The Interest of Sociology — Control or Emancipation

THE INTEREST OF SOCIOLOGY - CONTROL OR EMANCIPATION

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ABSTRACT

The thesis is basically an examination of the ideological character of sociology. The acceptance of the problem of order as the problem for sociology and of its concomitant metaphysic of externality and constraint both lead to and reflect an interest in control and domination. The positivistic conception of knowledge which tends to justify this problem and its metaphysic views knowledge as the mirroring of a machine-like world order. This view precludes, a priori, any conception of the possible role of human activity in the creation of history or in the activity of perception itself. Commensurate with this view is the divorce of ethical or value considerations from the acquisition of knowledge.

In this lies the ideological character of sociology and science. It attempts to argue that all conditions and events are "natural". The development of this mechanistic world-view was linked to concerns for expansion and domination. This view enabled the development of means for the control of nature and also made the claim that its tenets are metaphysically and politically neutral, thus denying its roots in an interest in domination. This view embodies the "logic of domination".

The inherent relation between knowledge and interest,

revealed in this analysis, however, points to the possibility of a different conception of knowledge, taking into account the nature of human activity and cognition, which is related to an "emancipatory" interest. Sociological inquiry which does not embody the logic of domination is also possible.

Quassai Samuk, Shawn Selway, Anupam Sen, Teri Spinola,
Marylee Stephenson, Dianne Thomas, Barry Thompson, Ernie
Virgint.

The thesis is dedicated to my teachers at Erindale
College: André Bennett   sociology

             Chrystine Cassin   philosophy

             A.A. Kontos   political science

             Phil Payne   german

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INTRODUCTION

In the years since C. Wright Mills published The
Sociological Imagination (1959) a growing body of literature
has been produced concerning itself with such related topics
as academic value-neutrality, the political roots and
connections of scientific research, and reflexive sociology.
Mills argued for and stated the need for enlightened ethical
and political commitment in the conduct of sociological
inquiry. Very few of his successors have come up to the level
of his analysis, let alone gone beyond it. Of those who have,
almost none are North American.

Mills' successors seem to have been caught in the trap
of North American academic sociology in which the parameters
of discussion are set by the ghost of Talcott Parsons. The
repetition of attacks on functionalism and pluralism, although
necessary, is not enough to come up to the critical standards
of "the political task of the social scientist who accepts
the ideals of freedom and reason." (Mills 1961: 185) The
tradition of European sociology, although its political auspices
are in many ways equally suspect, has at least not been
encumbered by such parameters.

Empiricist and rationalist aspects of European thought
have been imported into American theoretical sociology to

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make it up almost in its entirety. Europe has had, however, other more critical traditions. The major initial influences on my perspective for the thesis are Alan Dawe, Leszek Kolakowski and Jürgen Habermas. Dawe addresses himself to those aspects of European and American sociology which constitute a basic world-view which precludes any conception of the commitment which Mills mentions. Kolakowski addresses himself essentially to the epistemology, positivism, which has been worked out in justification of that world-view. Habermas addresses himself to the very issue of the relatedness of world-views, epistemologies and political commitments.

The world-view which Dawe mentions is the metaphysic of externality and constraint. Early sociologists defined their problem as the problem of order and set out, after a period of political upheaval in Europe, to argue for the necessity of control and stability. Dawe argues that Durkheim, Weber and Parsons have such a world-view. These writers view the social simply as a constraint. I have added Alfred Schutz to this group in order not to leave out the "loyal opposition" in American sociology.

Wide differences between these four authors notwithstanding, I have stressed continuities in what I believe to be an underlying metaphysic in their theoretical perspectives. In one way or another all four ground their theoretical framework in notions of the inherent worth of science, scientific method, externality, constraint, order, stability, rationality, and social approval. The ground for these notions

is the definition of the problem of sociology as the problem of order. The methods developed for sociological analysis, furthermore, no matter how rigorous they may have become, all rest on this theoretical perspective.

The second chapter addresses itself to this methodology and the philosophy of science which justifies this sort of methodology. The methodologists examined are George Lundberg, Paul Lazarsfeld, and Scott Greer, and the philosopher of science is Karl Popper. The methodological work of Lundberg, Lazarsfeld and Greer is seen to rest ultimately on a notion of practicality or utility. They do not want to argue for a specific method on the grounds that it aids in the attainment of such and such a specific goal because then they would have to argue for the desirability of that goal. They argue that scientific method is practical period. The control and predictability which are argued for by these three writers are grounded in the metaphysic of externality and constraint. By viewing the universe as a machine it is seen as essentially predictable. To the extent that this view is institutionalized and accepted, however, it on that account becomes like a machine. The methodological argument that what is, is so in essence, apart from human action, is thus ideological.

The interest in control exhibited by scientific research can now be viewed more clearly. Lundberg views our era as a beaurocratic one and is anxious for science to follow suit. Lazarsfeld wants to name and measure the aspects of social phenomena which interest administrators, such as the "cohesive-

ness" of tank platoons or the "roles" of factory foremen. Greer wants to argue that we have an advanced culture which has developed a mechanistic science and hence this science and its method should be used to disclose the "mechanisms" of modern society. All three, in the final analysis, argue for the autonomy of "fact". Only certified observers may tell us what we should see and what we see exists, apart from our actions, in a totally external world. Greer argues that it is scientific interest which discloses "hard" facts. Discussions of the purpose of this investigation, however, do not go much beyond stating that it is practical.

As philosopher of science, Karl Popper attempts to justify the metaphysic of externality and constraint as an approach to knowledge. Popper attempts to avoid crude psychologism in his argument, i.e., he does not want to assert simply that sense data stemming from an external world form appropriate images in our "minds". He states clearly that he believes all perceived facts to be conceived with reference to a conceptual framework. With this in mind he distinguishes between the origin and the validity of statements or ideas. In emphasizing validity, Popper emphasizes the testing of statements as opposed to their auspices or origin. The facts with which such ideas are tested, however, are also conceived with reference to a conceptual framework. This constitutes the fundamental contradiction in Popper's theory of science.

The grounds for this error are also clear. The regul-

arity and externality which Popper attributes to the world
are seen as discernable by a science concerned with serving
institutions which enhance the stability of society by ful-
filling their "prima facie" social function. The certainty
and predictability with which such writers concern themselves
turn out, in the end, to serve an interest in control and
domination. When knowledge is viewed as a picture of an
unchanging machine-like world the very concern for and purpose
of that knowledge is hidden. The controlled observation which
is the cornerstone of scientific method is control for
specific purposes. We can now see the control involved in
seeing the external world as controlling. A way of seeing
the world contains in itself a notion of the purpose of
activity in that world.

The third chapter begins with a development of the
phenomenological approach to knowledge to the extent where
a critique of the positivist approach can be made. The
alternative is implicit in this critique. Through the notions
of natural standpoint, life-world, intentionality and inter-
subjectivity the point is argued that a knowledge of the world,
our world, involves an awareness of the fashion in which that
world is constituted. Worlds are simultaneously disclosed
and constituted. This is done intersubjectively. Neither
solipsism nor physhologism are adequate.

The intersubjective constitution of a world is
accomplished historically. The main import of Husserl's
phenomenology for the argument here is contained in his last

work, <u>The Crisis of European Science and Transcendental Phenomenology</u>. (1970) This import is described by Herbert Marcuse:

> According to Husserl, science - modern science, Galilean as well as post-Galilean - originates in the Greek idea of knowledge and truth and comes to rest in a scientific rationality in which truth and validity contain in themselves illusion and repression. (Marcuse 1974: 225)

The substantiation of this statement requires both historical and philosophical investigation. Husserl, Jakob Klein and Hans-Georg Gadamer concur about the ideological nature of a positivistic, mechanistic world-view. A segment of reality was accounted for in this view but the view itself depends on a claim to absoluteness. The change from viewing a world as containing objects of varying qualities to viewing one as simply stuff has an effect on the organization of our experience in our world and is based on the intent and purpose of certain groups of people.

The logic of the scientistic world-view is a logic of domination and it developed historically as a tool, materially and ideologically, in the hands of ruling classes in the interests of control or expansion. Habermas speaks to this issue and argues for the essential relatedness of knowledge and interest. A science is ideology when it denies its rootedness in the attempted solution of problems which face certain groups of people. It serves those interests as opposed to other interests when it claims to be neutral or simply "practical period".

Although technological rationality has gone a long way toward creating a world which can almost be accounted for by its logic, the relation of knowledge and interest revealed by Husserl and Habermas points to the possibility of an enlightened form of knowledge informed by an awareness of the relation of knowledge and interest. The ideological power of an assumed "objectivity" is diminished as soon as we are aware of this relation. An interest in emancipation from both material and ideological enslavement gives rise to a different conception of knowledge, one which takes into account existing conditions in a comprehensive manner, but does not restrict itself to that description and call it "natural law".

The practice of sociology will be more unified with a theoretical perspective when both retain the right to judge the described conditions. The grounds for this judgement are, in Mills' terms, the ideals of freedom and reason, a cliche which we might do well to take more seriously. Although we cannot expect an academic discipline to change the world, one which tells people that they cannot, in principle, decide aims and goals cannot enlighten its own practice, let alone have any small, beneficial effect whatsoever on society.

CHAPTER ONE

The Metaphysic of Sociological Theory:
Sociological Theodicy

In The Sociological Tradition, Robert Nisbet provides
us with a view of the origin and development of the central
concepts of sociological thought. In the battle between
modernism and traditionalism with the industrial and French
revolutions as their setting, Nisbet claims, sociological
concepts arose in an effort to outline the ramifications and
consequences of various kinds of social order. Nisbet points
out (Nisbet 1966: 82-83) that the sociologists' formulations
constitute primarily, and especially with Durkheim, a reaction
to individualism; social stability, it was argued, could only
be assured by maintaining reference to authorities higher
than persons. The most consistent choice for this authority
was social order itself, society, the social, the institution
and the community.

Out of the resulting picture of the underlying elements
of social order came also a method for viewing it. Durkheim
sees order as the problem to be dealt with, develops a
metaphysic providing a notion of the origins of and forces
involved in the creation of social orders, and, from this
metaphysic, develops a methodology for analysing social
organization.

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Community and society are made the origins of every-
thing mankind does and knows.

> Durkheim's view of the individual is thus as
> radically social as his view of morality. Man
> is unknowable, at least to the social scientist,
> except as a manifestation, a node, of community.
> The discipline of mind and character is but the
> personalization of the discipline of the forming
> group. Normal personality is a reflection of
> normal integration with community. Abnormal
> personality is a reflection of the breakdown of
> this group integration. (Nisbet 1966: 96)

Nisbet maintains that Durkheim was able to translate
a metaphysic into a practical methodlogy most effectively
and, further, that Durkheim's Rules contain little more than
is assumed by present-day sociologists in empirical studies;
even though initial criticisms of Rules have also endured,
"the climate of analytical individualism in which they were
made has long since been succeeded by one generally congenial
to Durkheim's methodological values." (Nisbet 1966: 87) For
Nisbet himself the metaphysical root is the least problematic
aspect of sociological theory. His own view of the value of
the sociological tradition is revealing. He suggests that
the sociological tradition, the ideas of a Weber or a Durkheim,
are still viable. He is also concerned, however, that a mere
credence in Weber or Durkheim could result in "ritualism and
inanition."

> The process of 'moulding still ductile forms'
> cannot go on forever. Sooner or later the
> process of revolt, of abandonment of 'chrysalids'
> of concept and method, takes place. Perhaps it
> is taking place in our own day before our unseeing
> eyes, with some thus fare mute, inglorious Weber
> or Durkheim even now encapsulating stray hypotheses

and random observations into a new idea system
for sociology: one as different from that
which we inherited from the titans of 1830-1900
as theirs was from the idea system of the
Enlightenment.

If such a new idea system does appear, to give
new life and impetus to the realities of
contemporary Western society, it will not be
the consequence of methodology, much less of
computers, of mass data gathering and retrieval,
or of problem definition however rigorous, or
research design however aseptic. It will be
the consequence, rather, of intellectual
processes which the scientist shares with the
artist: iconic imagination, aggressive intu-
ition, each given discipline by reason and
root by reality. So it has always been and
so it is now in those contemporary intellectual
areas of most intense creativity. Foremost is
the passion for reality - reality not obstructed
by the layers of conventionalization, but
reality that is direct and unmediated.
(Nisbet 1966: 318-19)

In this lies the nexus of the problem. Nisbet claims

that Durkheim was able to translate a metaphysic into a

practical methodology but the original political roots of the

metaphysic become forgotten in the expression "direct and

unmediated reality." Letting alone various questions con-

cerning the practicality of methodologies, more immediate

questions arise concerning 'translation rules and criteria',

the availability of the metaphysic itself to rational and

critical clarification. Does a passion for reality result

in a picture which is unmediated? Is an unmediated reality

more true, possible or desirable?

It is one thing to make assumptions about society

and people; it is quite another to assume that one's assumptions

bear direct relation to reality. It is perhaps possible that

a definition of the problem defines not only working distinc-
tions but defines in large part the conclusions which may be
drawn. The role of the metaphysical in social thought may
not be as unproblematic as Nisbet, for example, seems to
think.

Since it was the attention paid to the problem of
order that gave sociology its raison d'etre the problem will
be looked at as both metaphysic and method. Does the 'meta-
physic' which becomes 'translated' into a particular method-
ology perhaps preclude any other conception of order or dis-
order which is not initially prescribed by the metaphysic
which provides the paradigm?

An investigation of this question will provide the
central focus here in an examination of some of the ascendant
and most influential theoretical perspectives in sociology.
I shall pay attention in this analysis to four theorists,
Talcott Parsons, Alfred Schutz, Emile Durkheim and Max Weber.
The analysis will attempt to cover those aspects of their
work which most closely approximate outlines and discussions
of basic assumptions about the fundamental nature of human
society, basic philosophical and methodological standpoints
on the analysis of society and their basic approach to the-
orizing about society. I have treated primarily their most
self-consciously methodological writings.

Talcott Parsons

Talcott Parsons begins his approach to sociology with an inquiry which, he claims, is both an investigation of theories and is a theory itself. This is accomplished, however, by an a priori specifying of a relationship between knowledge and social structure, between environment and the thought about it which specification serves as grounds for a theory which defines the relationship between knowledge and social structure. Parsons claims that the focus of development in European social thought, most specifically in Marshall, Pareto, Durkheim and Weber, is the development of a voluntaristic theory of action. Parsons claims that these four thinkers, aside from other apparent differences, arrived independently, although not fully consciously, at what he calls the voluntaristic theory of action. (This assertion is itself problematic enough but will not be discussed here.) He goes on, then, to claim that this apparent convergence represents the truth or the correspondence of the voluntaristic theory of action to social reality. He claims that since so many thinkers developed this viewpoint it must therefore represent reality. (Parsons 1968: 11-12)

> It goes without saying that this convergence, if it can be demonstrated, is a very strong argument for the view that correct observation and interpretation of the facts constitute at least one major element in the explanation of why this theoretical system has developed at all. (Parsons 1968: 12)

Parsons thus connects his interpretation of the work

of other theorists of social structure with social structure
itself by means of assuming that the theory for which he
hopes to argue is true and valid. He moves in one fell
swoop from the general, rather truistic statement that there
are connections between science and philosophy to specifying
what those relations are, so that for Parsons, "Rational
knowledge is a single organic whole." (Parsons 1968: 21)

With this in mind, Parsons claims as well that both
theories and empirical reality must be systems. He maintains
that concrete individuals in society with reference to the
theoretical scheme of action should be thought of as adapting
means to ends. (Parsons 1968: 30) Even if we can establish
the truth of this position, however, there is still no
apparent ground for assuming that those means and ends are
inherently or necessarily organized in specifiable systems.
Yet Parsons writes:

> We are all engaged in multifarious practical
> activities where a great deal depends on the
> "right" selection of appropriate means to our
> ends, and where the selection, within the limits
> of knowledge current at the time and place is
> based on a sound empirical knowledge of the in-
> trinsic relation of the employment of means to
> the realization of our ends. . . . there can be
> no question (!) of the pervasiveness of the
> rational case in all systems of human action.
> (Parsons 1968: 57, emphasis added)

Although it is true that Parsons is here referring to the
point of view of the actor, the systematic nature of what it
is that the actor is to have a "sound empirical knowledge of"
is simply posited by Parsons. Although he claims that facts
as such may only be pictured with reference to conceptual

schemes, either by actors or scientists, he posits, using
L.J. Henderson as authority, that both conceptual schemes and
the nature of what is depicted are systems. (Parsons 1968: 28,
71fn.) The possible systematicity of knowledge, for Parsons,
receives its grounds from an unexamined assumption about the
systematicity of the world and of conceptual schemes and of
a systematic connection between them. "Knowledge, so long
as it is rational, is determined by and is a "reflection" of
the things known." (Parsons 1968: 73)

The basic unit of analysis for Parsons in his "action
schema" of the relation of means and ends is the unit act.
This unit act is conceived of as part of a system. (Parsons
1968: 43) These units and their structural relations are
the units out of which action systems are made. (Parsons 1968:
39) That Parsons intends the unit act to be thought of as
a part of a system in the same sense that a part is related
to a machine is also clear since he expressly uses the term
"part" in this sense. He distinguishes "part," such as
crank-shaft or unit act, from "analytical element," such as
temperature or rationality. (Parsons 1968: 31-35) He thus
acknowledges the different sense of theoretical abstraction
in the two separate cases but still does not articulate grounds
for deciding that unit acts, however conceived, constitute
a system. The impetus for this direction in his thought
appears ultimately to be a desire both to depict and institute
stability in society.

The part in Parson's scheme, the unit act, consists
of an actor, an end, a situation and the normative orientation
of action based on the type of relationship between the other
three elements. In the action schema, actors have a desired
end and select means, based on a concrete knowledge of the
situation, toward the achievement of the end. Parson's
concern here with this fourth element is that in order to
make the theory a voluntaristic one the situation must be
conceived as consisting of means and conditions. Conditions
are beyond the control of the actor whereas means may be
altered by the actor in an effort to realize a desired end.
If means as well were simply conditions in the above sense
then action could not be viewed voluntaristically since all
elements would be predeterminate. Parsons, however, also
wants to guard against the viewing of the choice of means or
ends as being at all random. Because of this Parsons states
that the means employed "must in some sense be subject to
the influence of an independent, determinate factor, a know-
ledge of which is necessary to the understanding of the con-
crete course of action." (Parsons 1968: 44-45) Thus Parsons
attempts to devise a theoretical system which allows for both
an element of choice on the part of human beings and for a
comprehensive, rational grasp of courses of action. In this
approach the randomness or systematic comprehensibility of
means (Parsons 1968: 44) and ends (Parsons 1968: 59) becomes
problematic. The element of choice, however, is endangered
in this approach by Parsons' bent for positing systematicity

in the concrete world. "In the voluntaristic theory (normative elements) become integral with the system itself, positively interdependent with the other elements in specifically determinate ways." (Parsons 1968: 82)

It seems as well that "random chaos" or specific determinateness appear to Parsons to be rigid alternatives with no room allowed for a situation lying somewhere in between. In Parsons' scheme scientific understandability of action demands a positivistic conception of the connection between mind and environment but a utilitarian conception of the choice of ends and means on the part of an actor. After stating that the alternative, random chaos -- scientific understandability, is a rigid dilemma (Parsons 1968: 91fn.) in a positivist conception, he goes on to propose a synthesis which depends on the assumption of stability.

> (A) social order is always a factual order
> insofar as it is susceptible of scientific
> analysis but, . . ., it is one which cannot
> have stability without the effective
> functioning of certain normative elements.
> (Parsons 1968: 92)

In this particular fashion Parsons poses the problem of order. In the utilitarian system of thought the elements of action are conceived of in a fashion similar to Parsons' system except that in the utilitarian system ends are random whereas Parsons wants to picture ends as having a systematic order amongst themselves, particularly with respect to the ends desired by different actors. Locke posited the "identity of interests" on the part of actors to avoid this problem

since he pictured nature as an undepletable reservoir of goods. In Parsons' conception, however, the fact of scarcity makes this identity problematic for picturing social order. He then refers to Hobbes who pictured a state of nature as a war of all against all; as opposed to Locke, Hobbes takes order itself to be problematic. Hobbes wanted to explain how social order came about given his assumption of conflict of interests in the natural state. Locke wanted to talk about the role of government in preserving the fruits of a natural order which he arrived at by his assumption of the identity of interests. Parsons, however, hopes to provide for the achievement of desired ends on the part of individual actors but also wants to schematize the interrelatedness of those ends in a systematic fashion which makes the problem of order thematic. His overriding interest in stability orients him in this fashion.

> How is it possible, still making use of the general action schema, to solve the Hobbesian problem of order, and yet not make use of such an objectionable metaphysical prop as the doctrine of the natural identity of interests? . . . (The study's) principal concern will be with one way of escape from the inherent instability of the utilitarian system. (Parsons 1968: 102)

With the advent of positivism and mechanism the order of the environment was taken to be regular and law-like and was taken also to be the only order. With, furthermore, the advent of evolutionism, the Hobbesian war of all against all becomes an ordered struggle for existence. According to Parsons the initial impact of evolutionism was a change to

thought about the world from that in terms of the readjust-
ment of fixed elements back to a static point to conception
of cumulative processes. The faculty of reason which was
pictured as that faculty which relates means to ends is still
static in the new conception but its product, scientific
knowledge, is not. (Parsons 1968: 123) Thus with a picture
of scientific knowledge as cumulative and progressive, there
arises the possibility of a theory of social evolution.
Parsons cites evolution as a "theory of cumulative social
change the dynamic factor in which is the progressive
accumulation of scientific knowledge." (Parsons 1968: 123)

Thus Parsons comes back full circle to an initial
grounding in scientific systematicity. He provides the fol-
lowing justification for the use of the means-end schema:
"the means-end schema occupies a central place in a way which
embodies the methodological schema of positive science."
(Parsons 1968: 451) He begins and ends his volume with
reference to evolution and scientific systems. He begins
with the assumption of systematicity on the basis of science,
develops concepts on this basis and makes an argument for the
evolutionary significance of science. In connection with a
discussion of the interrelatedness of concepts and proposi-
tions in scientific theories Parsons warns that, although
they are logically related, this does not mean that each pro-
position should be derivable from any one -- "on the contrary,
if this were true scientific theory would be sheer tautology."
(Parsons 1968: 10) This, however, is to some extent what

Parsons has done.

He carries further, however, his unexamined ground
in the systematicity of science and the assumed systematicity
of social reality:

> The essential question is how far the state of
> theory is developed to the point of permitting
> deductive transitions from one aspect or state
> of a system to another, so that it is possible
> to say that if the facts in A sector are W and
> X, those in B sector must be Y and Z.
> (Parsons 1964: 20)

Parsons' attempt to provide a theory picturing both choice
on the part of the actor and a stable social system in which
action takes place within a specifiable order, thus decides
heavily in favor of the latter half of that picture. Al-
though he states that actors do not simply react to external
stimuli, they still do not actually choose in his theory
since actors are said to develop systems of expectations,
(Parsons 1968: 5) processes of interaction are to be treated
as systems (Parsons 1964: 3), "acts do not occur singly and
discreetly, they are organized in systems" (Parsons 1964: 7),
motivations come to us organized (Parsons 1964: 9).

Eventually, however, Parsons attempts to ground his
focus on system and stability by means of his concept of
function. In an essay devoted to the underpinnings of his
position, Talcott Parsons bases his functional approach on a
biological analogy in which he compares society to biological
organisms.

> I wish to argue that the concept function is
> central to the understanding of all living
> systems. Indeed, it is simply the corollary
> of the concept living system, delineating

certain features in the first instance of
the system-environment relation, and in the
second, of the internal differentiation of
the system itself. This proposition is based
upon a dual consideration. First, as has been
clear since the great contributions of Bernard
and Cannon, a living system is one which
maintains a pattern of organization and
functioning which is both different from and
in some respects more stable than its environ-
ment. Secondly, the maintenance of this specific
and relatively stable pattern occurs not through
total isolation or insulation from the environ-
ment but through continual processes of inter-
change with it. (Parsons 1970: 29)

Parsons' approach here rests on the observation of
the maintenance of patterns of behavior on the part of bio-
logical organisms and their parts in the face of changes in
environmental conditions. Although he does not argue a case
specifically for viewing society as similar essentially to
biological organisms, he uses two terms upon which his further
conceptualization rests: living system and pattern maintenance.
Having made the assumption that biological organisms and
societies are basically similar and linking the two under the
rubric, living system, Parsons continues to develop the
analogy conceptually with the concept function. The concept
which links 'living system' to 'function' is the concept
'pattern maintenance'. Indeed the concept pattern maintenance
emerges as the organizing principle in Parsons' approach,
logically prior even to the living system analogy.

