his doctrine of phenomenal realism the only way to know a substance is to perceive its observable attributes. Yet it is only after we know what the substance is that we know whether a certain attribute belongs to that very substance. How can this paradox be resolved? Probably conscious of it JSM made a curious attempt to resolve it -- curious because he adopts a term quite foreign to British empirical tradition, i.e., 'noumenon':

> When we say, Socrates was contemporary with the Peloponnesian war, the foundation of this assertion, as of all assertions concerning substance is an assertion concerning the phenomena which they exhibit, namely, that the series of facts by which Socrates manifested himself to mankind, and the series of mental states which constituted his sentient existence, went on simultaneously with the series of facts known by the name of the Peloponnesian war. Still, the proposition as commonly understood does not assert that alone; it asserts that the Thing in itself, the noumenon Socrates, was existing... And both of noumena and of phenomena we may affirm simple existence. But what is a noumenon? An unknown cause. In affirming, therefore, the existence of a noumenon, we affirm causation.(I-v-5; emphasis, JSM[18])

However, as we critically mentioned about JSM's understanding of

---

(18)All the emphases in the quotations from JSM and James Mill is by the present writer unless specified as JSM's or James Mill's.

'names', if what we know of nature or the external world is only that which is manifest, i.e., the so-called 'phenomena', we cannot even say that these very phenomena come from an unknown cause called "noumena."

It is a contradiction to state, on the one hand, that Socrates is nothing more than the accumulation of the actions and behaviors made by a man "named" Socrates and to claim, on the other hand, to know of the existence of the noumenon Socrates. We are never able to know, within JSM's epistemological doctrine, anything beyond the world of sensible behavior or action and noumena are by definition insensible. And if the 'noumena' are by definition 'unknown' to us, we can never be certain whether there exist such things, nor that they are the causes of phenomena.(19) This shows that the paradox mentioned above remains unresolved in JSM's system. Yet it is on this unresolved paradox that JSM's theory of definition is based.

A definition, he says, is a proposition declaratory of the meaning of a word. It is thus concerned with the connotations of names (I-viii-1). Proper names and the names of simple sensations, therefore, do not admit of definitions, since by nature they have no connotations in themselves(20)(I-vii-1). As a connotative name is in JSM always denominative -- denoting phenomenal, observable attributes (see Intro-5) -- the only adequate definition of a name is one which declares the facts, and all the facts -- which the name involves in its signification

---

(19)Except by definition, or stipulation, i.e., arbitrarily or trivially.

(20)This is JSM's other presupposition, and it represents the same line of reasoning in terms of which Locke grasped the nature of 'simple ideas' in his (1959). The epistemological defect of this position will be discussed later, in chap. III.

(I-viii-3). A definition is therefore an analysis which is to

> distinguish into parts, the attribute or set of attributes which constitute the meaning both of the concrete name and of the corresponding abstract: if a set attributes, by enumerating them; if a single attribute, by dissecting the fact or phenomenon which is the foundation of the attribute.(I-viii-2)

This is a very important statement since it directly endorses operationalism[21] in the philosophy of science, which today "is widely adopted in the social and biological sciences."(Suppe, 1977, pp. 18-19) That this doctrine is essentially erroneous will be automatically revealed by the critique of JSM's definition of 'definition', which follows.

In JSM's phenomenal realism no subject in a proposition can be predicated unless the subject has certain observable phenomena connotatively attached to it. Therefore, insofar as the predicate of a proposition is not simply a reiteration of its subject -- like 'man is man' -- there can be no predicate innate to its own subject. In light of this position, the following account of 'essential proposition' by JSM appears very strange:

> The propositions, Every man is a coporeal being, Every man is a living creature, Every man is rational, convey no knowledge to anyone who was already aware of the entire meaning of the word man, for the meaning of the word includes all this: and that every man has the attribute connoted by all these predicates, is already asserted when he is called a man. Now, of this nature are all the propositions which have been called essential. They are, in fact, identical propositions.(I-vi-2; JSM's emphasis)

---

(21)By definition, operationalism rules that any concept is but a set of operations, i.e., operations in measuring the object to be defined. This doctrine is an inseparable element of the 'Received view' about the nature of the scientific theories (see Suppe, 1977, pp. 16-21, for an account of operationalism in the context of the 'Received view').

This account is not, however, compatible with JSM's phenomenal realism.

Like the proposition 'Man is mortal', the proposition 'Man is a living creature' or 'Every man is rational' can be knowable to us only insofar as, following JSM's doctrine, the phenomena brought forth by the existence or noumenon of every man are concurrent with the phenomena of 'living' or 'rational'. Otherwise, the name of every living or rational creature would be completely identical, except for verbal differences. It may be out of awareness of this conclusion that JSM emphasized that only non-essential or accidental propositions are real propositions. Yet the further conclusion to this line of reasoning turns out to be simply the impossibility or the meaninglessness of definition as such!

The question, what is man? (to take once again the familiar case) is no doubt the question of the definition of man. To define man (in JSM's formulation) is simply to put any attribute of man in place of the predicate, in the proposition "Man is _____." But, first of all, JSM's theory of proposition and definition offers no way to distinguish between phenomenal attributes and essential components. We are not provided with any justification as to why rationality or coporeality is an essential component, while being mammiferous or featherless is a phenomenal attribute. Even if such a distinction were possible and phenomenal attibutes were clearly identifiable, the infinite number of ways to define man would render the defining activity itself meaningless. Man could be a collection of atoms, molecules, cells, etc. Depending on individuals or races, man could be a black, white, or yellow animal. Man could be called a hairy, bold, omnivorous, herbivorous, etc. In other words, if there is no way to distinguish man

essentially from other entities, the defining activity is simply meaningless.

Yet what is more devastating to JSM's theory of definition is that it is impossible from the outset to identify those attributes themselves. As was previously mentioned, the 'noumenon' of man is by definition unknown, according to JSM. What man is, is but the accumulation of phenomena or facts about a substance named man. However, before the definition of 'man' is given, it is impossible to collect human phenomena as distinct from the phenomena about other substances. The collection of biological attributes can be made only after the definition of what life is. Otherwise, we are unable to discern which phenomena are to be included, which excluded. Here we find JSM entrapped in logical circularity.

All this shows that JSM's theory of names and propositions along with his theory of definition, all of which form the basis of his doctrine of phenomenal realism, do not work. Rather, it contradicts the very doctrine of phenomenal realism. This is the first antinomy we have discovered in his logical system: The absolutely inviolable doctrine of phenomenal realism must be abandoned in order for it to be preserved.(22)

---

(22)In commenting on an "undeserved degree of allegiance among scientists today" toward operationalism, Suppe remarked that:

> It seems characteristic, but unfortunate, of science to continue holding philosophical positions long after they are discredited. Thus, for example, Skinner's radical behaviorism, which insists on operational definition, came into prominence and dominated behavioral psychology well after most philosophers had abandoned the doctrine of operational or explicit definitions (1977b, p. 19n).

Most political behavioralists still adhere to this doctrine.

Perhaps dimly aware of these difficulties, JSM now presents another justification for his theory of definition. This justification is that the theory is effective at least for practical scientific research: For he believes that a definition suffices as definition if it enables scientists to "discriminate the things denoted by the name from all other things, and consequently to employ the term in predication without deviating from established usage."(I-viii-4) Therefore, all such definitions (as, Man is a mammiferous animal; Man is an animal who cooks his food; Man is a featherless animal) can be real definitions (I-viii-4). For the purpose is,

> not to expound a name ... but to serve as the landmarks of scientific classification. And since the classifications in any science are continually modified as scientific knowledge advances, the definitions in the sciences are also constantly varying.(I-viii-4)

This justification obviously presupposes the knowledge of what man essentially is, and thus JSM's argument here does not hold water. Even granted, however, that a definition of this kind could initiate and sustain scientific research, what JSM understands by 'scientific research', raises another question. What is his notion of 'scientific research', such that it could proceed with such a concept of 'definition'? Could scientific research in his own terms yield a scientifically valid outcome? These are the topics to which the next two sections are devoted.

B) Ratiocination

Let us recall for a moment JSM's distinction between essential propositions and real or accidental propositions, along with the

distinction between essential definitions and real definitions. As the previous analysis has revealed, there could be no meaningful 'essential proposition' if JSM abided by his phenomenal realism. His own example of an essential proposition -- 'Man is a rational animal' -- does not belong to this category, because what we are able to know about Man and Rationality are solely the attributes both these names connote; and except for a purely accidental coincidence of the two kinds of attributes in the form of a phenomenon or fact, we are given no other way of confirming the proposition that man is essentially rational. What remains in the category 'essential proposition' would be, then, a purely tautological proposition such as 'A is A' or 'man is man'. Of the logical consequences of essential propositions JSM is silent. The same kind of paradox now recurs in his treatment of 'general' propositions vis-à-vis 'particular' propositions and of generality vis-à-vis particularity.

On JSM's definition, reasoning or inference is "the process into which propositions enter not as ultimate results, but as means to the establishment of other propositions."(I-vi-5) And the traditional distinction between inductive reasoning and deductive reasoning (ratiocination or syllogism) is also adopted, namely: "Induction is inferring a proposition from propositions less general than itself, and Ratiocination is inferring a proposition from propositions equally or more general."(II-i-3; JSM's emphases) Now attention must be drawn to the character of a general proposition in a syllogism. As a rule a syllogism is composed of the three components: major premiss, minor premiss, and conclusion. Inasmuch as all three components always take the form of propositions, they are subject to the fundamental qualifica-

tions of propositions. Since in JSM's philosophy any meaningful proposition is to connect more than two phenomena or facts in one of the five terms (Existence, Co-existence, Sequence, Causation, Resemblance), all three components of a syllogism must conform.

It is at this point that a new kind of 'proposition' is introduced, when JSM plainly states that "All ratiocination ... starts from a general proposition, principle, or assumption: a proposition in which a predicate is affirmed or denied of an entire class."(II-ii-2) But according to JSM, classification is by its nature completely arbitrary, and "a class, an universal, a genus or species, is not an entity per se, but neither more nor less than the individual substances themselves."(I-ii-2) From this it follows naturally that a syllogism is nothing but an affirmation or denial of that which is already connoted in the class (which would indeed be trivial). Such triviality, allegedly innate in syllogisms, JSM terms "solemn trifling."(II-ii-2) But even granted that a logical class as such is something quite arbitrary and a non-entity in itself, there still remain questions, such as: What is the nature of generality, such that a particular conclusion can be deduced from the major premiss in a syllogism? Is there any reason that generality or general propositions should be distinguished from particularity or particular propositions?

According to his phenomenal realism, any name is but the aggregate of all the attributes perceptable to our senses in the form of facts or phenomena. Everything real would, then, belong to sense-perceptual particularity; and what is actually meaningful would be particular propositions, composed of fact- or phenomena-related names. Thus it

was quite natural and logically consistent for JSM to proclaim his famous maxim that "All inference is from particulars to particulars."

> General propositions are merely registers of such inferences already made, and short formulae for making more: The major premise of a syllogism, consequently, is a formula of this description; and the conclusion is not an inference drawn from the formula, but an inference according to the formula.(23) (II-iii-4; emphases JSM)

This syllogism is not therefore a correct analysis of the process of reasoning or inference. If it has any value for JSM, it is merely as a subsidiary to inductive reasoning. Syllogisms are conclusive for induction only in respect to their practical convenience. The value of the syllogistic form consists in its bringing to light the inconsistency or inconclusiveness which may reside in inductive reasoning (II-iii-5). The same reasoning is thus extended to formal logic in general.

> The end aimed at by Formal Logic, and attained by the observance of its precepts, is not truth, but consistency; the intention and effect of which is simply to keep our inferences or conclusions in complete consistency with our general formula or directions for drawing them.(24)(II-iii-9)

Thus in JSM's view, writes R.P. Anschutz (1953, p. 126), "there are two

---

(23)Such a notion of generality -- as being contentless in itself -- has a significant implication for JSM's idea of ethics. For he believes that it is only in the matter of "ought-to," not "is," that general or universal proposition holds good. And in this matter it is not inference but interpretation that works. Yet where do general propositions in ethics come from? This may have been JSM's main inducement to identify the utilitarian principle as the scientific foundation of ethics.

(24)This is why we remarked earlier that JSM did not find any inherent value in formal logic.

logics to be distinguished -- the 'logic of consistency' or 'formal logic' which scrutinizes the processes by which truths are known through the medium of other truths and the 'logic of truth' which includes also the consideration of the premisses by which first truths are known."

What attracts our attention in this context is JSM's nominalistic treatment of generality and of general propositions when he designates general propositions as mere "registers" of the aggregates of particular facts. By the expression "registers" JSM seems to have been dramatizing his nominalistic point of view as to the nature of general propositions. However, since general propositions consist of general names, "registers" must be no other than general names. What are 'general names' in JSM's initial theory? They are contrasted to individual or proper names; and in this sense there exists essentially no difference between general names and particular names, in that both kinds of names denote sense-perceptual facts or phenomena. Where, then, is the difference between generality and particularity?

Let us take the familiar example which JSM provides us of a general proposition -- Man is mortal. In order to emphasize the "registering" or nominalistic character of this proposition, JSM has substituted a more elaborate expression for it, namely: "The attributes of man are a mark of the attribute mortality."[25](II-ii-4) Now what would be the attributes of man, and the attribute of mortality,

---

(25)Obviously the essentialistic interpretation of the proposition 'man is mortal' would be 'humanity connotes mortality'. For a succinct explication of JSM's logic in this respect, see Anschutz, 1953, pp. 124-145.

both of which are expressive of particularity? We may immediately designate death as the attribute of mortality. But what is death? Does this stand for pure particularity? Certainly not. It is disputable in contemporary medicine how to determine this most definite 'attribute' or death. Even if that were resolved it is not the end of problem. Even cardiac arrest -- the conventional definition of death -- does not suffice for JSM's notion of particularity. To identify 'heart' or 'palpitation' requires in turn other 'particular attributes', which again and again require still ither 'particular attributes'. The same reasoning also applies for the generality of 'man'. To seek out particularity in this manner is thus a search doomed from the outset.(26) From this it follows that any particular proposition can simultaneously be a general proposition and, conversely, that any general proposition can be a particular proposition.

This fact contradicts JSM's original distinction between generality and particularity. If general propositions are merely 'registers', so are particular propositions. This leads finally to a

---

(26)This is in fact another logical fallacy inherent to 'operationalism'. It is not only logically impossible to "operationalize" a concept in such a way; but the empirical research proceeding on the basis of such operationalization must result in the confirmation of pre-existing knowledge, thereby failing to produce any new knowledge, since operationalization is from the beginning restricted to already-known attributes. The social implications of operationalism are much more devastating. The fixation of the meaning of a concept precludes any social effort to reformulate social institutions by reformulating first their conceptualization. If, according to the creed of operationalism, any concept were to become 'meaningless' for its lack of empirical attributes in a given social system, what is meaningful would be whatever is justified by the existing social system. For a more comprehensive critique of operationalism in the context of a sociological analysis of advanced capitalist states, see Marcuse (1954). For a critique of behavioralism in this connection, see Arendt (1959); Bernstein (1976, pp. 103-106).

refutation of JSM's somewhat revolutionary proclamation that "all inferences are from particulars to particulars." It has turned out to be mere illusion stemming from a naive belief in the "self-evidence" of sensation, that generalization can be made on the basis of sense-observation of common features among 'sense-perceptual' (therefore, particular) entities. It is impossible, theoretically and practically, to discern generality by pure observation because any particular entity would be utterly meaningless apart from the whole context of being. This constitutes another theoretical anomaly in JSM's system. And it seems that the theoretical anomaly is due precisely to the very foundation of his formal logic, from which JSM never freed himself completely despite his recognition that formal logic alone brings forth not new knowledge but the confirmation of internal consistency (II-iii-9).

The essence of formal logic, or what Hegel calls abstract understanding,[27] consist in the strict distinction -- and this is its starting-point -- between identity and difference. This is usually expressed in the following axiomatic principles: A is A (Identity principle); and A is not not-A (Difference principle). And such a mode of thought is commonly praised in the name of logical rigor and precision, as against confused or wooly thinking. Certainly it is almost a truism to say that no scientific investigation can ever advance without fashioning clear-cut definitions and classifications, i.e., without distinguishing one entity from another. Nevertheless,

---

(27)The following discussion of formal logic is greatly indebted to Prof. E. Harris's as yet unpublished work on Hegel's logic, especially pp. 40-45.

the pitfall of formal logic lies in its very rigidity. That A is A is true, but pure tautology. It is simply meaningless, since it connotes nothing. So the meaning or identity of each and every proposition depends upon the difference between subject and predicate, such as A = B, C, ...[28] It is difference, but at the same time it is identity, since every definition of things (which aims at identity) is based upon difference.

Returning to the much quoted example, the adequate definition of 'man' always depends upon entities which are other than man as such. Thus, if we are to seek out the identity of an entity, we need to conceptualize the whole structure of being, which is generality par excellence.[29] Therefore, there is no such thing as a pure particularity meaningfully separate from generality. Yet, it is on a misconceived belief in the self-evidence of particularity that JSM's theory of induction founders.

C) Induction

To cite JSM's celebrated maxim again, "every inference is from particulars to particulars." Generals, general names or propositions, were said to be mere collections of particulars. Induction is obviously a kind of inference, and as such must not deviate from the principle. What can we expect from inductive inference under these conditions?

---

(28)This idea was in fact the starting-point for Plato on the exposition of his dialectic in the Sophist, see also Kneal, et.al. (1962, pp. 17-22).

(29)Generality in this sense represents in part Hegel's notion of totality.

As a first approximation, induction is roughly defined as "the operation of discovering and proving general propositions."(III-i-2) It is thus naturally divided into two kinds of operations: 1)discovery and 2)proof. Discovery is the other name of "generalization from experience."(III-iii-1)

> It proceeds from the known to the unknown; and any operation involving no inference, any process in which what seems the conclusion is no wider than the premises from which it is drawn, does not fall within the meaning of the term.(III-ii-1)

In this sense JSM distinguishes true induction from the mere colligation of facts or simple registration of facts.

Now a question arises as to the compatibility between his 'particularity principle of cognition' and the avowed imperative in induction, i.e., the discovery of new knowledge.(30) In the foregoing argument JSM never tired of emphasizing that general names and propositions are essentially redundant, to effect that they can be easily dispensed with. Thus the existence of a class, as no more than a general name, was regarded as not something indispensable for scientific research but a mere matter of convenience.(See, I-vii) Nonetheless, 'class' now becomes the key element in any induction worthy of its name -- because to extend a generalization, which is supposedly observed to underlie a certain body of facts, to the whole class, is now believed to be the very essence of induction. Can induction, conceived in this manner, be compatible with JSM's own particularity principle? In this context he confirms the nominalistic principle, stressing once again that the category of which 'class' is a species is not

---

(30)Knowledge here must be understood in JSM's way. New knowledge denotes a new and more general proposition.

prerequisite to induction. Yet he introduces some new terms, Invention and Proof, in conjunction with his theory of induction.

Against William Whewell's[31] position that without a new mental conception there can be no induction, JSM argues that concept-formation is not something a priori in the mind, because "there is in the facts themselves something of which the conception is itself a copy."(III-ii-4)[32] Concept-formation, according to JSM, belongs to inventions, as opposed to proof, which is the essence of none so that induction does not necessarily stand in need of concept-formation (III-ii-5).

But what JSM intended to say about 'invention' is very obscure. If conception or class is something that automatically appears from the facts themselves the word "invention" is simply meaningless. If it means anything, it is identical to "abstraction," which is in fact one of the topics JSM treated under the subject "operations subsidiary to induction" in the Book IV of the Logic. Yet the phrase "abstraction from the facts," which might lead to the invention of a conception or a class, is frequently expressed but never defined or explained by

---

(31)One of the main inducements that made JSM write the Logic was the publication of William Whewell's Philosophy of the Inductive Sciences in 1840, probably the first systematic treatise on the philosophy of science in the modern sense (see Herivel, 1967, p. xxxiii). It was against Whewell's Kantian and intuitionistic account of the nature of scientific theory that JSM was eager to defend his inherited empiricism. See his Autobiography, especially pp. 157-159, for a defense of his inductive logic against what he called the German metaphysical, a-priori, "innate-principles" school of knowledge. See also Anschutz (1953, p. 78), Packe (1954, pp. 255-260). For a comparison of the two philosophers of science, see Strong (1955).

(32)JSM's denial of the principle of innate ideas is here again repeated, although he never expressly used the adjective "innate" in the Logic.

JSM.[33]

As an example of true induction JSM wrote that "if ... the observations made of the various species of animals have discovered to us a law of animal nature, and ... we are in a condition to say that a nervous system will be found even in animals yet undiscovered, this indeed is an induction."(III-ii-1) But any abstraction from the observations of animals cannot confirm that there is _the_ archetypic animal nature, because what is proper or essential to an animal must be determined _before_ any generalization on accumulated observations. And, conversely, without a predetermined conception of 'animal' it is impossible even to distinguish animals from non-animals.

Certainly it is logically impossible to infer from what is known what is _un_known. There must always be a certain _presupposition_ linking the two.[34] That there is a law of animal nature is a presupposition that known facts will never prove. With such vital issues unresolved

---

(33)in IV-ii JSM reiterates his position against the innate-idea principle, but not persuasively. He recognizes that "it is most true that Induction could not go on without general conceptions." "But," without giving any rationale he mumps to a conclusion, "it does not follow that these general conceptions must have existed in the mind previously to the comparison."(IV-ii-1) The rationale given, if there is any, is that "the conception originally found its way to us as the _result_ of such comparison," and "it was obtained by ... _abstraction_ from individual things."(IV-ii-2) But so far no explanation is given with respect to the nature of abstraction that can be the valid rationale. In other words, unless the question of how abstraction can be obtained is resolved within the framework of JSM's phenomenal realism, his refutation of the innate idea principle is nothing but another dogma.

(34)Interestingly enough JSM admits, seemingly with reluctance, Whewell's very significant comments in respect to Kepler's astronomical law that it "... was not the sum of the observations merely; it was the sum of the observations seen under a _new point of view_." Yet JSM was again 'consistent' enough to defend his position by saying that "it was not the sum of _more_ than the observations."(III-ii-5)

and even unidentified -- so vital as to make his whole theory of induction invalid -- JSM proceeds to the other phase of induction, i.e., 'induction as proof.'

Up to this point induction has been understood as a one way procedure, generalization from purely sensory data to general propositions, via the process of abstraction. Now, all of a sudden, induction as proof jumps in as the key element, emphatically distinguished by JSM from mere descriptions or "inventions of concepts." Yet, in no relation to the strength of his emphasis, we find that it is dealt with in rough and crude manner, without many related issues even being raised.

JSM states:

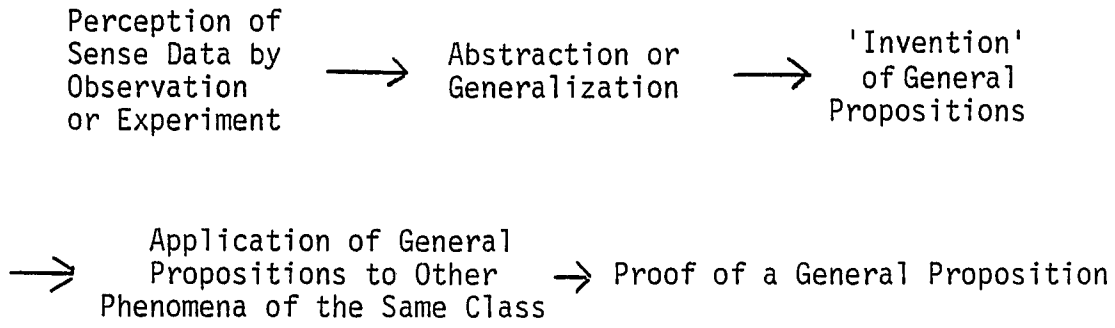
> Induction is proof; it is inferring something unobserved from something observed: it requires, therefore, an appropriate test of proof ... (III-ii-5)

But this formulation adds nothing to the former definition of induction, except that it is now connected with a new word, 'proof'. We are not given explicit answers by JSM to such vital issues as: What is a proof? What is to be tested? Referring to his previous definition (III-iii-1) we could only guess that by 'proof' JSM meant the process by which a general proposition is confirmed empirically by other phenomena which, though belonging to the same class, are not as yet used as the means of confirmation.(35) Diagramatically the

---

(35)Another clue is his discussion of what he calls "hypothetical method"(III-xiv). Deductive method is for him a process consisting of three parts -- induction, ratiocination, and verification. And the hypothetical method is that which "suppresses the first of the three steps, the induction to ascertain the law, and contents itself with the other two operations ..., the law which is reasoned from being assumed instead of proved."(III-xiv-4)

following structure may be what Mill has in mind as the whole inductive process:



Even if this was what JSM meant by 'proof', his theory contains a serious defect. The defect lies, first of all, in the fact that the theory fails to explain the case where a general proposition, thus formed, is disproved as a result of such a test. In his theory, when a general proposition is proved not to match a 'new' phenomena of the same class, to which the proposition is addressed, it has to be discarded immediately as a 'false' generalization. This would, however, inevitably render the initial generalization invalid. For, to refute a general proposition -- if formed through generalization on certain sense-data -- is to refute the very certainty or immediate truthfulness of the sense-data as such, which is the very root of JSM's philosophy of science.

It would be groundless in JSM's system to give priority to one cluster of sensory phenomena over an other -- one cluster of phenomena being the reference for an initial generalization and the other cluster serving as reference for the extension of the same generalization. For JSM's theory of induction to be saved from refutation, it must therefore admit the central and indispensable role of a conceptualization process

which is by nature 'subjective'. Otherwise, every general proposition would have to be regarded as true once it is based on a certain fact -- which would render the inductive process utterly meaningless ("from the unknown to the known").(36) Yet the worst thing for JSM in this context is that the admission of such a subjective element into his system would contradict his inviolable doctrine of phenomenal realism. This is the third logical antinomy in his system.