Parsons begins his approach to function with the
biological example of metabolism, a process requiring the in-
take of oxygen and oxydizable materials in certain proportions
even though the proportions of the two elements in the en-

vironment may vary. At this point, rather than give evidence
for the supposed similarity between organism and society the
similarity is simply assumed. "Hence the necessity of
functional differentiation of different system-environment
exchanges, which is fundamental to all living systems."
(Parsons 1970: 30)

With respect to the "internal state of the system,"
functions for its maintenance may be differentiated along two
dimensions or axes. This differentiation provides the
framework for Parsons' four-function paradigm of adaptation,
goal-attainment, integration and pattern maintenance. The
first axis is that of the location of relations.

> Thus the kind of difference between system and
> environment which was postulated as basic to
> all living systems implies that within the
> living system itself there will be two
> distinctive types of mediation: mediation
> of external interchanges and mediation of
> internal combinations. This differentiation
> of the system along the axis of external
> relations to the environment and internal
> relations of the components to each other is
> one of the two primary axes on which the
> four-function paradigm is built.
> (Parsons 1970: 30)

In the formulation of the second axis of differenti-
ation the priority of pattern maintenance shows up clearly.

> The second axis is based upon the consideration
> that a living system not only is different from
> its environment in various respects at any given
> moment, but maintains its distinctive organiza-
> tion over periods of time. (Parsons 1970: 30)

Because the maintenance of patterns is here emphasized
Parsons is forced also into making a means-ends distinction,
since pattern maintenance would be represented in the pro-

curing of means to a 'goal state', whereas action oriented

to establishing goal states let alone weighing their relative

merits might result in innovation, a condition not lending

itself to the priority placed by Parsons on the notions of

stability and pattern maintenance.

> There is a fundamental basis of differentiation
> along the range of temporal sequence which con-
> sists in the fact that there is not a simple one-
> to-one relation between conditions necessary for
> the attainment of a given goal-state and its
> attainment. The same conditional state of
> affairs (the establishment of which may itself
> constitute a goal) can often be a condition of
> the attainment of a plurality of different
> goal-states, some of which are alternatives to
> each other in that, given a set of conditions,
> only one of a pair of goal states is realistic-
> ally attainable. Therefore the processes
> involved with establishing conditions of future
> goal-states, and the more ultimate or
> 'consummatory' processes of approaching such
> goal-states, tend to become differentiated in
> living systems. At the action level this is
> very much involved with the means-end relation-
> ship. Activities concerned with the procurement
> of means not only may be logically distinguishable
> from those concerned with goal-attainment, but
> are in many cases realistically different.
> (Parsons 1970: 31)

Parsons' analogy and initial conceptualization, then,

may be outlined as follows: Societies or social systems are

essentially the same as biological organisms. The term living

system is used to represent this similarity. All living

systems tend to maintain patterns of organization over time

in the face of changes in their environment. Two dimensions

or axes are employed, the differentiation of which provides

a framework for describing a four-function paradigm. The

first axis is differentiated on the basis of whether processes

being accounted for are taking place between system and
environment or between the components of the system. The
second axis is based on the pattern maintenance notion and
is differentiated with respect to whether processes are
concerned with the procurement of means to ends or with the
attainment of ends.

From this the following typology may be constructed:

F I R S T   A X I S

		Internal Relations	External Relations
S			
E	M		
C	E	Pattern Maintenance	Adaptation
O	A		
N	N		
D	S		
A	E		
X	N	Integration	Goal-attainment
I	D		
S	S		

Each cell represents a functional requisite to be met.

Parson's concept of function, however, seems to be
conditioned primarily by a pattern maintenance world-view.
He maintains that function is the master concept.

> The concept function. . . is the master concept
> of the framework for the relations between any
> living system and its environment. Functions are
> performed, or functional requirements met, by a
> combination of structures and processes.
> (Parsons 1970: 35)

The requirements mentioned, however, can constitute requirements only if necessity is implied. This necessity is provided for by the priority of pattern maintenance in Parsons' conceptual schema. The biological analogy would seem to be drawn as a justification for this priority, especially since it is almost totally unaccounted for by itself, even though Parsons draws it first in the description of his conceptualization. After drawing the biological analogy and developing the four-function paradigm, Parsons then mentions the centrality of pattern maintenance. "Among the four pattern maintenance occupies a special place in that it is the focus of stability in both of the two main respects." (Parsons 1970: 32) Parsons further mentions the support for the centrality of pattern maintenance stemming from physiology, cybernetics, information theory and economic theory, with reference to the significance of stability. (Parsons 1970: 35, 37)

It is, after all, because of the stability pictured in the behavior of biological organisms, that Parsons chooses to make his biological analogy. Although he makes this analogy at the beginning of his argument it is justified or developed only in a footnote, at that, to a biologist.

> The eminent biologist, Alfred Emerson, has spoken
> of the functional equivalence of gene and 'symbol',
> by which he meant that for culture level systems
> of behavior, which we here call action systems,
> symbolic systems have the same order of functional
> significance that genetic systems have at the
> organic level. (Parsons 1970: 34fn.)

The notions of stability and pattern maintenance are
rather blithely transported into notions of social action.

> We may put it that the most elementary notion
> of action implies two functional references,
> namely, (1) the maintenance of a pattern of
> orientation and (2) the definition of the
> significance or meaning of one or more
> situational objects. (Parsons 1961: 327)

Thus order and its maintenance are emphasized in
Parsons' approach. Without imputing motives to the theorist
we may say at least that the world-view or paradigm or meta-
physic providing the organizing principle for Parsons' approach
is a theme which, in itself, remains, at least in the attempt
at justification, undeveloped. Whether the biological analogy
or the emphasis on stability is logically prior, the argument
hinges heavily on the biological analogy. Reasons for
expecting societies to be similar essentially to organisms
are not given, aside from a conceptual scheme which is itself
dependent on asserting that similarity. Parsons' concern
is definitely with the problem of order. A picture of how
social order should look is produced. How much of that
picture has its root in a direct and unmediated reality? In
taking Parsons' formulations at face value we cannot tell.
No experiential contact was related to us. The question here
is the extent to which the resulting picture is already con-
tained in a cosmology and a metaphysic, the rational discus-
sion of which is left over to other disciplines, disciplines
deemed to be unscientific. If this is so then discovery,
innovation or creation may be lost to us except when considered

as an outline in detail of the implications of an assumption.

To say that social orders are the products of genetics and evolution certainly ensures their stability. Hypotheses might then be produced which can be tested against 'facts' in themselves constituted by the employment of the paradigm which produced the hypotheses.

There is here also the problem of order itself. A cosmology or metaphysic is a conception of order. When used as a basis for inquiring into the nature of social order is the order involved in the metaphysic itself simply mirrored in conceptualization or are puzzles produced which may alter the initial metaphysic? Certainly the latter cannot happen unless that metaphysic itself is discussed.

With Parsons we have a significant reluctance to discuss the analogy on which his approach rests. If it has been worked out it is still not communicated. Alfred Schutz, however, pays more attention to a discussion of ordering principles.

Alfred Schutz

Schutz' ordering principles revolve around a notion of rationality, common-sense and scientific. Common-sense actors, according to Schutz, come to recognize their world, including the other actors in it, in its typicality. Schutz' rationality is then based on this typicality. Typicality, in turn, is based on a similarity of meanings intended on the

part of various actors.

In acting in everyday life our world is a taken-for-granted one. In this taken-for-granted world, or life-world, the meaning for actors of events and persons are subjectively constituted. The more intimate one's relations with others, the greater will be one's stock of knowledge at hand of events involving those others. Based on past experience and on the meaning for us of concepts used in daily life we come to see things in their typicality. When we see the facade of a house, for example, we imaginatively fill in all other sides of it as well as other aspects involved in our concept 'house'. In this situation, however, what we constitute as 'house' certainly does not see us in our typicality. In speaking of the social however, we must deal with this kind of reciprocity. In dealing with the social, a reciprocity of perspectives is involved since I myself can experience having a different here and now at different times and places. Also, since I see the other as having a body like mine and as being a subject, I see him as capable of experiencing the same from a here and now which at one time was my here and now.

In taking into account the intentions and actions of the other I see him in a typical situation and, according to other typifications of that person based on past experience, assess the likelihood that he will perceive my intentions toward him in a typical fashion for these conditions and respond to me in an appropriate manner. The other's response to me is the desired result of my action. My action is the

'because' motive for his action and his response is the 'in-order-to' motive of my action. In as much as we correctly interpret one another typical, understandable results will follow.

The fulfillment of expectations under these conditions, it may be argued, does not require for its occurence a congruence of interpretation of the situation on the part of the actors involved. Even if we agree that all actors involved see the situation in a taken-for-granted manner, it does not follow that each actor must interpret the situation in the same typical manner. If a typical response from A is based on A's interpretation of a situation in terms of its typicality from his point of view, B may still respond to A's response in a way which is based on B's interpretation of A's response as typical from B's point of view without there necessarily being a similarity or congruence between their interpretations of the situation. The response may even be objectively typical or it may not; expectations are still more or less fulfilled. In other words, we may argue that each of us may see situations in their typicality without there being a congruence between the various interpretations. We may also view the actions of others in ways meaningful for us and in a typical fashion and in a way which is adequate for our ends while the other does the same sort of thing without there being a similarity in the interpreted typicality. All else that is required is a degree of self-consistency on the part of each actor with respect to his responses and perceptions.

At this point, Schutz too is employing a means-ends
distinction. The understandability of the results to follow
are understandable with reference to the appropriateness of
means selected for the attainment of a given end and with
reference to the fit of that end with the ends and the selec-
tion of means of other actors. (Schutz 1970: 105) The means,
however, of deciding the appropriateness of means is positive
science itself. Schutz quotes Parsons in this connection.

> Action is rational in so far as it pursues ends
> possible within the conditions of the situation,
> and by means which, among those available to
> the actor, are intrinsically best adapted to the
> end for reasons understandable and verifiable by
> positive empirical science. (Parsons, The Structure
> of Social Action, New York: McGraw-Hill, 1937,
> p. 58, from Schutz 1970: 89)

From the above kinds of formulations, Schutz hopes
to develop an understanding of the social world based on ideal
types, types based on the typifications of actors and their
fitting together. That they do fit together seems to be a
matter of assumption with Schutz. Everyon's stock of knowledge,
according to Schutz, is limited to a particular zone of
relevance, and the further an actor is removed from the
particular zone of relevance to be considered, the more
anonymous and generalized in his knowledge of that sphere.
The key concept behind the fitting together of zones is
social approval. Those typifications which are socially
approved are those which receive attention in deciding the
framework of fit between zones of relevance. It is not stated
whether social approval is something derived from the

typification process itself in Schutz. If not, this repre-
sents a great weakness in Schutz' approach because if, as a
concept providing access to the origins of social order, it
does not arise from his initial formulations, it may be rep-
resentative of a prior unarticulated picture of social order
which provides the actual conclusion of Schutz' work.

In viewing the social order more as a whole, Schutz
also mentions the concept functionalism.

> The concept of functionalism -- at least in the
> modern social sciences -- is not derived from
> the biological concept of the functioning of
> an organism, as Nagel holds. It refers to the
> socially distributed constructs of patterns of
> typical motives, goals, attitudes, personali-
> ties, which are supposed to be invariant and
> are then interpreted as the function or struc-
> ture of the social system itself. The more
> these inter-locked behavior patterns are stan-
> dardized and institutionalized, that is the
> more their typicality is socially approved by
> laws, folkways, mores and habits, the greater
> is their usefulness in common-sense and scien-
> tific thinking as a scheme of interpretation
> of human behavior. (Schutz 1970b: 14)

The key terms here are 'standardized' and 'usefulness'. The
means-ends distinction applied to the distribution of
typifications would appear to be grounded in a notion of
scientific rationality. Furthermore, Schutz seems to be
making an appeal for a greater rationalization of social life
itself rather than simply an argument for depicting the degree
of rationality which it may at a given time possess.

Schutz articulates three postulates forming criteria
of access to the foundations of social order in which the
bases of his approach are more clearly outlined. The postu-

late of subjective interpretation he describes as follows:

> The scientist has to ask what type of individual
> mind can be constructed and what typical thoughts
> must be attributed to it to explain the phenomenon
> in question as the result of its activity within
> an understandable relation.
> (Schutz 1970a: 111)

If Schutz could here articulate fully the meaning of 'under-

standable relation' we would not need to construct any mind.

We would then, in fact, in Schutz' terms, understand the or-

der of the social world. What is the relationship between

the understandability of a relation and the taken-for-granted,

typifying orientations of actors? If "phenomena in question"

must be explained in terms of the activity of minds within

those undefined understandable relations then it appears as

though Schutz is adding dimensions to his analysis of social

reality which are not based on nor intrinsically connected

with his initial considerations of typifying consciousnesses

and the reciprocity of perspectives.

> The postulate of adequacy is as follows:

> Each term used in a scientific system referring
> to human action must be so constructed that a
> human act performed within the life-world by an
> individual actor in the way indicated by the
> typical construction would be reasonable and
> understandable for the actor himself as well as
> for his fellow men. (Schutz 1970a: 111)

Again the criteria of reasonability should be articulated.

That an action be reasonable both to a community and a sci-

entist expresses the entire problem of Schutz' work. The

terms thuse constructed must already be based on an adequate

knowledge of the very thing which the scientific system is

designed to gain a knowledge of, a social order based on the

interlocking of situational interpretations. It seems pos-
sible that what Schutz means by reasonability is again not
derivable from his earlier considerations.

According to the postulate of rationality:

> means-ends relations together with the system of
> constant motives and the system of life plans
> must be constructed in such a way that:
>
> a) it remains in full compatability with the
>   principles of formal logic;
>
> b) all its elements are conceived in full
>   clearness and distinctness;
>
> c) it contains only scientifically verifiable
>   assumptions which have to be in full compat-
>   ability with the whole of our scientific
>   knowledge.
>   (Shutz 1970a: 111-12)

Schutz mentions some further implications of these
principles and is worth quoting at length in this connection.

> The ideal type of social action must be constructed
> in such a way that the actor in the living world
> would perform the typified act if he had a clear
> and distinct scientific knowledge of all the ele-
> ments relevant to his choice and the constant ten-
> dency to choose the most appropriate means for the
> realization of the most appropriate end. Indeed,
> as we had anticipated in the beginning, only by
> the introduction of the key concept of rationality
> can all the elements be provided for the constitu-
> tion of the level called 'pure theory'. The pos-
> tulate of rationality implies, furthermore, that
> all other behavior has to be interpreted as derivative
> from the basic scheme of rational acting. The
> reason for this is that only action within the frame-
> work of rational categories can be scientifically
> discussed. Science does not have at its disposal
> other methods than rational ones and it cannot,
> therefore, verify or falsify purely occasional
> propositions. (Schutz 1970a: 112)

Although Schutz devotes a great deal of effort to
outlining his approach, life-world and the reciprocity of
perspectives turn out not to form his organizing principle.

Citeria dictated by his notion of 'pure theory' turn out
in the end to be prior to all other considerations. Schutz'
concept of order involves notions of formal logic and social
approval. If an element or concept cannot be included in
the above categories then it does not belong either in sci-
ence or in common-sense. These notions are introduced by
Schutz before he discusses them explicitly. They form the
connection, as it were, between typicality and social appro-
val. Contained in Schutz' notion of rationality, then, is
a picture of social order which is maintained along side of
and, perhaps in spite of, his discussions of the life-world
and the reciprocity of perspectives. For Schutz, the ways
in which people know each other and conceive of the order of
their social world must be socially approved, or there could
be no order. Schutz has provided us with his picture of how
everyday life should be conducted, a picture grounded in a
testimonial to science. Schutz is after a systematic un-
derstanding, with the emphasis on the 'systematic'. Schutz'
postulate of rationality thus implies a society-makes-people
sort of proposition in which a prime condition for knowledge
of others is the social approval of typifications. Making
our way in the world as human beings would be much more
problematic for Schutz in a society in which persons and
actions were not invariant and in which our motives and goals
were not socially approved ones contributing to the function-
ing of the social system. Schutz wants as complete a knowledge
of the other as possible. The way to do this is to rule out

of discussion any orientation to self or other which is not
oriented in the above fasion.

The jump from the reciprocity of perspectives to
logical consistency and rationality is a long jump. The jump
from seeing events in their typicality to seeing them in their
social functionality is a forced one. I suggest that it does
not follow from the notion that the life-world is character-
ized by a typifying consciousness that the constructs of
various typifying consciousnesses necessarily be structured
in such a way as to produce social order and certainty. In
viewing human relationships, the knowledge people may have
of each other, as dependent on his definition of rationality,
Schutz has prejudged the issue of access to the social.

What, then, is being done when the ways in which
people know each other are considered only in so far as a
systematic understanding may be achieved? The result is an
objectification of the subject so that the person is consi-
dered as an instrument or means in the actions of specific
others or in the achievement of supra-individual hegemony
in the social order itself. Where this understanding of
others is possible in terms of Schutz' notion of rationality,
the common ground of communication and meaning becomes a
pre-defined goal of the social scientist according to which
people are recalcitrant tools in the maintenance of a specific
social distribution of knowledge. It is one thing to say
that knowledge is socially distributed; it is quite another
to suggest that this distribution must form a whole whose

parts are inter-connected in specific ways.

Only those aspects which contribute to solidity are considered in Schutz' scheme. The outcome of Schutz' postulate of rationality is that not simply typifications but socially approved typifications receive emphasis.

> Socially approved knowledge is the source of prestige and authority; it is also the home of public opinion. Only he is deemed to be an expert or well-informed citizen who is socially approved as such. Having obtained this degree of prestige the expert's or well-informed citizen's opinions receive additional weight in the realm of socially derived knowledge. In our time socially approved knowledge seems to supercede the underlying system of intrinsic and imposed relevances. Polls, interviews and questionnaires try to gauge the opinions of the man on the street, who does not even look for any information that goes beyond his habitual system of intrinsic relevances. His opinion, which is public opinion as it is understood nowadays, becomes more and more socially approved at the expense of informed opinion and therefore imposes itself as relevant upon the better-informed members of the community. A certain tendency to misinterpret democracy as a political institution in which the opinion of the uninformed man on the street must predominate increases the danger. It is the duty and the privilege, therefore, of the well-informed citizen in a democratic society to make his private opinion prevail over the public opinion of the man on the street.
> (Schutz 1964: 134)

Danger to whom? It seems that the emphasis is not even simply on socially approved knowledge as such, but rather on the notion that certain kinds of knowledge be socially approved.

Emile Durkheim

   With Emile Durkheim there is also an emphasis on
social approval. His approach, as revealed in The Rules of
Sociological Method, is to give account of the permanent and
independent existence of phenomena which can be characterized
as social and primarily social. Thus Durkheim wishes to de-
marcate a realm of facts, a realm independent both from
other realms and from people.

>   Here, then, is a category of facts with very
>   distinctive characteristics: it consists of
>   ways of acting, thinking and feeling, external
>   to the individual, and endowed with a power of
>   coercion, by reason of which they control him.
>   (Durkheim 1964: 3)

   Externality and constraint become key principles in
Durkheim's definition of the social. (Durkheim 1964: 13)
The social for Durkheim, then, is that which exists in its
own right and is capable of controlling the actions, feelings
and thoughts of people. Further, that which controls the
actions, feelings and thoughts of people is that which sur-
vives or endures. It must enhance the survival of people and
of the social organism, otherwise it would not have exercised
control and constraint and hence could not, by definition,
be considered social.

   There are, however, some ways of acting and thinking
which do not, in Durkheim's opinion, enhance societal survi-
val. Those ways which do not enhance adaptation or survival
are then designated as pathological, and two separate orders
of facts are sought, the normal and the pathological.

(Durkheim 1964: 50, 55) Durkheim suggests making the distinction in the following manner:

> We shall call normal those social conditions
> that are most generally distributed, and the
> others 'morbid' or 'pathological'. If we
> designate as 'average type' that hypothetical
> being that is constructed by assembling in
> the same individual the most frequent forms,
> one may say that the normal type merges with
> the average type, and that every deviation
> from this standard of health is a morbid
> phenomenon. (Durkheim 1964: 55)

The distinction between normal and pathological provides the basis, then, for Durkheim's notion of the health or adaptation of the social organism. What is deemed normal is also thought to be the most advantageous for the survival and evolution of the society.

> It would be incomprehensible if the most wide-
> spread forms of organization would not at the
> same time be, at least in their aggregate, the
> most advantageous. How could they have main-
> tained themselves under so great a variety of
> circumstances if they had not enabled the in-
> dividual better to resist the elements of de-
> struction? On the one hand the reason for the
> rarity of the other characteristics is evident-
> ly that the average organism possessing them has
> greater difficulty surviving. The greater fre-
> quency of the former is, thus, proof of their
> superiority. (Durkheim 1964: 56)

Given, then, that it can be evident that the most widespread forms of organization are the superior in terms of effect on societal survival we may expect them to be the most useful. Durkheim goes on from here to suggest that we may check the normality of a phenomenon by observing as well its utility and can do so by "showing that the generality of the phenomenon is bound up with the general conditions of

the collective life of the social type considered." (Durkheim 1964: 64) He distinguishes further that we may infer such connection only when the normality of a phenomenon is "given in the things themselves." (Durkheim 1964: 74)

For Durkheim, the explanation of social facts and their classification are simultaneous and complementary processes, once the generality of a phenomenon is observed from "the things themselves."

> We must, then, choose the most essential characteristics for our classification. It is true that we can know them only when the explanation of the facts is sufficiently advanced. These two parts of the science are inseparable and each progresses through the other. Without entering, however, too far into the study of the facts, it is not difficult to conjecture in what quarter we must seek the characteristic properties of social types. We know that societies are composed of various parts in combination. Since the nature of the aggregate depends necessarily on the nature and number of the component elements and their mode of combination, these characteristics are evidently what we must take as our basis; and we shall see from what follows that it is on them that the general facts of social life depend.
> (Durkheim 1964: 81)

The 'essential nature' or 'characteristic properties' of social phenomena are, for Durkheim, easily accessible. The problem for him is to determine their place in social evolution and their contribution to the stability of a given social order at a given stage in its evolution. Externality is again an organizing principle in Durkheim's thought since it is again emphasized that human needs, at least as experienced by individuals, do not constitute an

essential problem. Speaking of the role of habits in mo-
tivation Durkheim states:

> These habits, then, had inevitably to yield
> to each impulse that arose. Thus the fact
> that we allow a place for human needs in
> sociological explanations does not mean that
> we even partially revert to teleology. These
> needs can influence social evolution only on
> condition that they themselves, and the changes
> they undergo, can be explained by causes that
> are deterministic and not at all purposive.
> (Durkheim 1964: 93)

What constitutes real needs for Durkheim are the needs
of the 'social organism'. These needs are such only with
reference to the normality of a given fact under considera-
tion and its fit with the survival of a form of organization.

> When, then, the explanation of a social phen-
> omenon is undertaken, we must seek separately
> the efficient cause which produces it and the
> function it fulfills. We use the word 'function'
> in preference to 'end' or 'purpose', because
> social phenomena do not generally exist for the
> useful results they produce. We must determine
> whether there is a correspondence between the
> fact under consideration and the general needs
> of the social organism, and in what this cor-
> respondence consists, without occupying our-
> selves with whether it has been intentional
> or not. All these questions of intention are
> too subjective to allow of scientific treatment.
> (Durkheim 1964: 95)

The justification, then, for viewing social facts as
things is that it then becomes simpler to argue for credence
in an authority and community which is deemed natural. Given
that the authority and community responsible for people's
actions are external to and over and against them, the prob-
lem which remains for Durkheim is simply how to perceive and
account for them. The generality and, hence, normality of

certain phenomena are said to be self-evident or in 'the things themselves'. There are certain phenomena, however, which Durkheim wished to classify as abnormal, owing to the fact that there is, in them, evidence to suggest that predominant social forms and ways of acting and thinking are not controlling the people concerned.

The pathological is that which is expected to die out, since it makes no contribution to the survival of aggregate forms and, hence, is maladaptive as concerns the 'social organism', unless those pathological forms were to gradually become, or in some way provide for, a new aggregate. Thus, to speak of causes Durkheim also needs to speak of survival and utility. Furthermore, cause, survival or utility can have nothing to do with self-conscious action on the part of individuals, otherwise, at least in Durkheim's terms, the causes could not be considered social causes.

Survival is pictured in terms of stability and evolution. Stability is reconciled with change by considering it in relation to gradual 'progressive' change associated with evolutionism. Because this kind of change is deemed 'progressive', causes and functions can be seen as external to individuals and only those things deemed progressive can be seen as necessary or useful. Thus Durkheim proceeds from normality to utility. Showing a phenomenon's utility is added evidence of its normality. (Durkheim 1964: 64)

The notion of stability is further entrenched in

Durkheim's notion of the relation between cause and function.

> Thus, instead of the cause of social phenomena
> consisting of a mental anticipation of the
> function they are called to fill, this function,
> on the contrary at least in a number of cases,
> serves to maintain the pre-existent cause from
> which they are derived. We shall, then, find
> the function more easily if the cause is al-
> ready known. (Durkheim 1964: 96)

This concept is further extended to provide a picture of

social order which contains stability, solidarity and har-

mony and in which the concepts of function and cause and

their interrelation are seen to ensure a stability which

is totally within 'the nature of things'.

> Indeed, if the usefulness of a fact is not the
> cause of its existence, it is generally neces-
> sary that it be useful in order that it main-
> tain itself. For the fact that it is not use-
> ful suffices to make it harmful, since in that
> case it costs effort without bringing any re-
> turns. If, then, the majority of social phen-
> omena had this parasitic character, the budget
> of the organism would have a deficit and social
> life would be impossible. Consequently, to have
> a satisfactory understanding of the latter, it
> is necessary to show how the phenomena com-
> prising it combine in such a way as to put so-
> ciety in harmony with itself and with the en-
> vironment external to it. No doubt the current
> formula, which defines social life as a cor-
> respondence between the internal and external
> milieu, is only an approximation; however it is
> in general true. Consequently, to explain a
> social fact it is not enough to show the cause
> on which it depends; we must also, at least in
> most cases, show its function in the establish-
> ment of social order. (Durkheim 1964: 97)

Thus Durkheim's picture of the 'should's and 'should

nots' of social life are informed by evolutionism and utili-

tarianism. Added to and complementary to this picture are

his notions of how knowledge of 'the nature of things' is

obtained and verified. But, this procedure is itself bound
up with his picture of order. Both the procedure and the
picture, moreover, are organized by a concept of science, a
concept composed principally of causality and uniformity.
This science is seen as the only way of providing 'direct
contact with things.'

> Science alone can teach us to treat historic
> institutions, whatever they may be, with re-
> spect but without mystic awe, by making us
> appreciate both their permanent and their
> ephemeral aspects, their stability and their
> infinite variability.
>
> In the second place, our method is objective.
> It is dominated entirely by the idea that so-
> cial facts are things and must be treated as
> such. No doubt, this principle is found again,
> under a slightly different form, at the basis
> of the doctrines of Comte and Spencer. But
> these great thinkers gave it theoretic formu-
> lation without putting it into practice. In
> order that it might not remain a dead letter,
> it is not sufficient to promulgate it; it is
> necessary to make it the basis of an entire
> discipline which will take hold of the student
> at the very moment he approaches the subject
> of his researches, and which will accompany him,
> step by step, in all his proceedings. We have
> devoted ourselves to instituting this discipline.
>
> We have shown how the sociologist has to disregard
> the preconceptions which he had of the facts, in
> order to face the facts themselves; how he has to
> discriminate among them their most objective char-
> acteristics; how he must seek in the facts them-
> selves the means of classifying them as normal
> and pathological; how, finally, he must be in-
> spired by the same principle in the explanations
> he attempts as in the way in which he tests these
> explanations. For, as soon as he has the feeling
> that he is in the presence of things, he will no
> longer think of explaining them by utilitarian
> calculations or by syllogistic reasonings of any
> sort. He will understand too well the gap that
> exists between such causes and such effects.
> (Durkheim 1964: 143-44)

The procedure resulting from trying to see the things themselves is one in which the 'clear revelation' of facts and their relations results from the posited notion that social reality is thing-like and that societal norms are morally imperative. This is the extent of Durkheim's discussion of the procedure involved: to get at social reality and discover its order we simply have to free ourselves of preconceptions and view the social facts themselves; they are so perceivable because they are things and because of the uniform order and hierarchy in social reality posited in advance by Durkheim. 'Clear revelation', for Durkheim, seems to be something which simply occurs, but can occur only to a scientist. Since social facts have causes which are social facts and since most social facts are adaptive and, hence, enduring, we can view only those aspects of the social which bear upon the evolutionary survival and stability of a society. Even those few aspects which are 'ephemeral' or 'variable' are viewed with reference to the possible function or morbidity in enhancing or inhibiting solidarity and stability. Even if it is admitted, then, that chance or people may have something to do with human life, we, as sociologists, must not pay attention to it. The end of social science, for Durkheim, is the discovery of the factors effecting and the enhancing of stability, order and solidarity as an aid to seeing and helping along evolutionary processes.

> It is necessary to compare not isolated variations
> but a series of systematically arranged variations
> of wide range, in which the individual items tie
> up with one another in as continuous a gradation
> as possible. For the variations of a phenomenon
> permit inductive generalizations only if they re-
> veal clearly the manner in which they develop un-
> der given circumstances. There must be between
> them the same sequence as between the different
> stages of a given natural evolution; and, in addi-
> tion, the evolutionary trend that they establish
> ought to be sufficiently extended as to lend some
> certainty to its direction. (Durkheim 1964: 135-36)

It is thus part of Durkheim's metaphysic that social

reality, even though it is emphasized in his work that it

constitutes a completely separate realm, parallels totally

the natural science view of the physical world. This is

self-evident to anyone doing science:

> Sociology does not need to choose between the great
> hypotheses which divide metaphysicians. It needs
> to embrance free will no more than determinism.
> All that it asks is that the principle of causality
> be applied to social phenomena. Again, this
> principle is enunciated for sociology not as a
> rational necessity but only as an empirical postul-
> ate, produced by legitimate induction. Since the
> law of induction has been verified in the other
> realms of nature and because it has progessively
> extended its authority from the physio-chemical
> world to the biological, and from the latter to
> the psychological, we are justified in claiming
> that it is equally true of the social world; and
> it is possible to add today that the researches
> undertaken on the basis of this postulate tend to
> confirm it. (Durkheim 1964: 141)

Thus Durkheim holds that the scientifically approp-

riate and the morally right may be derived from the simple

'unprejudiced' observance and description of social facts.

Just what 'unprejudiced' means and how social facts are

constituted, however, is decided with reference to a world-

view including naturalism, 'societal utilitarianism', evolu-

tionism and rationalism. Appropriateness and rightness, fur-
thermore, are seen as immediately given in the things them-
selves only because the things themselves are constituted
a priori in Durkheim's metaphysic of social determinism and
externality.

Max Weber

In the verstehen and ideal-typical view of Max Weber,
social approval is linked to a concept of rationality.

> We have a perfectly clear understanding of what
> it means when somebody employs the proposition
> 2 X 2 = 4 or the Pythagorean theorem in reason-
> ing or argument, or when someone correctly car-
> ries out a logical train of reasoning according
> to our accepted modes of thinking. In the same
> way we also understand what a person is doing
> when he tries to achieve certain ends by choosing
> appropriate means on the basis of the facts of
> the situation as experience has accustomed us to
> interpret them. Such an interpretation of this
> type of rationally purposeful action possesses,
> for the understanding of the choice of means,
> the highest degree of verifiable certainty.
> With a lower degree of certainty, which is, how-
> ever, adequate for most purposes of explanation,
> we are able to understand errors, including
> confusions of problems of the sort that we
> ourselves are liable to, or the origin of which
> we can detect by sympathetic self-analysis.
> (Weber 1947: 91 emphasis added)

In employing this perspective we are urged to pay
attention to meanings. The action of actors in the world
is said to be oriented on the basis of the meaning of the
objects in the world and, furthermore, that action is social
when at least one of these objects is the behavior of others
and has as its end particular kinds of behavior on the part
of others. Social action, then, is looked at in order to

determine the appropriateness of choice of means towards the
attainment of a given end where the selection of means is
determined with reference to the meaning which that situation
has for the actor(s) in question.

At this point Weber maintains that he is not imputing
rationality to the social world and that this perspective is
employed only as a methodological device. Action is rational,
furthermore, only when oriented to the attainment of certain
kinds of ends, which kinds, however, is not articulated by
Weber.

> The more we ourselves are susceptible to them
> (ultimate values different from our own) the
> more readily can we imaginatively participate
> in such emotional reactions as anxiety, anger,
> ambition, envy, jealousy, love, enthusiasm,
> pride, vengefulness, loyalty, devotion, and
> appetites of all sorts, and thereby understand
> the irrational conduct which grows out of them.
> Such conduct is 'irrational', that is, from the
> point of view of the rational pursuit of a given
> end. Even when such emotions are found in a
> degree of intensity of which the observer him-
> self is completely incapable he can still have
> a significant degree of emotional understanding
> of their meaning, and can interpret intellectual-
> ly their influence on the course of action and
> the selection of means. (Weber 1947: 92)

Weber's method, then, attempts to analyse behavior
and action which is rational in its selection of means toward
the attainment of a given end or, at least, to account for
other kinds of behavior in terms of their deviation from
this type. Weber wishes to convey, in his claim that this
is simply a method and not a cosmology, the idea that he does
not have to attribute a priori properties to social reality
and processes in order to comprehend and investigate them.

In Weber's concept of rationality, however, a continual stumbling block for his method is the givenness of ends. Criteria for deciding which ends are to be attained as well as criteria for deciding the 'appropriateness' of means are only implied in Weber's scheme. Concepts of normality and typicality turn out in the last analysis to constitute these criteria.

> We apply the term 'adequacy on the level of meaning' to the subjective interpretation of a coherent course of conduct when and in so far as, according to our habitual modes of thought and feeling, its component parts taken in their mutual relation are recognized to constitute a 'typical' complex of meaning. It is more common to say correct. The interpretation of a sequence of events will on the other hand be called causally adequate in so far as, according to established generalizations from experience, there is a probability that it will always actually occur in the same way. (Weber 1947: 99 emphasis added)

Thus Weber wants to pay attention to what is orderly and predictable in the social world. His concept of rationality can be applied to depicting this orderliness only when the ends involved are deemed 'normal'. Persons, furthermore, are to be looked at with reference to whether their goals in action are in some sense typical, normal goals. Their goals are supposed to be normal goals and the means selected for their attainment must be 'appropriate'. The observer viewing the selection of means on the part of the actor must depict and describe that selection in terms understandable to the actor. They are, in this sense, understandable, however, only when normal.

> A motive is a complex of subjective meaning
> which seems to the actor himself or to the
> observer an adequate ground for the conduct
> in question. (Weber 1947: 98-99 emphasis added)

Motives as well must be in some sense sanctioned. The com-
prehensibility of action, in Weber's scheme, is highly de-
pendent on its normality.

> A correct causal interpretation of a concrete
> course of action is arrived at when the overt
> action and the motives have both been correctly
> apprehended and at the same time their relation
> has become meaningfully comprehensible. A cor-
> rect causal interpretation of typical action
> means that the process which is claimed to be
> typical is shown to be both adequately grasped
> on the level of meaning and at the same time
> the interpretation is to some degree causally
> adequate. (Weber 1947: 99)

Thus, in order for Weber's method to be applicable,

the givenness of ends must be provided for by implicitly

positing the 'appropriateness' of selecting ultimate ends

and values which are seen to be contained in modes of ori-

entation to action which are part of value systems. Further,

although Weber claims for his ideal-type method the same

aseptic quality claimed for his concept of rationality, it

too is dependent on a kind of official sanctioning of ends

sought and of the appropriateness of means employed for

their attainment. 'Social approval' becomes a criterion

both for action and its understanding. For Weber, then, in

a nutshell, normality plus meaningfulness provides a clear

picture of social reality. The frame for this picture, how-

ever, is already constructed with a notion of the appropri-

ateness of ends and means in terms of officially sanctioned

value systems.

In line with these criteria, Weber outlines four types of social action:

> Social action, like other forms of action, may be classified in the following four types according to its orientation:
>
> 1) in terms of rational orientation to a system of discrete individual ends (zweckrational), that is, through expectations as to the behavior of objects in the external situation and of other human individuals, making use of these expectations as 'conditions' or 'means' of the successful attainment of the actor's own rationally chosen ends; 2) in terms of rational orientation to an absolute value (wertrational); involving a conscious belief in the absolute value of some ethical, aesthetic, religious, or other form of behavior, entirely for its own sake and independent of any prospects of external success; 3) in terms of affectual orientation, especially emotional, determined by the specific affects and states of feeling of the actor; 4) traditionally oriented, through the habituation of long practice. (Weber 1947: 115)

The difficulties incurred at this point in interpreting Weber are a key to his implied picture of social order and of the value which Weber attaches to it. What sense can it make to say that action is rational when, as one condition, the ends are rationally chosen? Success, in Weber's terms, is achieved only be means of following the first or purposive-rational type of action. The first, second and fourth types all involve ends which are in some way existent in a socially approved and sanctioned fashion. Ends are selected from available systems. Weber's method, furthermore, follows the orientation of one type of action, purposive-rational. Thus, even though Weber states explicitly that he

does not wish to impute a rational nature to the social

world, he does so, in the last analysis, by suggesting that

those not following purposive-rational courses of action are

unsuccessful, in error or irrational. He is able to argue

this case only because he suggests that ends must always be

given, legitimate in some way, and originating in some system

of ends or values, which is external to the actor. Thus the

criteria of success, by which action is judged to be rational,

must also be 'given', provided insitutionally. Value itself

becomes something not decidable in the last analysis by human

beings:

> The orientation of actions to absolute values
> may thus have various different modes of rela-
> tion to the other type of rational action, in
> terms of a system of discrete individual ends.
> From the latter point of view, however, absol-
> ute values are always irrational. Indeed, the
> more the value to which action is oriented is
> elevated to the status of an absolute value,
> the more 'irrational' in this sense the corres-
> ponding action is. For, the more unconditional-
> ly the actor devotes himself to this value for
> its own sake, to pure sentiment or beauty, to
> absolute goodness or devotion to duty, the less
> is he influenced by consideration of the conse-
> quences of his action. (Weber 1947: 117)

The ends given in rational action, in Weber's scheme,

are provided for with the notions of legitimate order and

the corporate group. Ends are contained in value systems in

turn contained in various legitimate orders which are embodied

in corporate groups.

> Action, especially social action which involves
> social relationships, may be oriented by the
> actors to a belief (Vorstellung) in the existence
> of a 'legitimate order'. The probability that
> action will actually empirically be so oriented

> will be called the 'validity' (Geltung) of the
> order in question. (Weber 1947: 124)

Although Weber is here also attempting to be careful
not to impute the nature of social reality in his concepts
(his translator and editor, Talcott Parsons, also points out
in a footnote that by 'validity' Weber means normative vali-
dity), he is nonetheless positing the source of ends which
may be given in rational action and, hence their externality
to human beings. In Weber's ontology, the existence of legi-
timate orders and corporate groups is posited as a probability.

> Thus for sociological purposes there does not
> exist, as there does for the law, a rigid al-
> ternative between the validity or lack of
> validity of a given order. On the contrary,
> there is a gradual transition between the two
> extremes; and also it is possible, as it has
> been pointed out, for contradictory systems of
> order to exist at the same time. In that case
> each is 'valid' precisely to the extent that
> there is a probability that action will in fact
> be oriented to it. (Weber 1947: 126)

> Thus, for purposes of the terminology of this
> discussion, the corporate group does not 'exist'
> apart from the probability that a course of action
> oriented in this way will take place. If there is
> no probability of this type of action on the part
> of the particular group of persons or of a given
> individual, there is in these terms only a social
> relationship but no corporate group. On the other
> hand, so long as there is probability of such
> action, the corporate group, as a sociological
> phenomenon, continues to exist, in spite of the
> fact that the specific individuals whose action
> is oriented to the order in question, may have
> been completely changed. The concept has been
> defined intentionally to include precisely this
> phenomenon. (Weber 1947: 146-47)

That toward which action is oriented exists then as
an order. The validity of orders and the existence of cor-
porate groups whose action is oriented to those orders is

posited as the probability that action so oriented will take place. Social action, then, has rationally chosen ends only when the ends are institutionally available in the sense that, on the average, for a given society, action so oriented will be seen as normal and typical. All types of social action, including irrational types, are seen by Weber to be oriented to and receive their impetus from orders (Weber 1947: 130) and, hence, only action which is in some sense normal and typical is understandable, for "relationships exist only as systems of human action with particular subjective meanings." (Weber 1947: 134)

Although Weber attempts again not to posit an on-tology in suggesting that the sociologist consider as an ethic what the actors in question consider to be an ethic, he can only do so by creating a different ontology. In this ontology values, normative orders, corporate groups, motives, meanings and ultimate ends are said to exist in the social world but to exist apart from the individual persons whose actions we are thus attempting to understand. The meanings referred to can be dealt with only when they are 'average' meanings (Weber 1947: 89) and the origin of these average meanings is in 'complexes'. (Weber 1947: 101) Rational action can take place only when its ends are defined in the context of institutionally defined meaning-complexes and those meanings and ends can be seen by actors as legitimated only when they are contained ready-made in such orders. For

Weber, then, social order equals rational action plus legitimacy.

The ginger and caution involved in Weber's methodology is the more understandable when we consider his statements concerning objectivity and ethical neutrality in social science. The difficulties engendered in his discussion of the ultimate ends of rational action become clearer when we consider his personal difficulty in deciding the ends of social science.

> The impossibility of 'scientifically' pleading
> for practical and interested stands -- except
> in discussing the means for a firmly given and
> presupposed end -- rests upon reasons that lie
> far deeper.
>
> 'Scientific' pleading is meaningless in principle
> because the various value spheres of the world
> stand in irreconcilable conflict with each other.
> (Weber 1946: 147)

Since the conflict of values is posited as irreconcilable, Weber acquiesces to the point of suggesting that the ends of rational action and the legitimacy of orders and meaning complexes must simply be given by one of those conflicting spheres. The conduct of inquiry, then, is oriented to showing where, given the ends of action, the most efficient means for its attainment have been chosen. For Weber, conflict is irreconcilable and inevitable and the world can be mastered only by calculation.

> (P)rincipally there are no mysterious incalcu-
> lable forces that come into play, but rather
> . . . one can, in principle, master all things
> by calculation. This means that the world is
> disenchanted. One need no longer have recourse

> to magical means in order to master or implore
> the spirits, as did the savage, for whom such
> mysterious powers existed. Technical means
> and calculations perform the service. This
> is above all what intellectualization means.
> (Weber 1946: 139)

Since, according to Weber, people believe all things

to be masterable by calculation, the world is disenchanted.

Since the world is disenchanted, all things are masterable

by calculation. The ends, furthermore, to be served in this

mastery are irrelevant to the scientist qua scientist. The

scientist as such, in fact, is the only type of person not

burdened with this responsibility. The scientist can help

judge which means should be chosen for the attainment of ends

determined with reference to value spheres which, according

to Weber, are in irreconcilable conflict. Weber's way out

of the conflict is to provide for himself a position which

he justifies as serving ultimate rational ends, in themselves

not connected to ultimate value positions. He is in the

business of Entzauberung, disenchantment; he relates means

to ends.

> In terms of its meaning, such and such a practical
> stand can be derived with inner consistency, and
> hence integrity, from this or that ultimate weltan-
> schauliche position. Perhaps it can only be derived
> from one such ultimate position, or maybe from
> several but it cannot be derived from these or those
> other positions. Figuratively speaking, you serve
> this god and you offend the other god when you
> decide to adhere to this position. And if you re-
> main faithful to yourself, you will necessarily
> come to certain final conclusions that subjectively
> make sense. This much, in principle at least, can
> be accomplished. (Weber 1946: 151)

Integrity, for Weber, is to allow value decisions to

be made by others. In the field of inquiry, Weber admonishes
those who attempted to claim immutability for certain aspects
of reality and, on the basis of that immutability, to claim
the moral rightness of following the patterns of those aspects
of phenomena.

> The formulation of this distinction (between
> existential and normative knowledge) was ham-
> pered, first, by the view that immutably in-
> variant natural laws -- later, by the view
> that an unambiguous evolutionary principle --
> governed economic life and that accordingly,
> what was normatively right was identical --
> in the former case -- with the immutably
> existent -- and in the latter -- with the im-
> mutably emergent. With the awakening of the
> historical sense, a combination of ethical
> evolutionism and historical relativism became
> the predominant attitude in our science. This
> attitude sought to deprive ethical norms of
> their formal character and through the in-
> corporation of the totality of cultural values
> into the 'ethical' (Sittlichen) sphere tried
> to give a substantive content to ethical norms.
> (Weber 1949: 51-52)

Since Weber sees value spheres as being in irrecon-
cilable conflict, he also sees the need for keeping ethical
considerations at a purely formal level. Various ethical
standpoints are seen as equally legitimate as long as they
are existent in the sense that action will often in fact be
oriented to those standpoints and as long as those standpoints
are embodied in corporate groups. Thus to give substantive
content to ethical norms on Weber's part would be to align
oneself with a particular order and, hence, to be engaged
in an irreconcilable conflict.

What Weber ends up doing, however, is to provide a
substantive ethic based not on the natural but on the insti-

tutional. Means may be deemed appropriate for serving any-
one's ends, as long as anyone represents a legitimate, em-
bodied institution. What exists on the average, is good on
the average.

> All serious reflection about the ultimate
> elements of meaningful human conduct is
> oriented primarily in terms of the cate-
> gories 'end' and 'means'. We desire some-
> thing concretely either 'for its own sake'
> or as a means of achieving something else
> which is more highly desired. The question
> of the appropriateness of the means for
> achieving a given end is undoubtedly ac-
> cessible to scientific analysis.
> (Weber 1949: 52)

'Practical meaningfulness' then becomes the substance
of Weber's own standpoint. The choice of other ends may be
judged as to the probability of their achievement given the
means available in present historical conditions. That this
practical meaningfulness is a deeply situated value in Weber's
orientation may be seen clearly on examining his comparative
studies of religion.

In The Protestant Ethic, Weber outlines the develop-
ment of the disenchantment and practical meaningfulness men-
tioned above in the intellectualization of life in the west.
Weber points out that the rational pursuit of wealth in the
west was the result of a belief that, although wealth for
its own sake was evil, "the attainment of it as a fruit of
labor in a calling was a sign of God's blessing." (Weber
1958a: 172) His lament for this situation is that the roots
of value orientation have died out and, hence, we are locked
in a cage. (Weber 1958a: 177-183)

In The Religion of India, however, it becomes clear
that Weber is concerned only that we are locked in a cage,
not that wealth is pursued for its own sake. His ontology,
metaphysic and values come out clearly in his assessment of
Indian philosophy.

> They were, indeed, protected by the rigid cere-
> monial and hieratic stylization of their life
> conduct from the modern occidental search, for
> the individual self in contrast to all others,
> the attempt to take the self by the forelock
> and pull it out of the mud, forming it into a
> 'personality'. To Asia this was an effort as
> fruitless as the planned discovery of a parti-
> cular artistic form of 'style'. Asia's partly
> purely mystical, partly purely inner-worldly
> aesthetic goal of self-discipline could take
> no other form than an emptying of experience of
> the real forces of experience. As a consequence
> of the fact that this lay remote from the in-
> terests and practical behavior of the 'masses',
> they were left in undisturbed magical bondage.
> (Weber 1958b: 342 emphasis added)

Whereas Weber's lament for Protestantism is simply
that we have become locked into its consequences, his lament
for Hinduism is that it is not, at root, economically ration-
al. He does not, however, regret the lack in the Protestant
west of erotic and contemplative technique. (cf. Weber 1958b:
165)

Whereas Durkheim attempted to constitute the good
and the ethical on the grounds of natural law and evolution,
and also whereas Weber claimed to have avoided this sort of
identity theory, Weber, in actuality, posits the normality
and rightness of the purposive-rational pursuit of economic
ends. Durkheim posits the realm of natural law as the tem-
plate of right conduct whereas Weber posits the institutional

validity of value spheres as this source.