Curiously enough, it is at the point where yet another logical antinomy in his system is revealed that JSM's philosophy of science begins to draw closer to the actual undertakings of scientists -- having freed himself, wittingly or unwittingly, of concern with the "formal" aspects of scientific cognition. JSM's intention here may be to buttress his theory of induction. Yet, as we shall see next, his understanding of Newtonian physics(37) was far from perfect; and his imperfect understanding only adds theoretical anomalies to his theory of induction.

First he comes to the realization that there is an assumption without which the logic of induction is simply incoherent. It is the

---

(36)It is to be noted in this connection that JSM also, somewhat surprisingly, recognized the importance of hypothesis-building as indispensable in scientific research and advancement (see III-xiv-5) Yet, regretably, he never asked why this is so, nor even made an attempt to examine whether his theory of induction could be sustained in the face of such a subjective element in actual scientific research. This is, in fact, a critical issue which remains unresolved and thereby challenges the very foundation of the contemporary philosophy of science.

(37)Although JSM did not make explicit his regard for Newtonian physics as the ideal type of science, there is no doubt that his discussion is based on his belief in the universality of the Newtonian physics.

assumption that "the course of nature is uniform; that the universe is governed by general laws ..."(III-iii-1) And, interestingly enough, the assumption is accompanied by a proof of its validity:

> The general regularity results from the co-existence of partial regularities. The course of nature in general is constant, because the course of each of the various phenomena that composes it is so. ... From these separate threads of connection between parts of the great whole which we term nature a general tissue of connection unavoidably weave itself, by which the whole is held together.(III-iv-1)

From this, he believes, it follows that there are "fewest general propositions from which all the uniformities which exist in the universe might be deductively inferred."[38](III-iv-1) General propositions such as these JSM calls the laws of nature, and the search for them he believes to be the main objective of the inductive sciences. But there is in his proof a logical jump, namely, that the partial regularities, even if they exist, do not necessarily connote the existence of the general regularities -- the assumption requires another assumption, that the parts of nature are mutually interconnected in such a way as to constitute a systematic,intelligible whole. Nevertheless, it is from this dogmatic assumption about the nature of Nature that he arrives at his theory of causation.

According to JSM there is a law of nature -- this is another assumption -- which brings to light every empirical phenomenon, and to which every other law of nature can be reduced. It is the law of causation. For, he believes,

> The phenomena of nature exist in two distinct relations to one another; that of simultaneity, and that of

---

(38)The allusion here is obviously to a few kinetic laws in the Newtonian physics.

> causation,[39] (and the law which is) ... co-extensive with the entire field of successive phenomena, all instances whatever of succession being examples of it ... is the Law of Causation.(III-v-1)

And JSM's notion of causation, certainly, is consistent with the principle of phenomenal realism, because the causes he is concerned with are not efficient, but physical causes. For,

> The law of Causation, the recognition of which is the main pillar of inductive science, is but the familiar truth that invariability of succession is found by observation to obtain between every fact in nature and some other fact which has preceded it, independently of all considerations respecting the ultimate mode of production of phenomena, and of every other question regarding the nature of "Things in themselves."[40] (III-v-2)

It may easily be discerned that there is another presupposition underlying this statement. It is concerned with the notion of invariability, which JSM considers an essential element of causation.[41]

There is no doubt that this presupposition, too, is by nature 'subjective' and by no means explicable within the boundary of JSM's phenomenal realism. Small wonder that JSM, well versed[42] in what had

---

(39)This in fact presupposes Time as an a-priori category of nature, which is now generally falsified by the contemporary physics.

(40)In a letter (1839) to John Sterling -- one of the few English translators of Kant in the nineteenth century -- JSM expressed the same standpoint regarding the nature of his Logic: "The only principles which I should at present recognize as laws of all phenomena, are some of those ... classed by Kant as laws of our perceptive faculty only ... as for instance the subjection of all phenomena to the laws of Time & Space."(Works, XIII, p. 412)

(41)It may be worth mentioning in this connection that what JSM here means by "invariable" does not indicate such an assumption as: 'the universe is invariable'. If it were, it would be contentless, because the question is in what way it is invariable?

(42)He had an almost professional knowledge of botany (see Packe, 1954), and for the other branches of natural science he relied mainly on William Whewell's History of the Inductive Sciences, first published in 1837. See in this regard JSM's Autobiography, pp. 124-5.

been actually achieved in the natural sciences, recognized the significant fact that without subjective assumptions no systematic research and no theoretical development in science are possible. Similarly, JSM did not fail to recognize another significant fact in actual scientific research, that theory-building consists not merely of generalization -- if that is possible -- from sense-perceptual data, but also of choices by the scientist between conflicting generalizations. In this connection he writes:

> It may be affirmed as a general principle, that all inductions, whether strong or weak, which can be connected by ratiocination, are confirmatory of one another; while any which leads deductively to consequences that are incompatibel become mutually each other's test, showing that one or other must be given up, or at least more guardedly expressed.(III-iv-3)

What would, then, be the criteria which could enable us to decide which inductions are to be chosen?

In his attempt to explain away subjective elements in the inductive process, JSM relies totally on his own formalized version of Newtonian physics -- as if the Newtonian physics, the ideal science in his mind, could justify those subjective elements. From this point on, therefore, JSM's philosophy of science sails forth with no coherent reference to his own original version of induction. His philosophy of science is important in this context, because it will eventually be the schema for his theory of moral science.

His only suggestion for the criterion of choice among conflicting generalizations was that the 'weaker' inductions have to be thrown away if they happen to be inconsistent with the 'stronger' ones (III-iv-3). Beside the ambiguity of 'stronger' and 'weaker', there is essentially no room in his system for refuting some empirically-based propositions

in favor of others. The only possible way to find such a criterion is his assumption of the uniformity of nature. For only when a general proposition proves to be compatible or incompatible with certain invariable laws of nature can it be safely accepted, or rejected, as true or false. As a matter of fact, JSM later came to recognize the necessity of such a schema in scientific research, though not in the context of his inductive logic and not in the context of his imitation of the Newtonian philosophy of science.

Having confronted a somewhat trifling but never failing example of 'invariable succession', day and night, JSM had to adapt his conception of causation to it. Thence comes a slight but also significant revision of the original concept of causation.

> But it is necessary to our using the word cause that we should believe not only that the antecedent always has been followed by the consequent, but that as long as the present constitution of things endures it always will be so. And this would not be true of day and night. We do not believe that night will be followed by day under all imaginable circumstances, but only that it will be so provided the sun rises above the horizon ... We may define, therefore, the cause of a phenomenon to be the antecedent, or the concurrence of antecedents, on which it is invariably the unconditionally consequent.(III-v-6)

This is obviously an expression of JSM's world-view, although it is completely formalized. What he calls 'the present constitution of things' can only represent his concept of 'reality', and only under this concept would his notion of 'unconditionality' make sense.

The notion of 'the present constitution of things', however, is suddenly replaced by the existence of the 'fewest general laws', as if the 'constitution of things' necessarily takes the form of general laws. And these laws are supposed by him to govern the universe and,

therefore, to serve as the ultimate criteria for the acceptance or refutation of inductive generalizations, which he now calls 'empirical laws' or 'minor generalizations'. Accordingly:

> Scientific inquiries give the name of Empirical Laws to those uniformities which observation or experiment has shown to exist, but on which they hesitate to rely in cases varying much from those which have been actually observed, for want of seeing any reason why such a law should exist. It is implied, therefore, in the notion of an empirical law, that it is not an ultimate law; that if true at all, its truth is capable of being, and requires to be accounted for. ... To state the explanation, the why, of the empirical law, would be to state the laws from which it is derived; the ultimate causes on which it is contingent. (III-xvi-1)

Here we are given JSM's notion of explanation which anticipates the "covering-law" explanatory model suggested by his later followers.(43) But this is apparently in contradiction to his original notion of induction; and in fact he now admits its theoretical defect, whether consciously or not:

> We are therefore logically entitled, and, by the necessities of scientific induction, required to disregard the probabilities derived from the early rude method of

---

(43)According to the exposition provided by Carl Hempel and Paul Oppenheim, the basic tenets of the covering-law model are as follows:

1. Scientific explanation is divided into two parts: explanandum (the sentence describing the phenomenon to be explained) and explanans (the class of those sentences which are adduced to account for the phenomenon.)
2. The explanandum must be a logical consequence of the explanans.
3. The explanans must contain general laws, and these must actually be required for the derivation of the explanandum.
4. The explanans must have empirical content; it must be capable, at least in principle, of test by experiment or observation (1970, p. 10).

See also Suppe (1977b). This model of explanation represents the explanation theory of the "Received view" in the contemporary philosophy of science.

> generalizing, and to consider no minor generalization as proved except so far as the law of causation confirms it, nor probable except so far as it may reasonably be expected to be so confirmed.(III-xxi-3)

Scientific research conceived in terms of the two kinds laws -- the fewest general laws on the one hand, and minor or empirical laws on the other -- reflects clearly JSM's admiration of Newtonian physics. JSM had sacrificed his original theory of induction in order to adopt what he understood as the basic scheme of Newtonian physics. What he understood by the existence of the fewest general laws must have been a few kinetic laws in Newtonian physics.(44) What he took from Newtonian physics was not, however, confined to the existence of over-arching laws. He also adopted the atomistic view of nature which underlies Newtonian physics. JSM's acceptance of this view of nature is reflected in his 'principle of the Composition of Causes.'

JSM proposed a law, which he alleged is innate in nature, and which he called 'the principle of the Composition of Causes'. It prescribes that "the joint effect of several causes is identical with the sum of their separate effects."(III-vi-1) He believed this principle to be universally applicable. But he was somewhat cautious in applying it to chemical, physiological, and even social phenomena. Being well aware of the well-known fact that "the chemical combination of two substances produces a third substance with properties from those of either of the two substances separately," he admitted that "this principle by no means prevails in all departments of the field of nature."(III-vi-1) However, he added that such fact is not because the principle does not

---

(44)JSM hence, quite naturally, deplored the lack of such general laws in other fields, such as chemistry, biology and the social sciences (see III-vi-2).

work in chemical phenomena, but because separate laws, distinct from those of physics, rule chemical phenomena which are, nonetheless, in part ruled by this principle. Hence he claimed with confidence that:

> There is, then, one mode of the mutual interference of laws of nature, in which, even when the concurrent causes annihilate each other's effects, each exert its full efficacy according to its own laws -- its law as a separate agent.(III-vi-1)

He concluded that "there are no objects which do not obey the principle of the composition of causes."(III-vi-2) Obviously, according to JSM, the same is true of biological and social phenomena, each having its own separate laws.

Of great consequence in this connection is JSM's fundamental outlook, or rather belief, that each level of phenomena -- from physical through chemical, biological to social -- has its own general laws, exclusive to its phenomena alone; and that, with physical or mechanical laws setting the most fundamental basis, the phenomena on each higher level are bound both by their own general laws and the general laws of lower-level phenomena.(45)

In other words chemical laws, according to JSM, are external additions to the general laws of physics; and biological laws are the sum of physio-chemical laws plus another kind of laws relevant only to biological phenomena. And insofar as any general law expresses relations among mutually external elements, it consists of two essential

---

(45)Although JSM only uses the expression "more complex"(III-vi-2) to describe the nature of the relation of chemical phenomena to physical, or of chemical to biological, it is clear from the general context that JSM, wittingly or unwittingly, conceived natural phenomena as a whole along a continuous hierarchical line. Yet, regretably, he did not provide any clear exposition as to the nature of this hierarchy, or how each of the kinds is defined in relation to the others.

elements, namely, 1) it has its own phenomena as its objects of scientific generalization, and 2) it has its own general laws.

If the former is the precondition of any science, the latter is the ultimate objective of any science worthy of the name. These two criteria are indiscrimately applied to any science in JSM's system. Nary occurs to him curiously whether such laws really exist. They are the indispensable objectives of every science, regardless of whether a science has already achieved that ideal.(46) Here is a supposition in the guise of presupposition, that such laws are so far hidden, waiting for great scientists to discover them.

Thus it has been shown that a mechanical world-view came to dominate not only JSM's idea of physics but that of other sciences, including the social sciences -- and this despite JSM's deliberate efforts to distinguish each science by 'general' laws peculiar to itself. And it is only for this reason (that each science has 'unique' though 'general' laws) that JSM was opposed to what we now call 'methodological reductionism'. His position is clear with regard to biological phenomena:

> The Laws of Life will never be deducible from the mere laws of the ingredients, but the prodigiously complex Facts of Life may all be deducible from comparatively simple laws of life; which laws ... may, in more complex circumstances, be strictly compounded with one another, and with the physical and chemical laws of the ingredients. (III-vi-2)

And the same reasoning is extended to social and political phenomena:

> This will be found equally true in the phenomena of mind; and even in social and political phenomena, the

---

(46)It is obviously in this sense that JSM deplored the lack of such laws in chemistry, biology, let alone social sciences, in contrast to physics.

results of the laws of mind.(III-vi-2)

Hence JSM's four kinds of phenomena are each supposed to have their own distinctive general laws, which can never be replaced by other kinds. They are: 1)the physical, 2)the chemical, 3)life or the biological, and 4)mind or the psychological. But is this classification sufficiently all-comprehensive to cover all the phenomena? And even if it is all-comprehensive, is it specific enough to identify an independent field that is ruled by its own general laws? That JSM failed to present a logical standard for the classification of phenomena by quality raises some very serious problems, especially when we try to identify the scope of social science and the study of the phenomena of mind, the highest and the most complex category for JSM. This problem naturally draws our attention to the underlined part of the above quotation, "... social and politicla phenomena, the results of the laws of mind."

Is JSM here propagating a psychological reductionism? If, as he explicitly mentions, social and political phenomena are no thing more than results of the mind, social science in general loses its identity as a science, at least according to JSM's standard of science, because social science is not supposed to have its own general laws. If social science is independent of psychological laws, it will have its own identity as an independent science, contrary to his classification of the phenomena.

But what if we extend the same reasoning to the various subfields in social science, such as economics, political science, sociology, and so on? If each field of study were constituted an independent field of

science each should have its own general laws, would it not? What would then be the ultimate criterion by which social phenomena are subdivided, as they are in contemporary social science? How did JSM build his vision of the social sciences within such strict qualifications? These are the topics addressed in the next two chapters.

III. HUMAN NATURE AND SOCIAL SCIENCE IN J.S. MILL,

PART I: HUMAN COGNITION AND SOCIAL SCIENCE

Let us start this chapter with a passage from JSM's Autobiography[1]:

> If I am asked, what system of political philosophy I substituted for that which, as a philosophy, I had abandoned, I answer, no system ... (p. 113)

This passage may represent JSM's basic position toward moral and social problems. The old systems which had been abandoned was, as is well known, Benthamism[2] and by 'no system' he intended to express his devotion to the cause of 'science' or 'scientification' -- if this coinage is permitted -- of the study of man while being opposed to any 'metaphysical' or 'philosophical' (understood in his own manner) prognoses about such problems. He named this science 'Moral Science' as distinguished from moral art. It is moral because it is concerned with

---

(1)In many respects this autobiography does not attain the quality one usually expects from a great thinker. Most readers would find it boring, insipid, and somewhat hypocritical. It is most of all lacking in a vividness and concreteness in the description of his own life which may help the reader understand JSM's thoughts or the formation of them in his total life experience; so much so that Thomas Carlyle once described it as "the autobiography of a steam engine."(Cited in Ryan, 1974, p.9) Yet it has at least one merit. It is a good source for us to determine JSM's final or mature view-point on various issues. It is thus more a "theoretical work" than a self-description of JSM's own life. "It is written in the light of Mill's adult beliefs about the topics it deals with."(Ryan, 1974, p. 9) See Packe (1954) for by far the best biography of JSM.

(2)It remains, however, as an object of thoroughgoing examination, which portion of Benthamism JSM had abandoned, which he had preserved, and whether he was successful in achieving a new synthesis. The answer about such questions will become clear as the present analysis goes on. But to anticipate briefly: there were virtually no essential changes made from his 'inherited opinions', and this fact makes us doubt whether the so-called 'mental crisis' was really an intellectual crisis at all. This also enhances our suspicion that his autobiography is somewhat hypocritical.

the question of how to solve the problems caused by the operation of human minds; and it is and ought to be science because it is only science or scientific inquiry that, he believes, can give us the final answer to any problem.(3) Therefore, he adds that the office of the true system is to "supply, not a set of model institutions, but principles from which the institutions suitable to any given circumstances might be deduced."(Autobiography, p. 113)

The ultimate aim has thus been set out: the 'scientification' of the study of phenomena caused by the operation of human mind. And obviously 'scientification' in the sense of what has been examined in the previous chapter. It could briefly be summed up as the principle of a unitary method which gives any inquiry the qualification of science. JSM thus emphasizes here again that the "backward state" of the moral sciences is to be cured by "generalizing the methods successfully followed" in the natural sciences, and by adapting the latter to the former, "this blot on the face of science" could be removed (VI-i-1). The ultimate aim and the underlying principle being so, it may seem natural that JSM would resolve first of all the issues often associated with such a stand-point; namely,

---

(3)JSM's 'moral science' is thus, as mentioned above in the last chapter, not identical with 'Social Science', as many students of JSM misapprehend. JSM's conception of 'moral science' is in fact much more clearly stated in his article, "On the Definition of Political Economy; and on the Methods of Investigation proper to it"(Works,IV, pp.309-339) originally published in 1836 before Logic. In this article he distinguished the whole field of human knowledge in general between 'physical' and 'moral or psychological' science (p.316),adding that:

> Laws of mind and laws of matter are so dissimilar in their nature, that it would be contrary to all principles of rational arrangement to mix them up as part of the same study.(p. 317)

> Are the actions of human beings, like all other natural events, subject to invariable laws? Does that constancy of causation, which is the foundation of every scientific theory of successive phenomena, really obtain among them? (VI-i-2)

As might be expected, his answers to these questions are affirmative and are justified on grounds of his own interpretation of the so-called doctrine of philosophical necessity.

A) The Concept of Philosophical Necessity

In his conception, the doctrine called Philosophical Necessity is simply this: that, given the motive which is present to an individual's mind, and given likewise the character and disposition of the individual, the manner in which he will act might be unerringly inferred; that, if we knew the person thoroughly, and knew all the inducements which are acting upon him we could foretell his conduct with as much certainty as we can predict any physical event. "It is not, therefore, the doctrine," JSM emphasizes, "that our volitions and actions are invariable consequents of our antecedent states of mind, that is either contradicted by our consciousness or felt to be degrading."[4](VI-ii-2) He thus distinguishes his doctrine from fatalism since a fatalist, so

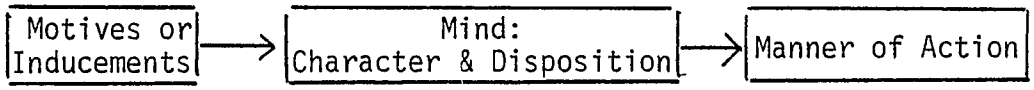
---

(4)It must be, in this connection, remembered that JSM's notion of Necessity is distinguished from Philosophical Necessity, which was treated in Chap. II. Necessity according to JSM meant nothing else than unconditionalness which is, in turn, a reflection of the essential structure of things (see, III-v-6). Here, in contrast, we find that by the addition of a modifier 'philosophical' the term 'Necessity' comes to have a distinct connotation; there is not any portion of the notion of unconditionality accompanies his concept of 'philosophical necessity'. See also the manner in which JSM treats the concept of 'social liberty,' as distinct from 'free will' in "On Liberty"(Works XVIII: pp. 213-310), where 'social liberty' is analysed in separation from 'philosophical necessity' as if they, social liberty and philosophical necessity, are not coterminous at all.

conceived, believes:

> not only that whatever is about to happen will be the infallible result of the causes which produce it, (which is the true Necessitarian doctrine), but, more, that there is no use in struggling against it; that it will happen however we may strive to prevent it.(VI-ii-3)

Obviously it has been revealed in these passages that JSM endorses the doctrine of philosophical necessity against fatalism as the foundation of the moral sciences. And yet what is not obvious at all is the question of whether the two doctrines, conceived in such a manner, are, quite contrary to their appearances, really mutually incompatible and contradictory. For, if the doctrine of philosophical necessity were theoretically ill-founded, the latter tenet (which is merely an addition of "hopelessness" to the former, with essentially the same theoretical structure) should also be branded as unsound. The point of our analysis is hence directed to JSM's conception of philosophical necessity which may be schematized in the following terms.



At first glance one may find that there are some ambiguities in his use of psychological terminology; The terms above are neither defined nor are the relations between similar concepts classified at all. We do not know whether or not motive is something different from inducement, how character is distinguished from disposition, mind from consciousness, etc. This kind of error is by no means excusable, even if we consider the title of the work -- logic, not psychology -- because it is not unrelated to the grave theoretical confusions which we shall see now.

Despite such terminological ambiguity, there is one thing fairly certain in the scheme. It is that both motives or inducements on the one side, and manner of action on the other, are regarded by JSM as 'things', to use his earlier expression, that are external to the mind in which character and disposition reside. In JSM's assertion, if the first and the second are decided, the last (manner of action) should be automatically identifiable. But, in the first place, this is too rough a proposition even if it could be true. It should have at least been made clear how the motives and the character are combined in such a manner that manner of action could be deduced.

This question also requires that the nature of motives and that of character be specifically identified. Otherwise, the whole scheme would explore nothing. Yet the only thing he presents for the exposition of the scheme is a theory of how character is formed, not a theory of how character is constituted. And it represents his effort to effect a synthesis between his concept of philosophical necessity -- necessity which is not to impinge upon the 'dignity' of mankind -- and his afore-mentioned doctrine of phenomenal realism.(5) The effort, as we shall see, resulted in a grave theoretical confusion, and the confusion is essentially due to his very effort of synthesis.

According to JSM the two doctrines can be compatible with each other because man's character is not only formed for him but by him as well, as against a fatalist's belief that man's nature is:

---

(5)As we shall see next, the same kind of paradox is also reflected in his concept of human nature. The paradox is of man as a purely perceptual being on the one side, and man as a self-positing or self-developing being with limitless potential.

> ... that his education and circumstances have so moulded his character, ... that no effort of his own can hinder it, ... (that) his character is formed for him, and not by him.(VI-ii-3; JSM's emphasis)

But how can those two conflicting processes be synthesized in one theory of character formation? Above all, what is this Subject who has the autonomy to decide in its own independent manner what kind of character to form and what to avoid? Now, in order to examine whether JSM was truly successful in such an effort to harmonize the concept of necessity with the doctrine of free-will, we have to contrast his theory of character formation with the specific imperatives from his crucial doctrine of phenomenal realism.

Insofar as JSM adheres strictly and consistently to the Lockean principle of denying innate ideas (and this principle may in fact be the only one principle to which JSM never admits any exception) every idea, residing in the mind, is derived in some way or other from the external world through the perceptual process. And human character, unless it is to be understood otherwise, must be an idea and as such must not be an exception to the principle. This was in fact clearly shown in the foregoing diagram. Motives or material inducements cannot but be interpreted as belonging to what JSM generally terms "circumstances," which are certainly something external to mind or consciousness.(6) If things are understood in such a manner, JSM's assertion that man's character is formed not only for him but by him as well, appears somewhat shocking. In the first place, such an eclectic position renders its own claim invalid. For, if JSM's view that man's

---

(6)The problem in JSM's interpretation of the nature of mind or consciousness will be the subject of our inquiry below.

character is no more than the outcome of his education or circumstances in general has no fatalistic implication, it follows that such external influences may not affect the formation of one's character and thus should not be regarded as always true. Secondly, if there is something in the human mind that is not by nature derived from the external world, this alone immediately contradicts JSM's inviolable philosophical doctrine that there are no such things as innate ideas in human mind.

Perhaps, half-conscious of such anomalies, JSM now seems to suggest a bypass when he tries to elaborate the first assertion as follows:

> His (man's) character is formed by his circumstances, (including among these his particular organization,) but his own desire to mould it in a particular way is one of those circumstances, and by no means one of the least influential.(VI-ii-3)

But if desire or volition -- we do not even know whether they are distinct or identical with each other -- is but an idea residing inside the human mind, and if circumstances are by definition such external elements outside the mind as stimulating some form of character inside the mind (so that a "manner or action" is yielded), then desire or wish must at least be differentiated from the external circumstances. How should then JSM's claim (that "desire ... is one of those circumstances ...") be interpreted? What is, nonetheless, more baffling than this appears in the next statement, where he supplements the above argument:

> Our character is formed by us as well as for us; but the wish which induces us to attempt to form it is formed for us; and how? Not, in general, by our organization, nor wholly by our education, but by our experience -- experience of the painful consequences of the character we previously had, or by some strong feeling of admiration or aspiration accordingly aroused.(VI-ii-3)

Here, it seems, JSM's confusion owing to his syncretism has reached its culmination. If the wish (whether or not it is distinct from desire or volition) is also something formed for us, why is it necessary for JSM to bother emphasizing that our character is formed by us as well as for us? What is totally absurd is JSM's more or less deceitful substitution of the word experience for circumstance.(7) Is 'experience' something essentially distinguishable from 'circumstance' at all? By 'experience' he might try to emphasize the importance of the influence of the past memory upon the change of character. Yet this must already presuppose the existence of a fixed form of character, which requires, in turn, to be explained by the theory of character formation. And the formation of memory itself is not separable from the process of character-formation. Then the question of why man's character is formed by him as well as for him has not been accounted for at all. JSM here has also committed a logical fallacy of petitio principi(8) which, interestingly enough, he himself admonished the reader to avoid (see, V-vii).

Still more absurd is the fact that in JSM's system there could be no place for any notion of "self" or subject to reside -- the "Self" within which, by definition, character is formed or transformed without losing identity or continuity. Nevertheless, JSM once again emphasizes the dignity of man as the subject of "Self-formation,"(VI-ii-4) and this time even with the decoration of "moral freedom."

---

(7)See Locke's ambiguous term "experience" in his(1959, Book II).