Thus in the four theorists chosen there are several continuities reflecting a similarity in world-view. Parsons' notions of stability, function, system, and pattern maintenance, Schutz' typification, scientific rationality and social approval, Durkheim's evolution, progress, normality, social determinism and natural law and Weber's ideal types, legitimacy, rationality and ethical-neutrality, all reflect a world-view which sees the necessity in the social world of social approval, externality and constraint and, for viewing that world, the separation of the person from the scientist. Nisbet's implication that metaphysics and their translation into practical methodologies are unproblematic now appears more questionable. The practicality of methodologies turns out, in the end, to be practicality only with reference to the ends dictated by the metaphysic. Pictures of society and social reality have been produced with notions of social approval, externality and constraint as key principles in construing that picture. The picture is translated into a methodology which takes as given, immediate and eternal the status of human action as effect but never as cause. The question as to what constitutes causal agents, and the universality of the principle of causality itself, is already decided. The resulting methodology, therefore, is judged practical in so far as it assists in depicting the appropriateness of types of conditions and persons as means to the achievement of ends

which are seen as given by the social system.

The key in this conception is the givenness and immediateness of the theorist's initial concepts. The instrument and source of this givenness and this immediacy is, according to Nisbet, a 'passion for reality'. This passion is a passion for reality as long as one agrees that reality can be equated with externality and social control and that the practicality of the resulting methodology consists in achieving results which serve the ends of order and control.

Some recent writers commenting on the problem of the problem of order express consensus on one point at least: that conceptions of orders do not flow unmediated from reality itself, that order and orderliness are in themselves very problematic concepts. (Dawe 1970; Gouldner 1970; Meadows 1967; Baumann 1973) The provision of a sociological solution to the problem of order contained in its traditional definition is outlined by Alan Dawe. Dawe argues that the centrality of concepts such as external constraint, authority, the sacred was a creation of the conservative reaction to the Enlightenment, the French Revolution, and the Industrial Revolution. The sociological perspective, then, was a conservative one seeking a supra-individual hegemony which could constitute a stable authority.

> In this perspective, the development of socio-
> logical thought appears as a series of
> mutations in the notion of external constraint.
> Externality becomes internalization, constraint

> becomes a moral imperative, the individual
> becomes the social self, and society as a
> deus ex machina becomes society as a reality
> sui generis. In Weber's typification of
> bureaucratic order, in Durkheim's abiding
> concern with moral solidarity and, latterly,
> in the conceptual web woven by Parsons around
> the 'collectivity-integrative sub-type of the
> moral type of evaluative action-orientation',
> the basic continuity is clear.
> (Dawe 1970: 207)

In this tradition, since the problem is defined as

the problem of order, eternally valid conceptions of order

are posited by picturing the person as a reflection of the

social system and meaning as a reflection of value systems.

This definition of the sociological problem, thus, is more

than a simple working distinction but constitutes "a doctrine

which defines a universe of meaning for sociological concepts

and theories." (Dawe 1970: 208)

Paul Meadows argues that "conceptualizations of social

organization have been a function of the conceptualizations

of the problem of order and orderliness." (Meadows 1967: 78)

He states, following Collingwood, that there have been three

great metaphors of order, the Greek, Renaissance and Modern.

The Greeks saw man as rational and, seeing nature also as alive

and displaying orderly motion, posited the rationality of

nature. In the Renaissance view nature is viewed as a machine

whose energy and motive force comes from without and which is

to be expressed in the form of natural laws. The Modern

metaphor accepts the Renaissance view of the natural world

and claims that this view holds as well in the realm of human

affairs. In sociological theory, order is here as well

imputed by means of analogy or metaphor where it is claimed

to have been discovered. The metaphor employed is the Modern

one.

Alvin Gouldner responds to the ideology of discovery

concerning the nature of man and society in stating, "The

use of particular methods of study implies the existence of

particular assumptions about man and society," (Gouldner 1970:

28) for "social science is a part of the social world as well

as a conception of it." (Gouldner 1970: 13) Gouldner also

attacks the supposed aseptic quality of methodologies.

> When viewed from one standpoint, 'methodology'
> seems a purely technical concern devoid of
> ideology; presumably it deals only with methods
> of extracting reliable information from the
> world, collecting data, constructing question-
> naires, sampling and analysing returns. Yet it
> is always a good deal more than that, for it is
> commonly infused with ideologically resonant
> assumptions about what the social world is, who
> the sociologist is, and what the nature of the
> relation between them is.
> (Gouldner 1970: 50-51)

Because of the assumption of this relation and owing

to the presumed 'objectivity' of the methods employed, the

sociologist is able to make appear discoverd that which is

shaped and torn from its human context by assumptions and

sentiments.

> Rooted in a limited personal reality, resonating
> some sentiments but not others, and embedded in
> certain domain assumptions, every social theory
> facilitates the pursuit of some but not of all
> courses of action, and thus encourages us to
> change or to accept the world as it is, to say
> yea or nay to it. In a way, every theory is
> a discrete obituary or celebration for some
> social system. (Gouldner 1970: 46)

Which courses of action are facilitated and which kinds of society celebrated is further decided by the background assumptions involving notions of externality and constraint. Bauman (1973) views the concept of culture in sociology as an ideology of constraint. The externality posited justifies and facilitates the viewing of possible human response as necessarily regular and predictable.

> Like the notion of 'social system', the term
> 'culture' responds to the need to express the
> vague idea of the interlocking, dovetailing
> elements of human life, of an intrinsic con-
> gruence of human individual biography as well
> as of consistency within the individual's in-
> teraction; it stands for the hope of the es-
> sential predictability of the human responses
> to standard contingencies, the hope built on
> the assumption of the basically determined
> nature of human life activity.
> (Bauman 1973: 159)

The sociological tradition, then, views the natural and social worlds as necessarily and eternally orderly, regular and predictable and views the source and production of this order and regularity as being outside the person. Culture is seen as that which was a specifically human creation, but which is no longer a human product. Since this order is deemed inevitable and as external to human beings, the human being must orient himself to this order and regularity. In this, the orientation of human beings to orderliness and regularity, lies the practicality of the methods derived from sociological metaphysics. Human beings must be constrained from acting in fashions inimical to orders deemed natural and inevitable.

This raises questions as to the possible human role in the creation of reality and, hence, of social scientific pictures of it; is there justification for depicting present conditions as necessary and eternal? Has social science been successful in purging inquiry of interest or value? What possible kinds of practicality can result from the employment of different metaphysics? Is the question of human nature approachable within science?

It will be argued here that sociological thought has served as a contributor to and apologist for what may be called a technocratic order. The shift, particularly as represented by Durkheim, from a substantive notion of the orderliness of social activities to one which raises the social order itself to a formal standard for action thus becomes able to justify any form of action and organization as long as it is official or established. It represents a status quo position, the victory of instrumental reason.

The exhortation involved in this model of society is that we should not act in ways inimical to orders which are deemed natural. This is in itself a contradiction, for, if those orders are indeed "natural", no exhortation would be necessary. The notion of an exhortation thus represents the idea that those orders are not natural or inevitable and, hence, the nature of such theoretical models as theodicies.

It is primarily in this sense as well that any methodology developed from such a metaphysic may be deemed practical.

The next chapter will treat such methodologies and their philosophical justification.

CHAPTER TWO

The Problem of Order and Method:
The Pathology of Perception and the Autonomy of Fact

It is the purpose of this chapter to examine some of
the more contemporary "practical methodologies" based on the
acceptance of the problem of order and its concomitant meta-
physic of externality and constraint, and the philosophy of
science developed to underpin such methodology. The writers
examined for this purpose are George Lundberg, Paul Lazarsfeld,
Scott Greer, and Karl Popper.

George Lundberg

In his approach to sociological knowledge, George
Lundberg characterizes sociology as a method of adjustment
to environment.

> Human sociology deals with the communicable
> adjustment technics which human groups have
> developed in their long struggle to come in
> terms with each other and with the rest of
> their environment. (Lundberg 1963: 33)

Lundberg thus considers science and commonsense to be alike
in this respect. They represent methods of coming to terms
with, adjusting to, or coping with an environment. This
adjustment, furthermore, represents a tension experienced on
the part of an enquirer. "All enquiry begins with an

experienced tension or imbalance of some sort in the inquiring
organism." (Lundberg 1963: 33)

In developing this line of reasoning, however, Lundberg
introduces several qualifications and distinctions which
separate science from common sense but which allow the re-
tention of the direct one-to-one relation between enquiring
organism and environment.

> When certain tensions are formulated verbally
> they tend to take the form of a question. The
> tentative experimental answer to this question
> is called a hunch, a guess, a hypothesis, or a
> postulate. A tentative answer of this kind
> serves as a basis for the orderly assembling of
> data which will establish more firmly, modify,
> or refute the hypothesis. A hypothesis which
> is corroborated by repeated observations made by
> all qualified observers is thereupon called a
> principle or a law. Hunches, hypotheses, and
> guesses are produced, of course, by the responses
> of the organism to some situation, i.e. through
> data of experience, just as are the more
> adequately supported generalizations called
> principles or laws. 'Hunches' differ from
> 'principles' only in that the former rest upon
> more subjective (i.e. private, unverified),
> transitory and quantitatively inadequate data.
> These characteristics have frequently misled
> men to believe that 'hunches' are somehow
> generated spontaneously in the 'mind' - a view
> which is here repudiated in favor of the position
> stated above. (Lundberg 1963: 35 emphasis added)

Hunches differ from knowledge, then, not in their origins but
in the degree of corroboration, the quantitative adequacy of
corroborative data, and in the qualifications of observers
making repeated observations.

Data, for Lundberg, are always "the responses of the
organisms-in-environment" and, as a corollary to this, there
is an external world with variations in it and in the

responders to it. (Lundberg 1963: 40-1) The symbols which
are invented to represent these responses are the "immediate
data of all communicable knowledge and therefore of all
science." (Lundberg 1963: 41) And further:

> All propositions or postulates regarding the
> more ultimate 'realities' must always consist
> of inference, generalizations or abstractions
> from these symbols and the responses which
> they represent. These extrapolations are in
> turn represented symbolically, and we respond
> to them as we respond to other phenomena which
> evoke behavior. (Lundberg 1963: 41)

The nature of a phenomenon, for Lundberg, can be inferred
from "symbolized sensory experience", the immediate datum.
The response to the stimulus of an event results in the use
of a symbol representing its nature. These symbols may in
turn constitute stimuli, the nature of which may be represented
by their symbolization. Knowledge, then, is the behavior
evoked by events, physical or symbolic. Lundberg further
assures the unity of scientific method by asserting that there
is no difference between our response to symbols and our
responses to concrete physical objects; they both consist of
"reactions of sense receptors to stimuli from outside or
inside the organism." (Lundberg 1963: 53)

Furthermore, words or other symbols represent objective
phenomena when large numbers of individuals use the same term.
This is the case, according to Lundberg, to the extent that we
are conditioned in the same stimulus response situation. When
large numbers of individuals use the same term to designate
similar behavior the phenomena responded to by the said term

may be designated as objective. "Phenomena are objective in science to the extent that this criterion of agreement, corroboration, or verifiability is satisfied." (Lundberg 1963: 53)

Inquiry, then, begins with a tension experienced on the part of the inquiring organism. This tension, furthermore, is a response to an environmental phenomenon or event. The symbolization of this event, when the symbol involved is sufficiently agreed upon, is taken to represent the nature of that phenomenon. This symbol, furthermore, is capable of being experienced as an object and its nature can be reflected in appropriate, commonly held symbolization. Knowledge, then, is symbolic behavior, the meaning and scientific significance of which rests in its common meaning for qualified observers.

At this point, however, it seems reasonable to suggest that if Lundberg could distinguish the activities of qualified and unqualified observers (i.e. what makes an observer qualified) he could have answered all of his questions. When his argument reaches the point of stating the need for inter-subjective verifiability, Lundberg argues that only certain subjects possess the capability to represent a verified point of view, but does not tell us what precisely distinguishes these subjects from others. The distinction seems especially problematic since all of us are seen as conditioned by external environmental events.

That Lundberg is aware at this point of the lack of grounding for his epistemology is also clear since he does,

then, attempt to give it grounding. His grounding, however,
refers back to his notion of knowledge as an adjustment
technic. The key problems here, for Lundberg, are the
intersubjective reference of words to identical experience
and a basis for viewing knowledge as an adjustment technic.
He combines the two problems in asserting the sociological
classifications are the symbolic representations of adjusting
experience.

> The point to be observed is that the divisions,
> categories, classifications, and groupings of
> the universe are words representing differential
> responses of man. The objectivity of any aspect
> of the universe (situation) as contrasted with
> another, therefore, depends upon its capacity to
> evoke uniform responses from large numbers of
> people. (The assurance that different people
> use a word to represent the same kind of ex-
> perience is to be achieved) chiefly through
> specifying in terms already highly objectified
> and, ultimately in overt behavior of some sort,
> such as pointing to an object, or going through
> the operations which we use the new term to
> designate.

> It is quite essential to remember this basic
> nature of all categories in order to avoid be-
> coming involved in insoluble metaphysical
> questions of ultimate reality, . . . , and in
> order not to create the impression that the
> various classifications of human groupings. . .
> represent anything more ultimate than ways of
> responding to aspects of the universe to which
> adjustment of some sort is made. On the scientific
> level that adjustment consists chiefly of the need
> of scientists to relieve the intellectual tension
> which comes of inability to fit certain phenomena
> into a coherent framework so that their curiosity
> can come to rest. (Lundberg 1963: 62-3)

Although Lundberg expresses the desire to avoid
ultimate metaphysical questions, his own formulations involve
or assume a solution to all of these questions. He assumes

an external world, the achievement of knowledge through the mirroring of reality by means of sense-data and the existence of equilibrium or lack of 'tension' as a normal state of affairs. Even given these assumptions, however, there exist still more basic criteria in Lundberg's scheme. Observers capable of mirroring this reality must somehow be qualified and, as the most fundamental qualification, the resulting knowledge-behavior must be of some practical use as an adjustment technic. Although Lundberg assumes to have solved his problems by means of these last two considerations, he has, in fact, simply begged the question. Questions of the ontological and epistemological status of objects of the social world and how knowledge of them is obtained, may now be seen as questions concerning the qualifications of observers and the question of what is to be seen as practical.

The need to explain error would seem to be the reason behind Lundberg's mention of the qualification of observers since his initial formulation of the research process involves events and procedures which, he states, are common to all of us, an adjusting response to environmental phenomena. The 'practical adequacy' of possible adjustment responses becomes, in the end, for Lundberg, the criterion of judgement for scientific frameworks, and is that which distinguishes scientific frameworks from other frameworks. In a section of his essay bearing the sub-title "the utilitarian test of all thought system", Lundberg states:

> The only legitimate criterion for judging frames
> of reference, as such, is the degree to which
> they are consistent with themselves. From the
> standpoint of the use of a given frame as a chart
> or compass for practical adjustments, the
> criterion becomes, of course, its practical
> adequacy, i.e. its usefulness in securing the
> desired adjustment. (Lundberg 1963: 64)

The formulation, however, simply begs the question further.

The question of what is useful or practical is the same as

the question of what is desirable. If Lundberg has a well-

formulated argument as to what is desirable, the communication

of that argument could have taken the place of most other

considerations in his essay and could have laid a much better

groundwork for an orientation to social research. In

speaking of a "desired adjustment" it is relevant to ask,

desired by whom? for which ends? Perhaps for the ends of

qualified observers. This would seem to be the case with

Lundberg since the immediate ends of the adjustment process

at the scientific level is the coming to rest of curiosity.

It would seem that a notion of practicality or adjustment,

the immediate sign of which is the coming to rest of curiosity,

could be seen as oriented specifically to those ends.

By means of these ungrounded distinctions Lundberg

is able to relativize the notion of practicality as usefulness

in adjustment so that use means use within the framework of

existing societal conditions and dominant forms of rationality.

> Since failure to recognize the essential nature
> of propositions, postulates and frames of
> reference. . . results in the most widespread
> and fundamental misunderstanding and futile
> arguments, these essential points cannot be too

> strongly emphasized. It must be admitted too
> that scientists as well as their opponents
> frequently overlook these considerations.
> The tirades against religion, theology, and
> other systems of thought by erstwhile adherents
> to these faiths who have recently discovered
> 'science' are often evidence of a mistaken
> notion regarding the nature of both science
> and the faiths of the fathers. All of these
> systems are merely adjustment technics which
> have been found more or less satisfactory to
> their adherents under given conditions at
> different times. As times and conditions change,
> all of these frames of reference, including
> present science, may be expected to prove in-
> adequate, and be abandoned for radically
> different postulates, and may proceed perhaps,
> according to different technics and systems of
> logic. (Lundberg 1963: 65)

In light of this relativism, however, Lundberg's exhortation

against not realizing his notion of the logic of science

appears curious. How is he to know when a revolution in

thought is appropriate and when not? Lundberg accepts, first

of all, that he knows what present, given conditions are,

and, secondly, as a principle, that thought should and must

be oriented to the patterns of those conditions. Lundberg's

ultimate position becomes clearer at this point and he is

worth quoting at length in this connection.

> The tests of the adequacy ('truth') of any
> system at any given time will in any event be
> determined by certain empirical tests, notably
> whether the system affords a rationale of the
> adjustments that have to be made and whether it
> aids in planning those adjustments. The vogue
> of 'physical' science today springs from just
> such demonstrable relevance in an industrial,
> mechanical age in which adjustments to remote
> environments have become necessary through
> highly developed means of communication. The
> same conditions have, of course, forced the
> 'social' sciences in the same direction and will
> ultimately, I think, compel them to align

themselves completely with the 'physical'.
But it is impossible to show that the orienta-
tions of science have any greater (or as great)
relevance to the practical adjustments of life
in a convent or a monastary (and some of the
present academic counterparts of these societies)
than theology. Different ways of life demand
different ways of thought. In abandoning here
the traditional distinction between the 'physical'
and 'social'; 'mental' and 'spiritual' we are not
doing so under the delusion of having 'discovered'
'new' 'absolute' truth. Neither do we deny,
ignore or abolish any phenomena whatsoever.
Philosophies may themselves be considered socio-
logically as systems of verbal behavior, but
their declared objectives and objects (entities
allegedly represented by the words employed) need
not be considered in a scientific framework unless
the phenomena designated by the words used can be
verified. We aim merely to discuss from a certain
explicit point of view the same behavior phenomena
with which all other sociological systems (in-
cluding all the theologies and social philosophies)
deal, and to organize them as far as possible
according to the general pattern of science. The
'truth', the 'merits', or the advantages of the
point of view will have to be determined by the
same practical usefulness which has given modern
science in other fields its prestige and its
following as against the thoughtways it has
supplanted. (Lundberg 1963: 65-6)

In short, Lundberg is here arguing that what ought

to be is an orientation of adjustment to environment or, in

other words, action toward a fitting in with present conditions.

In light of this, it is also curious that, five lines later,

he exhorts us not to deal in science with considerations of

what ought to be. (Lundberg 1963: 66) At this point Lundberg

recedes to a particularly Weberian position, and draws a

distinction between social problems and sociological problems.

Even though it is permissable and useful for sociologists to

teach courses on reform, ethics, religion, idealism, current

events and social work, says Lundberg, sociological problems

may still be distinguished from the social because they have

to do with the formulation of verifiable relationships.

(Lundberg 1963: 66-7) That Lundberg's notion of the legitimacy

of certain "forms of adjustment" is a status quo position is

also clear.

> If it is found administratively convenient
> or otherwise advisable to give this instruction
> in departments of sociology and by 'sociologists'
> that is again a practical question of educational
> administration. (Lundberg 1963: 67)

Thus Lundberg is unable to account for the sensory

approach to knowledge of the social by means of his pragmatic,

utilitarian criteria. Only by viewing practical action as

that which is "in tune" with dominant present conditions can

social science pretend to adopt an approach which is thus

psychologistic, utilitarian and beauracratically rationalized.

The formulation that a valid proposition is one that is

corroborated by qualified observers and that is of practical

use simply begs the question as to how qualification and

practicality are to be decided and this question, furthermore,

is not answered by the postulate of a psychologistic epistem-

ology in which sense data produce knowledge since in this

view everything would have to be seen as practical and truthful.

Paul Lazarsfeld

The thought of Paul F. Lazarsfeld represents an

approach to the philosophy of social science in which questions

of general epistemology and logic take second place to an

account of actual research practice. Lazarsfeld takes this approach because, in his view, "In the correct sense of the term, as yet there is no systematic theory in the social sciences, only research procedures and a number of low level generalizations." (Lazarsfeld 1972: 263) And further:

> Today's behavioral science concepts do not form part of a tight logical system. Their role is to summarize a variety of observations and to store them, one might say, for systematic use in a 'theory' which we hope will one day develop. In our case the specification of meaning consists mainly in making explicit what kind of observations are to be combined and for what general purposes the 'variables' we form are intended. (Lazarsfeld 1966: 181)

In light of these considerations, Lazarsfeld's approach is what he terms a 'diagnostic procedure' which relies on 'dispositional concepts' in contrast to a strict hypothesis-testing method. The actual research process, in his view, is the flow from concepts to empirical indices and is marked by four stages. "(1) an initial imagery of the concept, (2) the specification of dimensions, (3) the selection of observable indicators, and (4) the combination of indicators into indices." (Lazarsfeld 1966: 187)

Descriptions of this process may be found also in other works of Lazarsfeld with only slight variations. (1970: 12-14, 1972: 268-70) What is most important in this process is the translation of concepts into operational instruments which permit the classification of people and groups. (1972: 268) The origin of the concept to be so translated is rather unimportant.

> The notions we translate sometimes come from
> everyday language, as in instances when we
> classify people according to their intelligence
> or their happiness. Sometimes the concept is
> newly created by sensitive analysts: the
> extraverted person or the cohesive group.
> (Lazarsfeld 1972: 268)

This sensitivity, however, is accounted for in terms of every-

day experience. The concept derived from this introspective

sensitivity is referred to as a trait or intervening variable.

> For instance, we experience anxiety, and its
> role in our own course of action (R). We
> observe how other people act in situations (S)
> which, we know, would bring on our anxieties;
> we notice that their reaction (R) is similar to
> ours. As a result, we file away in our minds
> that as a rule such a 'stimulus' S is likely to
> be followed by response R. We 'explain' such
> S-R sequences with the help of an intervening
> variable, anxiety. The value of this I.V. be-
> comes particularly apparent if many S-R situations
> are observed where the S and the R vary, but
> where the same I.V. (anxiety) seems appropriate.
> We can then organize our observations in a some-
> what more economical way: we remember the series
> of x situations which create anxiety and the
> series of y responses by which anxiety is ex-
> pressed. Instead of registering x times y
> relationships of the S-R type, we need only
> remember (x+y) findings - the x prompters to,
> and the y indicators of anxiety.
> (Lazarsfeld 1966: 156-57)

This, in a nutshell, is Lazarsfeld's formulation of

the problem of research in sociology. The move from sensitive

introspection to inferential or dispositional concepts is the

main point in research and is grounded in 'pragmatistic'

assumptions. In two of the three of Lazarsfeld's works cited

here we find the same reference to William James' The Meaning

of Truth.

> Suppose, e.g., that we say a man is 'prudent'.
> Concretely, that means that he takes out
> insurance, hedges in betting, looks before he
> leaps . . . . As a constant habit in him, a
> permanent tone of character, it is somewhat
> convenient to call him prudent in abstraction
> from any one of his acts. . . . There are
> peculiarities in his psycho-social system that
> make him act prudently. (James The Meaning of
> Truth, New York, Longmans, Green, 1909: 149-50
> from Lazarsfeld 1966: 158-59 emphasis
> Lazarsfeld's)

The assumptions involved here are, firstly, that there are

constant properties or traits 'in' individuals or groups and,

secondly, that it is these traits or dispositions that make

them act. Lazarsfeld's formulations seek an explanation of

this 'black box' midway between stimulus and response.

Starting with the initial introspection, then, we

move, in Lazarsfeld's scheme, through four stages which

eventually brings us to a probabilistic delineation of the

dispositional concept. In the 'initial imagery' stage

different phenomena are seen by the introspective process to

contain an underlying characteristic in common. "(T)he

concept, when first created, is a vaguely conceived entity

that makes the observed relations meaningful." (Lazarsfeld

1966: 187) In the 'concept specification' step the initial

concept is broken down into components, aspects, dimensions.

In this step "The concept is shown to consist of a complex

combination of phenomena, rather than a single direct

observation." (Lazarsfeld 1970: 13) Each phenomenon looked

at which, in the introspective procedure, was ascribed the

same underlying characteristic, is looked at anew to decide

what might be the aspects making up that underlying character-
istic. When 'integration' is taken to be an underlying
characteristic of communities, for example, and when the
elementary units of social groups are seen to be norms and
people, integration as an underlying characteristic is seen
to have communicative, functional and normative dimensions.
(Lazarsfeld 1970: 13)

The selection of indicators is made from the dimensions
gained in the concept specification step. Lazarsfeld's
reference to James is relevant here. The problem in James'
example of prudence is to decide more precisely what it is
about an individual that would entitle us to call him prudent.

> James proceeds from an image to a series of
> indicators suggested directly by common ex-
> perience. Actually one would not expect a
> 'prudent' man always to hedge in betting or
> to take out insurance on all possible risks;
> instead one would talk about the probability
> that he will perform a specific act as compared
> with a less prudent individual. And one would
> know that the appropriate indicators might vary
> considerably, depending on the social setting
> of the individual. (Lazarsfeld 1970: 13)

As an indication of the integration of a community, then, one
would test the communicative, functional and normative
dimensions of integration. Lazarsfeld suggests the measure-
ment of the degree of communication between people, the degree
of dependence on others in daily life, and the degree of
conflict between norms, respectively, as indicators of inte-
gration. Since the setting (stimulus) is said to vary, one
may speak only of the probability of a community being
integrated which possesses certain of the properties chosen

as indicators.

The next step is that of the formation of indices or variates.

> The fourth step is to put Humpty Dumpty to-
> gether again. After the efficiency of a team
> or the intelligence of a boy has been divided
> into six dimensions and ten indicators have
> been selected for each dimension, we have to
> put them all together, because we cannot
> operate with all those dimensions and indicators
> separately. (Lazarsfeld 1966: 189)

This combination is achieved as follows: a large number of the objects under study is observed and described statistic- ally with reference to each of the various indicators already developed. These descriptions and measurements are compared to depict the relationship of the indicators to each other. This also determines which sets of indicators tend to agree with one another. The matrices thus developed in the comparison are then analysed mathematically to determine the 'diagnostic value' of each indicator. (Lazarsfeld 1972: 269) The score of each object on each indicator is compared to its score on the total index to determine the predictive value of each indicator or set of indicators. Since the indicators are not checked against an outside criterion the classification is an 'intended' one. If friendliness is to be an indicator of group cohesiveness, for example, it is found to be so by comparison to an index which includes a measure of friendliness as a component. Lazarsfeld, however, does not even expect that, for any classification, an indicator may be found which is perfectly correlated with that classification. "Whatever

the empirical outcome, we know that there is only a prob-
abilistic relation between the intended classification and
the indicators." (Lazarsfeld 1972: 269) "One cannot say
two sentences about classificatory procedures in the social
sciences without introducing probability notions." (Lazarsfeld
1973: 272)

Thus, in the social sciences one-to-one relations
can never be depicted as in the physical sciences with ex-
perimental control. "(M)easurement, classification and con-
cept formation in the behaviorial sciences exhibit special
difficulties." (Lazarsfeld 1966: 144) But, "I obviously
want to deny the unity of science as little as I would speak
out for sin." (Lazarsfeld 1972: 275) Lazarsfeld's resolution
of this possible contradiction is to state that the same logic
and premises are applicable in the social and natural sciences
but that relations in the social sciences may be stated only
probabilistically. Lazarsfeld's ability to argue for this
similarity hinges on the concepts 'latent' and 'manifest
property space', 'disposition concept' and 'underlying' con-
cept. This terminology, however, results in a reification;
whereas Lazarsfeld argues that his research procedure takes
us from the manifest to the latent property space, his percep-
tion of manifest data is conditioned by his introspectively
developed conceptions defining the nature of the latent space.
The categories used in perceiving 'data' are the parameters
of the 'latent' space.

The most basic assumption underlying the procedure

is indicated in the following passage:

> If a trait is expressed by a variety of
> indicators, then these indicators are bound
> to be related to each other in a variety of
> ways. If upon repeated observations a person
> is seen to exhibit one indicator frequently,
> then the other indicators are also likely to
> be observed frequently; this is what is meant
> when authors talk about intra-individual
> covariance. But if we have observations on
> many people at one time we will expect also
> an inter-individual covariance; people ex-
> hibiting one indicator also will be more likely
> to exhibit all the others.
> (Lazarsfeld 1966: 163-64)

This assumption of regularity in the human world is given

further assurance by an assumption of the ease of its per-

ceptability. Since indicators are seen to vary the regularity

is then said to be underlying or latent. Lazarsfeld outlines

his notion of property space by describing it as a Cartesian

product. A number of dimensions or property classifications

may be described and an object located in a 'property space'

by reference to coordinates determined by the object's possession

of properties pertinent to each of the dimensions. The distance

between objects thus located may then be measured and

similarities or differences thus determined. It is, however,

the introspective conceptualization which makes this possible.

The analytic sensitivity in which concepts are taken from

daily life or invented for specific purposes lies at the

beginning of this process.

Furthermore, since the classification is intended,

Lararsfeld successfully avoids the problem of establishing

sufficient external criteria against which measures and indicators may be checked but unsuccessfully claims concreteness and objectivity on behalf of the referents of his concepts. In the four-step research process, and especially in the first two steps, the direction given to the inquiry has its source in the decisions of the analyst. The initial ascription of properties to objects is a rather arbitrary decision and, as well, the formulation of indicators and the operationalization of concepts is said to be 'logical' or "one aspect is deduced from another, or empirically observed correlations between them are reported." (Lazarsfeld 1966: 188) It is, however, this very deduction or observation process which Lazarsfeld is supposed to be describing, but part of that description thus assumes an intuitive solution of that process. Lazarsfeld's argument thus appears tautological.

He uses the term 'disposition concept' or 'inferential concept' ostensibly to refer to a trait which an object may possess which may be inferred from systematic observation but in the description of the observation process the key turns out to be the initial 'logic' or 'correlatedness' of concepts, a logic itself unaccounted for in Lazarsfeld's papers. The purpose of research methods for him is to come as close as we can to laws or at least high-level generalizations, one necessary condition of which is the systematic elimination of nuances of history, situation and individual idiosyncracy.

While the disposition concept is supposed to summarize

observations it actually creates them. Lazarsfeld uses the

example of the disposition concept 'magnetic' from the natural

sciences. A magnetic personality is one which attracts others.

Also, since behavioral science concepts are always probabil-

istic, we must specify further that a magnetic personality

is one which is likely to attract others. To follow Lazars-

feld's procedure we would then develop indicators of attraction

and check their covariance in order to assess the likelihood

that particular personalities are 'magnetic'.

Although the disposition concept is developed first,

Lazarsfeld maintains the following:

> (T)raits, 'social facts', and 'disposition
> concepts' - are really special cases of class-
> ificatory characteristics. They have one
> thing in common: they are intended character-
> istics, that is, they are ways in which we want
> to organize a set of objects under investigation.
> This locating of 'objects' (individuals, groups,
> social relationships) cannot be done directly in
> the cases that we have discussed. We are dealing
> with latent characteristics in the sense that
> their parameters somehow must be derived from
> manifest observations. The terms 'manifest' and
> 'latent' have no other connotation here beyond
> the distinction between data directly accessible
> to the investigator (manifest) and parameters
> (latent) which in some way must be inferred from
> the manifest data.
>
> The matter can be reformulated in the following
> way. Empirical observations locate our objects
> in a manifest property space. But this is not
> what we really are interested in. We want to know
> their location in a latent property space. Our
> problem is to infer this latent space from the
> manifest data, and this inference is identical
> with what before was described as the diagnostic
> procedure. (Lazarsfeld 1966: 184-85)

According to Lazarsfeld, this is more desirable because he

wants to deal with more 'continuous variables', and data of

the 'manifest space' usually do not express these (1966: 185),
and to be rid of 'accidental elements' (1966: 186).

The whole research process then, in Lazarsfeld's terms,
appears to be a constantly narrowing process aimed at the most
fundamental indicator or quality of an event or type of object.
Another consideration of importance here, however, is that
classifications are always made with specific 'intended purp-
oses' in mind. Lazarsfeld's examples of intended purposes
give us a clue to the kinds of purposes to which this method
is amenable. As examples of indicators of the 'goodness of
life' he cites "a low crime rate, large per capita contributions
to community chests, and the use of the public library (1966:
165); a prudent man is one who controls himself (1966: 158-59);
groups are to be characterized as to their cohesiveness, a
study of 'state of occupancy' might be done on behalf of a
housing administrator (183-84); we may want to measure the
efficiency of a production team (188) or of a tank platoon
(165); or we may want to decide which kinds of teachers are
susceptible to McCarthy attacks (190-91). In general, the
type of purpose to which this method is amenable may be stated
as follows: "What will subjects of type (1) do under condi-
tions (2) as the result of their experiences (3) ?" (1966: 148)
Furthermore, the person (subject) must be in some way typical
with typical experiences and act in situations which are not
'accidental'.

The apparent interest here is the discovery of regul-
arities and of the relationships between the properties of

objects in the social world. Lazarsfeld acknowledges that
his classifications are for intended purposes. I wish to
argue as well that the properties ascribed are not inherent
properties of the objects studied but rather are themselves
imposed as a result of the purpose behind the classification.
We cannot say, after following Lazarsfeld's method, that
cohesiveness is a property of groups found in varying degrees,
or that efficiency, also in varying degrees is a property
or quality of tank platoons, in themselves. Cohesiveness
or efficiency become important concerns only when the purposes
and interests directing research reflect an interest in
cohesiveness or efficiency. They are categories for the
conception and perception of the social world which are rele-
vant for interests with degrees of cohesiveness and efficiency
as an end or purpose. Thus it is not only the classification
but also the introspection and diagnosis of the 'sensitive'
analyst' which are guided by specific purposes and interests.
The essence or nature of social objects is not 'discovered'
in this process but rather manipulated. The 'manifest data'
from which Lazarsfeld claims to arrive at latent character-
istics are constituted with reference to the intentions behind
the classifications. What a college teacher is to someone
interested in susceptibility to McCarthyist attacks is different
from what a college teacher is to someone with different
intentions. What a teacher is, in himself, cannot be dis-
covered by Lazarsfeld's approach. In this way conception and
perception always contain in themselves an end in view.

The end in view in the case of Lazarsfeld's methods,
furthermore, becomes clearer in the examples he uses in ex-
plaining the stages of his method. The order and control
evident in the theoretical world-views of Parsons, Schutz,
Durkheim and Weber show up again in the self-control, housing
administration, efficiency and cohesiveness of Lazarsfeld.
The interest in order and control is further entrenched with
the claim that 'latent parameters' can be ascertained by
highly esteemed 'scientific' investigation conducted by experts.

Scott Greer

Scott Greer is interested also in uncovering 'latent
parameters' and 'underlying structures' but recommends a
method closer to strict hypothesis-testing than to Lazarsfeld's
diagnostic procedure of classification. Greer maintains that
the nature of things social is accessible through observation
and sense-data but expresses caution about doing this 'naively'.
Initially, at least, Greer rejects crude psychologism in his
approach to inquiry thus avoiding the enigma of according
truth to all perception.

> So we obviously go far beyond the empirical
> evidence of our senses. We project from the
> immediate situation to other times and places,
> we anticipate and predict. And we do this by
> perceiving patterns in the world and assuming
> structures that underlie those patterns. In
> short, we process and organize the given sense-
> data. (Greer 1969: 30)

The problem, then, for Greer, becomes one of organizing the

sense-data truthfully. There is, in addition, the problem
of grounding ways of seeing and the organization of the re-
sulting pictures. The assumptions used in the solution to
this problem are assumptions about and a definition of the
object of knowledge, the social world. Thus, what is in-
tended primarily as a set of principles concerning ways of
looking turns out to be, in actuality, a set of principles
defining what is to be seen.

> We can state three major beliefs underlying
> the social sciences. First, there is a social
> world that conditions us and is not completely
> controllable by us. Second, it is a knowable
> world, a social fact. Finally, it is worth our
> while to know that world. None of these is
> self-evident; all are chosen options.
> (Greer 1969: 23)

With these cautions and these assumptions in mind,
then, Greer goes on to describe how the production of accurate,
properly organized pictures actually should proceed. He
maintains that in order to abstract from sensory experience
we already need concepts. There is no strict formula,
according to Greer, for this abstraction but he mentions
in general the kinds of grounds suitable for abstraction.

> All discourse demands concepts. For discourse
> demands that we abstract, out of the whole
> stream of experience, limited aspects that
> are interesting and communicable through those
> symbols we call language. Science, as a
> variety of discourse, is even more demanding
> than most discourse. Then the question becomes:
> How do you abstract? What do you keep and what
> do you ignore? To be sure, everything is re-
> lated to everything and all causes all, but this
> is unedifying even though correct. We must
> discriminate — that is, abstract.

> There is absolutely no rule for abstraction.
> All that can be said is that we select our
> sense-data as we believe them to be interesting,
> pertinent to our purposes, relevant to our
> frame of reference. Thus a foreman's actions
> can be viewed as useful or not in the ongoing
> work of the plant; by his minister as clues to
> the state of his immortal soul; by a psychologist
> as a clue to his relations with his father; by a
> sociologist as indicative of the strains built
> into a social role halfway between management
> and the workers. The frame of reference, which
> highlights our interest and excludes other
> aspects of an event, determines the sense-data
> to which we attend. (Greer 1969: 31)

In general, then, the grounds for our abstraction are

'interest, pertinence to purposes, and relevance to frames

of reference'. More specifically, the interest, purpose and

relevance desired have to do with such things as the 'ongoing

work of the plant', the states of souls', relations with

fathers' and 'strains in social roles'. The interest, the

abstraction process and the resulting picture must all be

useful; useful, that is, with reference to an a priori picture

of the social world as conditioning us, not completely con-

trollable, knowable, factual and worth knowing. These purposes

and procedures are then united in the following manner:

> The picture of the world which the social
> scientist creates must work in (two) senses:
> it must have fidelity to the original, the social
> machine, and it must have clarity and communic-
> ability. His frame of reference demands hard
> facts in working order. (Greer 1969: 32)

This, however, creates a problem, a problem similar

to our original one of distinguishing conceptual categories

from facts. If our initial and central problem is the mutual

constitution of category and fact and the resultant difficulty

of distinguishing them, of what use is it, as a part of that

distinguishing procedure, to demand 'hard facts in working order'? Greer's answer to this problem is to say that hard facts are constituted by scientific frameworks.

> But if our fact is created by our frame of
> reference, and that in turn derives from our
> group learning, our culture, where did the
> scientific frame come from? It is clearly
> not an inescapable one, for many societies
> never developed sciences. Yet we cannot
> have a scientific fact until we have a scientific
> framework for abstracting, out of all we can
> experience, that which is scientifically useful.
> (Greer 1969: 34)

A scientific framework demanding hard facts in working order, thus demands also also a culture in machine-like working order, in order for perceivable aspects of experience in that culture to be relevant to problems of strains in social roles and the ongoing work of the plant. The predictability of aspects of a culture demands a culture where predictability is important. The 'hardness' of facts depends on their scientific utility. Scientific utility depends on a culture which itself operates on a mechanistic world-view. Although he acknowledges that, "The hard fact is that all facts are in part intellectual constructs" (Greer 1969: 32), the hard fact, in distinction from other facts, is that fact which is in part a scientific construct.

Concerning meaning and experience in general, Greer maintains that "The natural history of psychological meaning is from sense-data to symbol to the individual's system of meaning to the resulting interpretation of experience", (Greer 1969: 42) and that this interpreting places the ex-

perience at a more general level in a larger context. It is
the concepts involved in the interpreting that Greer is
interested in. He wants to specify how concepts used in
various interpretations may have reference to actual experience
and hence have applicability in scientific frameworks.

> The logical aspect of symbols inheres in social
> communication among actors sharing a given con-
> ceptual vocabulary. It refers not to the in-
> dividual conceptions evoked by the symbol, but
> to those concepts that are sharable and mean
> approximately the same to all who speak the
> language. In Langer's terms, 'That which all
> adequate conceptions of an object must have in
> common, is the concept of the object.' But we
> must ask, adequate to what?
>
> Concepts must be adequate to the individual
> conceptions evoked, for one thing. For another,
> they must be adequate to evoke conceptions having
> a basic, formal similarity among individuals,
> allowing communication; this is sometimes referred
> to as intersubjective reliability.
> (Greer 1969: 43)

This adequacy in terms of formal similarity is further elev-
ated when, given that a ground for science is the obtaining
of universal agreement about certain judgements, Greer main-
tains: "Such a ground for the value of science is sometimes
called 'intersubjective validity', the first term indicating
agreement, the second fidelity to experience." (Greer 1969:
109) Agreement about experience demands, in Greer's formula-
tion, uniformity of experience. If the natural history of
experience is from sense-data to symbol to meaning system
and if scientific concepts demand their universal reference
in experiential conceptions, then similar experience, for
purposes of validity and objectivity, is recommended. It is

first posited, however, that the social world is a machine.
A recognizable situation, then, involving others should be
capturable by evoking the commonly held concept.

Greer's view of inquiry, then, may be summarized as
follows: facts are a combination of sense-data and ideational
framework. Accurate or useful facts are scientific facts.
Scientific facts are a combination of sense-data and scientific
ideational frameworks. That which distinguishes scientific
frameworks from others is scientific interest. Just what
scientific interest is, however, is not explicitly stated.

> The process of abstraction is, then, double-
> edged. It is extremely useful if it is well
> founded, if it corresponds with those aspects
> of the world in which we are interested. It
> allows us to avoid distraction by means of what
> is called 'partial analysis', and if what we
> are interested in is itself relatively free from
> distraction, we are in a good position to
> understand it. But there is a price; you have
> excluded parts of a whole, and if those parts
> you have excluded are important in your concerns
> then you have built in a major error.
> (Greer 1969: 73)

The unstated interest, concern or purpose, then, seems
to be the major criterion in the formation of concept, theory,
test. Sense-data are selected, concepts are formed and tests
conducted with unstated purposes in mind. In the test,
furthermore, more assumption is involved.

> There is a considerable lack of fit between the
> conceptual realm and the spatio-temporal. We
> can conceptualize many things that never were,
> and the world of ongoing experience includes
> much of which we stand in ignorance. Hamlet
> was right, and our reversal of Hamlet equally
> right; there are more things on earth than in
> our philosophy, and more things in our philosophy
> than on earth. But the two realms come together

>in that synthesis called experience. The
>given event is the harsh editor of our concepts,
>limiting those which are applicable. Thus the
>great epics of science, the 'crucial experiments',
>are occasions when the applicability of a con-
>cept is decided: the abstractive hierarchy
>proposes, events dispose. (Greer 1969: 78-9)

This formulation appears odd against the background of Greer's

emphasis on scientific interest and concerns in deciding

applicability. In this light, frameworks may just as easily

be the harsh editors as events. Much work in the sociology

and anthropology of religion suggests just the opposite

(cf. Geertz, Bellah, Weber, Eliade, etc.). Greer's emphasis

on utility, furthermore, suggests the recommendation of

scientific frameworks as organizers of our experience. In

then placing an emphasis on testing, Greer obfuscates this

very organization of experience.

>Theory and hypothesis testing, careful
>description of events (even though in common-
>sense terms) and the formulation of new theories
>fruitful of testable hypotheses, combine in the
>given inquiry. The critical distinction between
>exploration and verification is that between the
>formulation of hypotheses and their testing -
>the evidence for the generality of a law.
>(Greer 1969: 173)

Greer's distinction between exploration and verifica-

tion, however locks him in a trap or a circle. Having

previously asserted the importance of framework and interest

in the constitution of fact, he goes on to suggest that

conceptions in science may be tested against independent facts.

Greer's position turns out to be very similar to Lundberg's.

Independent facts exist for science but not for common sense.

The kinds of purposes relevant to scientific frameworks and,

hence, relevant for testing by constituting independent fact,
are scientific purposes common to all cultures having de-
veloped sciences. What scientific purposes are substantively,
however, is never discussed explicitly but only hinted at by
way of example. Agreement, verification, the work of the
plant and strains in roles receive emphasis in a judgement
of the kind of experience appropriate to our culture. For
the scientist, however, in Greer's terms, the facts constituted
in tests by scientific frameworks and purposes are said to
be objective, having an existence apart from frameworks.

> For the goal of science as an ideology is the
> construction of a theory that will imply all
> the facts of human experience. Objective fact
> is then the ultimate criterion; all crucial
> propositions are designed for the ordeal of
> factual test. Then from these considerations,
> it follows that all that cannot be tested is
> irrelevant to the truth. (Greer 1969: 51)

Truth, then, is also something which is constituted with
reference to scientific interest if scientific interest is
the distinguishing characteristic in the constitution of
'hard' fact. We are then recommended to experience in a way
which is the shortest path to agreement and verification so
that 'scientifically' interesting aspects of our lives may
be calculated and predicted. The calculable and the pre-
dictable is that which is scientifically most useful and,
hence, also the most objective, the most independent of our
fancy.

Thus the methodological attempt to provide evidence

for an externally originating and binding conception of
order and stability needs to employ also a metaphysic which
assumes the existence of the order which it is designed to
discover. The qualifications of observers, the concrete
reference of scientific terms, the intersubjective consensus
within a scientific community and the use of 'scientific
interest' as ultimately constitutive of 'hard fact' pre-
suppose answers to the questions which their formulation is
designed to answer. The above formulations amount to a
celebration of present day practices in science. Rather than
an attempt to ground them they represent an invocation of
them. 'Qualification' 'scientific terms', and 'scientific
interest' are left undefined substantively. This relativiza-
tion of the criteria of knowledge, validity and practicality
says that what is is good.

Karl Popper

A philosopher who accepts and attempts to justify
the above approaches to knowledge is Karl Popper. Popper is
concerned that philosophers such as Plato and Hegel had
epistemologies based on authority. (Popper 1968: 15-16)
Instead of this Popper wants the world to tell us what it is.
He has reservations, however, about assuming that the percep-
tion of sense-data results in knowledge.

He realizes and admits that concepts and theories are
already employed in looking at the world and that ideas about

the world are not given unmediated.

> In Bacon we have a similar doctrine. It might
> be described as the doctrine of veracitas natura,
> the truthfulness of Nature. Nature is an open
> book; he who reads it with an open mind cannot
> misread it. Only if his mind is prejudiced can
> he fall into error.
>
> This last remark shows that the doctrine that
> truth is manifest creates the need to explain
> falsehood. Knowledge, the possession of truth,
> need not be explained. But how can we ever fall
> into error if truth is manifest. (Popper 1968: 7)

To avoid this problem Popper, like Greer, chooses to dis-

tinguish between framework and test. Frameworks or ideas may

be employed regardless of their origin and are not justifiable

or refutable with reference to their origin. To avoid the

problem of basing knowledge on authority and of assuming that

truth is manifest we need to set up means of testing ideas

against reality, means which are independent of authority,

assumptions and of the ideas to be tested. Thus for Popper

validity is emphasized over origin, test over framework.

The way to validity, for Popper, however, is not

verifiability but falsifiability. He criticizes those who

claim that statements may be verified inductively. Rather

than try to verify a proposition inductively by examining

all possible events and objects referred to by that proposition

(an impossibility at any rate) especially since a prior

justification of the law of induction would also be in order

to prevent an infinite regress of establishing the law for

the establishment of laws, we should accept the logical

falsifiability of a statement as the criterion of demarcation

between science and metaphysics. For a theory or proposition
to be testable we must be able to imagine a state of affairs
or situation with which that theory or proposition would
conflict. Once this condition has been met, a theory may be
called scientific. The next task is to attempt as hard as
possible to find that state of affairs which would refute it.
Once a theory or proposition has survived severe tests it
may be accepted tentatively, as the closest approximation
to the truth yet conceived. (Popper 1968: 228)

In order to avoid the infinite regress Popper hopes
to admit statements into theoretical systems by relying on
demarcation and falsification rather than on induction and
verification.

> If we wish to avoid the positivist's mistake
> of eliminating, by our criterion of demarcation,
> the theoretical systems of natural science,
> then we must choose a criterion that allows us
> to admit to the domain of empirical science even
> statements which cannot be verified.
>
> But I shall certainly admit a system as empirical
> or scientific only if it is capable of being
> tested by experience. These considerations suggest
> that not the verifiability but the falsifiability
> of a system is to be taken as a criterion of de-
> marcation. In other words, I shall not require
> of a scientific system that it should be capable
> of being singled out, once and for all, in a
> positive sense, but I shall require that its
> logical form shall be such that it can be singled
> out, by means of empirical tests, in a negative
> sense: it must be possible for an empirical
> scientific system to be refuted by experience.
> (Popper 1959: 40-41)

Popper's formulation thus far depends on two postulates:
a correspondence theory of truth and the basis in experience
of evidence which would refute a theory. He assumes that an

idea or proposition is a more or less accurate reflection of reality. A theory can thus be assessed by the degree of correspondence to the facts. (Popper 1968: 231-32) A statement with greater truth content, which says more about reality, thus risks more and is thus more susceptible to refutation and hence more scientific. If a statement with such a high truth content withstands severe tests it may be accepted (although again tentatively) as a good approximation to the truth; it possesses a high degree of verisimilitude.