(8)By JSM's own definition it is the fallacy of "the employment of a proposition to prove that on which it is itself dependent for proof."(V-vii-2)

> The depressing effect of the Fatalist doctrine can only be felt where there is a wish to do what that doctrine represents as impossible. .... And, indeed, if we examine closely, we shall find that this feeling, of our being able to modify our own character if we wish, is itself the feeling of moral freedom which we are conscious of.(9) (VI-ii-3; JSM's emphasis)

But how is such conception of man as the subject of self-formation -- hence "morally free being" -- justified in terms of the doctrine whereby only the external elements are to be regarded as the ultimate(10) causes of the character formation? Who is this "we" who "wishes" and "wills" of its own accord? These questions are never articulated or thoroughly pursued by JSM, despite the very significant fact that in other parts(11) of his philosophy, the concept of man as 'self-developing' with 'infinite malleability' played the central and essential role.

Thus, in order for us to investigate more fully JSM's conception of 'self', we have to examine his conception of mind or consciousness which was treated in other philosophical essays, regardless of whether he was successful in those writings in overcoming such an absurdity as has been revealed so far to be innate in his dualistic concept of philosophical necessity. For the notion of consciousness or feeling

---

(9)Here we notice a very significant fact that JSM, at least in this context, does not rely upon the pleasure principle as the ultimate criterion of ethics; rather he substitutes volition, the outcome of practice of willful action, for it.

(10)This is so because even if the motives are the internal ideas -- this point shall become clear in the discussion of the psychological associationism below -- such ideas stem ultimately from the external world, according to JSM.

(11)Reference is to his various diagnoses and prescriptions on ethical and socio-political issues.

has suddenly, with no further exposition in the present context, been introduced as the essential faculty of man through which alone he can be a morally free being. But before we enter into the subject let us, in the meantime, see how JSM built his idea of social science on the basis of such an erroneous or at least insufficiently established -- contrary to JSM's confidence in his own account (see, VI-ii-4) -- doctrine of philosophical necessity.(12)

B) Foundation of 'Science' of Society

JSM reaffirms his original view of science:

> Any facts are fitted, in themselves, to be a subject of science, which follow one another according to constant laws(13); although those laws may not have been discovered, nor even be discoverable by our existing resources.(VI-iii-1)

And human phenomena, as a species of such phenomena, are believed to be the objects of a scientific study (what he calls 'the science of human nature') -- although, he observes, this science "falls far short of the standard of exactness now realised in Astronomy."(VI-iii-2) But this standpoint is certainly based on a presupposition that there exist such

---

(12)In this connection it is worth notice that John Locke, with whom JSM shares his eclectism, had never been satisfied until the end of his life with his own account of the idea of will or volition in his, 1959 (see his letter to Molyneux, quoted in A.C. Fraser's note to Locke, 1959, Vol.I.p. 316). In his Essay Locke tried to explain the idea of volition in terms of the idea of power which, according to the Lockean system, is earned through pure perception, hence a simple idea. Certainly, Locke's account of Will could never escape the fate of falling into such a logical absurdity as JSM had, insofar as Locke also attempted to derive the idea of Will or willing from pure sense-perception.

(13)It is, however, quite unclear in JSM's account whether there exist any kind of facts or phenomena, qua phenomena, which are not susceptible to the scientific study.

constant laws as underlying human phenomena. It is, however, untenable even in view of his epistemological premisses, because before we confirm empirically the existence of such laws we would never be able to ascertain whether such laws really exist at all. Yet JSM proceeds further to justify and elaborate this belief:

> The phenomena with which this science is conversant being the thoughts, feelings, actions of human beings, it would have attained the ideal perfection of a science if it enabled us to foretell how an individual would think, feel, or act throughout life, with the same certainty with which astronomy enables us to predict the places and the occultations of the heavenly bodies.(VI-iii-2)

Hence the ideal to be achieved and the objects to be studied for the science of human nature have been provided. He adds, however, more or less dogmatically,

> Nothing approaching to this can be done. ... Inasmuch, however, as many of those effects which it is of importance to render amenable to human foresight and control are determined ... depending in the main on those circumstances and qualities which are common to all mankind, and only on a small degree on the idiosyncrasies of organization or the peculiar history of individuals, it is evidently possible, with regard to such effects, to make predictions which will almost always be verified, and general propositions which are almost always true.(14) (VI-iii-2; JSM's emphasis)

Such general propositions, if they exist at all, would fall under his concept of "empirical laws" which are always to be legitimized only on the basis of some universal laws. And if the science of human nature is worthy of being a genuine science, it should be equipped with (a) certain universal laws(s) which preside(s) over the empirical laws

---

(14)How sweeping and defective this argument is will be shown below in the context of the transition in JSM's system from Ethology to Social Science.

of human phenomena. And JSM does not fail to mention this crucial point -- crucial at least for his conception of science:

> ... the science of Human Nature may be said to exist in proportion as the approximate truths which compose a practical[15] knowledge of mankind can be exhibited as corollaries from the universal laws of human nature on which they rest, whereby the proper limits of those approximate truths would be shown, and we should be enabled to deduce others, for any new state of circumstances, in anticipation of specific experience.(VI-ii-2)

What are, then, the universal laws of human nature which are so essential to inquiry into human phenomena, so essential as can be compared, JSM believes, to the Newtonian laws in physics? And how do we discover such laws through the only epistemologically valid method according to JSM, that is, through induction?

As if it were possible to observe the phenomena of the mind or to study the laws of mind without being provided with the knowledge of what the Mind essentially is,[16] JSM simply dismisses the latter question as "improper" to the subject of his logic (VI-iv-1). This position is based on a presupposition that the phenomena of the mind are simply given to us beyond any doubt, and what remains for us is simply to generalize such phenomena. This presupposition is, however, also untenable because without knowing what the Mind is we would never be certain what kind of phenomena belong to the phenomena of the Mind.

---

(15)If 'practicality', whatever the concept may denote, is admitted to be the essential criterion for social knowledge, it would then contradict JSM's dichotomic distinction between fact and value in social inquiry, for which he argues in VI-xii.

(16)He is too easily satisfied with this very simple and somewhat irresponsible answer to such an extremely important question: "If the word mind means anything, it means that which feels."(VI-iv-1) This rough definition is in fact identical with James Mill's, which will be reviewed in detail below.

Therefore, his classification of the phenomena of the mind as consisting of "Thoughts, Emotions, Volitions, and Sensations"(VI-iv-1) is simply groundless.(17)

If, for instance, sensations are merely results of the operations of the nervous system, there will be no reason why we have to deal with sensations in separation from physiological study of the nervous system. There can be first of all no such thing as body as such in JSM's system. If the study of a body means no more than the study of the bodily phenomena, and if thoughts, emotions, etc. are nothing but the reflexes of the nervous system and are completely dependent upon physiological conditions and thus are"bodily phenomena"), then JSM's argument -- that since the phenomena of the mind no doubt exist they can be studied independently -- does not hold water. Thus it remains contestable (quite contrary to his assertion) "it remains incontestable,"(VI-iv-2) that

> ... there exist uniformities of succession among states of mind, and that these can be ascertained by observation and experiment.(18)(VI-iv-2)

---

(17)JSM did not even provide an account of how these components are distinguished from one another.

(18)Here JSM is obviously attempting deliberately to avoid the hot philosophical issue as to the relation between mind and body or matter, a hot issue especially since the middle of the eighteenth century (See in this regard Windelband,1893,esp.pp.447-466). This attempt has proved unsuccessful. Yet such an intellectual trend has an enormous significance for the future development of the Western Philosophy after JSM. It has culminated, on the one side, in the self-paradoxical refutation of philosophy by the twentieth century logical positivists via Russell's analytical logical atomism; for, insofar as all thoughts, feelings and sensations are regarded as merely given phenomena it contradicts the philosopher as such, as individual thinking subject. On another side it has been embodied in the fusion of philosophy and psychology; for, there would be nothing to be distinguished between them, insofar as everything is merely the <u>phenomena</u> of Mind. The development of the

For all those difficulties, there is one thing that has now become clear: Among the three objects of the inquiry of the science of human nautre only the phenomena of the Mind -- according to his classification 1) thoughts, 2) feelings (emotion, volitions, and sensations being included in this), and 3) actions of human beings -- have received the the central concern of JSM's discussion of the universal laws of human nature. In fact, it is the thought and feeling alone that will become the foundation of his 'psychological' theory of human nature. If this discrimination should, however, hold good it should at least be supplemented by a theory explaining how the phenomena of the mind are related to actions. Is JSM's psychological thoery of human nature, then, comprehensive enough to constitute a theory of human action? And is it logically consistent with his notion of Philosophical Necessity?

To make a long story short, JSM's theory of human nature denotes nothing other than Psychological Associationism as the universal law of the human mind, and thereby the ultimate standard by which validity of any "empirical laws" in psychological phenomena might be judged. By

---

(cont'd) latter side was also observed by a psychologist (Flugel, 1933, p. 11):

> ... through the labours of that sturdy trio of English empiricists, Locke, Berkeley and Hume. From the field of Philosophy had come the two main lines of explanation in psychology -- in terms of "association" and of "faculties" respectively; lines of explanation, which have retained their importance throughout our "hundred years." Philosophy was then, the straight and natural pathway to Psychology.

Also note the subtitle of the journal of Mind, "A Quarterly Review of Psychology and Philosophy" as representing this trend.

committing himself to this doctrine, JSM seems to have believed that only his theory of human nature is genuinely scientific, in contrast to the all traditional theories of human nature which he criticized as dogmatic.

They are dogmatic, he observes, in two senses. One is (probably alluding to various expressions of racism or genetic determinism) the dogmatic assumption about the mental differences among human beings. In his words:

> The majority of those who speculate on human nature prefer dogmatically to assume that the mental differences which they perceive, or think they perceive, among human beings are ultimate facts, incapable of being either explained or altered, rather than take the trouble of fitting themselves, by the requisite processes of thought, for referring those mental differences to the outward causes by which they are for the most part produced, and on removal of which they would cease to exist.(19)(VI-iv-4)

The other kind of dogmatism about human nature, he claims, is directed to some observable instincts which are supposed to be innate and unchangeable in the human species. And JSM also admits that some

---

(19)In the same vein JSM expressed his own opinion, in a somewhat modest way, of his genius in the Autobiography:

> If I had been by nature extremely quick of apprehension, or had possessed a very accurate and retentive memory, or were of a remarkably active and energetic character, the trial would not be conclusive; but in all these natural gifts I am rather below than above par; what I could do, could assuredly be done by any boy or girl of average capacity and healthy physical constitution: and if I have accomplished anything, I owe it, among other fortunate circumstances, to the fact that through the early training bestowed on me by my father, I started, I may fairly say, with an advantage of a century over my contemporaries.(p. 21)

And also see p. 162 of the same book for a reiteration of the above viewpoint on human character.

instincts in man may influence a significant portion of our behavior. Yet such a theory was for JSM still dogmatic because,

> These instincts may be modified to any extent, or entirely conquered, in human beings, and to no inconsiderable extent even in some of the domesticated animals, by other mental difference, and by education.(VI-iv-4)

Hence human nature conceived in terms of unlimited malleability has been established on the foundation of Psychological Associationism.

It has now become clear that the doctrine of associationism, as JSM's concept of human nature, plays two pivotal functions in JSM's System: As the fixed, universal law of mind, it is the ultimate criterion for any scientific inquiry into human phenomena; and, simultaneously, human nature per se is understood to be completely malleable, defying thereby the modern contractarian theories of human nature -- notably Hobbes', Locke's, and Hume's, where men are, despite some significant variations among them , regarded as having ultimately a certain fixed passion or emotion, as distinct from perceptive ideas, which is s-pposed in the last analysis to determine their actions.

Several questions may immediately arise in regard to this position. In the first place, JSM is here apparently presupposing that human actions are ultimately resolvable to laws of mind. Is this presupposition self-evidently true? As shall be mentioned later, all the English empirical philosophers from Hobbes onward were in various degree associationists. But associationism is essentially concerned with the explanation of the phenomena of the mind -- in most cases the English philosophers were concerned with how the so-called "ideas" are formed in the mind. And being confronted with the need of explaining

the phenomena of human actions, and realizing, wittingly or unwittingly, the essential impotence of their associationistic theories in linking the purely-perceptive mind with human actions, those contractarian theorists had searched for what they called the "passion" which they believed would ultimately determine one's actions. The results were, as is well known, the various politicized concepts of human nature and, more significantly, dichotomous distinctions between reason and passion, theory and practice, knowledge and action.

Secondly, how could the fixed laws of the mind yield, with no logical discrepancy, the malleability concept of human nature -- which virtually amounts to the view that there is no such thing as a human nature?(20) What is it in JSM's associationism, such that fixed laws of mind could be compatible with a malleable or plastic essence of man? Finally, our foregoing examination of JSM's doctrine of philosophical necessity has shown that man is understood by JSM, despite all the difficulties his argument contains, as enjoying free-will, self-formation, and hence moral dignity. Is JSM's theory of associationism compatible with such a dignified view of man? These questions require us to examine thoroughly his theory of associationism in relation to the concepts of 'self' and 'mind, and in relation to his epistemological principles.

Two things must be borne in mind before we enter into the task. One regards JSM's simple remark that association principles are the laws of mind albeit it is not necessary to go into the question What is Mind? at all, since such question is completely foreign to the subject

---

(20)Except for adaptivity per se.

of logic.(VI-iv-1) What is safely deducible from this remark is that in JSM's system "self" could be distinct from "mind" as an separate entity, and that character or disposition as directly related to action could be the entity not residing in "mind" but in "self" -- because according to him man's free-will lies in the very fact that he is capable of self-formation. Like his predecessors JSM might have sought out the source of human action in a separation from the mind. Now, is his association theory comprehensive enough to explain both the phenomena of mind and action-related social phenomena at the same time?

The other thing we have to attend to is that associationism is by no means an all-in-all, homogeneous theory with no variety among its proponents. The actual variety of theories and arguments among the professed associationists may represent their intellectual effort to resolve the contradictions innate in the fundamental perspective of association psychology. This problem we shall deal with, later, while discussing about JSM's theory of associationism. At present, however, it would be necessary to specify what is essentially agreed upon, and what is differentiated among the association philosophers and psychologists, in order to shed light upon JSM's associationism in its historical setting.

Howard C. Warren[21] gives us a good summary on the issue presently concerned. First, of what is commonly agreed upon he writes:

> The term association, as used by the English psychologists of the eighteenth and nineteenth centuries, applies primarily to the sequences that occur in trains of

---

(21)The following discussion on associationism relies much on this author's accounts of the historical development of the association psychology in his History of the Association Psychology.(1921)

> memory or imagination or thought: their problem was to formulate the principles involved in such sequences. According to the view generally adopted by these thinkers, one such experience follows another through certain definite relationships. Thus one idea may serve to recall another which resembles it or which was contiguous to it in former experience.(1921, p.6)

This is, however, the narrowest and the most fundament conception they only started with. From this starting point diverge various viewpoints on many important questions.

Thus, first of all, on the role of association in respect to sensation they are differentiated in many ways. According to Warren:

> All the writers belonging to the association school admit the rise of ideas following sensations, according to the same laws of association that hold where the antecedent is an idea. Some go further and regard as a form of association the simultaneous presence of two or more sensations in consciousness, such as occurs in the act of perception. Others merely assume a nexus in such experiences without explicitly classing them as instances of association.(1921,pp.6-7;emphasis Warren's)

They are also differentiated as regards the manner in which association operates (similarity, contiguity, intensity, etc) (see Warren, pp. 7-8). But the differences in this regard is a bit less essential and less significant than the differences as regards the relation between sensations and ideas. For, concerning the manner of operation what they differ from each other could be resolved into the matter of primacy of one operation over another, whereas the latter problem, i.e., the problem of the origin of ideas, directly reflects one's metaphysical standpoint, although they, as committing to the empirical world-view from Hobbes onward, denied the metaphysical elements in their philosophizing.

Hence the diverse epistemological view-points in the historical

development of the British philosophy such as: Hobbes' mechanical sensationism, Hume's naturalistic sensationism, Thomas Reid's Scottish intuitionism, David Hartley's mechanical materialism, and so on.(22) Now then, which philosophical stand-point does JSM's associationism belong to? And, is his theory of associationism compatible with his philosophical stand-point?

C) Associationism and the Laws of the Mind

JSM's own exposition of the psychological associationism in his Logic is astonishingly simple in view of the immense importance the doctrine assumes for his philosophical system as a whole. The excuse for being so brief(23) is made in reference to James Mill's Analysis of

---

(22)See Leslie Stephen's English Thought in the Eighteenth Century (1902) which is regarded, to quote Elie Halevy's expression (1934,p.523), as the standard work on the British philosophy in this respect.

(23)Warren provides us with another explanation of why JSM could be so brief in expounding the associationism when he portrays the intellectual dominance of associationism at the time of James Mill as follows (1921,p.81):

> The writings of the elder Mill mark the beginning of a new stage of development. The period examined in the preceding chapter is marked by a groping after fundamental terms, and by a somewhat desultory or at least unsystematic analysis. The writers of the later period assume the fundamental notions of association, and their task is to make the analysis more orderly and far-reaching. It must be remembered that the chief concepts of the association theory were now well known to English readers; that associationism constituted one of the dominant types of philosophy; and that systems of ethics, esthetics, jurisprudences, economics, and even history and theology had been formulated upon an associational basis, either avowedly or tacitly.

In the same vein we may also appreciate JSM's intention of applying associationism to the methodology of moral science.

the Phenomena of the Human Mind regarded by JSM as the standard work on associationism, thereby expressing his indirect endorsement of his father's theory as almost perfect.[24](See VI-iv-3). But at the same time he also admits that there is still room for improvement in his father's theory (see his note to VI-iv-3) What has to be improved in the elder Mill's theory was specifically identified by the younger Mill in the latter's running commentary to the former's work just mentioned.[25] In what respect should JSM's theory of associationism be regarded as the improvement of James Mill's theory?

JSM's theory of associationism consists of two parts. First, as to the origin and the nature of ideas he states that:

> Whenever any state of consciousness has once been excited in us, no matter by what cause, an inferior degree of the same state of consciousness, a state of consciousness resembling the former, but inferior in intensity, is capable of being reproduced in us, without the presence of any such cause as excited it at first. Thus, if we have once seen or touched an object, we can afterwards think of the object though it be absent from one sight or from our touch. If we have been joyful or grieved at some event, we can think of or remember our past joy or grief, though new event of a happy or painful nature has taken place. ... This law is expressed by saying, in the language of Hume, that every mental impression has its idea. (VI-iv-3; emphasis JSM's)

Does this paragraph sufficiently explain the process by which "ideas" are originated? Even if it is granted that JSM has left the detailed explanations to the reading of James Mill's work concerned, JSM's

---

(24)See also JSM's preface to James Mill's book, where he expressed great admiration for his father as the great systematizer of associationism.(James Mill,1869,p. v-xxi)

(25)Reference is also made to JSM's An Examination of Sir William Hamilton's Philosophy (1865) -- hereafter Examination -- for another expression of his mature views on associationism. But it is no doubt in Logic that JSM's theory of associationism finds its most systematic and succinct expression.

explanation above is not only insufficient but also confusing, especially in respect to the relation between sensation and idea. There are some important concepts which must be brought to the forefront in this connection. These are: "consciousness," "excite," "impression," and "idea."

It must be noted, in the first place, that JSM presupposes the existence of consciousness in the process of the formation of ideas. It is this consciousness -- its nature is a subject we shall go into later -- which must be passively "excited" in order for "ideas" to appear in. By what, and how? JSM's answer respecting the former question signifies almost next to nothing; "no matter by what cause." It is highly probable, if not certain, that JSM is here deliberately blurring the issue of the origin of ideas in the same manner as he did toward the matter of mind and body. In fact it is in line with the position of John Locke and James Mill that the junior Mill avoided the latter question.(26)

Nevertheless, as regards the former question the younger Mill's

---

(26)See the manner in which Locke makes his position toward this issue in the introduction to his Essay (Vol.I. pp. 26-27):

> I shall not at present meddle with the physical consideration of the mind; or trouble myself to examine wherein its essence consists; or by what motions of our spirits or alterations of our bodies we come to have any sensation by our organs. ... These are speculations which, however curious and entertaining, I shall decline, as lying out of my way in the design I am now upon.

The same paragraph is quoted by James Mill for the epigram to Chap. I of his Analysis (Vol.I.P.2), thereby expressing indirectly his position toward the issue. It is, however, also to be noted that although both of them pretended not to be concerned with this issue they both left their definitions of "consciousness" as if, very significantly, consciousness is something distinct from "mind".

indiscriminate position differs from his father's, which has at least a merit of being clear-cut and consistent in mechanical-sensationistic[27] terms. The point at issue here lies in the fact that quite the contrary to the younger Mill's certitude, it does matter critically by what cause man's consciousness ultimately originates. For, depending upon the original cause of ideas, the notions of "consciousness," of "impression," and of "idea" would vary significantly. What, then, did he intend to say? Again we find JSM's doctrine of phenomenal realism at work. But does it really work? Let us first compare James Mill's theory of the origination of ideas with JSM's.

Lemma: James Mill's Theory of Idea-Formation

James Mill's Analysis of the Phenomena of the Human Mind (1869) -- hereafter Analysis -- commences with the traditional five senses, and three more senses he had added to the former, i.e., sensations of disorganization, muscular sensations, and sensations in the aliementary canal.[28](See,1869, I,pp. 2-47)[29] In doing so, due emphasis is given

---

(27)Why it is mechanical-sensationist will become clear as the present discussion goes on.

(28)A question, however, still remains as to whether such a classification of senses by James Mill is mutually exclusive, devoid of redundance, and hence perfect. This question, however important and indispensible for the critique of James Mill's association psychology in general may be, will be skipped for the present purpose. Yet one of those senses will be given our proper attention later when we examine James Mill's conception of "Will." It is his notion of muscular sensations which can not be, in JSM's system, separable from the concept of "Will".

(29)All the page references in this Lemma are to James Mill (1869, I) unless specified otherwise.

the physiological processes, the activity of brain and nervous system, not merely as the indispensable but as the sole processes through which ideas originate. As he makes clear before going into the analysis of the feelings which we are supposed to have through these senses, feelings are the most simple elements that compose all the complex mental phenomena (p.1). In other words, there is no room in his system for elements other than the sense-originated feelings or sensations in the formation of ideas.

This is the initial point at which James Mill's theory of associationism and his son's begin to diverge from one another. As we have already observed, in JSM's system it is consciousness alone that matters in the formation of ideas, regardless of what excites it in order to have ideas. This does not mean, however, that the younger Mill denies entirely his father's sensationistic explanations. On the contrary, the former shows his all but[30] complete (though tacit) endorsement of his father's account by keeping his silence on these pages of the Analysis (see pp. 51-62). The most essential point in James Mill's theory of cognition may be summed up in this phrase: each phase of the cognition process must be strictly from the others, each phase being the indispensable distinguished[31] step to the following one. But by and large, the whole cognition process is divided into the two main processes

---

(30)In this context there is one discrepancy of opinion found between James Mill and JSM as to the nature of the feeling in intestinal canal, such as indigestion, hunger, and thirst. JSM's view is, in opposition to his father's, that such feelings belong to feeling as such, not to be regarded as names of ideas (see p.60n). This view will prove, in the course of the present discussion, not only ill-founded but also but also inconsistent with JSM's system of associationism as a whole.

(31)Cont'd on the next page.

in James Mill; namely, sensation and ideation. Let us first examine James Mill's conception -- hence JSM's -- of sensation in this regard.

Sensation presupposes an object by the presence of which the senses of the human body are excited in such a way that sensation is made possible. This may be the most common description of sensation. And the most common and also ever-annoying issue in this connection would be the nature of the object being sensed, namely: What vouchsafes our senses to represent the true nature of the object? In this regard James Mill's following account attracts our attention.

> The sensations which we have through the medium of the senses exist only by the presence of the object, and cease upon its absence; nothing being here meant by the process of the object, but that position of it with respect to the organ, which is the antecedent of the sensation; or by its absence, but any other position.(p.51)

One may easily discern that the issue we have just mentioned is ignored by JSM as if it were hardly significant -- insignificant at least for the purpose of exploring the process of sensation. But to say that such an issue is not significant at all would amount to saying that it does not matter whether or not our sensations accurately represent what is sensed by us, i.e., the object. And if not, there would only remain either a)the claim that every individual sensation or perception is absolute in and of itself (which by the mere existence of differences of perceptions among different individuals or of the same individual according to temporal difference as to one and the same

---

(cont'd) (31)Alexander Bain's -- the co-commentator of Analysis with JSM -- annotations in this context are made in the direction of more elaboration of the distinction than James Mill himself made. Thus he discriminates, for instance, between thirst and a deficiency of water in the blood which James Mill stopped short of (see pp. 59-60).

object contradicts the very assertion) or b) a falling to Humean scepticism, that there can be no certainty in man's cognition. Did James Mill accept either of these conclusions? Probably not, because either of these conclusions would inevitably result in the ruin of the very system founded on one of them.

Yet what is so obvious in James Mill's account is the strict distinction between the external object and the sensing bodily organs, the latter being only the passive receptor of the impression of the former. And if the distinction should be meaningful at all it should at least resolve the following questions: What is the nature of the object, as distinct from the sensing subject, such that it is able to render its images or representations to the sense organs? Through what process is the object connected with the sensing organs?(32) Inasmuch as these questions are not resolved, the very distinction between the object and the subject sould ultimately be meaningless. If all that we can be certain of is that sensations are essentially subjective, it would be self-contradictory to insist that there must exist something, called the object or the substance, that is the ultimate origin of our

---

(32)To say for reference, it is the well-known physicist, Herman von Helmholtz, who actually admired the English associationists (Flugel, 1933, p. 169), that made a path-breaking contribution to the association psychology by having explored the physical and physiological mechanism of the visual and the accoustic perception of the human sense-organs (see Flugel, 1933, pp. 169-175). Note the fact that Helmholtz was the last master in the Newtonian physics. Yet his contribution could by no means be the final resolution of the object-subject dilemma innate in the association psychology. For his theory is not only at most concerned with the second question ("through what process ...") but does not explain how such physical and physiological mechanism gives rise to mental sensations as sound and hence idea of sound.

sensations.(33) And, regrettably, James Mill's system is lacking in a theory of the object that may resolve such questions. This certainly renders nugatory pursuit of the identity of things through relentless differentiation: For the distinction between the object and the subject is essentially without foundation; and if it is without foundation James Mill's system of associationism is doomed from the outset: We do not know whence our sensations come and whether they are mere illusions or truly represent what supposedly is external to us.(34)

Such a fundamental difficulty in James Mill's scheme might induce the young Mill in his Logic to avoid the issue by contrasting consciousness-in-general simply with "impression," a Humean term. It is quite

---

(33)This is in fact in line with the conclusion Bishop Berkeley had finally reached as the foundation for the construction of his idealism. This of course opens the road to Hume's scepticism later.