Aside from problems in positing the metaphysic necessary to the corresponcence view of truth, there remains the problem of the experience or observation which can refute a theory or a statement. If a true statement is one which corresponds with the facts, we still need a method of assessing the facts and, since truth is not manifest, according to Popper, observation itself becomes problematic. Popper takes our experience first of all to be of something called the 'real world'.

> The task of formulating an acceptable definition
> of the idea of an 'empirical science' is not
> without its difficulties. Some of these arise
> from the fact that there must be many theoretical
> systems with a logical structure similar to the
> one which at any particular time is the accepted
> system of empirical science. This situation is
> sometimes described by saying that there is a
> great number — presumably an infinite number — of
> 'logically possible worlds'. Yet the system
> called 'empirical science' is intended to re-
> present only one world: the 'real world' or the
> 'world of our experience'. (Popper 1959: 39)

Popper must also posit however, that this experience is always of the facts. He states also that a theory of knowledge,

a theory of science, a theory of empirical science and a theory of experience all amount to the same thing. (Popper 1959: 39) Since, however, Popper rejects the notion of a manifest truth and separates origin from validity, in order to reject psychologism with reference to the origin of statements and theories, he runs into trouble since he now needs the givenness of facts for his testing procedures.

> Thus there is no uninterpreted empirical basis;
> and the test statements which form the empirical
> basis cannot be statements expressing uninterpreted
> 'data' (since no such data exist) but are, simply,
> statements which state observable simple facts
> about our physical environment. They are, of
> course, facts interpreted in the light of
> theories; they are soaked in theory as it were.
> (Popper 1968: 387)

This statement thus appears to conflict with others Popper makes in connection with the testing of theories. He claims that although theories are our inventions they can be falsified; our expectations can be countered; they "can clash with something which we never made." (Popper 1972: 196-97) If the facts with which theories may conflict (and theories are our inventions) are 'soaked in theory', then the facts as well, are to a certain extent, our invention; we have made them. Thus the independence of the test, so necessary in Popper's formulation, seems to have disappeared because the conditions for it conflict with his own critique of grounding knowledge by reference to its origin in experience.

The criteria for knowledge, science and legitimate experience turn out, for Popper, to be instrumental. Although he claims that falsification is the method whereby statements

are deemed testable, his method is geared to the problem of
deciding when to <u>accept</u> a theory. Although he claims that
it is a method based on observation, there is nowhere in
Popper's writing a statement of how falsificationists ob-
serve differently from verificationists.

> But we must be cautious if we formulate our
> problem, with Hume, as one of the reasonableness
> of our <u>beliefs</u>. We should split this problem
> into three — our old problem of demarcation, or
> of how to distinguish between science and
> primitive magic; the problem of the rationality
> of the scientific or critical <u>procedure</u>, and
> the role of observation within it; and lastly
> the problem of the rationality of our <u>acceptance</u>
> of theories for scientific and for practical
> purposes. (Popper 1968: 57)

To pose the problem as one of how to distinguish between
science and primitive magic presupposes that Popper already
knows the difference; and it is not at all clear why he wants
to do this in the first place (I suspect it is because he
wants to see magical experience as unempirical and unverifi-
able). As to the question of the rationality of scientific,
observational and acceptance procedures, Popper shows this
to be an instrumental rationality in connection with a critique
of essentialism.

> This criticism of mine is thus frankly utilitarian,
> and it might be described as instrumentalist; but
> I am concerned here with a <u>problem of method</u> which
> is always a problem of the fitness of means to
> ends. (Popper 1968: 105fn.)

Which ends, is a question which Popper does not relish dealing
with. In his criterion of demarcation he devalues what he
terms irrefutable statements and theories. However, the
theories of Marx and Freud are deemed bad because (according

to the falsifiability criterion of demarcation) they are
unscientific, but the rules of logic and inference (also
unscientific, irrefutable) are deemed good because they are
also deemed useful. (Popper 1968: 205) He criticizes
vigorously theories which he does not like by showing them
to be 'irrefutable' or 'unscientific' whereas the grounds
for those theories or rules which he does like becomes their
'usefulness' - the question for what? or for whom? he does
not attempt to answer.

Once a theory or idea is deemed logically falsifiable,
then, the next task is to search for the set of facts which
would refute it, thereby determining its degree of verisimilit-
ude, or degree of correspondence with those facts. The
character of the idea selected for testing thus determines
the character of the facts to be sought. What is deemed
problematic, or worthwhile investigating also defines the
theory to be tested and hence also the nature of the informa-
tion which is supposed to test the theory independently.

> There is a point here which, I suggest, it is
> the particular task of the logician to analyse.
> 'Interest', or 'relevance' in the sense here
> intended, can be objectively analysed; it is
> relative to our problems;and it depends on the
> explanatory power, and thus on the content or
> improbability, of the information. The
> measures alluded to earlier . . . are precisely
> such measures as to take account of some relative
> content of the information - its content relative
> to a hypothesis or to a problem.
> (Popper 1968: 231)

Popper's work lacks discussion, however, of what
constitutes the problem which begins this process. Thus, in

Popper's scheme, problems define interests, interests define

theories, theories are tested against independent facts

(although the independence of these facts is itself problem-

atic since Popper himself claims that there is no unmediated

knowledge). In his account of the origin of legitimate problems,

Popper is close to Lundberg. He conceives of knowledge and

life as an adjustment. Popper's metaphysic, epistemology,

theory of science, politics and sociology become united

through a quest for total objectivity, universality and

regularity.

In Popper's cosmology there are three realms or

'worlds':

> I will point out that, without taking the words
> 'world' or 'universe' too seriously, we may
> distinguish the following three worlds or
> universes: first, the world of physical objects
> or of physical states; secondly, the world of
> states of consciousness, or of mental states, or
> perhaps of behavioral dispositions to act; and
> thirdly, the world of objective contents of
> thought, especially of scientific and poetic
> thoughts and of works of art.
> (Popper 1972: 106)

> Among the inmates of my 'third world' are, more
> especially theoretical systems; but inmates just
> as important are problems and problem situations.
> And I will argue that the most important inmates
> of this world are critical arguments, and what
> may be called - in analogy to a physical state or
> a state of consciousness - the state of a
> discussion or the state of a critical argument;
> and, of course the contents of journals, books
> and libraries. (Popper 1972: 107)

After stating that "the study of a largely autonomous third

world of objective knowledge is of decisive importance for

epistemology", (Popper 1972: 111) Popper goes on to describe

the relations between the three worlds as follows: All our

actions in the first world are influenced by our second world grasp of the third world. (Popper 1972: 148-49) Although there is room in this notion for a human contribution to knowledge, the growth of language and hence knowledge, is an unintended consequence of our actions. (Popper 1972: 122) The problem situation of the 'third world' defines the second world disposition to act which in turn defines the first world actions which (unconsciously) produces a new (third world) problem situation for, as Popper states:

> To sum up, although the meaning of 'knowledge', like that of other words, is unimportant, it is important to distinguish between two different senses of the word.
> 1) Subjective knowledge which consists of certain inborn dispositions to act, and of their required modifications.
> 2) Objective knowledge, for example, scientific knowledge which consists of conjectural theories, open problems, problem situations and arguments. (Popper 1972: 121) (emphasis added)

Popper thus makes the keys to this process biology and the scientific tradition embodied in the 'third world', for, as he maintains,

> The thesis of the existence of such a third world of problem situations may strike many as extremely metaphysical and dubious. But it can be defended by pointing out its biological analogue. (Popper 1972: 116)

Popper sees the natural and cultural worlds as regular, or, at least, that the assumption of regularity is methodologically necessary. (see Popper 1959: 61, 1968: 46, 130) This assumed regularity assures the biological and evolutionary nature of the process of acquiring knowledge. Since humans

do not consciously form even their cultural worlds, knowledge, in Popper's terms problem situations, are given to them, not created by them. "The autonomous world of the higher functions of language becomes the world of science." (Popper 1972: 121; emphasis added)

Tying together, then, considerations thus far dealt with, Popper develops the following formula: $P_1 - TT - EE - P_2$. A problem situation into which we are born with a given inborn disposition with which to act leads to a tentative theory which we subject to severe tests by a process of error elimination the result of which is a well-tested conjecture forming a contribution to the third world thus leaving us with a new problem situation.

Even if we accept Popper's terms, the process of error elimination (EE) is a very problematic one. To begin with, his notion of error is based on a tautology; "The very idea of error, or of doubt (in its normal straightforward sense) implies the idea of an objective truth which we may fail to reach." (Popper 1968: 226) To realize, simply, that error implies truth, does not help us to recognize errors, nor does it provide criteria for our search for them. What constitutes an error is, furthermore, dependent on what is taken to be the problem situation. If the problem is not solved we have made an error. How, then, do we know when a problem has been solved? I shall return to this later.

For the moment, we are left with open problems and problem situations, given us by evolution and largely undefined, which determine the course of our knowledge and of our lives

for, as Popper says:

> Seen in this light, life is problem-solving and
> discovery - the discovery of new facts, of new
> possibilities by way of trying out possibilities
> conceived in our imagination. On the human level,
> this trying out is done almost entirely in the
> third world, by attempts to represent, in the
> theories of this third world, our first world,
> and perhaps our second world, more and more
> successfully; by trying to get nearer to the truth -
> to a fuller, a more complete, a more interesting,
> logically stronger and more relevant truth-relevant
> to our problems. (Popper 1972: 148)

This again raises the question of what constitutes a problem

and how we know it when we have it. Although Popper con-

ceives of scientists as "workers who are adding to the growth

of objective knowledge as masons work on a cathedral," (Popper

1972: 121) since we have no way of deciding what error or

problem means, and since we have no sense of the meaning of

our problems or our knowledge, we may be constructing not a

cathedral but a tower of Babel if we follow Popper. The world

of the human, or of mind, is simply a link between the other

two (Popper 1972: 148) and understanding, Verstehen, is, for

Popper, of theories, objects of world three, not of people.

(Popper 1972: 52-53)

In his essay, "Of Clouds and Clocks", Popper shows

his awareness of the problem of determinism created by his

formulations thus far. This is the problem of how a scientist,

if problems are given him and if Verstehen is of theories,

can respond in ways determined by biology and evolution, and

still know what problem he wants to work on and formulate

solutions to it. Popper formulates this problem as one of

the indeterminateness of entities such as clouds as compared
to the flawless functioning of machines like clocks. He
places human beings somewhere in between but still employs
his P_1 - TT - EE - P_2 formula as part of his solution. With
the biological evolutionary perspective and the givenness of
problems still in mind, then, Popper hopes to reconcile a
deterministic, regular world, with an imaginative scientist.
Popper develops the following analogy to formulate his
solution to the problem of asserting the scientist's freedom:

> If I am standing quietly, without making any
> movement, then. . . my muscles are constantly at
> work, contracting and relaxing in an almost
> random fashion, but controlled without my being
> aware of it, by error-elimination (EE) so that
> every little deviation from my posture is almost
> at once corrected. So I am kept standing,
> quietly, by more or less the same method by which
> an automatic pilot keeps an aircraft steadily on
> its course. (Popper 1972: 245)

So the growth of knowledge, as with the course of
human life, must be kept on course even though we cannot know
the destination. That it has a course is simply assumed by
Popper. Since we have to wait for a new problem situation to
arise from attempted solutions to an old one, which in turn
determines, biologically and theoretically, our next orienta-
tion to the world and our next adjustment, we cannot know
where we are going; just as we have no criteria for judging
error, we cannot know whether we are on course or not.

Popper makes one further attempt to salvage a notion
of the difference between scientists and other adjusting
organisms. Criteria for the evaluation of problems or of

errors are absent here as well, however. He compares the

actions of an amoeba with those of Einstein.

> I admit that there is a difference: even though
> their methods of almost random or cloud-like
> trial and error movements are fundamentally not
> very different, there is a great difference in
> their attitudes towards error. Einstein, unlike
> the amoeba, consciously tried his best whenever
> a new solution occurred to him, to fault it and
> to detect an error in it: he approached his own
> solutions <u>critically</u>.

> I believe that this consciously critical attitude
> towards his own ideas is the one really important
> difference between the method of Einstein and that
> of the amoeba. It made it possible for Einstein
> to reject, quickly, hundreds of hypotheses as
> inadequate before examining one or another
> hypothesis more carefully, if it appeared to be
> able to stand up to more serious criticism.
> (Popper 1972: 247)

The criteria for judging error, problems, and criticism are

still extremely problematic for Popper, especially since

humans remain unaware of the biological and third world pro-

cesses in acquiring knowledge. It is contradictory to assert

that problems and attitudes are given to us and that the

scientist may self-consciously critically assess the worth

of hypotheses, since the worth of hypotheses is relative to

a problem, a problem which is simply given to us. The

conscious criticism in Popper's scheme depends for its meaning

on the nature of problems which remain undefined.

Thus Popper sees a world which is totally regular.

The regularity of the world is assured in Popper's argument

by assuming that people have little to do with the formation

of knowledge, at least not consciously. In order to see the

world as orderly and totally regular, knowledge must be seen

as emanating from the world itself. Popper thus asserts that the human contribution to objective knowledge is unintended, for, if humans could consciously formulate knowledge of their worlds, the certainty of universally valid, objective knowledge of the world could not be assumed simply by positing the world itself as totally regular. What science wants to see as eternal, objective and real, it must also see as necessarily beyond our control. Here rests a fundamental contradiction in this view of scientific inquiry. What science wants technologically to control in terms of instrumental activity must, in terms of gaining knowledge of it, be seen as beyond our control.

In order for knowledge to grow as Popper views it the world must remain essentially the same. If knowledge is to change the character of our thought and our action, then knowledge, thought and action cannot, in Popper's view, be considered as part of the world of which knowledge consists as greater approximation to an unchanging state of affairs. We now return to the question raised earlier about the interest and criteria employed in assessing what constitutes a problem, an error or a solution.

Nowhere in Popper's writings on the theory of science or epistemology does he formulate an idea of how genuine or fruitful problems are recognized nor does he explain why we should consider them important; it is stated simply that problems are given to us. That they are given us by the institution of science and not simply by the method is also clear since problem situations are inmates of the third world

which are to be found in journals and libraries. Popper thus
sees science as an evolving tradition, the impetus and energy
of which is contained in biologically determined responses
to problem situations, the solutions to which set up the next
problem situation.

Problems to be worked on in science, then, are pro-
vided by a scientific tradition. Popper wants to assure
that this tradition develops rationally. In "Toward A Rational
Theory of Tradition", Popper attempts to formulate the rela-
tions between science and society. Already in the introduction
to the volume containing this article Popper asserts that
there is a link between epistemology and politics, epistemology
and society. That English-speaking peoples, Popper claims,
are privileged to live in free societies, is a result of the
parallel epistemological and political optimism resulting from
the Renaissance. Modern science and technology were in turn
given birth by this optimistic epistemology.

> The birth of modern science and epistemology was
> inspired by this optimistic epistemology whose
> main spokesmen were Bacon and Descartes. They
> taught that there was no need for any man to
> appeal to authority in matters of truth because
> each man carries the sources of knowledge in
> himself; either in his power of sense-perception
> which he may use for the careful observation of
> nature, or in his power of intellectual intuition
> which he may use to distinguish truth from false-
> hood by refusing to accept any idea which is not
> clearly and distinctly perceived by the intellect.
>
> Man can know: thus he can be free. This is the
> formula which explains the link between epistemo-
> logical optimism and the ideas of liberalism.
>
> This link is paralleled by the opposite link.

> Disbelief in the power of human reason, in man's
> power to discern the truth, is almost invariably
> linked to distrust of man. Thus epistemological
> pessimism is linked, historically, with a doctrine
> of human depravity, and it tends to lead to the
> demand for the establishment of powerful authority
> which would save man from his folly and his
> wickedness. The contrast between epistemological
> pessimism and optimism may be said to be fundament-
> ally the same as that between epistemological
> traditionalism and rationalism. (I am here using
> the latter term in its wider sense in which it
> is opposed to irrationalism, and in which it is
> opposed to irrationalism, and in which it covers
> not only Cartesian intellectualism, but empiricism
> also.) For we can interpret traditionalism as the
> belief that, in the absence of an objective and
> discernable truth, we are faced with the choice
> between accepting the authority of tradition, and
> chaos; while rationalism has, of course, always
> claimed the right of reason and of empirical science
> to criticize, and to reject, any tradition, and any
> authority, as being based on sheer unreason or
> prejudice or accident. (Popper 1968: 5-6)

In order to view science as growing in an evolutionary manner,
however, Popper himself has science grounded in something
like tradition. The reason and the criticism alluded to are
themselves, in Popper's formulation of the logic of science,
dependent on solutions to problems which are already given
to us. He attempts to overcome this problem by rationalizing
tradition, by suggesting the replacement of the intolerance
of tradition with the tradition of tolerance. (Popper 1968:
132)

Since tradition is a social phenomenon, says Popper,
a theory of tradition must be a sociological theory. The task
of social science, furthermore, is seen as that of combatting
what Popper terms 'the conspiracy theory of society', the
belief that everything which happens is the result of its being
willed by those in power. After arguing that only when a

believer in conspiracy theory comes to power, such as Hitler,
who created his own conspiracy to counteract his notion of
the conspiracy myth of the Learned Elders of Zion, does a
conspiracy theory appear to describe reality, Popper argues
that even in conspiracy-run societies actions never result
in a state of affairs exactly as intended. To explain why
the unwanted consequences of action cannot be eliminated Popper
takes to be the major task of social science. Given a market
economy, for example, the placing of a house on the market
by each seller, in addition to finding a buyer, has the un-
intended consequence of lowering the price of the house.

Popper then suggests that the explanation of the
persistence of social institutions be done by an analysis,
not of collectives, classes or groups, but of individual
social actions and their intended and unintended consequences.
He suggests analyzing the function of tradition in the same
manner and pays particular attention to what he calls the
'rational or scientific tradition' in formulating a theory
of tradition.

> My main purpose will be to draw a parallel
> between, on the one side, the theories, after
> submitting them to scientific tests, we hold
> as a result of the rational or critical attitude -
> in the main, that is, scientific hypotheses - and
> the way they help us to orientate ourselves in
> this world; and, on the other side, beliefs,
> attitudes and traditions in general, and the way
> they may help us to orientate ourselves, especially
> in the social world. (Popper 1968: 126)

At this point Popper formulates the difference between
myth and science as traditions by claiming that science as

opposed to myth adopts a critical attitude toward handed-down ideas and can thereby grow. Science grows, according to Popper, because a better and better account of the world is produced. Thus we need theories, traditions, and a critical attitude toward them in order to keep producing this better and better account.

As with theories in science, so with traditions in social life. Popper maintains, for example, that without 'something to go by' workers in a factory would become anxious and terrified. The workers in their environment, the factory, need to be able to predict what will happen, regardless of what it is that will happen; this is their greatest need.

> It is here that the part played by tradition in social life becomes understandable. We should be anxious, terrified, and frustrated, and we could not live in the social world, did it not contain a considerable amount of order, a great number of regularities to which we can adjust ourselves. The mere existence of these regularities is perhaps more important than their peculiar merits or demerits. They are needed as regularities, and therefore handed on as traditions, whether or not they are in other respects rational or necessary or good or beautiful or what you will. There is a need for tradition in social life. (Popper 1968: 130-31)

Theories and traditions thus bring order into "the chaos in which we live so as to make it rational and predictable." (Popper 1968: 131) To produce a 'better' world (i.e., a more regular one) we must then take tradition as our starting point and frame of reference.

Popper then links theory and tradition to institution.

Institutions and traditions have much in common;
among other things that they must be analyzed by
the social sciences in terms of individual
persons, their actions attitudes, beliefs,
expectations, and interrelations. But we may
say, perhaps, that we are inclined to speak of
institutions whenever a (changing) body of people
observe a certain set of norms or fulfill certain
prima facie social functions (such as teaching,
policing, or selling groceries) which serve certain
prima facie social purposes (such as the propoga-
tion of knowledge, or protection from violence or
starvation), while we speak of traditions mainly
when we wish to describe a uniformity of people's
attitudes or ways of behavior, or aims, or values,
or tastes. Thus traditions are perhaps more
closely bound up with persons and their likes and
dislikes, their hopes and fears, than are institu-
tions. They take, as it were, an intermediate
place, in social theory, between persons and
institutions. (Popper 1968: 133)

It is the task of social theory, then, to show where

institutions are not fulfilling their 'proper' functions as

a result of the unintended (and intended) consequences of

individual actions. Our better and better account of the

world, in this formulation, depends on placing closer and

closer checks on our own behavior, and the production of order

in the social world is best insured by placing institutions

in the hands of people "who intend to use them for their

proper social purpose." (Popper 1968: 134) How we come to

know, or how Popper knows, what the proper social purpose or

function of an institution is, is not formulated by Popper.

The perceived regularity of the social world seems to be his

only criteria for judging the quality of life and he goes even

so far as to designate the purely descriptive and argumentative

uses of language as its proper use as opposed to language's

emotive uses. Discipline in the factory, teaching and policing

become not only the exercise of "prima facie" social purposes
but the very conditions of scientific knowledge of the social
for Popper.

In his essay, "Die Logik Der Sozialwissenschaften",
Popper outlines twenty-seven theses on the logic of science,
the last seven having to do specifically with the social
sciences. He begins by suggesting that we have both an
astonishing knowledge and a limitless ignorance of our world.
(Popper 1969: 103) A theory of knowledge is supposed to ex-
plain the relationship between this knowledge and this
ignorance. Popper begins to formulate his theory of knowledge
by stating that to have knowledge we need a problem to be
solved, and "a problem arises through the discovery of an
apparent contradition between our supposed knowledge and the
supposed facts." (Popper 1969: 104)

The observation involved in the discovery of apparent
contradition is a problem-solving observation, an observation
which contradicts our expectations. The expectations brought
to the act of discovery have their origin in social problems
such as poverty or political oppression. This leads to
relection and theorizing, to theoretical problems. The
character and quality of the problem, claims Popper, deter-
mines the value of the scientific accomplishment. Although
Popper himself makes the problem dependent on expectations,
no substantive account of expectations is given.

At this point Popper outlines as his main thesis his
conjecture and refutation theory of science (see pages 95-100

above). The conclusion of these considerations is that:

> The so-called objectivity of science consists
> in the objectivity of the critical method;
> that is, however, above all, that no theory is
> exempted from criticism and that the logical
> aids of criticism - the categories of logical
> contradiction - are objective. (Popper 1969: 106)

The objectivity of the scientist is thus irrelevant for Popper.
The objectivity of science lies only in the critical tradition
which makes possible the criticism of regnant dogma. "It
depends in part on a whole series of societal and political
conditions which make this criticism possible." (Popper
1969: 112)

Popper takes the sociology of knowledge to task on
this point. He claims that it mistakenly conceived the lack
of objectivity of the scientist in terms of his societal
position, whereas the objectivity of science, as distinguished
from the scientist, depends on the use of social categories
which it should be the task of the sociology of knowledge to
explain.

> (The theory of scientific objectivity) can only
> be explained through such social categories, as
> for example: competition (of individual
> scientists and of various schools); tradition
> (namely the critical tradition); social institu-
> tion (as for example publication in various
> competing journals and through various competing
> publishers; discussions at congresses); state
> power (namely the political tolerance of free
> discussion). (Popper 1969: 113)

He then suggests dealing with the problem of value freedom
in a similar manner. In a critical discussion a distinction
is made between the question of the truth of a statement, its

relevance, meaning and interest for a scientific problem,

and the question of its relevance, meaning and interest for

an extrascientific problem. Popper states that it is impossible

to exclude extrascientific interests from scientific research.

The problem in science, according to Popper, is to exclude

simply those extrascientific interests which do not contribute

to the search for the truth.

> What is possible and what is important and
> what gives science its special character is
> not the exclusion, but rather the distinction
> of every interest not belonging to the search
> for the truth from the purely scientific
> interest in the truth. However, although truth
> is the leading scientific value, it is not the
> only one: the relevance, interest and meaning
> of a claim relative to a purely scientific
> problem situation are likewise values of the
> first order, and the situation is similar with
> respect to fruitfulness, explanatory power,
> simplicity and precision.
>
> In other words, there are purely scientific
> values and disvalues and extrascientific values
> and disvalues. And although it is impossible
> to keep scientific work free from extrascientific
> applications and evaluations, it is nonetheless
> the task of scientific criticism and scientific
> discussion, to struggle against the mixing of
> value spheres, and to exclude especially
> extrascientific evaluations from the question
> of truth. (Popper 1969: 113-14)

Because of these considerations on objectivity and value

freedom, claims Popper, we cannot rob the scientist of his

partisanship without robbing him also of his humanity.