(34)Having probably realized the delicacy of this issue and the inadequacy of James Mill's treatment of it, JSM provided his own theory of objectivity as a supplement to his father's associationism. The young Mill's arguments in his Examination under the title of "The Psychological theory of the belief in the external world"(Works IX, pp. 177-187) as to the requirements of something's being a material thing distinct from our sensations of it are summed up by A. Ryan as follows (Works IX, p. xl):

> ... it must be public in the sense that it can be perceived by many different people, whereas each of them alone can have his actual sensations; it must be "perdurable," that is, it must exist unperceived, and must outlast the fleeting experiences of it which those who perceive it may have; and it must retain the same properties even if these make it "look different" in different circumstances.

How sweeping and rough JSM's account above is, we need not mention. But most of all JSM is here committing the fallacy of petitio principi or circular reasoning because he tries to prove the existence of the external world as independent of sensations through no other than sensationistic terms which already presuppose the existence of the external world. This is certainly absurd. And why such absurdity is inescapable in JSM's system we will show later.

odd, however, for JSM to deny Hume's scepticism (see JSM's "Preface," p. xii) and to adopt simultaneously Hume's terminology, which is, however, based on a philosophical system contradicting in many ways JSM's own system. In any case what is more frustrating for James Mill, and hence for JSM too, lies in the fact that such difficulty is merely the beginning. The second frustration awaits him when he attempts to analyse the concept of idea in the same manner, namely on the basis of distinction between sensation and what he calls ideation. Let us first hear him say:

> It is a known part of our constitution, that when our sensations cease, by the absence of their objects, something remains. ... I call it a copy, an image, of the sensation ... Another name by which we denote this trace, this copy, of the sensation, which remains after the sensation ceases, is Idea. ... We have two classes of feelings; one is: that which exists when the object of sense is present; another, that which exists after the object of sense has ceased to be present. The one class of feelings I call sensations; the other class of feeling I call Ideas.(35)(pp. 51-52)

Every sense organ, therefore, not only has its own separate class of sensations but its separate class of ideas as well (p. 54). To illustrate,

> I hear the Sound of thunder; and I can think of it after it is gone. This feeling, the representative of the mere sound, this thinking, or having the thought of the sound, this state of consciousness, is the idea. The hearing of the sound is the primary state of consciousness; the idea of the sound is the secondary state of consciousness; which exists only when the first has previously existed.(p. 55)

---

(35)It is to be noted here that this part of James Mill's theory of associationism is identical with JSM's, except the fact that the younger Mill admitted the other source of ideas besides sensations, namely the possibility of creation of ideas by other ideas. This also we shall examine later in connection with the analysis of JSM's conception of consciousness.

So far we have been told of James Mill's genetics of ideas. In this phase of his associationism we find that another distinction has been made on his way to identifying ideas, i.e., between sensations and ideas, the latter being the copy of the former. Such an effort at clarity is essential to a philosophical system based on the assumption that what is real is the external world -- apart from the question of how this is defined -- while mental phenomena are "nothing but" an imitation of the real world. In order for such a system to explain mental phenomena, it must always stick to the discrimination between what is original or real, and what is copied while, simultaneously, trying to explain how the latter could be identified(36) with the former. This is a paradoxical project.

As for the second phase of his theory, i.e., the transition(37) process from sensations to ideas, our initial question is directed toward the meaning of the term "copy," which denotes the relation between sensations and ideas: In what sense are sensations the original, while ideas are merely the "copies" of the former? In his own account all that appears critical in this distinction is timing. Sensations are the feelings about what is being sensed, while ideas are feelings about what has already been sensed. If so, there would be no essential difference between the two species of feelings. As Alexander Bain comments in his annotation, one of the main differences between them

---

(36)As previously mentioned, if it were not taken for granted that what is copied is the true representation of what is original, such a philosophy as JSM's would be meaningless from the outset.

(37)As against the expression "change" or "transformation," because in JSM's framework there is no qualitative difference between sensations and ideas.

is their degree of vividness or intensity, and, therefore, as far as the content is concerned they should be identical with each other (pp. 63-65). But the point is that sensations and ideas are also the two states of consciousness,(38) the latter as a rule being the outcome of the former, namely the former being primary while the latter secondary. This signifies that sensations are also "the mental fact to the exclusion of all the physical processes essential to its production."(A. Bain's annotation, p. 66) To use Bain's illustration for the case of sight, the sensation of sight should be distinguished from the change made on the retina by light, and from the nervous influences traversing the brain (p. 66).

If so, then, why are sensations to be regarded as original and ideas as being copies; and, referring to Bain's exposition (p. 65), why does the objective reality belong to the former, whereas the idea is "purely subjective?" What permits the physical processes to be transformed into (as Bain recognizes) something essentially unique i.e., sensations which belong by definition to mental phenomena? As regards these questions there are two points we must examine closely. One concerns the process by which physical and physiological contents are transformed into sensations as mental contents; the other is the very nature of mentality, as distinct from physicality.

Regarding the first issue let us first presume that a sense organ, i.e., a sensorium, is like a screen at which the perfect image of external object is thrown through a projector by which the physical

---

(38)This position obviously requires examination of the nature of consciousness as in relation to feelings.

processes are made. With this provision let us suppose that a tree is projected to the screen. In James Mill's scheme the image of the tree projected on the screen would correspond to the sensation of the tree, and if the image remains even after the projection stops we may call it the idea of the tree. In this case there would be no essential difference between the sensation and the idea of the tree, which proves that this analogy does not do injustice to James Mill's theory.

Yet a question would immediately arise: On what ground should the image be called "tree"? In James Mill's scheme there has to be nothing intervening between the state of sensations and that of ideas in order for sensations to be changed into ideas. The process is, therefore, merely a transition, not a transformation. The sensation of a tree should automatically be the idea of a tree.

Why is it to be a "tree," nevertheless? Is it merely an artificial sign or a symbol given or attached to the image?(39) But the act of naming not only presupposes the existence of the namer but also another kind of activity other than the sense-perceiving process. The very existence of such activity as naming in the process of idea-formation

---

(39)This was in fact the fundamental position of the eighteenth century linguistics toward the essential nature of human language, which James Mill and JSM adopted. And it was Herder who first raised the standard of revolt against that dominant view. See Noiré (1917). See also Herder (1966) and compare Herder's following statement with James Mill's position above. Herder says:

> Man gives proof of reflection, when, amid the hovering dream of images that flit before his senses, he collects himself into a moment of wakefulness, to dwell voluntarily upon some particular image, to survey it in a brighter and steadier light, and to abstract from it certain characteristics that establish that this is this object and no other. (1966, pp.115-116; emphases by the present author)

challenges above all else the validity of James Mill's claim that the difference between sensations and ideas is mainly the matter of intensity. But, if both of the Mills hoped to justify such a theoretical discrepancy by arguing that naming is by nature so trivial and unessential for sense-perception, that sensation and ideation of an external object (say a tree) are possible without being named (see Logic, IV-iii and pp. 127-133), we have to examine the very state of consciousness excited by something from without before it is named.

If there is any meaning in saying that there exists the sensation of a tree -- to repeat the same example -- in our consciousness, it must at least imply that something as distinct from other things is identified by sense organs, by whatever name it is called. In this case it would not matter how many senses are employed(40) in identifying a thing as a tree. The point is, on what ground should a thing appearing on our sensations be identified as a tree? Sensation of an oak tree as a whole may be composed mainly of sensations of sight and of touch. It may be in a way sensed as a "tough body of a certain shapes standing on the ground." This description, however, cannot be the final representation of the sensation of an oak tree. It could also be sensed simply as a body with a certain color, or just a body, an object.

Some may object that both descriptions are too rough to be the correct sensation of an oak tree, and may offer a more elaborate and

---

(40)This, admittedly, presupposes the self or subject which controls sense organs. Its existence is not properly appreciated by both of Mill; yet, as we shall see, without its existence sensation of any object is impossible.

supposedly more scientific[41] description of it. Which description should be regarded as the sensation of an oak tree? No doubt the last one? If so, why? As we have mentioned just above, unless the sensation of a tree is to be meaningless the minimum qualification for it must be that the sensation of a tree in itself be distinguished from the sensations of other things. What is then the element that distinguishes the sensation of a tree from the other sensations?

Before going into these questions another must be resolved. If one were to say that the sensation of an oak tree or any object is by nature so immediate and self-evident to everybody that it is simply needless or rather impossible to talk about or describe in language, there would be no discussing sensation as such, and James Mill's whole discussion as to the nature of sensation would be meaningless. Granting that this is not the case, we may safely resolve these questions by having recourse to the analysis of various possible descriptions of the sensation of an oak tree. To begin with, each possible description of an oak tree can be in its own right a correct sensation of an oak tree. Sensation of an oak tree as merely a body or an object is as true as any composite, detailed sensation of it is. At the same time any elaborate and what we call scientific description of the sensation is no more perfect and absolute in itself than the sensation of it purely as a being, an object, or a body. For, insofar as the sensation of an object presupposes the distinctness of the object from other

---

(41)This obviously presupposes an established system of knowledge which can be nothing else than a system of ideas. Why such a presupposition is inevitable in sensation will become clear as the present discussion goes on.

things, and sensation itself is possible only in reference to what "belongs" to the object of a sensation, the sensation of an oak tree in its completeness should require ultimately the infinite number os sensations of all the elements composing it.

The implication of the foregoing description is quite obvious: there is no such thing as pure sensation or pure feeling. The sensation of an oak tree, if it is a "sensation" at all, already presupposes the pre-existing sensations of what belongs to it, which are in JSM's terminology nothing other than "ideas." The same will be the case in acoustic sensations; what makes the sound of thunder what it is is the pre-existing knowledge, i.e., ideas, of what sound and thunder are, without which the sound of thunder would be nothing but a meaningless, unidentified stimulant of feeling in general.(42) Consequently, the formation of ideas in our consciousness is at least not, contrary to James Mill's -- hence JSM's -- basic assertion, an one-way procedure in which images of the external world appear on something like a passive screen of the sensorium.(43) (End of the Lemma)

---

(42)In this context it does not matter whether one's sensation of a tree represents the whole truth about it: the point is that any sensation, qua sensation, immediately presupposes a system of knowledge even if the system is not true at all. See in this regard Harris (1970, esp. pp. 237-292) for an empirical proof, relying on various results from the experimental psychology, for this thesis. JSM, in fact, also recognized the problem of holism as presented him by William Hamilton, and that he believed he was successful to resolve Hamilton's holism into a reductio ad absurdum. See Exam, Chap.XIV (Works IX, p. 258).

(43)Some behavioral psychologists (Segall, et.al., 1966) empirically -- by data-analysis -- proved that there exist differences in perception due to differences in culture. Yet they failed to realize that their own perception of the cultures in the world is not only arbitrary by their culturally mediated -- their own expression -- perception but also impossible without their 'culture', which contradicts the very 'objectivistic' posture of behaviorism. This point will be discussed in more detail in the next chapter.

It seems that by having recognized such a serious difficulty in his father's theory of sensation JSM came to adopt the Humean distinction between "ideas" and "impressions."(44) But what JSM unfortunately failed to recognize, however, is the fact that adoption of the Humean scheme would ultimately lead to the collapse of his whole system. For Hume's distinction reflects his scepticism about the human mind whether it can ever be certain of the reality of things from without, which obviously contradicts JSM's fundamental belief in the reality of the external world.(45) Yet JSM's modification of James Mill's theory of associationism was not confined to this. He had even come to admit another source of ideas besides sense-perception, i.e., ideas originated by other ideas(Analysis I. PP.68-69). Such an eclectism of JSM could add only confusion to his system. Still, the same kind of problem should be raised to the associationists in general as regards the nature of association per se: How does such a process happen in consciousness so conceived? This question may naturally lead us to the second phase of JSM's associationism.

With the amended -- amended from his father's -- definition of ideas in relation to sensations ("These ideas, or secondary mental states, are excited by our impressions, or by other ideas,") JSM suggests three laws by which such "excitement" is made:

> Of these laws the first is, that similar ideas tend to excite one another. The second is, that when two impres-

---

(44)Hume says; "All the perceptions of the human mind resolves themselves into two distinct kinds, which I shall call impressions and ideas ..."(1978, p. 1)

(45)This also confirms J. Passmore's indication that JSM never understood Hume throughout his whole life (Passmore, 1957,p.11).

> sions have been frequently experienced (or even thought of), either simultaneously or in immediate succession, then whenever one of these impressions, or the idea of it, recurs, it tends to excite the idea of the other. The third law is, that greater intensity in either or both of the impressions is equivalent, in rendering them excitable by one another, to a greater frequency of conjunction.(VI-iv-3)

In associationistic terms the first principle may correspond to the principle of similarity or resemblance; the second to the principle of contiguity, spatio-temporally, tied to the principle of frequency; and the third to that of intensity (see Warren, pp. 6-9, p. 96). In later work this arrangement of what he believes axiomata media[46] of association is modified to such an extent that the Contiguity principle is separated from the principle of Frequency and the principle of Intensity is now fused into the principle of Frequency(Warren,p.97).[47] Such a change of view is not, however, of great significance.

As mentioned earlier the individual associationists differ from one another as respects to which principle is the more essential or fundamental. And if an individual associationist should stick to the cause of sensational empiricism the latter question must be determined on no other basis than which relation or relations, among similarity, contiguity, etc., is absolutely immediate and certain to sense-perception. Thus, for instance, as an extreme but not necessarily irrational

---

(46)Examination,Chap.XIV (Works IX, p.256). This term was originated by Francis Bacon to describe, as he understood, the successive steps from the lowest axioms (particulars) through the middle axioms(hence,axiomata media) to the highest and most general axioms (1960, Bk.I-Aph. p. 104).

(47)As will be explained away next Warren's elucidation that JSM in Examination postulates four laws instead of three having added the principle of Inseparability is not correct. What JSM tried to do with the argument that there exist inseparable associations was again lay emphasis to the possibility of sense-perception of particulars in separation from knowledge as a whole.

case, David Hume reduced all the principles the principles of contiguity and resemblance.[48] (See 1955, pp. 31-39) Such a position led him to deny the inherent necessity supposedly underlying some kinds of associations, which resulted in a scepticism about the epistemological ability of human cognition.

It seems that, owing to this position, Hume has commonly been praised for a theoretical consistency that refutes the very foundation of his own philosophy. Yet he was not thorough enough to doubt whether even contiguity (in time-and-space) and resemblance could be experienced with absolute certainty. At the present phase of our discussion we would not need to show specifically why that could not be so. It may suffice here to note that a cognition in terms of spatio-temporal contiguity already presupposes a conceptual framework of space and time; and that in order to perceive the similarity between two entities we must be provided with the knowledge of the common element that makes the two things similar. In other words there can be no more sensing of contiguity, resemblance, or any other form of association than there can be sensation of any particular things, without being related to the knowledge as a whole.

Insofar as Hume's -- the most extreme, but not necessarily irrational -- theory of association is founded upon a misconceived theory of sensation, there is no need to discuss further JSM's own associational laws. But there are two points we find peculiar to JSM's association theory proper, and by which his system is to a certain extent

---

(48) See Warren (1921) for an enumeration of how the individual associationists differ with one another in respect to this point.

differentiated from the orthodox utilitarianism. One is in respect to his notion of "inseparable association" and the other is concerning his theory of "mental chemistry." Let us take the latter issue into consideration first.

It was already noted that JSM believed the laws of association to be the universal laws of human anture from which "complex laws of thought and feeling not only may, but must be generated."(VI-iv-3) All of what Locke called "complex ideas" and combination of complex ideas, i.e., "duplex ideas"[49] must be the products of the association process. But apart from the problem that there can be essentially no such distinction between simple and complex ideas as we have demonstrated so far, there lies a significant difference between Locke and James Mill as to the manner in which complex ideas are formed; the difference being so significant as to bring to light the nature of JSM's concept of mental chemistry.[50]

---

(49)This is how JSM corrected what James Mill mistakenly ascribed to Hartley's nomenclature, i.e., a misnomer of the latter's "decomplex ideas."(See Analysis I, p. 115)

(50)Obviously this is not to say that the difference we are supposed to examine here is the only one between Locke and James Mill. The limited space does not permit us to discuss comprehensively the difference between their philosophies. But as far as the formation of ideas is concerned, they differ from each other even as respects the origin of simple ideas. As we have seen so far, James Mill's theory of simple ideas is a thoroughly mechanistic sensationism, whereas Locke, while admitting the existence of the soul or the mind and of some natural faculties in the mind(1959, I, p. 38) , divides experience (as the source of ideas) into external experience (i.e., sensation) and internal experience (what he calls internal sense or reflexion) (see 1959,I, pp.121-7). This is not, however, to say that Locke's theory is more comprehensive, more universal and truer than James Mill's. In many respects Locke's theory is an eclectic dualism, borne with internal contradictions and many conceptual ambiguities, which had in some degree determined the future development of English empiricism through JSM. See Windelband(1893,pp.449-452) for a succinct and excellent

For Locke, complex ideas are the products of the voluntary activity of the mind upon the material of simple ideas in receiving which it is wholly passive (1959, I, pp. 213-4). The faculties of the mind (i.e., retention, discerning, reasoning, etc) are for him the tools with which the mind operates upon simple ideas to produce complex ideas. Principles of association thus have nothing to do with the mind's own activity in producign complex ideas and thereby gaining true knowledge. Association of ideas was introduced by Locke not with an intent to explain human knowledge so much as human errors, whcih arise not from the natural activity of the mind but rather from the association of chance and custom (see 1959, I, pp. 527-9. Also see Alexander Fraser's note in p. 527).

It is the self-acting mind that makes complex ideas. In fact Locke's own account of the nature of the mind, or consciousness, clearly shows that he did not regard the mind as being at all identical with the sum total of the substantive ideas constituting it. He says, "Consciousness is the perception of what passes in a man's own mind." (1959, I, p.138) This statement is certainly identical neither with: "Consciousness is what passes in a man's mind" nor with James Mill's saying, "To have a feeling is to be conscious."(Analysis I, p. 224) Locke even goes further to admit that there can be no pure sensations without their being accompanied by the actively perceiving mind.(51) This line

---

(cont'd) exposition of the dilemma innate in Locke's theory of knowledge. Cf. Russell (1945, pp. 604-617) for the interpretation of Locke in such a sympathetic manner as to regard his eclectism as a "proof of sound judgment."(p. 606)

(51)In his own words, "...whatever alterations are made in the body, if they reach not the mind; whatever impressions are made on the outward parts, if they are not taken notice of within, there is no perception." (1959, I, pp. 183-4)

of thinking culminates in his discussion of the idea of "personal identity," or "self," where this is understood in terms of self-consciousness. He says:

> ... a thinking intelligent being, that has reason and reflexion, can consider itself as itself, the same thinking thing, in different times and places; which it does only by that consciousness which is inseparable from thinking, and, ... essential to it: it being impossible for any one to perceive without perceiving that he does perceive.(52) (1959, I, pp. 448-449)

Nonetheless, in order for Locke to attain a true synthesis, it would not suffice to admit only implicitly(53) that the existence of the active mind is indispensable in the formation of ideas. It may require first of all a critical examination of how such a conception of mind or consciousness could be compatible with his inviolable epistemological premise, i.e., his theory of ideas along with the innate principles. Locke, however, never attempted such a task, thereby leaving his system still in an eclectic confusion. Such an eclectism may have left room for diverse interpretations as to the essence of his philosophy. In point of fact what the successors of Locke tried to achieve in their philosophical lives may be summed in this phrase: restructuring of Locke at his utmost consistency. Hence the diverse offshoots in the development of the eighteenth century British

---

(52)This passage should be an expression of Locke's view of human nature. It is thus quite curious, as frequently observed, that in his Two Treatise he never mentions about the Essay as if the latter work has nothing to do with his theory of human nature.

(53)In fact if he had ever made a systematic inquiry into the nature of the mind or consciousness it would have been in explicit contradiction with his primary assertion that such a question as "what is the mind?" does not belong to the proper concern of his philosophy (see 1959, I, pp. 26-27).

philosophy, such as; Thomas Reid's Scottish psychologism, Hume's sceptical sensism, Berkeley's idealism, David Hartley's mechanical materialism (Windelband, 1893,p.459). All these are correct consequence from Locke's principle and just the absurdity of these consequences refutes the principle (Ibid.).

James Mill on the contrary, following the line of David Hartley's mechanical materialism, shows at least the merit of consistency with the cause of mechanical-sensationistic associationism when he explains the formation of complex ideas in terms of the mechanical combination of simple ideas. It is "mechanical" because he regards any complex idea as no more and no less than the sum total of simple ideas constituting it. This reminds us of JSM's Principle of Composition of Causes, of which James Mill's theory of complex ideas is a typical case. According to this principle the joint effect of several causes is precisely the sum of their separate effects of those causes when separate (see Logic, III-iv-1) Therefore, stone, for instance, is for James Mill a complex idea, a particular combination of synchronic sensations such as the sensation of colour, the sensation of hardness, the sensations of shape, and size, the sensation of weight, etc. (Analysis I,P.79). In like manner "brick is one complex idea, motar is another complex idea; these ideas of position and quantity, compose my idea of a wall."(Analysis I,P.115)

However rough and defective, as we have shown so far, James Mill's theory is, it has one merit as a theoretical system. It has the merit of logical consistency(54) within the system, especially in relation to

---

(54)Yet, the merit should be appraised with strict reservations.

his conception of a consciousness grasped in terms of purely passive mechanism:

> To have a feeling is to be conscious; and to be conscious is to have a feeling. To be conscious of the prick of the pin, is merely to have the sensation. ... To feel an idea, and to be conscious of that feeling, are not two things; the feeling and the consciousness are but two names for the same thing. In the very word feeling all that is implied in the word Consciousness is involved.(55) (Analysis I, PP. 224-5)

As long as being conscious or having consciousness adds no other significant meaning to the process of sensation and ideation it may thus be quite natural for James Mill to have regarded, as we have seen, such a process as a mechanism where the principle of "Composition of Causes" works most properly.

It was, however, in criticism of such totally mechanical nature of his father's associationism that JSM introduced his theory of mental chemistry in an effort to improve or supplement his father's theory. The young Mill revises his father's theory in a somewhat moderate way by saying first that "the case is not always one of Composition of Causes." For, he goes on,

---

(cont'd) Because if it were to be in complete agreement with his conception of consciousness James Mill would have had to deny all kinds of mental activity such as association, naming, imagination, etc., except the purely passive feeling of the external objects with no discrimination at all.

(55)See also Analysis II,pp.176-9 , where James Mill expresses the same kind of view as respects the problem of reflection. In this context, too, he is consistent enough to regard reflection as simply "the generalization of particular states of consciousness," i.e., of sensations and ideas, as no more, no less than "the idea of the class." (Analysis II,p.179) Yet he never came to the question whence the very mental facility called generalization is originated, nor was he ever critical enough to ask himself whether such a philosophical work as his own is but a necessary outcome of a generalization process from, not upon, the material of pure sensations.

> ... the laws of the phenomena of mind are sometimes analogous to mechanical, but sometimes also to chemical laws. When many impressions or ideas are operating in the mind together, there sometimes takes place a process of a similar kind to chemical combinations.(VI-iv-3)

JSM, however, is not only never definite as to when the phenomena of mind are mechanical and when chemical, but there is a grave confusion in his notion of "chemical" as distinct from "mechanical." He says,

> When impressions have been so often experienced in conjunction that each of them calls up readily and instantaneously the idea of the whole group, those ideas sometimes melt and coalesce into one another, and appear not several ideas, but one, in the same manner as, when the seven prismatic colours are presented to the eye in rapid succession produced is that of white. ... so it appears to me that the Complex Idea, formed by the blending together of several simpler ones, should, when it really appears simple, (that is, when the separate elements are not consciously distinguishable in it,) be said to result from, or be generated by, the simple ideas, not to consist of them.(VI-iv-3; JSM's emphases)

Obviously JSM could never be excused of fuzzy and wooly thinking when he disposes of so critical and important issue for his mental chemistry (i.e., the problem of the criterion for a distinction between "mechanical" and "chemical") simply in terms of "appearance." According to this argument, what makes a complex idea into a mechanical or chemical combination is just how it appears to us. But what makes it appear so? Mechanical or chemical combination? This is no doubt a logical circularity.

Yet, regrettably, JSM's exposition of the notion of mental chemistry seems hardly to go beyond plain circular reasoning. If a complex idea formed through chemical combination is to be something distinct -- and if not, the very notion of mental chemistry would be empty and meaningless -- from a complex idea formed through mechanical combination,

mental chemistry must explain how the process of "result from" or "be generated by" is essentially distinct from that of mere "consist of." As long as his mental chemistry fails to do so, it is but a play on words. In his system the sufficient condition for a complex idea to qualify as a chemical combination is to appear simple, and to "result from" or "be generated by" must at any rate imply the chemical process. It follows, then, that JSM's exposition of mental chemistry can be summed up in this phrase: a chemically-formed complex idea is formed through a chemical process.

Such a difficulty may have already begun with the fundamental restriction JSM's epistemological premisses impose upon his system. It is the restriction that every idea is but an appearance to our sense-organs from without. By this restriction there can be no meaningful distinction between 'simple' and 'complex' ideas, just as there can be no meaningful distinction between the chemically-combined and the mechanically-combined complex ideas. It could never be certain in his system whether an idea which appears simple is so because it is in essence a simple idea or because it is a chemically-combined complex idea. It thus turns out that JSM's effort to elaborate or improve the associationism having been developed by David Hartley and James Mill was a failure. We find scarcely any significant development ever made by JSM upon his inherited theory except for the introduction of the empty notion of mental chemistry, which is but a verbal addition to what James Mill regarded as the generalization activity of consciousness. Therefore, JSM's theory of mental chemistry alone cannot be of any service to the resolution of the paradox innate in James Mill's

system, namely the contradiction between the totally passive nature of human consciousness and the existence of generalization activity of the very consciousness without which there can exist only "simple ideas."

Yet it is based upon this essentially empty notion of mental chemistry that JSM believes that what he terms "all the other constituents of the mind"(56) can be analysed. For instance, in regard to desire, he suggests to psychologists that:

> They will have to examine what objects we desire naturally, and by what causes we are made to desire things originally indifferent, or even disagreeable to us; and so forth. It may be remarked, that the general laws of association prevail among these more intricate states of mind, in the same manner as among the simpler ones.(VI-iv-3)

He thus endorses David Hartley and James Mill's effort to reduce those to the elements of simple ideas of sensation, but says with a reservation that they had not established the whole of the case. He argues that they had proved the case only through the method of agreement, which cannot be regarded as perfect until it is proved through the method of difference too.(VI-iv-3) He himself, however, did not commit himself to the resolution of such a task thereby leaving the most of the cases open to the experiments of mental chemistry.(57)

---

(56)VI-iv-3, JSM here seems to obscure deliberately the question of whether or not these constituents of the mind are something essentially distinct from other ideas in general.

(57)The only work in which he himself did such a work is the well-known Utilitarianism (Works X, pp. 203-259) where he made his own analysis of "moral sentiments" in the manner mentioned above. It still remains a question whether he was successful in the analysis, and the question will receive our attention next.

At any event, insofar as such mental phenomena are essentially ideas -- what else can they be within JSM's framework? -- it may be quite natural that they also be susceptible to the analysis of association psychology in general or of mental chemistry in particular. And insofar as they ultimately originate from the simple ideas of immediate sense-perception, they are always to be no more than passive reflexions of the external objects on the screen of an essentially passive human consciousness. But if this is all that Psychological Associationism is comprised of, then how can it be the ultimate criterion for the scientific inquiry into the social phenomena, which are by nature the phenomena of human action or behavior?

In other words, in JSM's system of associationism, ideas are passive and intellectual in the sense that they are products of the one-way reflective process from the objective world to the subjective consciousness. What is there then in his associationism which might account for human action properly? Was his associational theory successful in accounting for human action while adhering to his father's conception of consciousness? As was mentioned before, JSM's belief in the malleability or plasticity of human nature is founded upon his theory of psychological associationism. Is it then ill-founded from the outset? These are the questions we shall delve into next.

IV. HUMAN NATURE AND SOCIAL SCIENCE IN J.S. MILL, PART II: HUMAN ACTION AND SOCIAL SCIENCE

JSM's associational psychology starts from the premiss that the Mind is autonomous in significant degree, if not completely, from the physiological state of the Body (see VI-iv-1, VI-iv-4). His view of associational principles as a theory of human nature is also based on the premiss that man's action or behavior is in the last analysis determined by the operation of the Mind even if there is in man certain kinds of instincts which may influence his action in the absence of the trained or educated Mind (see, VI-iv-4). To put it in a more moderate way, the premiss is that the Mind has at least, in one way or another, something to do with man's action. And it is only based upon this latter premiss that psychological associationism could be the universal law of the social phenomena. If these two premisses are not understood it will be a waste of effort to discuss further JSM's philosophy of social science. This is why we have to be seriously concerned with the ideas in JSM's framework of associationism which are inseparable from man's action.

A) JSM's Understanding of Volition

What attracts our attention in this connection is the phenomenon of Volition,[1] belonging to what JSM treats separately from cognitive

(1)"Desire" or even "judgment" may also belong to this category of action-related ideas. JSM in fact, in his annotation to his father's Analysis, commented that Desire is more than the idea of the pleasure desired, being the initiatory stage of will (see Analysis II,p.194).

under the name of "all the other mental constituents of the mind." Along with the rest of these phenomena, volition is commonly understood as not having any direct implication for human understanding or cognition. But in JSM's system every mental phenomenon cannot but be an idea, and the idea of volition must be examined in the same framework as other idea. How is, then, the idea of volition formed in such a way that it may entail in itself a certain kind of action while others do not.

In respect to this question JSM kept silent throughout his works. This fact may disclose JSM's blindness to, or perhaps his deliberate shirking of, the core of the issue raised by the existence of a mental constituent such as volition. For even if so-called "chemical elements" of volition are identified, they alone can never provide any clue to a solution. It is hence necessary here again to examine the keynote of James Mill's theory of action which culminates in his analysis of will in the Analysis, which JSM almost completely endorsed.(2)

Lemma: James Mill's Theory of Will

James Mill's analysis of Will and Action begins with the division of the phenomenon of thought into two classes: one is Intellectual, the other Active (Analysis II, p. 181).(3) The laws of associationism, however, apply equally, he believes, to the second phenomenon as well as to the first (p. 182). But how can a class of phenomena give rise

---

(2)JSM endorses his father's theory as representing his own, saying that: "I shall not enlarge in this place, but refer the reader to works professedly psychological, in particular to Mr. James Mill's Analysis ..."(VI-iv-3)

(3)All the page references in this Lemma are to James Mill (1869, II) unless specified otherwise.

to actions while the other not, if the same phenomena are ruled by the same laws? His answer is that it is "a remarkable difference of sensations? that makes such classification of mental phenomena possible; it is the difference between the sensations which are indifferent in feeling and the sensations which are either painful or pleasurable in feeling (p. 184). It is, therefore, the quality of "that, which is felt," i.e., of feeling that exclusively decieds whether a sensation is action-prone or not.

Is it not, however, persistently argued by James Mill, JSM and other associationists that feeling (of which sensation is another name) is the sole source of all kinds of ideas and knowledge? What then makes for the differences in feelings? And what is their nature such that they determine the activeness or the passiveness of all kinds of knowledge or ideas, all of which are to be, qua knowledge, essentially the same?

As James Mill emphasizes in this context, having a sensation immediately implies knowing it and thus "having three sensations, an Indifferent, a Pleasurable, and a Painful, and knowing them for what they are, are not different things, but one and the same thing."(p. 185) But if it is beyond any doubt that there are differences in feeling designated by Indifference, Pleasure, and Pain, they cannot be explained away simply by saying that there are correspondingly the knowledge of Indifference, of Pleasure, and of Pain. This would lead only to a tautology in his system. It must at least be resolved whether the differences are a) something innate in the objective entities or are b) merely the non-objective, thus non-real[4] additives produced

(4)At least in James Mill and JSM's philosophical system.

by subjective consciousness. This is a very critical question, and it must be resolved within the boundary of the Mills' epistemological premisses unless their theory of action is to be found groundless.

Yet, we find that such an important question does not receive due attention from James Mill. Rather it is treated only in passing, as if the question itself were very trivial. He first draws attention only to the causes of the pleasurable and painful sensations, saying that:

> ... it is necessary to take notice of the causes of them. We can generally trace them to certain constant antecedents ... (p. 187)

But it is one thing to inquire into the causes(5) of the pleasurable and painful sensation, and quite another to ask what pleasures and pains are. If, as he illustrates (p. 187), the sound of the violin is the immediate cause of the pleasure of one's ear, it is necessary to ask why it is so. Insofar as the nature of the pleasurable or painful sensations is not identified, the same fate may wait for the identity of the ideas of the pleasurable and painful sensations because sensations and ideas are essentially identical in James Mill's system. It would thus be natural that James Mill's definition of the pleasurable and painful ideas cannot but reveal subjective(6) character.

---

(5)Obviously "causes" is used in Hume and Kantian sense, that is, as temporal antecedents.

(6)This certainly does not mean that there is inherently something degrading or untruthful in the concept of subjectivity. The point here, and to which we shall return below, is that James Mill could not but have in the end recourse to subjectivity which should be essentially empty in the Mills' system.

> This state of consciousness, like other states, is known only by having it. What it is felt to be, it is. We can afford, therefore, no aid to the reader in distinguishing it ... It is his own inward, invisible state, which only he can make for himself.(pp. 189-190)

This may in fact be the most critical juncture in James Mill's argument, since a big logical gulf is bridged by an artifact which cannot by its nature reach either side of the gulf. The artifact is the subjective consciousness and it is inadequate, because the consciousness in James Mill's system is like a passive screen playing virtually no role in the formation of all the sensations and ideas, and all the sensations and ideas are formed through the same process, whether they are action-oriented or purely cognitive. Yet it is also the subjective consciousness as Self, without which existence man's action cannot properly be explained. For feeling of what is being felt, or knowing of what is being known, already presupposes a being which actively feels and knows in itself.(7)

The indispensable existence of the Consciousness, therefore, implies an anomaly in James Mill's system. But it is based on the presupposition of the active consciousness -- wittingly or unwittingly, failing to explore the challenges such a presupposition presents to his whole philosophical system -- that James Mill proceeds further to account for the rise of human action.

James Mill's analysis at this phase is concerned with the idea of Desire and Aversion as the stages preceding Motive, Disposition, and finally Will. According to James Mill, Aversion and Desire can be defined in a simple manner on the basis of the definitions of the

---

(7)The implication of this statement will be examined in more detail in the concluding chapter.

sensations of pain and pleasure.

> My state of consciousness under the sensation I called a pain. My state of consciousness under the idea of the pain, I call, not a pain, but an aversion. ... My state of consciousness under the sensation, I (8) called a Pleasure: my state of consciousness under the idea, that is, the idea itself, I call a Desire.(p. 191)

Pain and Aversion or Pleasure and Desire are not, therefore, two things, but two names for the same thing. And as such aversion or desire should be in essence an idea passively formed, not one actively forming oneself, even if the forming process itself is, as we have shown above, unthinkable without actively feeling consciousness. According to the idea of desire or aversion, there are placed at certain point in time a fixed number of items or objective entities that have already been desired. There can thus be no case wherein the idea of desire orients itself, actively, toward an external entity. In other words, it is logically accurate in his system to say that a food is desired in us or in our consciousness, and not to say that we or our consciousness desire a food.

Yet with no proper explanation at all James Mill begins (in the following passage) suddenly taking for granted that it is we who desire something, not that it is something, the sensation of which enters our mind, which gives rise to our idea of desire.

> Properly speaking, it is not to the food, or the drug, that we have the aversion, but to the disagreeable taste. The food is a substance of a certain colour, and consistence; so is the drug. There is nothing in these qualities which is offensive to us; only the taste. In like manner, it is not the water we desire, but the

---

(8)Interestingly enough, in this analysis he admits, as if naturally, the existence of "I" as inseparable from these ideas, thereby, however, contaminating his 'Scientific Spirit' aimed at throughly 'objective' study of the human mind.

> pleasure of drinking; not the fire we desire, but the pleasure of warmth.(9)(p. 192)

If, following James Mill's argument above, all the pleasures and pains are essentially meaningless in separation from a subject who feels, and if it is also the subject who discerns in his or her own way between what is pleasurable and what is painful; it follows that Desire and Aversion do not by nature belong to the same category as other intellectual ideas, or the idea of pleasure or pain.

Just as Desire and Aversion could have been explained away only by the implicit presupposition of the existence of a self-acting Mind, so Motive in James Mill's framework presupposes actions which have already been made by no one other than "Ourselves." This is obviously a case of the fallacy of petitio principi, to explain something on the basis of that which is to be explained: the rise to action must be explained, and has not yet been explained, through a theory of motive, disposition, and will (insofar as action concerned here is "idea-bound" action as distinct from the "instinct-bound" behavior).(10) But this fallacy may have already been anticipated by the anomaly in James Mill's system we have just discussed. More serious problems arise, when he tries to hammer the concept of Motive into the framework of his associationism, perhaps having felt compelled again to adhere to the cause of associationism.

According to James Mill there are a couple of processes whereby

---

(9)In this passage he also comes to admit, consciously or unconsciously, that pleasure and pain are something subjective, not something innate in the objective entities.

(10)As we shall see next, James Mill's discussion of 'Will' starts, somewhat belatedly, from this distinction.

Motive is formed:

> When the idea of the Pleasure is associated with an action of our own as its cause; that is, contemplated as the consequent of a certain action of ours, and incapable of otherwise existing; or when the cause of a Pleasure is contemplated as the consequent of action of ours, and not capable of otherwise existing; a peculiar state of mind(11) is generated which, as it is a tendency to action, is properly denominated Motive.(p. 258)

There is, to begin with, one confusion which is immediately perceived in this statement. It is the confounding of "association" with "contemplation." If association and contemplation are but the two names denoting the same mental process, the only difference between the first and the second cases is summed up in the difference between "the idea of the Pleasure" and "the cause of a Pleasure." The difference being so, it gives rise to some grave difficulties.

In the first place, insofar as only ideas and sensations are susceptible to the association process, it was correct for James Mill to use the expression "the idea of the Pleasure," and incorrect to say "the cause of a Pleasure" instead of "the idea of the cause of a Pleasure." Even so, a logical absurdity resides in the very expression "the idea of Pleasure."

In James Mill's system, as in JSM's, it is an inviolable postulate that an idea must always represent a certain objective entity or an association of such entities. Pleasure is, on the other hand, by his

---

(11)As will be frequently observed James Mill uses the term "state of mind" to denote Motive, Disposition, Will without giving a proper rationale for the use of it -- e.g. as to whether the term should be distinct from "idea" or not. Such an uncertain attitude is in line with JSM's use of such expression as "mental constituents" above to denote the same kind of phenomena. This may represent their unconscious lack of confidence in their own theories.

definition, that which does not belong to the external object but only to the subjective mind. It can not, then, be an idea at all; and, therefore, the associational principles are not applicable to it. Yet, simultaneously, being perceptible, whether real or imaginary to our mind,it should also be an idea.

This is contradictory. Its illogic is not, however, confined to this point. If pleasure is an idea, there would be essentially no difference between the first and the second processes. If so, it would not only contradict the initial distinction by James Mill himself, but contradict the fundamental premiss in his theory of action. To recall, in his system it is not the ideas alone (which are essentially neutral to pleasure and pain), but the ideas accompanied by pleasure and pain, that can generate actions (since the cause of a pleasure directly indicates an external object or its idea which should be distinct from pleasure or pain as such).

There may now remain only one way for James Mill to overcome such an embarrassment. It is to admit that contemplation should be distinct from mere association (which is, as mentioned before, essentially a mechanistic process in his system), and to set about in earnest to inquire into the meaning of such activity in the mind and also the meaning of consciousness or mind as well. Yet the direction he had taken in elaborating further his theory of action was quite contrary. It resulted in an extension of his associational framework even to "action" as such, only to expedite the final collapse of his system. The first step in that direction begins with a reformulation of the concept of Motive in associational terms.

> It is obvious, however, that the idea of pleasure does not constitute the motive to action without the idea of the action as the cause; that it is the association, therefore, to which alone the name (Motive) belongs.(p. 258)

Once the principle having been established it would be natural to define Disposition in the same manner:

> Among the different classes of motives, there are men who are more easily and strongly operated upon by some, others by others. We have also seen, that this is entirely owing to habits of association. This facility of being acted upon, by motives of a particular description, is that which we call Disposition.(p. 259)

One could easily discern in this definition that Motive and Disposition, as he himself admits the difficulty of distinction between the two (See pp. 259-262, 265-278), can never be discriminated from each other unless "facility" is properly identified. James Mill, however, never gives us any definition of it, except for, a mere alteration in verbal expression, namely, "a readiness to obey the motive." (p. 260, 271) Understandably, this change of expression hardly helps explore the nature of Disposition insofar as the following questions are not answered: What is the nature of this readiness? How is it formed? He, nonetheless, never tackled these issues. Perhaps he was not even aware of them. And yet it is at this point that James Mill introduces the term "idea of action" in an effort to hammer the concepts Motive and Disposition into the framework of associationism. Was this effort successful with the issues above remaining unresolved?

There are some questions we have to raise in this connection. What is the nature of this idea? How is it formed? Can this idea be explained within the associational framework? In his discussion of Motive, however, these questions are not recognized as questions at all.

It is only, somewhat belatedly, in relation to Will that he comes to recognize the importance of these issues and gives his own account of them. This naturally attracts our attention to his theory of Will, before attempting a synthetic critique of his theory of action in general.

Will or Volition is, according to James Mill and by definition, a state of mind or consciousness which precedes action (p. 328). All the actions -- in his 'scientific' terminology "muscular or fibrous contraction"(p. 330) -- does not, however, belong to the domain of Will. Action may take place following sensations per se, and ideas as well. Three domains of human action have thus been identified: pure sensations, ideas, and will. In his exposition, actions derived immediately from sensations are such as arise automatically, without the actor's being conscious of their arising. Most physiological processes belong to this category, and hence they are otherwise called "the actions of the Body."(p 329-330) To the category of "the actions of the Mind" belong actions of the Idea and actions of Will. This is one way of classifying human actions; the actions of the Body and the actions of the Mind. There is another mode of classification James Mill does not fail to suggest. It is based on the distinction between Voluntary and Involuntary actions, to the former belonging action of Will and to the latter actions of Sensations and of Ideas.

From this it is inferred that some actions of the Mind are not voluntary. What is then the nature of actions of the Idea such that they can be distinguished from those of Will? As he admits, "To prove that Ideas, as well as Sensations, are the cause of muscular actions,

it is necessary to make choice of cases, in which the Idea is in no danger of being confounded with that state of mind called the Will." (p. 337) How can an idea then bring forth an action, and how is Idea distinguished from Will? Let us first take James Mill's own illustration about the case of an involuntary action through sensation and idea:

> The Winking of the Eyelids, when a person moves his hand rapidly close to the eyes of another person, is a familiar case of an action of the muscles, which we cannot prevent. The idea is that of pain, from the contact of the hand with the eye. A sudden sensation of pain in the eye makes the eyelid close. This is the case, already examined, of contraction by sensation. When this has been performed a number of times, the idea of pain in the eye, and the idea of the contraction of the muscles, that is, of the sensations contained in the contraction of the muscles, become associated together, so strongly, that the one can never exist without the other. The next step of the process is, that the contraction follows upon the Idea, in the same manner as it followed upon the sensation.(p. 337)

There is a point which must be clearly noted in respect to the interpretation of the above paragraph. Even if an action follows immediately upon an idea, this does not mean that the idea is neutral as to pleasure or pain but already contains in itself pleasure or pain. If so, the case of action-following-upon-Idea should be the outcome of the association between the idea of the contraction of muscles, that is, between the idea of action and the idea of pleasure. This interpretation, however, immediately makes his notion of Will, as distinct from the involuntary sensations and ideas, awkward.

According to him what makes the difference between the voluntary and involuntary actions is no more and no less the existence of Desire (p. 350). But, as previously noted, Desire in his system is but another name for pleasure, and therefore the formation of Will can again be

explained in terms of the association of the two ideas, the idea of pleasure and the idea of action (p. 351). This obviously makes the distinction between Voluntary and Involuntary actions virtually meaningless. And yet the same kind of confusion may then be pointed out as to the distinction between Motive and Will because the former is not only the association of the idea of pleasure and the idea of action but also by definition "a peculiar state of mind which is a tendency to action."(p. 68) Is it then only the verbal difference that makes Will and Motive distinct from each other? This question, however, James Mill also recognizes as challenging to his system and tries to give his own solution to it.

To put it in a simple manner, the difference between Motive and Will, he believes, depends totally upon the time-sequence of the association of the two ideas, namely: Which idea of the two takes precedence over the idea? When the end of action, i.e., an idea of pleasure, is first contemplated, and then through the series of association of the means to achieve that end, the association process stops with the idea of action, and such an association is called Motive. When the process is executed in the reverse way, it is called Will (p. 352). Each of the two processes is thus summed up in this way: "In the first process of association, the pleasure was the first link in the chain, the action the last; in the second process, the action is the first, the pleasure the last."(p. 353)

Does this formulation signify that Motive alone can be operative of action whereas Will is merely the mental reflexion of the action? If so, not only could there be no such thing as a Will that actively

"wills," but there must be two discrete ideas of action, one having the external appearance and the other existing only in the mind. This resolution, however, immediately contradicts the previous formulation, that the difference between Motive and Will is merely the difference in the temporal order of the two ideas. Yet, if the association of the two ideas is understood to be an internal process of the mind with no direct relation to the external appearance, it only results in another awkwardness that Motive and Will have essentially nothing to do with the actions of objective externality. This is a dilemma, and the cause of the dilemma may again converge on his notion of "the idea of action". How can these two entities be combined into one?

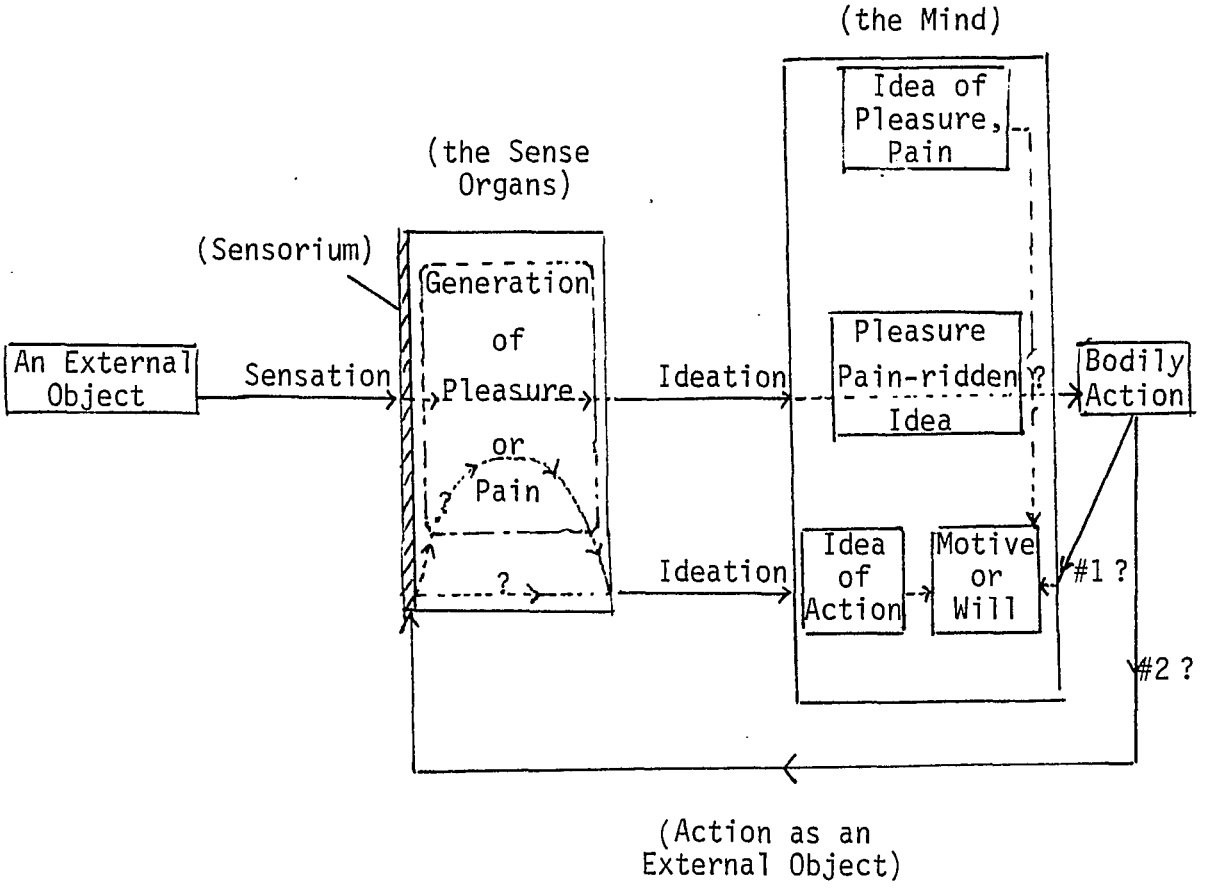
The difficulty was also presented to James Mill's mind and the resolution of it was again attempted by the following account as respects the nature of this idea.

> The difficulty is solved by observing, that the phrase, "Idea of the action," has two meanings. There are two ideas, very different from one another, to both of which we give the name, "Idea of the action." Of these Ideas, one is the outward appearance of the action, and is always a very obvious Idea. The other is the copy of those internal sensations which originally called the muscles into action, to which, from habit of not attending to them, we have lost the power of attending. ... This last Idea alone, is that upon which the contraction of the muscle is consequent.(pp. 353-4)

As regards this exposition, it must be recalled that according to James Mill's definition idea is the copy in the Mind of an external object, external to the Mind. How can, to begin with, the <u>outward</u> appearance of the action itself be called Idea? What is plain is not that it is a self-evident idea, but that there can be no such an idea without violation of his own fundamental epistemological postualte. If there

could be an idea of action it should be (if James Mill is consistent) the copy formed in the Mind of an action performed externally. And yet the other meaning of "idea of the action" James Mill has presented is the copy of the "internal sensations", which is the cause, not the consequence, of the action. "Idea of the action" as "internal sensations" may appear not to contain such difficulties. But, on the contrary, it raises even more serious difficulties which, as we shall see, will eventually lead to the collapse of his system. It requires, therefore, separate treatment.

Before going into a detailed examination of the notion of "idea of action" in the second sense, let us portray James Mill's theory of action thus far in a diagram:



The diagram outlines the preceding discussion: We have never been told by James Mill how pleasure or pain by itself constitutes an independent idea in separation from the idea that gives birth to it. He never explained how the involuntary action arises directly through the idea along.(12) But if we confine our analysis to the process of Motive and Will formation, what James Mill just said of the first and second meanings of the notion of "Idea of the action" may be indicated by two arrows. The first is indicated by arrow #1 in the diagram, that the idea of action, which is free of pleasure or pain, is generated in the Mind simultaneously when a bodily action is performed. This interpretation is at least in harmony with the basic scheme that Motive or Will is the association between the idea of action and the idea of pleasure. This, as mentioned above, contradicts one of James Mill's philosophical postulates.