Objectivity and value freedom are in themselves values,

scientific values contributing to the search for the truth.

This apparent paradox disappears when the scientist attempts

to prevent the mixing of scientific and extrascientific

questions of value. "The method of science", claims Popper, "consists in the selection of problems and in the criticism of our always 'trial and error' and tentative attempts at solution." (Popper 1969: 115)

It is precisely the selection of problems according to refutable expectations, however, which Popper cannot account for. That about which we are to seek the truth is decided extrascientifically, even if the appropriate societal and political conditions prevail. The formulation of a formal method for sociology thus presupposes a pre-ordained 'correct' selection of expectations and problems and also presupposes a complete sociology. The conditions, social conditions, about which Popper hopes to gain knowledge, he must already have a clear knowledge of. He must assume or know, among other things, the assumption of the institutionalization of various prima facie social functions and of a state which watches over the maintenance of free scientific discussion.

With Popper, as with Weber, the ends of human activity must already be given and accepted. In this way Popper is able to speak of analyzing a situation objectively. Human action is treated with reference to the givens of a situation and may be treated objectively since the situation is said to be an objective one, the same for all. Behavior may be analyzed objectively with respect to a situation, and a definition of institutions may objectively define situations in an institutional matrix. (Popper 1969: 121) As a con-cluding suggestion, Popper suggests that theoretical sociology,

his general 'situational logic' and his theory of institutions and traditions be accepted as defining the problems to be dealt with by social science. Thereby, claims Popper, although individuals and not institutions act, we will, through situational logic, be able to treat institutions as 'quasi-acting'; we would also thus be able to develop a theory of the formation and development of institutions from a theory of the desired and undesired institutional consequences of purposive action.

These formulations by Popper are based on one idea, the demarcation between science and metaphysics based on the criterion of falsifiability. Popper already employs a notion, however, of what he takes to be scientific. He criticizes other modes of demarcation such as meaningfulness, for example, on the grounds that we would then have to consider such things as rational theology or astrology as scientific. (Popper 1968: 253) The problems, furthermore, which constitute science must be given by the institutions which social science is to explain. In order for a social science to depict the regularities in a social world, it needs a totally regular social world. Decisions which make the theories of Marx and Freud useless and hence bad and the rules of logic and in- ference useful and hence good, instead of the other way around, are the same decisions deciding the suitability of evidence which can refute a hypothesis. The unaccounted-for expecta- tions which may be countered in experience decide, in effect, our experience which is deemed legitimate in a social world

where discipline, tradition, regularity and the smooth
functioning of institutions have priority. It becomes
ideological to develop a methodology for discovery of processes
in the social world when the development of that very method-
ology is predicated on an almost complete sociology, and
myriad assumptions about the structures and relations in
society. In order to view science as a self-correcting system,
Popper needs an undefined, ungrounded notion of error. What
is correct comes to be seen simply as that which science is
doing. The interest in the problems science is working on
is unaccounted for since that, as well, is seen as being
beyond human control and as part of a self-correcting
evolutionary process.

Thomas Kuhn

In The Structure of Scientific Revolutions, Thomas
Kuhn argues that the employment of scientific method alone
cannot account for the answers to questions which science
has produced. Although science textbooks have made the de-
velopment of a particular field appear to be totally cumulative,
this has not been the case historically. Both Newton and
Einstein, Priestley and Lavoissier, were using scientific
methods and used essentially the same data. The arbitrariness
of deciding what to consider as problem and, hence, as solution
is ambiguous.

> Observation and experience can and must
> drastically restrict the range of admissable
> scientific belief, else there would be no
> science. But they cannot alone determine a
> particular body of such belief. An apparently
> arbitrary element, compounded of personal and
> historical accident, is always a formative
> ingredient of the beliefs espoused by a given
> scientific community at a given time.
>
> That element of arbitrariness does not, however,
> indicate that any scientific group could
> practice its trade without some set of received
> beliefs. Nor does it make less consequential
> the particular constellation to which the group,
> at a given time, is in fact committed. Effective
> research scarcely begins before a scientific
> community thinks it has acquired firm answers
> to questions like the following: What are the
> fundamental entities of which the universe is
> composed? How do these interact with each other
> and with the senses? What questions may legitim-
> ately be asked about such entities and what
> techniques employed in seeking solutions? At
> least in the mature sciences, answers (or full
> substitutes for answers) to questions like these
> are firmly embedded in the educational initiation
> that prepares and licenses the student for pro-
> fessional practice. (Kuhn 1970c: 4-5)

Kuhn terms these sets of beliefs in each field

'paradigms' and characterizes them as being fully developed

enough to attract the commitment of a scientific community

and yet open-ended enough to leave puzzles and problems yet

to be resolved. The practice of science, for Kuhn, consists

primarily in the solving of these minute problems and puzzles,

and he refers to it as 'normal science'.

After the development of Descartes' influential

mechanical philosophy, for example, scientists took this

philosophy as specifying both their metaphysic and their

method. Since the mechanical philosophy asserted "that the

universe was composed of microscopic corpuscles and that

natural phenomena could be explained in terms of corpuscular shape, size, motion, and interaction", (Kuhn 1970c: 41) scientists accepted as their metaphysic that the world was composed of shaped matter in motion and proceeded, methodologically, to reduce all natural phenomena to explanation in terms of corpuscular action. The activity within this puzzle-solving, normal science has three functions - "determination of significant fact, matching of facts with theory, and articulation of theory." (Kuhn 1970c: 34) In the process, then, of filling-out and articulating a particular paradigm through puzzle-solving activity (such as attempting to account for interplanetary gravitation as well as planet-sun attraction in determining the stability of orbits), objective facts are interpreted in the light of regnant theory and instruments used in puzzle-solving are constructed as though the theory to be tested were true. If asked whether a helium atom is a molecule or not a chemist will answer yes because it behaves like one with respect to the kinetic theory of gases and a physicist will answer no because it displays no molecular spectrum.

The impetus to scientific revolution, in Popper's terms, the production of a better account of the world, depends on the perception of an anomaly produced by work on a puzzle provided with reference to a dominant paradigm. The paradigm determines the puzzle to be worked on and, hence, any anomaly which may occur.* The problem deemed worthwhile

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*This theme will not be developed here, see Kuhn 1970c Chapters 7 and 8.

working on gives rise itself to the kind of evidence (perceived somewhat accidentally, see Kuhn 1970c: 62-65) which might contradict or conflict with the paradigm. What is taken to be a problem, however, still determines the direction in the resolution of crises in science which are engendered by anomalies. We are again left with the same problem that Popper left us with - what are the criteria which may decide when a problem is worthwhile investigating? Popper claims that it is given to us by a 'third world' and by our bio- logical evolution, and Kuhn attempts to show how, historically, in the practice of science, the conflict between communities holding to various paradigms typically does result in the communal acceptance of the priority of a given problem.

Kuhn (1970a-b) and Popper (1970) have entered into a debate on this issue. The result is that what Popper calls science Kuhn would term revolutionary science. Popper attempts to tell us what science should do (although often he attempts to say that this is actually done and Kuhn disagrees with him here), while Kuhn attempts to tell us what it does do. Both leave unexamined the criteria by which they judge science to be growing.

That science is a self-correcting system is explicitly held by Popper and implicitly by Kuhn. Popper attempts to account for this self-correction which keeps us on course by reference to the tradition of tolerance. Kuhn does some damage to this account in his historical consideration of resistance to discovery and the conflict between communities

of scientists.

> Ideas remain entrenched because scientists
> need and build upon ideational frameworks.
> The scientist can never fully comply with the
> dictum of tolerance because he needs a grounded
> conceptual framework. Facetiously speaking,
> a scientist cannot be so open-minded, despite
> exhortations to the contrary, that his brains
> fall out! (Bennett 1968: 235)

In the case of the development of sociology, as Nisbet
and others have argued, tolerance certainly was never a
rallying cry. Nisbet argues that sociology developed as a
conservative reaction to the French Revolution, the Industrial
Revolution and the Enlightenment, and yet considered the
metaphysic underlying this reaction as developed by Durkheim
and others to have been developed into a practical methodology;
for Nisbet, it suddenly became scientific, politically and
morally neutral.

The metaphysic and world-view of externality and
constraint which characterizes sociology is, however, a
conservative world-view. This world-view characterized de-
velopments in other disciplines at the same period in history,
in which the impracticality and impossibility of sudden,
violent change was emphasized. Immanuel Velikovsky refers
to this reaction as the 'doctrine of uniformity'. He points
out that in the period from 1789-1815 Europe was in turmoil.
Previous to this period well-known geologists such as Cuvier
found anomalous the discovery of past catastrophies on earth
in the form of heaps of the bones of animals thousands of
miles from their natural habitat. They recognized that

catastrophies had happened but could offer no explanation as to their cause.

> No wonder that in the climate of reaction to the eruptions of revolution and the Napoleonic Wars the theory of uniformity became popular and soon dominant in the natural sciences. According to this theory, the development of the surface of the globe has been going on through all the ages without any disturbances; the process of very slow change that we observe at present has been the only process of importance from the beginning.
> (Velikovsky 1955: 32)

The doctrine of uniformity, as developed by Charles Lyell, was to become a most important influence on Charles Darwin. I suggest also that what Nisbet cites as the conservative reaction of sociology to the same period, has resulted in what Alan Dawe has termed the doctrine of the problem of order.

Accepting the scientific problem as the problem of order, complete with a metaphysic of externality and constraint, accepting scientific problems in social science to be social problems given by institutions fulfilling their proper function, and arguing that the knowledge gained in such scientific practice is achieved without the aid of metaphysical assumption gives rise to a situation where science attempts to convince us that we have, naturally, no control over our own lives. The vigorousness of the polemic itself, however, is at least an indication that the opposite is possible. In the next two chapters I intend to explore that possibility with reference to a different formulation of knowledge and of science.

CHAPTER III

Positivism, Scientific Method, and the Interest in Domination

The Problem of Positivism

The general framework of the ideas presented in the last two chapters may be described in a word - positivism. Positivism is a normative attitude outlining for us,

(1) what questions may reasonably be asked of our world,

(2) rules and evaluative criteria for cognition and, (3) what can be known. The essential logical problem with this view is that one of its canons is that metaphysical viewpoints or questions are meaningless - or at least have no place in science - but at the same time its canons constitute a metaphysic.

Leszek Kolakowski (1969: 3-8) has condensed the canons of positivism and its various schools into four basic rules:

> 1) phenomenalism - one cannot make statements about entities not subject to experimental control, there is nothing beyond the phenomenon,
> 2) nominalism - the referents of general terms must always be concrete objects,
> 3) there is no cognitive value in value judgements and normative statements,
> 4) the unity of scientific method - the methods for acquiring knowledge are the same for all spheres of experience.

Anthony Giddens (1974: 2-3) condenses nominalism and phenomenalism into

the fundamental supposition of the experimental foundation of all (viable) knowledge in sensorily apprehended 'reality'. Secondly, as necessarily following from the first proposition, the idea that judgements of value have no empirical content of a sort which renders them accessible to any tests of their 'validity' in the light of experience. There is no kind of observation of the sensory environment which can have a direct bearing upon the content of value judgements or normative assertions.

It is interesting that Giddens places the words 'reality' and 'validity' in inverted commas. The use of the notion 'reality' in this context involves the notion of a realm apart from humans and not affected by their perception of it; the notion 'validity' in this context denotes the <u>unchanging</u> truth of statements about the realm of reality. Thus a valid proposition is a statement about an unchanging reality. In general, the conduct of scientific inquiry after this model expresses a concern for generality, testing, validity, the practical applicability of results, in short, for certainty.

It becomes evident, however, that theories do not simply describe reality when we view, for example, Popper's grounding of his approach to method in notions of practicality and utility. The notion of the validity of statements about reality is thus also dependent, contrary to other of Popper's statements, on a prior view of the uses or purposes of knowledge and of standards. The interests involved in the use of knowledge may also be involved in the process of validation of the appropriate form of knowledge.

> (I)f one does not wish to enthrone philosophical
> innocence at any price the question must be
> permitted whether, through such a definition of
> the conditions of validation, the possible
> meaning of the empirical validity of statements
> has not been established in advance. And if
> this is the case, one might ask what interpreta-
> tion of validity is thereby prejudiced. The
> basis of experience of the exact sciences is not
> independent of the standards which these sciences
> themselves attribute to experience.
> (Habermas 1974: 198)

The positivist view of knowledge might, then, aid simply in
the constitution of a form of knowledge in the interest of
those for whom such knowledge is useful.

Metaphysically this view expresses mechanism,
epistemologically it expresses psychologism. Knowledge,
then, is the result of the creation of images accurately
reflecting patterns of shaped matter in motion. The key
concept in this, as well as with Lundberg, Lazarsfeld, Greer,
and Popper is testability. The centrality of this concern
expresses a desire to ensure that an idea or notion accurately
describes certain objects and the relations between them.
Human knowledge, in this view, is the passive mirroring of
a world divorced from a passive subject. In order for an
idea to be valid that idea must be what all believe to be the
case. This notion of validity, the interests behind it, and
its implications constitute the central theme of this chapter.
The concern for certainty expressed in this notion of validity
poses the problem of intersubjectivity. There are essentially
two ways of viewing intersubjectivity, in discussing the
theory of knowledge. The first, the one often criticized in

this work, is the formulation of a procedure for verifiability; the second is the characterization of the world as initially intersubjectively constituted.

Because of the psychologistic orientations of many theories of knowledge and science the problem of inter-subjectivity is encountered only when the question of verification is addressed. In this view the world is the brute reality of things in themselves. When viewing knowledge as the mirroring of a world in a subject, it is not considered that the world, to begin with, is constituted intersubjectively.

> For both Descartes and Locke, ideas are the direct objects of man's knowledge, and this meant that the so-called 'critical problem' was formulated as the question about the reality in the 'outside world' of those things whose ideas were assumed to be present in the 'inner world'. (Luijpen 1969: 95)

In this view the notion that people, including philosophers and scientists, must deal with others, other minds, is left untouched until problems having to do with evidence and verification are encountered. Even in this view, then, there eventually arises the problem that the accuracy and conviction of the knower have something to do with the ability to convince others; that objectivity some-how depends on the conviction that if others look properly they too will see things in the same light.

The Phenomenological Approach to Knowledge

Phenomenology takes this 'proper looking' as its

starting point. It is by an investigation of the manner of looking or seeing that Husserl and others have arrived at the notion of intentionality. Intentionality, for Husserl, is not simply a bridge between subject and world as it was with Brentano, from whom he borrowed the term. For Husserl, intentionality does not in any way refer to a subject isolated form the world, but:

> describes the subject-as-cogito -- knowledge
> itself -- as orientation-to and openness-to-the-
> world. Knowledge is not a matter of storing
> cognitive images in the subject's interiority,
> but the immediate presence of the subject as a
> kind of 'light' to a present reality. As a
> mode of being-man, human knowledge is a mode
> of being-existent, a mode of being-involved-in-
> the-world, and this being-involved is the
> subject himself. The subject, then, is not
> 'first' and in himself a kind of 'physical
> thing' which subsequently, by means of
> cognitive images, enters into relationship
> with physical things. Knowledge is not 'some-
> thing in between two things in themselves' --
> not a relationship between two different realities-
> - but is the subject himself involved in the world.
> (Luijpen 1969: 101-102)

Luijpen argues that Descartes raised merely a pseudo-problem in attempting to prove the existence of a real world. This problem could be raised only by an already fully constituted philosophy which knew what it could have knowledge of. Phenomenology starts by asking how knowledge actually occurs and in its notion of intentionality implies that knowledge simply is not what it is without the real world. Luijpen's reformulation of the problem is as follows: "One who takes the idea of intentionality seriously no longer asks whether the world which he 'sees' is real, but he can

ask whether he really 'sees' or merely dreams." (Luijpen 1969: 104)

The real in this formulation is still real; the difference is that it is no longer considered as something in itself. This represents the fundamental nature of the intentionality of consciousness. Previous philosophy has made the choice of concentrating either on consciousness or on reality, a dualism resulting in idealist-naturalist controversies. With the notion of intentionality, however, phenomenology is able to return to 'the things themselves' and to knowing as it actually occurs, in an examination of the point of contact of consciousness and reality. For Husserl, we cannot know one independently of the other.

To say that consciousness is intentional is to say that it contains something in itself as object. It is to an explication of these objects, to the 'what' of experience, that phenomenology is oriented.

> When one approaches appearances or 'phenomena'
> in this way, one finds in them all that is
> necessary for the constitution of a strict
> science of what is.

> It is in this sense that phenomenology is to be
> understood. An act of consciousness is that
> in which an object 'appears'; it is the
> appearance of an object. (Lauer 1958: 39)

From this beginning Husserl hoped to outline a program for the verification of cognitions, which could provide a ground for positive sciences. For him, there must be a concern with what things are, prior to a concern with how things act. The 'what' of things, essences, are their very intelligibility.

> To say that one has grasped the essence of
> something is to say that one has grasped its
> meaning. Thus, for Husserl, essence and
> 'sense' are strictly identical. True know-
> ledge of reality, then, is the knowledge of
> the sense of, the signification of, things.
> . . . (The sense of things) is to be found
> precisely in consciousness itself, where
> admittedly significance is concentrated.
> (Lauer 1958: 21)

Even as early as The Philosophy of Arithmetic (1891)

Husserl was concerned with the subjective source of concepts.

As a mathematician he was concerned with the origin of numbers.

He discovered that numbers as such are not perceived but that

"there is a manner of perceiving connected with the operation

of 'numbering'; so that there is an experience in which

numbers are 'given'." (Lauer 1958: 23) With the notion of

intentionality, Husserl binds together meaning, sense and

essence.

> If I want to determine what something is, I
> must turn to the experience in which the some-
> thing is present to my consciousness; therein
> I will find an intentional structure, and that
> intentional structure properly analysed will
> reveal to me all that can be revealed with re-
> gard to the object toward which my experience
> is oriented. This structure of intentionality
> is the fundamental structure of any phenomenon;
> it is present to my consciousness prior to any
> reflection upon it, but in order to know what the
> experience of it is and thus to know what is ex-
> perienced, I must penetrate into all the intentions
> which make up its structure, and I must do so in
> such a way as completely to validate these inten-
> tions as intentions of this object and of no other.
> To the extent that one has grasped any object as
> distinguished from any other, one has an 'essential'
> grasp of that object.
> (Lauer 1958: 42)

It is the essential intuition which Husserl wants to

uncover. Genuine experience takes place in everyday life,

but the phenomenologist sorts it out, as it were, into
genuine and non-genuine experiences of a given object; he
distinguishes between mere signification and essential in-
tuition. Husserl's theory of experience and intuition
recognizes intentions as subjectively constituted but not
arbitrary or conventional. By a proper analysis of intentions
one may have an essential knowledge of an object, such that,
"to have an essential knowledge of what one means by tree
is to know what all others must mean by tree if they are to
be objective." (Lauer 1958: 40) In this conception of
knowledge, knowledge is not considered to be some accurate
mirroring of an objective reality but rather reality is seen
as objective when knowledge of it is true.

This brings us to conceptions of verification and
validity. At first glance it appears to be a tautological
formulation in which there are certain inviolable laws of
experience in which objectivity is constituted. We then
have simply to collect these objects constituted in the realm
of naive consciousness and experience in order to have an
essential grasp of objectivity and being. It is not, how-
ever, quite so simple and it is precisely this initial
naivety which makes it so. It is within this naive realm
of the Lebenswelt or life-world in which objectivity resides,
in which the constitution of objects takes place. It is
the task of phenomenology to see this naivety as such and
to sort out the intentions and constitutions of the life-world.

We have now a situation in which a naive subject, because of
the intentional, 'meaning', 'signifying' character of its
consciousness, constitutes the realm of objectivity. Because
this is done naively and in a pre-relective, non-reflective
manner, however, awareness or knowledge of the actual inten-
tionally constituted objectivity is not yet attained. It is
by an investigation of the subjectivity wherein objects are
constituted that Husserl hoped to discover the essential
laws of experience. He insists, furthermore, that it is in
this subjectivity, as well, that these laws are constituted.
Here Husserl identifies being and intelligibility making
both depend on constitutive intentionality.

> Now, if we take the sum total of objects, known
> or knowable, we have Husserl's notion of 'the
> world'; and if we take the sum total of subject-
> ive relations to this world we have his notion
> of 'transcendental subjectivity'. To know such
> a subjectivity adequately is to know the world
> to which it is related, which is to say, is to
> know the whole of being. (Lauer 1958: 79)

Every essence is meant because every essence is
intentional. Its objectivity resides in the notion that it
is based on 'laws' of meaning. In order for a world to have
a sense for a subject, to be in any way known, it must be
subjectively constituted. By phenomenological intentional
analysis we may judge experience to discover precisely what
has been constituted, a procedure which is impossible within
the natural attitude or naive realm. This reflective act
discovers the nature of the acts of the realm of the natural
attitude. Consciousness is consciousness of something. Re-

flection is consciousness of consciousness. Naive conscious-
ness is prior and is that wherein objectivity resides, but
that objectivity can only be revealed by phenomenological
analysis.

> It is not the function of phenomenology to
> constitute an objectivity different from that
> which 'naive' consciousness intends; rather
> its function is to clarify what has already
> been naively intended by constituting and thus
> guaranteeing it in phenomenological intuition.
> Nor does this mean that pre-reflective conscious-
> ness is not constitutive, but only in reflection
> does it become manifest as such.
> (Lauer 1958: 88)

So it is a unity of sense that we are after, a unity
which represents validity and truth. Husserl attempts to
establish the priority of consciousness in this unity in
stating that all real unities are unities of meaning.

> If the concept of reality is derived from
> natural realities, from the unities of possible
> experience, then 'universe', 'Nature as a whole'
> means just so much as the totality of realities;
> but to identify the same with the totality of
> Being and therewith to make it absolute, is
> simply nonsense. An absolute reality is just
> as valid as a round square. Reality and world,
> here used, are just the titles for certain
> valid unities of meaning, namely, unities of
> 'meaning' related to certain organisations of
> pure absolute consciousness which dispense
> meaning and show forth its validity in certain
> essentially fixed, specific ways.
> (Husserl 1962: 153)

We are to analyse objects then which are the correlates of
immanent intentional functions. Furthermore, we may analyse
objectively itself by analysing the intentional function in
which it is constituted. We have the object and we have the
mode of consciousness in which the object is given. This

leaves us with a tripartite structure of ego - cogito - cogitatum or subject, act of consciousness, and object of consciousness. The object which is immediately present to consciousness is the point of departure for reflecting on the mode of consciousness in which it is given. In analysis, the object is not changed but is made objective.

We begin, then, with the ideal components of the object to get at the subjective structure of the act. The ideal components of the object Husserl called the noema and the subjective structure of the act he referred to as the noesis. The noesis is the intentional act looked at as a real subjective operation while the noema is the intentional act looked at as intentionally structured. As noetic the act gives sense; as noematic it contains an objective sense. Difference in acts of perception, for example, reveal differences in their objects but we start with the object since it specifies the guaranteeing act to be examined. All this is done with a view to being absolutely certain that we have grasped an object such that it cannot be otherwise. Knowing that we have accurately grasped, however, depends on still more. The consistency of the data of consciousness is a recurring issue. This consistency runs ultimately into the two-fold problem of an accurate knowledge of others and the need for others to establish consistency. Here we run squarely into the problem of intersubjectivity.

> If, . . . , one can describe one's 'intuition'
> in such a way that others recognize it as
> corresponding to their own, one has gone a long

> way toward communicating the results -- Pheno-
> menologically. (Lauer 1958: 97)

In fact, in speaking of knowledge it seems unavoidable that

one mentions 'we' or 'us' at some point.