Arrow #2 indicates the second meaning of "Idea of the action." The action, being regarded here as a species of the external object, generates in the mind the idea of the action, yet through the normal process of sensation and ideation. What he called the "internal sensations" are very essential in the formation of the idea in this manner, although one of James Mill's expositions in this connection (that this idea causes the corresponding action of the external appearance) must be abandoned in order to make this idea conform to his denial of innate ideas.(13) What could "the internal sensation" mean then? Insofar as

---

(12)The synthetic summary of the present critique of James Mill's associational psychology as a whole will be made at the end of this section.

(13)Because its implication could be that an idea can exist prior to the experience of the corresponding external object.

action is by definition "contraction of muscles," the internal sensation of action cannot but mean the muscular sensations which was initially treated by James Mill as one of the elementary sensations, one of the sources for all kinds of mental phenomena.(14) But the idea of action so conceived can never adequately explain the formation of Motive and Will.

In the first place, if Motive or Will means anything it should at least mean the tendency of the mind to choose one action instead of others when free of external constraints. But the association of the idea of pleasure or of pain with the idea of action can only imply a pleasurable or painful muscular contraction, which is essentially indiscriminate toward any external object. By such an association there can be no choice of actions, and therefore no such thing as Motive or Will at all. Even if it could be granted that every action is specifically identified through the particular change of the muscular contractions, the problem is not resolved. For the problem seems, rather, to be implicit in the very notion of the "sensation of muscular contraction".

---

(14)James Mill expresses his belief in the existence of such a sensation or feeling as follows:

> We have proof that there is such a feeling, because intimation is conveyed to the mind that the relaxation or contraction is made. I will, to move my arm; and though I observe the motion by none of my senses, I know that the motion is made. The feeling is my habit of attending only to the motion, and not to feeling, that no attention can make me distinctly sensible that I have it.(p. 42)

The confusion underlying this passage is evident. According to him it is not the feeling alone but "our" attentiveness to the feeling that makes the feeling what it is. But whence is originated such "attentiveness"?

In his system and probably in any other philosophical system, sensation, as the means of perceiving the external world, presupposes the sensing subject, in whatever manner the relation between sensation and knowledge or between the subject and object is conceived. In like manner, action presupposes the acting subject through no matter what process action is performed. And the sensing subject and the acting subject cannot be two different things, because to talk about sensation and action presupposes the integrity of the subject vis-à-vis the external object. If they were different from each other, there could be no boundary between the subject and the object, which would not only make the distinction between them impossible but would also make sensation or action as such groundless. Even if in the junior and the senior Mills' system (and in one form or another in the British empiricists' philosophies in general) sensation and action are understood to be two distinct processes, it can only be possible on the presupposition of the unity of the subject.

It is against this preparatory understanding that James Mill's notion of "the sensations of muscular contractions" or simply "the internal sensations" should be branded as absurd or self-contradictory. A muscular contraction is by definition an action, and as such it belongs to the externalization or the objectification process of the subject, whether it is a reflexion either of a state of the mind or of the bodily instincts, or of both. The point is that the existence of an action presupposes the internal determination -- this expression does not necessarily mean deliberation or self-determination -- of the action prior to the objectification of the action. On the contrary

sensation is by definition the process in which the external object, that has been alien to the subject, is internalized.

What could James Mill's attempt here to combine sensation with action mean after all? It only means the nullification of the subject, thereby making even sensation and action as such meaningless: For, if sensation of one's own action should have any meaning at all, that action must already be an external object with no internal relation to the subject performing it. In this case there should be in the one subject two distinct processes that are completely set apart from each other; the one only senses, the other only acts. This is obviously absurd and self-contradictory to the fundamental notion of the subject: Action without the actor, sensation without the sensing subject, and hence the subject existing only by name while being empty, nullified, thus completely objectified or externalized.(15)

(End of the Lemma)

The fact that James Mill's tremendous intellectual efforts at constructing a theory of action within the framework of associationism have only resulted in the nullification and complete objectification of the subject, contains enormous consequences not only for JSM's theory of social science but for the latter's liberal moral and social philosophy as well. For, as most systematically presented in the essay "On Liberty"(Works, IVIII,pp. 213-310),his espousal of individual liberty, as against the social restraint (JSM's completely formalistic, dichotomic

---

(15)The preceding examination may supplement one of Hegel's theses in his Phänomenologie des Geistes that the perceptual thinking, the initial stage in the development of consciousness, is an alienated form of consciousness.

treatment of the relationship between the Individual and the Society raises another serious problem),[16] is founded upon a conception of human nature as completely malleable self-development, and the self or the subject in James Mill and JSM is, as we have demonstrated so far, quite empty and undefinable. This is catastrophic to JSM's moral philosophy, because it has no evident foundation.

As for the implications of James Mill's theory of action for JSM's theory of social science, we must first ask why such a seemingly plausible and convincing theory is in fact ridden with so many logical problems. The answer may be summed up in the following list of antinomies innate to his system -- so innate that without these antinomies his philosophical system could not assume a form of system at all:

1. Definition of Idea: To be identified and not to be identified from Sensation and the External Object.
2. Definition of Pleasure or Pain: Identified and not identified with Idea.
3. Definition of Action: Identified and not identified with Idea.
4. Relation between Idea and Mind: Separate and yet not separate.
5. Relation between Mind and Body: Separate and yet not separate.

After all, James Mill's theory of Action, as a portion of JSM's theory of human nature as a whole, does not work. And if it does not work, JSM's theory of human nature cannot be the ultimate basis for the social sciences, insofar as the social phenomena which are the objects of social inquiry are but human actions. Yet it is on the basis of

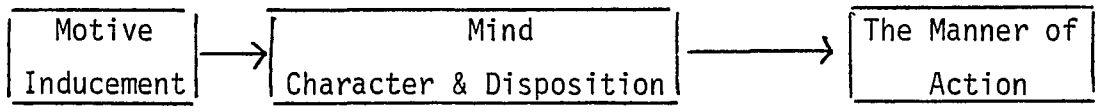
---

(16)This may be the most fundamental absurdity.

this erroneous theory of human nature that JSM further develops his theory of social science. His theory of social science may then be doomed to failure from the outset. In the next section we shall see how his gruesome efforts to construct a system of social science on such a foundation only resulted in the final demolition of the foundation itself.

B) Character-formation and Human Action

Let us first revert to JSM's concept of Philosophical Necessity. It was formulated as the schema:



To reiterate, his position was that "given the motives which are present to an individual's mind, and given likewise the character and disposition of the individual, the manner in which he will act might be unerringly inferred."(VI-ii-2) But even if we overlook the explicit discrepancy here between this scheme and JSM's associational system where, as we have shown so far, Motive was treated as internal (not external as in this scheme) to the Mind, his associationism cannot afford to substantiate the concept of philosophical necessity in two respects: First, as we have shown so far, JSM's associationism is by essence not able to account for the rise of human action; and secondly, even if it could it never tells how man's actions come to form the consistency -- if the term "manner" is so conceived -- through the formation of character or disposition.

For, even in JSM's dilation upon his father's theory of Motive formation, which is essentially identical with Disposition in James Mill's system, it was admitted that there can be more than one motive in a mind insofar as the motive for an act consists in the association of the idea of pleasure with the idea of action. James Mill thus added, as the truth deducible from this, that "What makes the one or the other more powerful, is (conformably to the general laws of association) partly the intensity of the pleasurable or painful ideas in themselves, and partly the frequency of repetition of their past conjunction with the act, either in experience or in thought."(Analysis I, p.262) But What the young Mill overlooked in this context is the fact that another inference can possibly be made, namely a more intense association may immediately replace the preceding one and, therefore, any motive or disposition is always vulnerable to change. In the latter case we could hardly tell what is the originator of the consistency and the manner of action.(17)

Despite these fundamental difficulties the associational laws, as laws of human nature, are firmly believed by JSM to be the foundation for the science of man which are divided by him into two branches, 1) the science of individual man, in what he terms ethology,(18) and

---

(17)In contemporary psychology the concept of 'personality', as only nominally different from the term 'character', which "has been used to refer to the unique or idiosyncratic aspects of the person which (at least to some extent) help to explain the consistency of his behavior over time and situations," seems to receive less and less attention from the psychologist as the significant factor for explaining human behavior (Tedeschi, et.al., 1976, p. 160)

(18)About the contemporary meaning of this term we shall comment in the concluding chapter referring to the genetical approach by some social scientists today.

2) the science of man in society, i.e., social science. But even granted that the associational laws were indisputably the universal laws of human nature, it is still questionable whether the associational laws can be the foundation of the two branches of moral science. What is also questionable is the very distinction between ethology and social science. For the point lies in the question of how the associational laws can play the role of the ultimate criteria for the scientific study of man, rather than in the abstract assertion that they are the foundations for such studies. In this connection let us first examine JSM's own exposition on the nature of ethology.

Ethology, "the science of the formation of character" according to JSM's identification, starts from a premiss that

> ... mankind have not one universal character, but there exist universal laws of the Formation of character.(VI-v-2)

Since the universal laws have already been presupposed, what only remains would be to apply those laws to the empirical phenomena -- in this case, how human beings actually form their character -- which, in his understanding, are not only very complex[19] but, more critically, defy experiments for ethical and theoretical reasons (VI-v-3). Ethology conceptualized in this manner may necessarily -- necessary, in his system of philosophy of science we treated in the last chapter --

---

(19)In his description:

"We can only make our observations in a rough way and en masse, not attempting to ascertain completely in any given instance what character has been formed, and still less by what causes; but only observing in what state of previous circumstances it is found that certain marked mental qualities or deficiencies oftenest exist ... What is observed, even after the most extensive and accurate observation, is merely a comparative result ..."(VI-v-3)

require Deductive Method for its methodology. And in fact JSM is also committed to this method:

> This laws of the formation of character are, in short, derivative laws, resulting from the general laws of mind, and are to be obtained by deducing them from those general laws by supposing any given set of circumstances, and then considering what, according to the laws of mind, will be the influence of those circumstances on the formation of character.(VI-v-4)
>
> In other words, Ethology, the deductive science, is a system of corollaries from Psychology, the experimental science.(VI-v-5)
>
> The one ascertains the simple laws of Mind in general, the other traces their operation in complex combinations of circumstances.(VI-v-6)

Now if this is all there is to ethology, it contains it itself a grave difficulty, besides the two crucial ones, 1) that the associational laws, supposedly the universal laws for the formation of character, cannot account for the rise of human action within the confines of associationism; and 2) that JSM's conception of deduction or deductive method is, as we demonstrated in the chapter II, tautological and founded upon an imperfect understanding of Kepler's and Newton's mathematical physics. The difficulty is this: the associational laws are too formalistic to provide any specific criterion by which "empirical laws" could be refuted or accepted. Any factors external to mind can be the constituting elements for the general proposition as respect the formation of character. If so, ethology will have nothing to do with the theory of the formation of character, which is obviously self-refuting. All the factors -- in JSM's own examples, "differences of government, former customs, physical peculiarities, diversities of education, occupations, personal independence, social privileges, etc.

(VI-v-3) -- can be regarded as environmental and, as "Inducements" to the Mind, all of them are entitled to a place in the general proposition regarding character-formation.

Yet the difficulty does not end within the confines of ethology. It is immediately extended to the domain of social science because the difference between ethology and social science is believed by JSM to be but the difference of quantity in the subject-matter, i.e., the difference between the study of individual and the masses of individuals, the former therefore being "the immediate foundation" of the latter (VI-ix-5). Here JSM makes his commitment to another doctrine, namely to the doctrine of Methodological Individualism,(20) which the majority of contemporary social scientists still adhere to. And inasmuch as ethology is ridden with such difficulties so is JSM's social science. We shall see next how difficulties in his theory of ethology give rise to another grave difficulties in his idea of social science.

C) Human Action and Social Phenomena

JSM's social science begins with the recognition, in his own way, of the deplorable "fact" that the study of politics and society is

---

(20)According to J.W.N. Watkins (1968) this doctrine rules that:

> ... the ultimate constituents of the social world are individual people who act more or less appropriately in the light of their dispositions and understanding of their situation. Every complex social situation, institution, or event is the result of a particular configuration of individuals, their dispositions, situations, beliefs, and physical resources and environment. (pp. 270-271)

left to practitioners "only with a view to the exigencies of daily practice," thereby still remaining at what Bacon called "the natural state of the sciences."(VI-iv-1) While expressing once again his firm belief that the search for universal sequences is the essence of science, JSM argues that the qualification for science should never be exceptional to social and political science,(21) branding any notions opposed to this viewpoint as "vulgar."

> The vulgar notion accordingly is, that all pretension to lay down general truths on politics and society is quackery; that no universality and no certainty are attainable in such matters. ... A large proportion of those who have laid claim to the character of philosophic politicians have attempted, not to ascertain universal sequences, but to frame universal percepts. (VI-iv-1)

And for the first time in his discourse this position, which has so far he has only espoused but not rationalized, gains its justification in reference to the concept of human nature:

> All phenomena of society are phenomena of human nature, generated by action of outward circumstances upon masses of human beings: and if, therefore, the phenomena of human thought, feeling, and action, are subject to fixed laws, the phenomena of society cannot but conform to fixed laws, the consequences of the preceding.(VI-vi-2)

Also for the first time in the history of the liberal social and political philosophy the marriage between an objective empirical science and a subjective concept of human nature has thus been made.(22) From

---

(21)It will be the focus of our discussion below what and how many branches in the social science JSM thinks there should be, and on what criterion such departmentalization should be made.

(22)Most credit for the elucidation of the history of liberal philosophy from Hobbes to JSM in this respect should be given to Robert D. Cumming's Human Nature and History (1969, Vol.II,esp.pp.113-187), although he failed to link JSM's eclectism -- this brand was also his

the vantage point of the foregoing discussions we now know that JSM's theory of human nature does not work in all its aspects and therefore the same reasoning that was applied to the notion of ethology cannot hold water in the case of social science either. But even granted that it could work sufficiently without logical difficulties, there still remain serious questions in his reasoning. They are: Can the thesis that the phenomena of society conform to fixed laws be safely inferred from the thesis that there are fixed universal laws governing individual human nature? What is JSM's understanding of the nature of society per se or of Being Social, such that he attempted as above to link the regularity of social phenomena with the regularity of individual human nature? Is the deductive method, which he propounded as the proper method for social science, compatible with his concepts of human nature and of society?

Analysis of JSM's doctrine of Methodological Individualism appears central in this connection. For it is on the basis of this doctrine that the inseparable linkage between the individual psychology and ethology on the one side, and social science on the other, is justified. It is also on this doctrine that the deductive method is suggested by JSM as the most proper method for the study of social science. But how can the doctrine itself be rationalized? Let us first see how the doctrine is stated:

> The laws of the phenomena of society are, and can be, nothing but the laws of the actions and passions of human beings united together in the social state. Men,

---

(cont'd) conclusion toward JSM's philosophy -- with JSM's theory of associational psychology and also failed to realize what is essentially wrong with the liberalistic treatment of human nature.

> however, in a state of society, are still men; their actions and passions are obedient to the laws of human nature. ... Human beings in society have no properties but those which are derived from, and may be resolved into, the laws of the nature of individual man. In social phenomena the Composition of Causes is the universal law.(VI-vii-1)

In the same vein he argues:

> However complex the phenomena, all their sequences and co-existences result from the laws of the separate elements. The effects produced, in social phenomena, by any complex set of circumstances, amounts precisely to the sum of the effects of the circumstances taken singly ... (VI-ix-1)

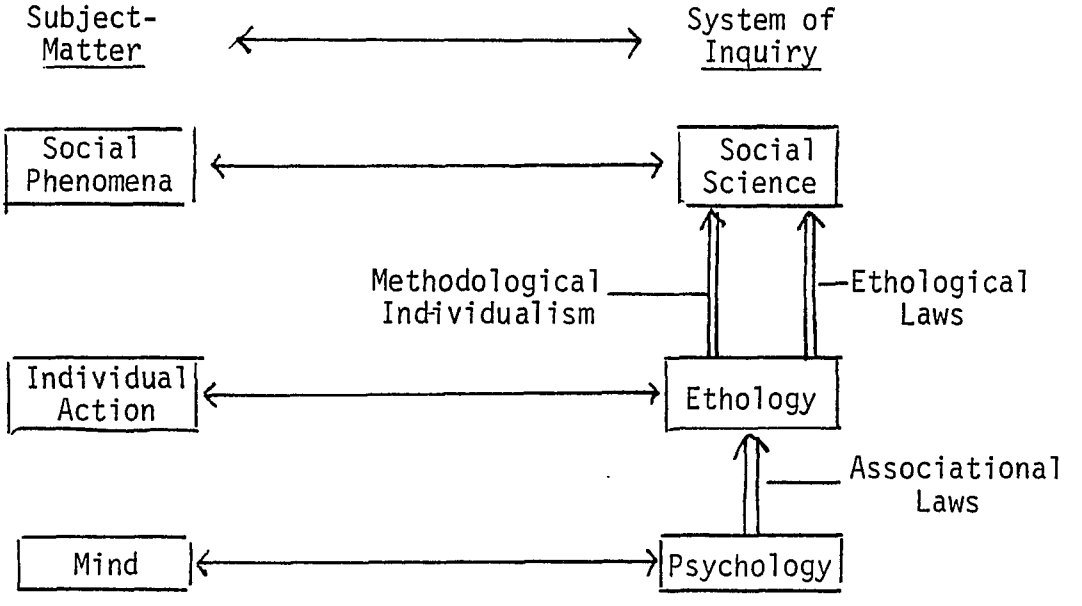
In this connection we have to be very cautious not to think that this doctrine is easily overcome by simply saying that "No. The whole is always more than the sum of the parts constituting it!" period. This is not a criticism. If JSM had simply said that "The doctrine is invariably true because the whole is no more than the sum of the parts" he would not have been immune to the reproach for being dogmatic. But the opposing doctrine would never escape the same stigma unless it can provide a sufficient explanation for why it is not.(23) There would be nowhere for a true critic to sit, in this battlefield of opposing dogmas.

JSM was not so dogmatic, however. As we saw in the two passages

---

(23)In this connection blame must be laid upon the structuralists in the contemporary social sciences -- commonly identified as the opponents of the behavioral social scientists -- for their, as one of them admitted (Glucksman, 1974,p. 139), "lack of system and rigour" as an epistemological system. If, as their customary claims, the whole is more than the sum of the parts and there is always a certain 'unobservable' structure underlying observable phenomena, they have to show on what ontological and epistemological ground such premisses are valid. See, in this regard,Glucksman,1974,pp. 139-157).

quoted above, his methodological individualism was again rationalized on the ground of his view of the nature of society and social phenomena. The view seems to be that there is no inherent meaning in the word social and that society is but a designating term for a set of more than one individuals or phenomenon of an individual human nature. Now JSM's system of social science seems to have this basic structure:



The deductive method as the proper method for Social Science would then be the logical outcome of such a system. For, firstly individual human nature is the basic element or unit of social phenomena, and it is not further dissectable or dissoluble any more; and secondly, the study of social science is believed by JSM already to be provided with universal laws, namely the associational and ethological laws, by which empirical laws are proved or refuted. He thus excludes chemical method for the first reason, and experimental methods for the second reason, from consideration.(24) He is, however, cautious enough not to

(24)See the next page.

confound his notion of deductive method with the method of geometrical deduction which he attributes to the traditional contractarian theorists (from Hobbes onward) and to some practical politicians who tried either to base his theory of society on "one single property or human nature ... not admitting any modification of one law by another" or to deduce political conclusions from some abstract principles or precepts (VI-viii-1,2). Bentham is also criticized in this context, because he, contrary to his pretence, stopped short of being thoroughly scientific. Bentham was unscientific because he relied on only one agency of human nature (i.e., the self-interest premiss, that men's actions are always determined by their worldly interests), rather than

---

(cont'd) According to JSM experimental method is excluded because, in his understanding,

1. We are without the means of making artificial experiments.
2. It is impossible to ascertain and take note of all the facts of each case.
3. We are not able to control all the factors to secure experimental validity.(VI-vii-2)

But #2 and #3 above are due to JSM's misunderstanding of the nature of experiment. As for #2 it is no more possible and even necessary to describe all the facts in the natural experiment than it is in the social experiment. As there is no such thing as pure observation or description without being mediated by a theory, so there is no experiment which can be carried out without theoretical design, as JSM seems to believe here. See our discussion in Chap. II and also Harris (1954, pp. 11-12, p. 196). And as an illustration of #3 JSM said that "before sufficient time had elapsed to ascertain the result of the experiment, some material circumstances would always have ceased to be the same."(VI-vii-2) This statement, however, is due to another misunderstanding on JSM's part, of the nature of experiment. It is, first of all, based on a presupposition that the social phenomena are by nature affected by the change of material circumstances -- we do not even know what they are, particularly how they are distinct from the social phenomena. But if for this reason the social phenomena were believed not to be susceptible to the experimental method, it would be impossible from the outset to make a general causal proposition toward the social phenomena, because they will always be subject to change.

the panoply of human nature whose qualities modify one another.(25) (VI-viii-3)

JSM's own understanding of the truly scientific deductive method for social (and any physical) sciences is expressed in thismanner:

> The ground of confidence in any concrete deductive science is not the à priori reasoning itself, but the accordance between its results and those of observation à posteriori ... insomuch that, instead of deducing our conclusion by reasoning and verifying them by observation, we in some cases begin by obtaining them provisionally from specific experience, and afterwards connect them with the principle of human nature by à priori reasonings, which reasonings are thus real verification.(VI-ix-1)

Each of the two kinds of deductive reasonings JSM named the Direct Deductive Method or the Physical Method (VI-ix) and the Method of Inverse Deduction or the Historical Method (VI-x), with the latter of which he identifies Auguste Comte's positivism.(26)

A full picture of JSM's theory of social science has now been sketched out. We have still to ask a simple but very fundamental question: Can this system really be called a theory of social science? The last diagram (p. 147) shows that there are three pillars to the structure of JSM's system, without any one of which the whole system

---

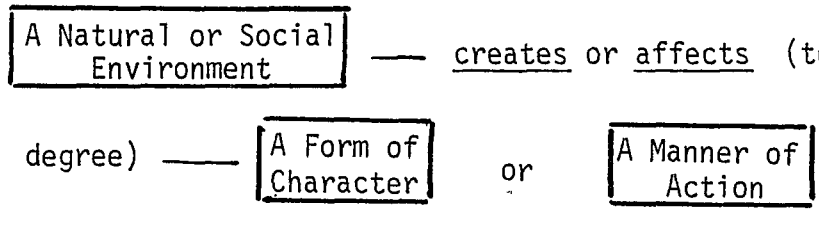
(25)See also Bentham (1789).

(26)Yet JSM and Comte are in complete disagreement with each other on the problem of human nature in the study of social science. Comte's positivism is exclusively directed at human history as the ultimate source of sociological generalizations. Comte thus denounced any attempt (such as JSM's) to found sociological research on a certain conception of human nature as historically determined and, therefore, far from universal. Against this denunciation JSM criticized Comte's philosophy of social science because it had no theory of proof -- having only what JSM called "Organon of Discovery" -- which, in JSM's opinion, must ultimately rely on human nature. See JSM's "Suguste Comte and Positivism."(Works X, esp. pp. 291-303) See also Simon (1963, pp. 184-6), Mazlish (1975, pp. 258-260), Lewisohn (1972).

would fail. Since of the three pillars two (the associational laws and ethological laws) have been shown not to work, the system is doomed from the outset. Even granted that they could work, the system is far from a social theory on the following grounds:

Whether or not JSM's individualistic or atomistic understanding of the nature of social phenomena and of society is accepted, it is one thing to talk of the nature of a phenomenon and quite another to discuss whether it actually exists. If the most essential prerequisite for any science to be an independent science is the existence of its subject-matter, the subject-matter for social science must then be the existence of the social phenomena, at least phenomenologically distinct from individual phenomena. If it were not for the phenomenal difference between individual and the social facts, it would simply be meaningless to talk about social phenomena and social science. Yet there is, in JSM's system -- perhaps in any reductionistic scientific theory -- an unbearable tension between this prerequisite and his ethological reductionism, a tension which will in the end result in the dissolution of his system itself. Let us see how it happens.

Structually an ethological law may[27] take the following form:



Let us first examine the case in which a social environment influences

(27)JSM never provides us with any example of ethological laws.

character-formation. In this case it would be possible to interpret "social" in two ways. First, it could indicate a social environment in phanomenal form, and the proposition can be formulated as follows: A social phenomenon influences the formation of a certain character or a manner of action. Now, where can we find the universal validity of this proposition? Its validity must be derived from the general laws of psychology. But, as already demonstrated, there is no place in JSM's psychological laws for that which is social. Above all, this fact will blur the very distinction between ethology and social science. There must be no doubt that a social phenomenon must belong to the subject-matter of social science, whereas apropos character-formation must belong to the domain of ethology. And it becomes baseless to suppose that ethology should be the immediate foundation for social science(VI-ix-5), because the former already contains with it itself an understanding of social phenomena, the subject-matter of any social science.

Secondly, a social phenomenon could be interpreted as the sum of the phenomena of individual human nature. And the phenomena of individual human nature are by definition ethological phenomena. It follows then that character-formation has to be explained by character-formation. Nobody would quarrel with that, but it is obviously tautological. The only way for JSM to overcome such logical circularity is to rip "social" out of the context of character formation. This resolution, however, only gives rise to another serious problem, because it would deprive the ethological law of its relevance for the explanation of the social phenomena. Nothing social could be deduced

from the law without its having social implication.

This is a dilemma. But what is more serious than this dilemma is that JSM's principle for departmentalization in social science is based upon it. His idea of departmentalization starts from his own observation that, although the social phenomena as a whole are derived from the operations of various ethological laws interwoven with one another (thereby forming a concensus of a society[28])(VI-ix-2) "it is not the less true that different species of social facts are in the main dependent, immediately and in the first resort, on different kinds of causes; and therefore not only may with advantage, but must, be studied apart ..."(VI-ix-3)

The main reference[29] for such departmentalization is made to political economy because he believes that there is

> ... one large class of social phenomena in which the immediately determining causes are principally those which act through the desire of wealth, (namely) that portion of the phenomena of society which emanates from the industrial or productive operations of mankind ... (VI-ix-3)

Therefore, he continues,

---

(28)This view is essentially incompatible with his theory of social science because it is impossible in this theory to identify any boundary of a society, which is but a sum of individual phenomena. If the boundary of a state were the sole basis for the identity of society, we should ask in what manner the boundary is structured, so that within it a consensus is formed. Why not family, small village, town, city, etc.? This is directly related to his conception of a general science of society, as distinct from the special branches of social science such as political economy or political ethology, where all other social phenomena which are not decisively controlled by one law of human nature studied as a whole (see, VI-ix-4,5; VI-x-1). This formulation is also incompatible with his basic theory of social science.

(29)He suggests "Political Ethology" as another possible separate branch of social science (VI-ix-4).

> By reasoning from that one law of human nature, and from the principal outward circumstances ... which operate upon the human mind through that law, we may be enabled to explain and predict this portion of the phenomena of society, so far as they depend on that class of circumstances only, overlooking the influence of any other of the circumstances of society.(VI-ix-3)

The basic reasoning here seems that political economy can be a separate branch of study because, he believed, there is an ethological law, as a law of human nature, which is decisive to a certain portion os social phenomena. But what he overlooked in this context is that it is not the ethological law alone, i.e., the desire for wealth, but the law in inseparable conjunction with a certain portion of the social phenomena, that makes highly likely a separate department called "political economy" in the social sciences. Theoretically, one can never be certain, nor is it deducible from the ultimate laws of psychology(30) that man's pursuit of wealth (even if this be an ethological law) is the most powerful of all ethological laws.

Even if it were the most decisive, the percentage of social phenomena determined by the law can never be the same; the contents and the manner for, and in which, wealth is pursued can be extremely diverse according to (for instance) hunting, agricultural, and industrial societies, thereby giving rise to diverse social phenomena. In other words, separate departmentalizations, of political economy cannot be justified, at least not on the ground of the existence of a distinct, independent ethological law.

The point on which JSM is basically mistaken in this context may

---

(30)JSM's own example of a psychological law that rationalizes the man's pursuit of wealth, "a greater gain is preferred to a smaller," (VI-ix-3) can never be regarded as universal at all.

be identified in this way; the major reason why "a portion of the social phenomena emanating from men's industrial and productive operations" enjoy a relatively higher autonomy than other portions of the social phenomena is not because it is inherently automous and has at its foundation a highly autonomous ethological law, but because that portion of the society dominates the other portions of the society at a particular stage of history. This statement would have sounded grotesque to JSM and probably does to his followers today, because it would appear to them empirically unprovable and/or, perhaps, not derivable from the laws of human nature.

It is beyond the subject-matter of the present study to argue with them and show specifically, in reference particularly to Weber and Marx, why such an understanding of society and social phenomena is inevitable in the study of social science.(31) It must be, however, noted that even in JSM's system there is one large presupposition which can be neigher empirically provable nor derivable from his concept of human nature, and by which JSM's system can be (at least in its outward appearance) called a theory of social science.

It is the presupposition that social phenomena exist objectively and independently of the observing mind, and that there could thus be no dispute as to what their phenomenological form is, so that what every mind has to do is observe or, to say more properly in JSM's way, sense them, and the same phenomena will reveal themselves to every

---

(31)We are going to show, however, in the following pages why a new framework of social science, which could possibly underpin such an understanding, should emanate from a new conception of human nature.

sensing mind. It was thus simply taken for granted by JSM that there could be no doubt as to the phenomenal from of the society emanating from industrial society, and that everybody will observe accurately how history moves, whatever generalizations are to be drawn from it.(32) Can this presupposition be indeed taken for granted?

If the presupposition should be accepted (and thus really is a presupposition for everyone, not a dogmatically imposed supposition), it should be explained away by his system of social science. However, as we have seen so far, there is no place in his system of social science for a theory that explains how man observes the social phenomena which embrace his own existence. 'Human nature' in JSM's system of social science is no more than the means or the objective criterion -- a collection of the objective laws -- by which objective empirical laws of social phenomena are accepted or rejected. The concept of human nature is merely the objective foundation upon which the structure of the objective social science is built up. Strangely somehow, human nature is not the subject who actively studies social phenomena.

In his system it is only after science end its activity that the active subject comes in. But the stage at which the subject enters is totally distinct from the preceding stage of science. He enters at the stage of Art, not of Science. It is the stage of Value, not of Fact.

> Every art has one first principle, or general major premise, not borrowed from science; that which enunciates the object aimed at, and affirms it to be a desirable object.(VI-xii-6)

---

(32) He partly endorsed Comte's theory of historical development (see, VI-x-3).

> A scientific observer or reasoner, merely as such, is not an advisor for practice. His part is only to show that certain consequences follow from certain causes, and that to obtain certain ends, certain means are the most effectual.(VI-xii-6)

Yet questions still remain: Should human nature, as the passive foundation of the objective social sciences, be distinct from the human that actively studies the social phenomena? Is the human that studies social science distinct from the human nature that takes advantage of its scientific results? As to the latter question, we have already shown in the last section of this chapter that such a distinction only results in a nullification or devaluation of the subject as such, thereby rendering in turn any discussion of the object meaningless. As for the first question, it has been shown that 'human nature' as the subject is completely foreign to JSM's system. Therefore, JSM's presupposition about human nature of doing science has turned out to be an untenable supposition. But if this dilemma is not resolved within the system, the system itself will be broken asunder.

The only way remaining for JSM to escape this cul-de-sac may be then to subjectivize objective human nature while retaining it as the objective foundation for social science. This requires him to resort again to the epistemological principles of associational psychology. But would this effort have been successful?

The answer is, unfortunately, No. In this connection we have to revert to our previous discussion of James Mill's theory of action which is here assumed to be identical with JSM's. It was shown that the best scientific definition of human action is muscular or fibrous

contraction. It follows from this that social phenomena, consisting of human actions, are no more than the sum of the muscular contractions of the whole people constituting the society.(33) If so, it would be quite illogical and groundless for JSM to admit that social phenomena are at least phenomenally distinct from individual phenomena. Yet, if the latter admission were not made, JSM's theory of social science would be deprived of at least the title social; his system would by no means be a logic of social science. This is the cul-de-sac in which JSM's philosophy of social science encounters total destruction.

Could there be a way out of this? There are two immediate alternatives. One is the Humean dichotomic distinction between a)the purely passive, intellectual process of the mind and b)a naturalistic passion of the mind (which has supposedly nothing to do with the former process).(34)(See Hume, 1977) In this case there would be no inter-relation between social science and man's actions.

Such a position is obviously self-refuting. It would lead not only to the nullification of both subject and object; but under such a strict dichotomy between intellect and passion it would be theoretically impossible to identify passions and the mind as such, because, not belonging to the domain of intellect, they would not be regarded as

---

(33)It must be noted in passing that, in its more accurately objective understanding, contemporary political behavioralists' Behavior, as their unit of analysis, ought to be nothing other than Muscular Contraction in one form or another, if they still believe in the objectivity of the natural sciences -- in this case, of physiology.

(34)See Smith (1905) for an excellent elucidation of Hume's philosophy, not merely as an sceptical intellectualism but also as a naturalistic philosophy of action.

ideas; and not being ideas, it would be entirely groundless to pretend to "know" what they are.

The other alternative remaining would be Watsonian Behaviorism, to which today's Political Behavioralism is not unrelated.(35) This doctrine may have been anticipated by the fundamental difficulties inherent in JSM's psychological associationism, particularly as regards its failure to link ideas of the mind to action.(36) But this is also shown to be immediately self-refuting, merely by extending its generalizability. If the mind is something completely unknowable, it is also completely unknowable whether this theory itself is true or not, insofar as the theory is a product of Watson's own mind. If man's mind is completely unknowable, no one could comprehend a mind such as Watson's, that observes stimili and/or responses. In fact, if psychological behaviorism has nothing to do with the inside-workings of the mind (Watson,1913,pp.166-7), it should never be espoused in the name of psychology, as JSM's theory should not have been in the name of social science.

Now, then, what other alternative could remain? Certainly it is

---

(35)David Easton, one of the most distinguished proponents of this credo, once tried to distinguish Political Behavioralism from the Psychological Behaviorism by linking political behavioralism -- note also the change in the label (from behavior to behavioral) -- with S-O-R (Stimulus-Organism-Response) model rather than with the Watsonian S-R model (Easton,1967,pp. 11-13).Such an alteration, however, only contributes to the eclectic confusion of his systems theory.

(36)Flugel saw the rise of Behaviorism as "a protest against an exaggerated dependence on the classical method of introspection and the consequent tendency to look upon psychology as the science of consciousness."(1933,p.251).This view, however, fails to express clearly the internal relation between the two doctrines, namely that the Behaviorism was an unsuccessful resolution of the contradictions innate in the associational framework.

a very complicated and difficult task to make a new, alternative synthesis. And obviously it is far beyond the limited aim of the present inquiry to establish a new foundation for the social sciences. Nevertheless, it might at least be suggested that a new social science must be founded upon a concept of human nature which accounts for at least the following aspects of man:

1. Ideas of the mind and the mind as such.
2. The perceiving mind, the reflective mind, and the acting mind.
3. Man as the <u>object</u> of science and man as the subject <u>doing</u> science.

But how can the new synthesis be approached? What will be the first step toward it? Did Western philosophy never produce a philosopher, or philosophers, by whom such a synthesis was made or expressly attempted, or in whose fundamental outlook the systhesis was at least immanent? What is the implication of the previous discussion for the study of political science? These are the basic questions we shall address next, as the conclusion of the present work.

V. CONCLUSION: TOWARD A NEW SYNTHESIS

Let us for the moment summarize briefly what has been established in the foregoing chapters. It has been argued that:

1. There can be no such thing as 'purely particular', 'self-evident', 'immediate' facts or phenomena which, as empirically given data, are simply given, to be operated on by some objective method of scientific research.
2. There can be no such thing as a formal method of science -- 'formal' in the sense of being independent of human cognition; that is, there can be no formal rules of naming, ratiocination, and induction, separate from subjective thinking as a whole.
3. There can be no such thing as purely elementary perceptions or sensations as the bases for the formation of abstract ideas, without their being mediated by certain (in one form or another) subjective conceptual frameworks, since otherwise all sensations would be meaningless stimuli.
4. There can be no such thing as 'objective' 'social' phenomena, in separation from determinate conceptual frameworks, which provide the 'data' for social inquiry. If physiology were to provide the basis for objectivity in social inquiry, the only objective description of social phenomena would be the sum of men's muscular contractions.
5. It is impossible to distinguish between human cognition and human action. They are the two inseparable aspects of one and the same entity, man as a whole. Separating them would only nullify man as an independent being, which would then render

scientific inquiry -- natural or social -- meaningless.

All of these results (if the present analysis has been successful) may be paraphrased in this maxim: 'Every science begins with Human Nature and ends with Human Nature.' All the sciences are, thus, unified not in the sense that they are all methodologically the same, but in the sense that they are all essentially the results of theories of human nature.

The fundamental cause of JSM's failure to construct a system of social science on the basis of human nature becomes clear now. Possessed with the idea that there is and must be (in order to be a science) the same formal structure or method in social science as is supposedly found in the natural sciences, and that Human Nature cannot but be the objective basis for such a structure,(1) JSM never recognized the bare fact that his own theorizing activity is but an expression of the Human Nature which he himself inescapably exhibits. If in the name of science human nature could be understood only in terms of its externality or objectivity, such a human nature were mere dead-bone, petrified human nature, deprived of the essential tie to its own nature, never to be the real criterion for social scientific research. Yet has JSM been the only victim of such objectified, externalized thinking?

We shall suggest toward the end of this conclusion how to approach a universal theory of human nature. Nonetheless, even if we are not now provided with that theory, the barest recognition of what JSM failed to understand over a hundred years ago (the indubitable fact that human

---

(1)This insight, though far from perfect, should be regarded as JSM's most important contribution to the philosophy of social science, although it is hardly appreciated today.

nature, as actively doing science, is the most fundamental basis for any science and also for human nature theorizing per se) is very promising start toward understanding the nature of the theoretical cul-de-sac into which both contemporary philosophy of science and human nature theories in the social sciences have wandered. Let us first examine the present development of the philosophy of science.(2)

A) The Dilemma of Contemporary Philosophy of Science

As we have previously shown with regard to JSM's theory of induction, it is logically impossible to derive any general proposition from sense-particulars. Any attempt to construct a theory of scientific method on the basis of induction may thus be doomed from the outset. Moreover, insofar as there can be no such thing as pure sense-particulars, any attempt to prove the ultimate validity of induction from the 'immediacy' of sense-particulars is simply meaningless.(3) Yet such an understanding of scientific theory and method was the major tenet of early logical positivism.(4)(See Ayer, 1959, pp. 12-13; also see Harris,

---

(2)It is almost impossible and hardly necessary to examine all the issues concerning philosophy of science today. We have already excellent works aimed at such a task (see Suppe, 1977). We shall only be concerned with major contributions in the field. The same rule applies to the case of the human nature research. Our examination will be confined to major human nature theorizing in political science, as representing essentially the same theoretical dilemma as in sociology, economics, etc.

(3)This was in fact the early logical positivists position which is expressly summed up in their notion of 'protocal statements'. See especially Schlick (1959) for a defense of this notion.

(4)As Karl Popper (1968) aptly illustrated, "no matter how many instances of white swans we may have observed, this does not justify the conclusion that all swans are white."(p. 27; emphasis Popper's.)

1970, pp. 19-32; Popper, 1968, pp. 27-30; Suppe, 1977, pp. 11-15)

This inductivist view of scientific theory could not save itself even if it were revised such that inductive inference became identified with probability inference. For, as Karl Popper (1968) aptly pointed out:

> ... if a certain degree of probability is to be assigned to statements based on inductive inference, then this will have to be justified by invoking a new principle of induction, appropriately modified. ... In short, like every other form of inductive logic, the logic of probable inference, or 'probability logic', leads either to an infinite regress, or to the doctrine of apriorism. (p.30; also see pp. 254-265; Harris, 1970, pp. 32-42)

It is in fact Popper himself (who has not wished to be classed as a positivist (Ayer, 1959, p. 6)) who must be given major credit for having given the empiricistic interpretation of scientific theory new life and for having drawn the philosophy of science closer to the actual undertakings of the practicing scientists (Harris, 1970, p. 72). His insight into the theoretical defect of crude inductivism was all the more valuable because "it challenged hard-line Empiricism, as represented by the positivists, well before the general decay of that position set in."[5] (Harris, 1972, p. 55) Yet he was not revolutionary enough to shake himself completely from all the remnants of empiricist dogmatism.

Since we are already provided with a very cogent critique of Popperism (see Harris, 1970, pp. 72-81) we do not have to concern ourselves at this moment with a detailed examination of it. What we have to be concerned with is Popper's foundering among 1)his insightful refutation of the sensationistic dogma, that there can exist pure

---

(5)Karl Popper's Logik der Forschung was first published in 1934.

particulars immediately sensible to us,(6) while, at the same time, 2)his silence as to the origin of hypotheses, denying any 'psychological' elements in science, as distinct from the methodology of science, (see 1968, esp. pp. 30 - 33), 3)his espousal of 'falsificationism' as the essential requirement for scientific theories, the sole criterion distinguishing 'science' from 'metaphysics' (see 1968, 40-41 and passim.), and finally 4)his insistence on the 'basic' empiricist position that "only observation can give us knowledge concerning facts ..."(1968, p. 98)(7)

But the question for Popper is this: If the origin of hypothesis is something mysterious and undiscoverable -- because there is no room for psychology in his logic -- and if there is no ultimate ground for any hypothesis' being completely falsified or verified or related to empirically observable 'particular' phenomena, then Popper's logic of scientific discovery is in fact anything but a formal rule or method-

---

(6)Popper thus lays it down:

> Every description uses universal names (or symbols, or ideas); every statement has the character of a theory, of a hypothesis. The statement, 'Here is a glass of water' cannot be verified by any observational experience. The reason is that the universals which appear in it cannot be correlated with any specific sense-experience. ... By the word 'glass', for example, we denote physical bodies which exhibit a certain law-like behavior, and the same hold for the word 'water'.(1968, pp. 94-95; emphases Popper's)

Yet he did not delve into the epistemological reason, namely the question of why the nature of our thinking cannot but be such and such.

(7)In this connection, one of the major difference between JSM and Popper is that JSM viewed science in terms of an axiomatic hierarchical structure, whereas Popper regarded the empirical sciences as "systems of theories"(1968, p. 59)(although Popper has never been explicit as to the exact meaning of 'system').

ology of science.[8] Here again in Popper. as in JSM, we see the failure to construct a system of science in separation from man's subjective groping for knowledge, which is in itself 'psychological' in the broadest sense of the term. Yet this incoherent system of scientific philosophy has been regarded, especially by social scientists, as the orthodox theory of science until Imre Lakatos (1970)[9] made some revisions in response to the challenge to Popperism in Thomas Kuhn's The Structure of Scientific Revolution.[10](1970a)

In many ways Kuhn's work was revolutionary. Above all it was, as he suggested at the outset (1970, p. 3), a radical reformulation of the image of science commonly accepted -- of which even Karl Popper had not freed himself -- according to which science is understood as being advanced by the gradual accumulation of scientific discoveries and theory-building. That this is not the case was sufficiently anticipated by his earlier work (Kuhn, 1957) in which, as we have said in Chap. I,

---

(8)Kuhn aptly asked Popper: "What is falsification if it is not conclusive disproof? Under what circumstances does the logic of knowledge require a scientist to abandon a previously accepted theory when confronted, not with statements about experiments, but with experiments themselves?"(1970b, p. 15)

(9)There is, however, hardly any substantial improvement Lakatos made on Popper's original falsificationism. What Popper had called 'systems of theories' was changed into 'research programmes'(see 1970, pp.132-138), yet again with no explanation of why such things are necessary for scientific development and how they are originated. And he failed to realize that the discovery of 'new fact' as his criterion for scientific progress (see pp. 118-119) can never be 'new' without transformation in the whole theoretical structure. For a detailed critique of Lakatos' theories of 'sophiscated falsificationism' and 'research programmes', see Harris (1972).

(10)There had also been many non-orthodox philosophers who raised serious objections to the Received View and Popperism (see Suppe, 1977a, pp. 119-166). Yet Kuhn's alternative was most systematic, though far from perfect; and no other work in the unorthodox camp surpasses Kuhn's (1970) in its great repucussions for the public as well as for scholars of other fields.

he identified the transformation of a world-view or conceptual framework as the key element in the modern scientific revolution. But when he attempted, later, a general theory of science and scientific revolution on the basis of his earlier generalizations, the result was rather confusing -- even if provocative and full of valuable insights.

Kuhn's main argument (1970a)and his more or less confounding treatment of the term 'paradigm' and related concepts such as 'normal science' or 'puzzle-solving', are now too well-known to need repeating (see especially Masterman, 1970). As he himself later admitted, "part of the reason for its success is ... that it can be too nearly all things to all people," and "for that excessive plasticity, no aspect of the book is so much responsible as its introduction of the term 'paradigm'." (Kuhn, 1977, p. 459) But together with the ambiguity in his use of the term 'paradigm' it has been pointed out by his critics that Kuhn confounded methodological prescription and description (Feyerabend, 1970), psychology and methodology (Lakatos, 1970, esp. pp. 177-180), and 'genuine' and 'hack' science (Watkins, 1970, esp. p. 27).[11] In view of these criticisms Kuhn's reply (1970a,pp. 174-210; 1970b; 1977) does not seem successful.[12] Does this mean that Kuhn's theory is far from a true picture of science?

---

(11)In Watkins' own expression, "science at its best." He, however, never clarifies what is the criterion for a science to be at its best. He only alludes to Popper's falsificationism, which, as we have shown above, can by no means be a proper criterion.

(12)The main revision Kuhn made to his concept of paradigm was the distinction between the two components or paradigm, i.e., disciplinary matrix and exemplars, which had originally been treated in one concept (see 1970c and 1977; also see Suppe, 1977a, pp. 135-151 and 1977b) He thus failed, as will be seen next, to realize the organic unity between them to such an extent that without one the other becomes meaningless.

Let us go over again the multifarious components constituting Kuhn's concept of a paradigm. As Margaret Masterman pointed out, "not all (no less than twenty one) the senses of 'paradigm' are inconsistent with one another: some may even be elucidations of others."(1970,p.65) They were later grouped together by Kuhn into the two categories: 1) Disciplinary matrices and 2) Exemplars. To the former may belong what Masterman classified as 'metaphysical' and 'sociological' paradigms, and the latter corresponds to what she called artefact paradigms (1970,p.65).(13) But both Kuhn and Masterman -- along with other critics of Kuhn -- failed to recognize that all those components are in fact but the expressions of scientists as men and of the scientific community as a human community.

The plain and important fact is that there is no scientist who is born to be a scientist -- literally -- and a scientist is not a man (or a woman) who has brought himself up, educated himself all alone, and can live his life in total isolation from all others only to concentrate on his scientific research. In a word, he does not live in a social vacuum. What he experienced and learned as he grows, presupposes a certain social system, and draws on a system of knowledge -- all of which cannot but be based upon a certain metaphysical world-view, whether this takes a form as mystified as a "myth,"(Kuhn, 1970a,p.2)as incoherent as a dogmatic "set of beliefs,"(p. 4) or as coherent and systematic as the Newtonian "world-view."(pp. 111-135)

---

(13)Masterman, however, misunderstood Kuhn when she regarded 'a universally recognized scientific achievement' or 'a concrete scientific achievement' simply as a sociological component of paradigm, thereby believing erroneously that in Kuhn's paradigm there is no room for scientific theory proper (see 1970, p. 67).

Insofar as the world of science is a social system, it also presupposes[14] a power-relation among members of his society. This implies that there is a group of scientists who, with a certain metaphysical system along with its empirical theories, dominate a scientific community, which could, in turn, be related to the whole power structure in the society. Hence a scientific paradigm could connote "a set of political institutions"(Kuhn, 1970 p. 91) or "an accepted judicial decision."(p. 23) How far a theoretical change in science could influence other sectors of society is determined by the power of the metaphysical implications of the change. This explains why the Copernican Revolution should be regarded as a revolution par excellence.

All of these metaphysical and sociological components are symbolized in a "universally recognized scientific achievement"(p. x) which usually takes the form of simplified mathematical formulas or of few axiomatic propositions. This constitutes what Kuhn later called an "exemplar." (See Kuhn, 1977,pp.463-7) It functions as a standard or criterion for actual research. It is customarily identified with the contents of an orthodox textbook in a field of science, which also constitutes Kuhn's notion of a paradigm (1970a, p.10). Yet, in separation from the metaphysical and sociological components of scientific research, the meaning of 'textbook' becomes spurious.

All this shows that Kuhn's confusion in his treatment of 'paradigm' is due to his, like Popper's, failure to free himself completely of the

---

(14)The mere fact that there exists in a society a group of professional scientists who earn their living only through research may immediately indicate the existence of a certain type of power structure in the society.

empiricist's obsession with his belief in a formal rule or method of science. Thus he still insisted, even in later revisions, that "neither logic nor observation, nor good reason is implicated in theory-choice. Whatever scientific truth may be, it is through-and-through relativistic."(1970c, p. 260) "Consequently," E. Harris points out (1972,p.66),"he fails to provide any explanation or logical basis for the transition from one so-called 'paradigm' to the next, and represents it simply as an inexplicable gestalt switch." If Kuhn, a man of shrewd intellect and keen insight, had come to realize the plain fact that science is essentially human activity and thinking, and that as such there is no reason to disregard what they call 'psychology' of research in the name of 'rationality' of methodology, he would not have left such problem intact as if they were beyond his proper concern as a philosopher of science. 'Psychology', or man's subjective thinking as a whole, is in fact the central object for any philosophy of science.

This is a sort of a tragedy, a tragedy due to man's great difficulty in overcoming his inherited world-view or way of thinking, as we have sufficiently seen in JSM's case. Yet the same heritage -- belief in the 'rationality' of formal rules and methods -- had haunted another intelligent scholar to such an extent that he proclaimed at last the "anarchism" of scientific methodology. Paul Feyerabend meant by "anarchism" to assert that there is no 'objective' guide in scientific research and, therefore, any 'irrational' source of scientific advancement must be duly respected (1975, passim.). Hence he discouraged any effort to search for scientific method under the banner 'Against Method'.

True, as we have previously argued, there can be no such thing as 'objectified' or 'externalized' method existing independently of the subjective activity of the human mind. Yet this does not mean that there is no such thing as method at all.(15) Feyerabend, with Kuhn and Popper, should have asked why something 'objectively' inexplicable should be regarded as 'irrational'. If, as Feyerabend concluded, there were no method, in the best sense of the word, there could be no such thing as 'science' at all. All the scientific theories and research would be bunch of idiosyncracies, mysteries, and eccentricities, the objective validity of which can never be guaranteed.

This is in fact self-contradictory. If we were essentially unable to know anything about science, the very discipline 'philosophy of science' would be meaningless from the outset. And Feyerabend's very assertion of "anarchism" would be groundless, because it would be based upon some valid knowledge of science, which would be impossible according to his very own assertion. His position, however, may correctly represent the cul-de-sac into which the contemporary philosophy of science has drifted. Yet the same kind of cul-de-sac is also found in some social scientists who carry out their research with express concern for human nature as the ultimate foundation. Let us briefly review their arguments in the context of political science.

---

(15)Etymologically the English word 'method' derived from the Greek 'methodos'(meta: in pursuit of, hodos: way or path) meaning 'pursuit of knowledge', 'investigation', etc.(Oxford Greek-English Lexicon) It does not, not at least etymologically, necessarily indicate a 'formalized' rule or a guide.

B) Homo Politicus and Biopolitics

In foregoing chapters we have seen that JSM's eclectic attempt to construct a system of social science on the basis of human nature with the method of deductive inductivism was a failure. The main reason, to reiterate, for this failure was his obsession with the 'objectivity' of human nature as the only criterion for social research. Yet, strangely enough, we saw in the 1950's a revival of human nature paradigm following not JSM's model but Jeremy Bentham's geometrico-deductivistic model, which JSM had already rejected over a hundred years ago because of its dogmatic adherence to only one aspect of human nature -- i.e., pleasure or utility-seeking. What is more curious about this paradigm is that its advocates never expressed their intellectual debt to Bentham,though their main argument is hardly different from his. Anthony Downs' An Economic Theory of Democracy represents this paradigm and will be the main object of our critique.(16)

Downs assumes that homo politicus "... approaches every situation with one eye on the gains to be had, the other eye on costs, a delicate ability to balance them, and a strong desire to follow wherever rationality leads."(1957, pp. 7-8)(17) Interestingly enough he did not, however, regard such a conception of man as compatible with actual

---

(16)See also Riker (1962), Olson (1965) for other representative works following Downs' model. Donald Moon called this paradigm "the Rational-Choice Model" and said that political science has only one paradigm of such a nature (1975, p. 195). For a brief explication of this paradigm, see Moon (1975, pp. 195-204).

(17)Following Anthony Downs, William Riker (1962) defines 'rational' behavior as "choosing the alternative leading to the larger payoff." (p. 23)

human behavior in the real world. Yet he argues that "... otherwise all analysis of either economics or politics turns into a mere adjunct of primary-group sociology."(p. 8) He also adds that "in the long run, we naturally expect a rational man to outperform an irrational man, ceteris paribus, because random factors cancel and efficiently triumph over inefficiency."[18](p. 6) Obviously Downs is here not only assimilating the concept of human nature to 'pursuit of maximum utility' in his framework for empirical research, but he is also endorsing such a conception of man as the ultimate objective to be realized.'

Here again we see an example, or rather a culmination, of complete objectification of human nature, which is regarded as 'inevitable' for the 'scientification' of politics. According to Downs, man must first become a law-like element that moves exactly according to the 'rational principle' in order for an objective science of politics there to exist. It is not man as such who studies his own society, but the 'rational principle', to which man must adapt in order to formulate 'the' 'science' of society.

We are not given by Downs the reason why rationality should be identified with the maximum pursuit of 'gains', and what must be identified with 'gains' after all. If the meaning of 'gains' varies according to individuals, Downs' formula[19] will not be a social theory at all --

---

(18)As a matter of fact Bentham did not believe that his utility principle was universally applicable to human actions. His main concern was to "... found, for the first time, the art of morals and legislation on an objective science of behavior," and for him the principle of utility is the only "objective law of human nature."(Halévy, 1972, p.27)

(19)Symbolically, $E(U^{A}_{t+1}) - E(U^{B}_{t+1}) \lessgtr 0$. Meaning that if there are two parties and expected utility from the party A after an election (time: t+1) vis-à-vis that of party B decides a voter's party preference (see 1957, passim.).

because it cannot by nature explain social phenomena. If 'gains' only means for every man certain objects, say money, he should have explained why human nature should be identified with the maximum pursuit of money. And also, even if it were self-evidently true that man by nature pursues maximum profit and all of his behavior is but the expression of such a nature, Downs' argument itself would lose its theoretical validity because Downs, as a man, utters words that would be no other than an expression of his desire for profit. This is a self-refuting paradox.

Such a paradox is a necessary outcome of the objectified notion of social science, where men are nothing more than 'externalized' elements constituting the objects of science -- as if scientists themselves were those essentially distinct from other members, i.e., the objects of social science, of the human species.(20) Yet the same paradox awaits the so-called Biopolitics, a newly growing research paradigm in political science, though it pretends not to be reductionistic, rather to be a contribution to the general understanding of politics.

It is impossible to examine biopolitics in detail. Nevertheless, even a brief summary of its basic position toward human nature in the study of politics, and of social phenomena in general, reveals some

---

(20)Karel Kosik revealed another aspect of such a use of human nature with regard to the concept of homo economicus, which is not essentially distinct from homo politicus:

> Homo oeconomicus is based on the idea of a system. Homo oeconomicus is man as a component of a system, as a functioning element of a system, who as such must be equipped with essential features indispensable for running the system. The suggestion that the science of economic phenomena is based on psychology and that the laws of economics are just an elaboration, refining and objectivation of psychology uncritically accepts the phenomenal form of reality as though it were reality itself.(1976, p. 51; emphasis, Kosik)

grave theoretical defects as a sound research paradigm.

Biopolitics, as one of its adherents states its goal, attempts to "blend strands of knowledge from both the life sciences and the social sciences in an effort to better understand human political behavior," Wiegele, 1979, p. 8) because it proposes to "search for a more human political science."(Wiegele, 1979: see its subtitle; emphasis added) What does the bio-political scientists mean by being 'human'? It is dubiously stated two ways: One says that biopolitics is based on the rejection of "the false antinomy of human, as non-material, cognitive, rational organisms versus human as animals"(Watts, 1981, p. 4) whereas another claims that the causes of man's behavior are not qualitatively different from the causes of animal behavior, and political research has been based on a misconception of human nature, that it is distinct from animal nature (Wahlke, 1979, p. 26).

The former position in fact does not say anything definitive about being human; and according to this position it is very doubtful whether bio-political study could yield any significant, new information about human behavior. For no one could deny that biological knowledge about human being is essential for understanding human behavior; not only biological or physiological knowledge, but also chemical and even mechanical knowledge, is essential for understanding human behavior. We need to know what calories are burnt so as to make muscular contraction possible, what mechanical process moves bones and muscles, what physiological process transmits orders from the brain, and so on. As an eminent biologist aptly writes: "... it is sociological truth as well as a physical truth that the atomic weight of sulphur is 32. The

trouble about such a statement is not that it is false or meaningless in the social sciences, but that it is unimportant and dull."(Medawar, 1969, 19n)

The case would hold even if biopolitics provides fresh knowledge about animal behavior or instinct to the study of political science. Few would deny that there are in man certain animal-like instincts which affect human behavior. And the knowledge about such aspect of human behavior is doubtless very useful. Yet, if biopolitics does not argue that such an instinct determines all other human behaviors, any knowledge derived from the life sciences would still be dull and insignificant to an understanding human behavior related to non-animal-like elements in human beings. The point is that they, the biopolitical scientists, flatly deny any charge of reductionism:

> It is not argued that any of these phenomena is biologically determined; one need only to accept that there is a biological component. ... Biopolitics does not attempt to displace any existing approach but rather to provide the social sciences with the theoretical and empirical richness of the life sciences perspective. (Watts, 1981, p. 11; see also Wiegele, 1979, p. 4)

Yes, the knowledge from the life sciences is always welcome and supplementary; but it cannot be essential, since it is admitted that animalistic humaness is only a component of being human. This is the paradox intrinsic to the eclectic view of biopolitics.

Therefore, if biopolitics really wants to affect political science research it must be through-and-through deterministic and reductionistic. Yet even this formulation is not exempt from logical paradox.

John Wahlke's (1979) pronouncement is in fact tantamount to saying that man has no nature as distinct from his animal nature. If so, it

would be simply meaningless to speak of political science or social science as a different branch of study from biology or zoology; all human behavior must be studied in the name of biology, zoology, or further chemistry or physics.(21) Yet the important point is that John Wahlke proclaimed a "pre-behavioralistic stage in political science" because he believed that a thorough study of animal behavior of man -- therefore still pre-behavioralism -- would contribute to the understanding of politics (1979), thereby admitting at least the status of political science as an independent discipline. However, if there were nothing in human behavior to be distinguished from animal behavior, it would be nonsense to say that there is other aspect of human behavior remaining for separate treatment -- separate from the study of the life sciences.

This is an absurdity. The fundamental reason for it is again due to political scientists' obsession with the erroneous idea of objectified science, and of objectified view of human nature. If bio-political scientists had realized the plain fact that they are also human beings, sharing the same human nature as those whose behaviors provide them with the 'objects' of their science, and had asked why human beings alone do science, do try to establish such sciences as biopolitics, they would have approached the problem of human nature from a radically different perspective. What would be, then, that radically different perspective toward human nature? Or, what should be our point of

---

(21)It is in fact strange in this connection that the bio-political scientists do not call into doubt the status of life sciences as distinct from chemistry or physics. For all life-phenomena could be reduced to chemical or physical phenomena, and again chemical to physical, and so on.

departure toward such a perspective?

C) Toward a New Political Science

It seems that all reflection on human nature, science, methodology, or logic must begin with the self-evident fact that we are reflecting or thinking about a special subject. We must ask why we, belonging to the human species, are doing 'science' or trying to establish a 'better' science. This recognition must be followed by the question: What is the ontological meaning of our thinking and reflection of ourselves, namely of being critically self-conscious?

As we saw in the previous chapters, JSM's effort to explain human cognition through sense-perceptual process with the conception of the mind as purely passive being, proved a failure. It turned out to be self-contradictory. JSM's abortive attempt, however, suggested that no cognitive process can ever be explained without presupposing a self-acting human mind. If this is admitted, we must ask why on this planet there exists a species, called 'man', that can think and reflect on himself. In this case a purely epistemological query is not sufficient, because by simply accepting man's self-consciousness, we could ignore the ontological meaning of self-consciousness and thereby could ignore the unity of consciousness and action in man. How then should we approach this problem?

It must be noted that thinking or being self-conscious presupposes 'life', 'life' presupposes 'chemism', 'chemism' presupposes 'mechanism', and ultimately, the whole process is reduced to pure 'Being'. If so, we may ask how pure 'being' could ultimately be identified with thinking

or being self-conscious.(22) In this connection the name Hegel must be invoked. For his philosophy is the first, and the last, system in the history of Western philosophy which comprises all these respects in one organic, unified whole (see, in this regard, esp. his Enzyklopädie I, II, III).

Yet a brief mention of even one aspect of Hegel in separation from his whole system would be impossible without doing injustice to his system. Close examination of Hegel's philosophy is thus required in order to build up a new political and social science. It should, however, be suggested that man's immediate nature as a thinking being cannot be separated from his life activity -- both determining each other. And the universality -- insofar as thinking is identified with being in general -- immanent in man's thinking can be said to determine man's ceaseless transformation of his life-activity which, in turn, determines his thinking or consciousness as well. This whole process we may term 'History'. It is thus,in conclusion, suggested that the social sciences, including political science, be studied only in the context of human history. Yet a sufficient discussion of all these ideas requires no doubt more voluminous work, which will be the object of subsequent studies.

---

(22)Erol Harris nicely sums up the meaning of evolution of nature in this connection:

> The conception of nature which arose in consequence was that of a vast process of evolution in which matter generated life and the living species evolved one from another until man with his conscious mind and intellectual capacities eventually emerged: the highest product to date of the entire process, a creature capable of apprehending both the universe in which he lives and his own nature as a conscious, thinking being."(1954, p. 203; see also p. 206)

References

J.S. Mill's Works:

Collected Works. in 19 Vols. Toronto: Uni. of Toronto Press, 1979.

A System of Logic: Rationative and Inductive. London: Longman, 1970.

Autobiography. New York: Columbia Uni. Press, 1924.

Other Works:

Anschutz, R.P. (1953). The Philosophy of J.S. Mill. London: Oxford Uni. Press.

Arendt, Hannah (1959). The Human Condition. New York: Doubleday Anchor.

Ayer, A.J.(ed.) (1959). Logical Positivism. Glencoe, Illinois: Free Press.

_____ (1959a). "Introduction" Ayer, Logical Positivism, pp. 3-28.

Bacon, Francis (1960). The New Organon. Indianapolis: The Bobbs-Merril.

Bentham, Jeremy (1789). "An Introduction to the Principles of Morals and Legislation," Works Vol. I: pp. 1-154. Edinburgh: Stevenson.

Bentley, Arthur F. (1935). Process of Government: A Study of Social Pressures. Bloomington, Ind.: Principia Press.

Bernstein, Richard J. (1976). The Restructuring of Social and Political Theory. Philadelphia: University of Pennsylvania Press.

Brodbeck, May (1968). Readings in the Philosophy of the Social Sciences. New York: MacMillan.

Brody, Baruch A. (1970). Readings in the Philosophy of Science. Englewood Cliff, N.J.: Prentice Hall.

Brook, Richard J. (1973). Berkeley's Philosophy of Science. Hague: Martinus Nijhoff.

Burtt, E.A. (1952). Metaphysical Foundations of Modern Science. Atlantic Highlands, N.J.: Humanities Press.

Butterfield, Herbert (1957). The Origins of Modern Science 1300-1800. New York: Free Press.

Charlesworth, James C. (1967). Contemporary Political Analysis. New York: Free Press.

Collingwood, R.G. (1946). The Idea of History. London: Oxford Uni. Press.

_____ (1945). The Idea of Nature. London: Oxford Uni. Press.

Corning, Peter A. (1977). "Human Nature Redivivus," in Pennock et al., pp. 19-68.

Crick, Bernard (1959). The American Science of Politics. Berkeley: Uni. of California Press.

Cumming, Robert D. (1969). Human Nature and History, 2 Vols. Chicago: The Uni. of Chicago Press.

Dampier, W.C. (1948). A History of Science. Cambridge: Cambridge Uni. Press.

Davis, James C. (1963). Human Nature in Politics: The Dynamics of Political Behavior. New York: John Wiley & Sons.

Downs, Anthony (1957) An Economic Theory of Democracy. New York: Harper & Row.

Drake, Stillman (1976). "Introduction," Galileo against the Philosophers. Los Angeles: Zeitlin & Verbrugge.

Easton, David (1969). "The New Revolution in Political Science," American Political Science Review 63, pp.051-1061.

Easton, David (1967). "The Current Meaning of Behavioralism," James C. Charlesworth ed. Contemporary Political Analysis, pp. 11-31.

_____ (1965). A Framework of Political Analysis. Englewood Cliffs, N.J.: Prentice-Hall.

Eddington, Arthur (1958). The Philosophy of Physical Science. Ann Arbor: The Uni. of Michigan Press.

Eulau, Heinz (1963). The Behavioral Persuasion in Politics. New York: Random House.

Feyerabend, Paul (1975) Against Method. London: Verso.

_____ (1970) "Consolations for the Specialist," Lakatos et.al., eds. Criticism and the Growth of Knowledge, pp. 197-230.

Flugel, J.C. (1933). A Hundred Years of Psychology: 1833-1933. New York: The MacMillan.

Glucksman, Miriam (1974). Structuralist Analysis in Contemporary Social Thought. London: Routledge & Kegan Paul.

Graham, George J., Jr. & George W.Carey (1972). The Post Behavioral Era. New York: McKay.

Greenstein, Fred I. & Nelson W. Polsby (1975). Political Science: Scope & Theory. Reading, Massachusetts: Addison-Wesley.

Guerlac, Henry (1965). "Where the Statue Stood: Divergent Loyalties to Newton in the Eighteenth Century," Wasserman, Aspects of the Eighteenth Century, pp. 317-334.

Halévy, Elie (1972). The Growth of Philosophic Radicalism. London: Faber and Faber.

Harris, Errol E. (1972). "Epicyclic Popperism," British Journal for the Philosophy of Science. 23, pp. 55-67.

_____ (1970). Hypothesis and Perception: The Roots of Scientific Method. London: George Allen & Unwin.

_____ (1954). Nature, Mind and Modern Science. London: George Allen & Unwin.

_____ Commentary on Hegel's Logic. Unpublished.

Hartley, David (1966). Observations on Man. Gainesville, Florida: Scholar's Fascimiles & Reprints.

Hempel, Carl & Paul Oppenheim (1970). "Studies in the Logic of Explanation," Baruch A.Brody ed. Readings in the Philosophy of Science, pp. 8-27.

Hempel, Carl G. (1966). Philosophy of Natural Science. Englewood Cliffs, N.J.: Prentice Hall.

Herder, John Gottfried (1966). "Essay on the Origin of Language," John H. Moran and Alexander Gode trans. with afterwards, On the Origin of Language. New York: Frederick Ungar, pp. 85-106.

Herivel, John (1967). "Introduction," William Whewell, The Philosophy of the Inductive Sciences, pp. ix-xxxvii.

Herman, Armin (1973). Max Planck. Hamburg: Rowohlt Taschenbach Verlag.

Hume, David (1978). A Treatise of Human Nature. Oxford: Clarendon Press.

Hume, David (1955). An Inquiry Concerning Human Understanding, Indianapolis: Bobbs-Merril.

Jerons, W.Stanley (1890). Pure Logic and other Minor Works. London: MacMillan.

Kirn, Michael E. (1977). "Behavioralism, Post-Behavioralism, and the Philosophy of Science: Two Houses, One Plague," The Review of Politics 39, pp. 83-102.

Kneale, William & Martha Kneale (1962). The Development of Logic. Oxford: Clarendon Press.

Kosik, Karel (1976) Dialectics of the Concrete. Boston: D. Reidel.

Kubitz, Oskar A. (1932). Development of John Stuart Mill's System of Logic, Urbana, Il.: Uni. of Il. Press.

Kuhn, Thomas (1977) "Second Thoughts on Paradigms," Suppe ed. The Structure of Scientific Theories, pp. 459-482.

_____ (1970a) The Structure of Scientific Revolution. Chicago: Uni. of Chicago Press.

_____ (1970b) "Logic of Discovery or Psychology of Research," Lakatos et.al., eds. Criticism and the Growth of Knowledge, pp. 1-24

_____ (1970c) "Reflections on my Critics," Lakatos et.al., eds. Criticism and the Growth of Knowledge, pp. 231-278.

_____ (1954) Copernican Revolution. Cambridge: Harvard Uni. Press.

Lakatos, Imre (1970) "Falsification and the Methodology of Scientific Research Programmes," Lakatos et.al., eds. Criticism and the Growth of Knowledge, pp. 91-196.

_____ & Alan Musgrave, eds. (1970) Criticism and the Growth of Knowledge. London: Cambridge Uni. Press.

Lasswell, Harold D. (1977 ed.) Psychopathology and Politics. Chicago: Uni. of Chicago Press.

_____ (1948). Power and Personality. Westport, Conn.: Greenwood Press.

Lewisohn, David (1972). "Mill and Comte on the Methods of Social Science," Journal of the History of Ideas 33: 315-324.

Locke, John (1963). Two Treatises of Government. New York: A Mentor Book.

Locke, John (1959). An Essay Concerning Human Understanding. 2 Vols. Collection and Annotated by Alexander Cambell Fraser. New York: Dover Publication.

Macpherson, C.B. (1962). The Political Theory & Possessive Individualism: Hobbes to Locke. London: Oxford Uni. Press.

Marcuse, Herbert (1964). One Dimensional Man. Boston: Beacon Press.

Mazlish, Bruce (1975). James and John Stuart Mill. New York: Basic Book.

Masterman, Margaret (1970) "The Nature of a Paradigm," Lakatos et.al., eds. Critism and the Growth of Knowledge, pp. 59-90.

McCoy, Charles A. & John Playford, eds. (1967). Apolitical Politics: A Critique of Behavioralism. New York: Thomas Y. Crowell.

Medawar, Peter B. (1969) Induction and Intuition in Scientific Thought. Philadelphia: American Philosophical Society.

Mill, James (1869). Analysis of the Phenomena of the Human Mind. 2 Vols. London: Longmans.

Miller, Warren (1981). The Role of Research in the Unification of a Discipline," American Political Science Review 75, 9-16.

Mitchell, John J. ed. (1972). Human Nature: Theories, Conjectures, and Descriptions. Metuchen, N.J., The Scarecrow Press.

_____.(1972). "Why Study Human Nature," in Mitchell, pp. 23-32.

Moon, Donald J. (1975) "The Logic of Political Inquiry: A Synthesis of Opposed Perspectives," Greenstein et.al., eds. Political Science: Scope & Theory, pp. 131-228.

Newton, Lisa H. (1977). "The Political Animal," in Pennock et al., pp. 142-156.

Noire, Ludwig (1917). The Origin and Philosophy of Language. Chicago: The Open Court.

Olson, Mancur, Jr. (1965) The Logic of Collective Action. Cambridge: Harvard Uni. Press

Packe, Michael St. John (1954). The Life of John Stuart Mill. New York: Capricon.

Passmore, John (1957). A Hundred Years of Philosophy. London: Gerald Duckworth.

Pennock, Roland J. & John W.Chapman eds. (1977). Human Nature in Politics. New York: New York Uni. Press.

Plato (1971). The Sophist and The Statesman. A.E. Taylor trans. New York: Barnes & Noble.

Popper, Karl R. (1968). The Logic of Scientific Discovery. New York: Harper Torchbooks.

_____ (1957). The Poverty of Historicism. London: Routledge & Kegan Paul.

Prior, A.N. (1976). The Doctrine of Propositions and Terms. P.T. Geach & A.J.P. Kenny eds., Amherst: Uni. of Massachusetts.

Ptolemy (1952). Almagest. Vol. XVI of Great Books of the Western World: Ptolemy, Copernicus, and Kepler. Chicago: Encyclopedia Britanica, pp. 5-495.

Randall, John Herman, Jr. (1965). "John Stuart Mill and the Working-out of Empiricism," Journal of the History of Ideas, 26: pp.59-88.

Riker, William H. (1962). The Theory of Political Coalition. New Haven: Yale Uni. Press.

Russell, Bertrand (1945). A History of the Western Philosophy. New York: Simon & Schuster.

Ryan, Alan (1979). "Introduction," J.S. Mill, Collected Works, Vol. IX: pp. vii-lxvii.

_____ (1974). J.S. Mill. London: Routledge & Kegan Paul.

Sarton, George (1952). A History of Science: Ancient Science through the Golden Age of Greece. New York: W.W. Norton.

Scheler, Max (1961). Man's Place in Nature. trans. by Hans Meyerhoff, New York: The Noonday Press.

Schilick, Morriz (1959). "Positivism and Realism," Ayer, Logical Positivism, pp. 82-107.

Segall, M.H., D.T. Campbell and M.J. Harskovits (1966). The Influence of Culture on Visual Perception. Indianapolis: Bobbs-Merril.

Sibley, Mulford O. (1977). Nature and Civilization: Some Implications for Politics. Itasca, Il.: F.E. Peacok.

Simon, W.M. (1963). European Positivism in the Nineteenth Century. Ithacs, New York: Cornell Uni. Press.

Skinner, B.F. (1971). Beyond Freedom and Dignity. New York: Alfred A. Knopf.

Smith, Norman Camp (1905). "The Naturalism of Hume," Mind. 14, pp. 11-173, 335-347.

Somit, Albert & Joseph Tanenhaus (1967). American Political Science. New York: Atherton.

Sparshott, F.E. (1977). "Introduction," J.S. Mill, Collected Works Vol. XI: vii-lxxv.

Stephen, Leslie (1900). The English Utilitarians. 3 Vols. New York: G.P. Putnam's Sons.

_____ (1949). History of English Thought in the Eighteenth Century. 2 Vols. New York: Peter Smith.

Storing, Herbert ed. (1962). Essays on the Scientific Study of Politics. New York: Holt, Rinhart.

Strickland, D.A. (Forthcoming). "On Behavioralism"

Strong, E.W. (1955). "William Whewell and John Stuart Mill: Their Controversy about Scientific Knowledge," Journal of the History of Ideas 16, pp. 209-231.

Suppe, Frederick ed. (1977a). The Structure of Scientific Theories. Urbana: Uni. of Illinois Press.

_____ (1977b). "The Search for Philosophic Understanding of Scientific Theories," Suppe, ed. The Structure of Scientific Theories, pp. 1-241.

_____ (1977c). "Exemplars, Theories and Disciplinary Matrixes," Suppe ed. The Structure of Scientic Theories, pp. 483-499.

Taylor, John J. (1973). Black Holes. New York: Avon.

_____ (1972). The New Physics. New York: Basic Books.

Tedeschi, James T. & Svenn Lindskold (1976). Social Psychology. New York: John Wiley & Sons.

Thomas, D.A.L. (1980). "Liberalism and Utilitarianism," Ethics 90: pp. 319-334.

Toulmin, Stephen E. (1970). "Does the Distinction between Normal and Revolutionary Science Hold Water?" Lakatos et.al., eds. Criticism and the Growth of Knowledge, pp. 39-48.

Truman, David B. (1951). The Governmental Process: Political Interest & Public Opinion. New York: Alfred Knopf.

Wahlke, John C. (1979). "Pre-Behavioralism in Political Science," American Political Science Review 73, pp. 9-31.

Warren, Howard C. (1921). A History of the Association Psychology. New York: Charles Scribner's Sons.

Wasserman, Earl K. (1965). Aspects of the Eighteenth Century. Baltimore: The Johns Hopkins Press.

Watkins, J.W.N. (1970) "Against 'Normal Science'," Lakatos, et.al., ed. Criticism and the Growth of Knowledge. pp. 25-38.

_____ (1968). "Methodological Individualism and Social Tendencies," Brodbeck, Readings in the Philosophy of the Social Sciences, pp. 269-279.

Watson, John B. (1913). "Psychology as the Behaviorist Views it," Psychological Review 20 pp. 158-177.

Watts, Meredith W. (1981) "Editor's Note and Introduction," Biopolitics: Ethological and Physiological Approaches, pp. 1-13.

_____ (1981) Biopolitics: Ethological and Physiological Approaches, Sanfrancisco: Jossey-Bass.

Whewell, William (1967). The Philosophy of the Inductive Sciences. 2 Vols. New York: Johnson Reprint Corporation.

Whitaker, J.W. (1975). "J.S. Mill's Methodology," Journal of Political Economy 83: pp. 1033-1049.

Wiegele, Thomas C. (1979) Biopolitics: Search for a More Human Political Science. Boulder, Colorado: Westview Press.

Willey, Basil (1940). The Eighteenth Century Background. New York: Columbia Uni. Press.

Willey, Basil (1934). The Seventeenth Century Background. London: Chatto & Windus.

Winch, Peter (1958). The Idea of A Social Science and Its Relation to Philosophy. London: Routledge & Kegan Paul.

Windelband, W. (1896) A History of Philosophy. New York: MacMillan.

VITA

Name: SEUNG-TAE YANG

Date of Birth: November 24, 1949

Place of Birth: Daejon, Korea

Education:

B.A., 1973: Seoul N. University, Seoul, Korea

M.A., 1977: Northwestern University, Evanston, Illinois

Ph.D.,1982: Northwestern Universtiy, Evanston, Illinois