> Based on the principle that the phenomenon is
> the only source of cognition to which we can
> appeal, phenomenology understood in this way
> becomes a systematic effort to transform the
> naive acceptance of a world into an essential
> knowledge of the world. This result will depend
> on the extent to which the subject is capable of
> seeing the world as the objective correlate of
> an a priori subjective operation. The world
> 'has its origin' in us. . . and it is in us
> that it acquires its habitual influence. This,
> then, is not a negation of a world-in-itself;
> it is simply the assertion that such a world
> cannot have a sense and, hence, cannot be in the
> full sense of the term. Only a world for us is,
> and it is only to the extent that it has been
> constituted in us. (Lauer 1958: 87-8)

Lauer points out a few difficulties with Husserl in

this respect. His notion of objectivity is somewhat arbitrary

to begin with and is ahistorical. Also, although he deals

with the problem of intersubjectivity more than a lot of

other philosophers, he has disregarded the necessity of actual

dialogue in the establishment of a common meaning.* It may

be that he is simply clarifying what he means by a given

object, rather than what everyone must mean. Even if Husserl

could have dealt with these problems, there still remain

others involved in his formulation as far as he has gone.

We have a situation now in which the world is objective and

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*"This obviously admits of degrees; no one need know me as
 I know myself. Still, one constitution cannot contradict
 another." (Lauer 1967: 169fn.)

essentially constituted by and in us. We are constituted as well in the same process. Here, however, is the problem. We are constituted, and we constitute? For each subject, then, the world, including the others involved in the we, is constituted intentionally. In any case we have at least a multiplicity of subjects. Lauer outlines the problems resulting from this situation:

> 1) Each subject must be self-constituted, else it can have no significance in a phenomenological framework.
> 2) Each subject must be constituted as such (either individually or collectively) in each other subject or the result will be a completely monadological universe, where communication is impossible.
> 3) The constitution of the other must correspond to the other's self-constitution, else it will be invalid; and my constitution of self must correspond to other's constitution of me else I will be myself and not myself.
> 4) Each must constitute a world of objectivity which is in some sense identical with the world constituted by the others, or there will be no common ground for communication.
> 5) The world which each one constitutes must be a world comprising onesself and others, else the unity of the world will be destroyed, ...
> (Lauer 1967: 169)

So we have a subject constituting a world of objects including itself. In this world, some of the objects are constituted also as subjects who in turn constitute each other and the rest of their world(s), at least to a great degree, in the same manner. The key here is intersubjective constitution in which an object can be constituted both as an object and as a subject. The concept of objective validity in any orientation ultimately depends on its being binding on all possible subjects so we must account for the constitu-

tion of these other subjects. There are now two principle difficulties; to account for the constitution of an object as a subject, as also constituting, and the correspondence between the other's self-constitution and my constitution of himself, or that two subjects constitute worlds which are essentially similar, which should amount to the same thing.

Somehow, then, we must show that we can experience the other as experiencing since to be a subject means to experience. There must be an intentional experience which has the experiences of others as its object. Husserl hoped to solve both difficulties with his notion of Einfühlung or sympathy and thereby find a constituted world which will be valid for all subjects. Without going deeply into Husserl's further development of his treatment of intersubjectivity we can outline some implications from what has been said so far; we can discern the line which is being taken.

Absolutely certain knowledge is desired. Knowledge is a matter of meant essence. Meant essence is subjectively constituted. It must be so constituted by at least a multiplicity of subjects, subjects who are then at least capable of seeing it as so constituted. "No cognition could with reason be called objective - and hence valid - unless it be a cognition effectively the same for all possible subjects." (Lauer 1967: 178) We have what appears to be the following situation: the acquisition and verification of knowledge depend on a multiplicity of subjects seeing, having, and living in the same world. Husserl may be criticised on

epistemological grounds for contriving this sameness in order to justify his search for absolute certainty. He must be given credit, however, for being one of the first to attempt an explanation of subjects as well as objects, since all philosophy and science must eventually either presuppose or deal with it.

Intersubjectivity and Objectivity

I submit that Husserl has successfully taken us to the point where we can speak of the problem of the other in a variety of relevant frameworks. As Lauer points out,

> There is nevertheless even some justification
> in Husserl's contention that there is here an
> approach to the problematic of existence. In
> explicating the 'sense' of the other, which is
> already contained implicitly in the very concept
> of an objectivity which must be equally valid
> for all possible subjects, the theory of inter-
> subjectivity recognizes that the other must be
> a 'real' subject if objectivity itself is to
> have any 'sense' at all. Science, after all,
> can have no recognizable validity if its contents
> are verifiable only for one subject, even though
> that subject be convinced that it is the representa-
> tive of subjectivity as such. If nothing else
> it should be possible to show how knowledge could
> be communicable to others, on the mere supposition
> that there are others. Furthermore, if the
> 'science' of philosophy is to be the task of a
> community of scholars imbued with the same ideal
> and employing the same method, . . . , then this
> community of scholars must be more than a vague
> generalization. (Lauer 1967: 179)

How far can we now go in explicating the 'sense' of the other? To start with we have the animated body of the subject, the psychological subject of objectifying operations, and the body of the other, considered neither as animated or

inanimate. My animated body is for me an object in the world like no other; it is not simply a body. My body and its animation are present to me, are given, in every experience. Once 'I' can be said to be an individual we will have evidence for other individuals.

> (J)ust as phenomenological interpretation of the
> world is a constitution of the evidence in which
> the world is given, so too a phenomenological
> interpretation of the other will be a constitution
> of a world in which there are other subjects.
> Thus the evidence of self as an individual will
> be the same evidence in which other individuals
> are given. . . . (T) he proper subject is first
> given vaguely as subject in general and then
> objectified as individual; the other is first
> given as a sort of object in general and then
> subjectified as individual.
> (Lauer 1967: 174-75)

We perceive the other's body as an object and further as an animated body since, by its behavior, we perceive it as similar to our own bodies. Thus it is also an ego having its own world. Since our own experiences are made up of 'heres' and 'theres' and 'nows' and 'thens' in which a given object is constituted, we can see the other as occupying a 'there' and as having a similar experience. Now we come to the biggest problem of all in this line of reasoning:

> Once another subject is recognized, however
> vaguely, as having experiences similar to one's
> own of a world which is also one's own world,
> the step to recognition of the world as object
> of a common constitution is not a long one,
> though, what a 'common constitution' could mean
> must remain vague. What is more, this raises
> a further difficulty with regard to the constitu-
> tion of the other subjectivity. As subjectivity
> it must certainly be self-constituted, and as
> individual subject it must be objectively consti-
> tuted. Now, for me it is constituted as 'there'

whereas for itself it is constituted as 'here';
which is to say, it is not constituted in both
cases as absolutely identical, since 'here' and
'there' are modes of corporeity sufficient to
distinguish bodies and, hence, subjects.
Husserl's answer is that corporeal nature is
commonly constituted with two distinct modalities
whereby there are two subjects. This may seem
insignificant, but it is enough to indicate that
common constitution stops at a certain generality;
particularization involves a differentiation
introduced by individual subjects. It may be
that two subjects experience things (or some
things) in exactly the same way, but there is
no way of knowing that this agreement is anything
but general. (Lauer 1967: 176)

The problem of the other's existence, for Lauer and

Husserl, now bears strong resemblance to Descartes' problem

of the world. The identity of worlds is not a problem which

arises from an analysis of intentional structures. It can

only be asked when we assume that knowledge of others is, at

least to some degree, possible. Sheer otherness would indicate

a lack of commonality. It would seem that there is little

ground for thinking that agreement is even general without

first positing commonality. It is one thing to arrive at

the conclusion that each of us takes for granted that our

world is a public and intersubjective one. It is quite another

to assume from this that we have the same world or that the

contents of our worlds must to some extent be identical.

Existential phenomenology approaches this issue from

the standpoint of the subject's existence. In this view,

that which characterizes a commonality in perception and

meaning is not simply the biologically and cognitively based

capability to view from similar vantage points but the very

presence of the other in the subject's existence-as-cognito.

"It is I who perceive, but the perceiving I only is what it
is because the behavior and speech of others are present in
my existence-as-cognito." (Luijpen 1969: 264) In this view
existence is co-existence since my being is a being through
others. The meanings upon which our action is based have
been established by others.

> It is evident that the cultural world in which
> I am involved is a system of meanings established
> by others. But the proper reason why I call my
> existence co-existence, why I must say that the
> others are present in my existence, so that my
> existence must be described as a being-through-
> others, lies in the fact that others make me
> participate in the cultural world through their
> behavior and their speech. The proper meaning
> of the thesis that existence is co-existence
> lies in the fact that others make me be, so that
> my being is a being-through-others.
> (Luijpen 1969: 266-7)

In saying that existence is co-existence we are implying the
primacy of a totality of the human. The very terms we use
to describe persons are meaningful only in relation to others;
a mother is a mother through her children, a man is a smoker
through other smokers.

> The realization that individual existence cannot
> reach a level of authenticity unless existence
> embodies itself in forms of co-existence is the
> same as the observation of positive sociologists
> that the individual man is always found as
> already incorporated in certain groups, which
> are strongly determinant in his respect.
> (Luijpen 1969: 268)

The taken-for-grantedness of our world in a situation in
which our typifications form a socially derived and distributed
stock of knowledge results in certain standardized ways of
doing things. "This incorporation implies that the group makes

the individual existence think, act, and be, in accordance
with the group's patterns." (Luijpen 1969: 269) Luijpen,
however, as distinguished from Schutz, states that this is
an indispensible condition for authentic personal existence.
He faces, here, head on the tension between subjectivity and
social determination. He then asks the question, "Is it
still possible to speak of the 'person' and the 'subject' if
one takes seriously the unmistakable reality that we make
one another be?" (Luijpen 1969: 269) In and through my
togetherness with others, attitudes and meanings, orientations
to action, become sedimented in me. The social facticity
produced by this sedimentation Luijpen calls "my social body".

Luijpen also argues, however, that this is not strictly
a process as the influence of one thing on another is a process,
since although the body referred to is a social body it is
still 'my' body. The social body cannot be accounted for by
deterministic causes. A sociologism which argues for complete
determination of individual existence disregards and ultimately
eliminates the importance of the subject. Luijpen's argument
is that it is this sociality which makes human thinking and
acting possible but the individual's social body is not simply
a result of group pressure. Sociality, making one another be,
is prerequisite for action but is not totally determinant.
"There is no contradiction between the subject and the social
body, but there is a unity of reciprocal implication."
(Luijpen 1969: 271) There remains something of the person
which cannot be accounted for in speaking of role, for example.

"I want to grasp my role, not only to exist materially, but rather also to become myself; I know myself only in it, but am not identical with it." (Luijpen 1969: from Karl Jaspers Philosophie 320 translation mine)

A clear basis for rejecting the sociologistic position becomes apparent when we consider that if action were simply the result of sedimentation change would be impossible, new meaning would never arise. Not only, then, does individual existence need the social body but the social body needs the spontaneity and creativity of the subject, the subjectivity which constitutes it in the first place. The individual, then, cannot be identified with the social body.

> The subject's non-identity with his social body makes it possible for him to distance himself from, or to consent to, his social body. This consent keeps the social body alive. If the subject is no longer able or willing to give his consent because the spontaneity of his subjectivity no longer finds support in his social body, then this body begins to degenerate. The patterns of group life do not have the stability of a rock. (Luijpen 1969: 272)

Luijpen would argue, with Schutz, that the other is accessible to me primarily through taken-for-granted meanings of everyday life. Luijpen, however, does not attempt systematic, pure theorizing from this basis, at the expense of other possible considerations. We still can have access to the other's subjectivity even though we do not directly see his subjectivity; we can see him as a subject, as not-a-thing. It is not by analogy to my visible behavior that we have access to another's subjectivity. To speak of behavior

as expressive of subjectivity we have to assume the subject-
ivity of the other. The very term 'expressive' implies
subjectivity. We cannot, then, separate body and mind and
then work by analogy to establish the existence of mind.

> The body, however, is still the key to the
> solution. If the separation between subject
> and body is undone, one can understand that
> in the look, gesture, attitude and work of
> the other I really encounter the other as
> subject. The other's body is 'his body'.
> The other lives 'in person' in his look, his
> gesture, his attitude and his word. Thus I
> encounter the other as the other, as a subject
> when he looks at me with love, hatred or in-
> difference; when he makes a gesture toward me,
> for his bodily form is the embodiment of his
> subjectivity. (Luijpen 1969: 280)

We could say I am a body, or I have a body. I am a body is
a contradiction because if I were a body, that would deny the
'I', the subject.

> I am a subject and I have a car. But with
> respect to 'my body' neither 'being' nor
> 'having' can be affirmed without qualification.
> 'My body' lies precisely 'midway' between
> these two, and to this extent can one say that
> the body acts as an 'intermediary' in the en-
> counter between human beings.
> (Luijpen 1969: 281)

Since the body has this intermediary character in the
encounter between human beings there is a non-identity of
subject and body and a certain distance between subject and
world. Also through the body, the other may disclose or
conceal himself. In acknowledging the possibility of con-
cealment we are also thereby affirming unconcealment of, and
access to, the other. In being the transition from subject
to world, the body, thus, provides access to the world of the

other. Encountering, being with, and watching someone is
the means of access to his complex of meanings, his world.
Because of this encounter, the presence of the other to me
as an origin of meaning, we can now say that the other
accompanies me; there is a 'we'. Others are "those among
whom I also am." (Luijpen 1969: 282) The presentation of
the other is different from the presentation of a thing.

We now have an existence which is the unity of the
reciprocal implication of subjectivity and social body. This
social body is the result of the quasi-process, the way of
doing things, which is carried by others. With the notion
of accompanying we add the dimension of personal encounter
to this quasi-process.

> The reception and carrying of a 'social body'
> as a quasi-effect of a 'way of doing things'
> lies far less on the level of the personal
> 'encounter' with, and the 'presence' to the
> other as other than does the mutual 'accompany-
> ing' with which we are now concerned.
> (Luijpen 1969: 282-3)

In this conception the other is 'like-me-in-the-world' and
not a thing. He is no longer a receptacle for sedimentation.
Sociology can describe various modes of accompanying one
another, the different forms of the 'we'.

From this point, one may continue on one of two
paths. We might emphasize the interlocking of worlds and
meanings with a view to efficiency and certainty in absolutiz-
ing an aspect of human relationships. We could also, however,
with Luijpen, emphasize the human, spontaneous aspect of the
human without forgetting what Luijpen has termed the quasi-

effect. He argues that humanness can be made evident and it is this humanness which should be given priority in considering relationships.

> All this indicates that the pluriformity of
> accompanying one another lies on different
> levels. We realize that, in no matter which
> sociological form of co-existence, we always
> either approach or draw away from an ideal
> of mutual companionship which is, at the same
> time, an ideal of authentic humanity. If in
> a labor organization all functionaries are
> perfectly attuned to one another, so that the
> goal of the organization is realized, one could
> -- perhaps -- say that, sociologically speaking,
> there is here a perfect form of accompanying
> one another. But at the same time, it is possible
> and even probable that these sociologically
> perfect human relations are inhuman.
> (Luijpen 1969: 285)

In the suggestion that the choice for a basis for access to the social is a matter of seeing the relationship of subject and other as either a relationship between minds or between machines we are still totally within a positivistic framework; no alternative has been suggested in this choice. Both sides in this false dichotomy would then procede to posit a similar kind of connection between mind and machine by analogy. In both cases the analogy presupposes intersubjectivity. The very fact that empathy or verstehen is used as a technique of access to people instead of alarm clocks is evidence of this.

The problem of the verification of cognitions, or theories, in evading the problem of intersubjectivity, specifies assumptions about the relationship between physics and psychology in a somewhat Lockean manner. Frederick Kersten,

following Aron Gurwitsch, has called this the constancy

hypothesis.

> (T)he constancy hypothesis may be considered
> the first attempt to establish a simple
> relationship between the stimulation of
> sense-organs, on the one hand, and, on the
> other, both the aroused physiological
> processes and the concomitant sensations.
> (Aron Gurwitsch The Field of Consciousness
> Pittsburgh 1964, quoted from Kersten 1972; 524)

This scheme neglects what Kersten calls "the irreducible

ambiguity of consciousness." (Kersten 1972; 527 ff.)

Consciousness is ambiguous since conscious acts in the world

depend on and are, thus, in a sense, effects of facts and

events, but it is also constitutive of facts and events upon

which it may be causally dependent.

> In other words the ambiguity of consciousness
> consists not only in the fact that it is both
> in and of the world but that it is in the world
> by virtue of being of the world. Stated differ-
> ently: in the world, consciounsess and its
> objects are related not only as, for instance,
> perceiving and perceived purely as intended to
> but are related also as being objectively re-
> lated objects in time. The two relationships
> must not, however, be regarded as analogous;
> and since consciousness discovers itself in and
> of the world only insofar as it is consciousness
> of the world, the latter is not only fundamental
> and characterized by unique priority but is also
> sui generis. To regard the two relationships as
> analogous, or to confuse the one with the other,
> suppresses or even subverts the essential ambiguity
> of consciousness and willfully distorts any
> scientific interpretation of the world.
> (Kersten 1972: 527-8)

Circumventing this problem by means of the constancy

hypothesis ran into problems already in psychology. In

psychology the constancy hypothesis should work as follows:

for every change in sense datum there should be a concomitant

change in physiological process and, hence, cognition. The
fact that coal looks black in the sun and in the shade causes
problems for this view. One has problems maintaining that
we do not 'really' see coal as black in the sun.

> Were we to conclude, finally, that what we
> perceive is an 'illusion', the fact must still
> be accounted for that the 'illusion' is such
> only with reference to a physical system
> constructed by the psychologist in which we
> perceive what we should. Hence it is not a
> question of knowing whether or not we perceive
> the real such as it is. . . . , since precisely
> the real is what we perceive. It is just this
> which an explanation conforming to the natural
> attitude cannot account for as an essential
> feature of ourselves exposed to the world. Only
> by substituting the system of stimuli and sense
> data for what we perceive is it possible then to
> 'translate' one frame of reference - daily life-
> into another - the psychologist's - with regard
> to which daily life is not what it should be.
> (Kersten 1972: 531-2)

Similarly in sociology Durkheim's study of totemism
led him to see the covariance of ritual with solidarity as
evidence that what people 'really' worship is the social
order itself. Only a preconceived notion of the origin of
institutions allows Durkheim to come to such conclusions.
He goes on to suggest that since the social order is worshipped
anyway, this is what people should worship.

> Whatever the criticisms that may be made of
> Durkheim's sociology and its method, the
> sociological systems substituted for the
> natural attitude's conception of man in
> relation to fellow man yield a primacy of
> sociology and sociological theory where, e.g.,
> scientific belief turns out to be what
> religious belief should be. But that scienti-
> fic belief belies that very origin it suppresses
> under the specifying assumption of the constancy
> hypothesis. This reduction of what people 'know'
> as 'reality' to the capacity to believe, trans-
> forms a concern with what people 'know' into a

concern _for_ what people 'know' in such a way
that what is 'real' for members of society is
replaced by an underlying 'collectivity'
constructed by scientific thinking.
(Kersten 1972: 537)

The constitution of the world has presentational

and appresentational aspects. In looking at a house-facade,

for example, what is presented is the facade; it is

appresented as 'house' through the subject's filling-in other

aspects. In the case of a house the other aspects are not

presented but are presentable; we can walk around it. In

the case of the other, however, this is not possible. The

taken-for-granted consistency of presentation is more problem-

atic in connection with the other.

> (I)t has never been recognized that the otherness
> of 'someone else' becomes extended to the whole
> world, as its 'Objectivity', giving it this sense
> in the first place! Other minds are not like
> mine; the appresentative nonpresentation of other
> minds signifies precisely that pure otherness,
> sheer inaccessibility, stands in rigorous harmony
> with the appresentational presentation of a
> notoriously _ambiguous_ physical thing: the body
> of the other. Indeed, that very ambiguity allows
> for the harmony in the first place. In virtue
> of the harmonious synthesis, however, there is
> continuous coordination—through continuous filfill-
> ment of expectation in the way of 'behavior'—of
> my world, the first meaning of objectivity. There
> would be no 'our' world for us, hence no objectivity
> whatever, were there not the mutual experience
> of the utterly alien and inaccessible as such in
> concrete harmony with the epicene presentational-
> appresentational _access_ to the surrounding world.
> As it were, we are enrolled in our lives together;
> the world, the objective world, is intersubjective
> and not merely a plurality of others. . . . Under
> the specifying assumption of the constancy hypo-
> thesis the perceptual situation is ignored, both
> as to its presentational status and as to the
> appresentative nonpresentational core the perceptual
> situation contains. Because of this methodological

> ignorance, intersubjectivity, as far as the
> constancy hypothesis is concerned, at best
> gets added onto the world as a supervenient
> factor. (Kersten 1972: 561-2)

The Philosophical and Historical Origins of Scientific Method and the Logic of Domination

We now have, as it were, polarized aspects of others, otherness and typicality. The interest in viewing natural and social phenomena simply in their typicality has its origin in the scientific world-view which was developed between the thirteenth and seventeenth centuries. What appears on the surface as a continuous development from Greek to modern philosophy and science actually represents the setting of a new task. The setting of the task of formulating a _universal_ science was new in principle; it was unknown to the ancients. What is new since the dawn of the modern period is

> the idea that the infinite totality of what is
> in general is intrinsically a rational all-
> encompassing unity that can be mastered without
> anything left over by a corresponding universal
> science. Long before this idea comes to
> maturity, it determines further developments
> as an unclear or half-clear presentiment. In
> any case it does not stop with the new mathe-
> matics. Its rationalism soon overtakes natural
> science and creates for it the completely new
> idea of _mathematical natural science_ -- Galilean
> science, as it was rightly called for a long
> time. As soon as the latter begins to move
> toward successful realization, the idea of
> philosophy in general (as the science of the
> universe, of all that is) is transformed.
> (Husserl 1970: 22-3)

With Galileo, then, what was once an assumed correspondence between the ideal and the real was forcibly ensured

by idealizing nature itself. In the interest of exact
measurement nature was mathematized. There developed an art
of measuring according to abstract shapes, which art determined
the world view for the verification of those shapes and their
interrelations as objectively valid. This represents the
general character of the mode of intentionality which became
the modern one.

Taking, now, the notions of life-world and intention-
ality as described earlier, we have an everyday life-and-
death world, constituted intersubjectively by its participants,
which constitution reflects the practical aims of those
participants. It is a world of human action and project, of
significance for such action and project, a world of colors,
sounds and meaning. In ancient philosophy and science it
was this practice, these projects which were made thematic.
In modern science, however, with its mathematical-mechanistic
world-view, the projects and possibilities which may be enter-
tained are limited to those approachable by means of a scheme
which views the world in terms of matter of specific shapes
and the mathematically conceived relations between those shapes.
As the mathematical-mechanistic world-view, with its project
of measurement, becomes incorporated into the life-world,
however, a new mode of intentionality or new life-world is
created which has implications for human practice.

> In place of real praxis - that of action or that
> of considering empirical possibilities having to
> do with actual and really (i.e., physically)
> possible empirical bodies - we now have an ideal
> praxis of 'pure thinking' which remains exclusively
> within the realm of pure limit shapes. Through
> a method of idealization and construction which

> historically has long since been worked out
> and can be practised intersubjectively in a
> community these limit-shapes have become
> acquired tools that can be used habitually
> and can always be applied to something new -
> an infinite and yet self-enclosed world of
> ideal objects as a field for study. Like all
> cultural acquisitions which arise out of human
> accomplishment, they remain objectively knowable
> and available without requiring that the formu-
> lation of their meaning be repeatedly and ex-
> plicitly renewed. On the basis of sensible
> embodiment, e.g., in speech and writing, they
> are simply apperceptively grasped and dealt with
> in our operations. (Husserl 1970: 26)

Thus out of a specific interest and project arising
from a particular life-world we have an idealized construction
as reflection of a theoretical-logical praxis. (Husserl 1970:
129 ff.) Once an abstracted view of nature comes to occupy
the general status of a mode of intentionality, of a life-world,
its further development is ensured. The mathematical-mechan-
istic nature of the new world-view in connection with its
claim to universality thus not only helps in the creation of
a life-world with new projects but denies their origins as
practical projects.

> In his view of the world from the perspective
> of geometry, the perspective of what appears to
> the senses and is mathematizable, Galileo
> abstracts from the subjects as persons leading
> a personal life; he abstracts from all that is
> in any way spiritual, from all cultural
> properties which are attached to things in human
> praxis. The result of this abstraction is the
> things purely as bodies; but these are taken as
> concrete real objects, the totality of which
> makes up a world which becomes the subject
> matter of research. One can truly say that the
> idea of nature as a really self-enclosed world
> of bodies first emerges with Galileo. A conse-
> quence of this, along with mathematization,
> which was too quickly taken for granted, is the
> idea of a self-enclosed natural causality in

which every occurance is determined unequivocally
and in advance. Clearly the way is thus prepared
for dualism, which appears immediately afterward
in Descartes. (Husserl 1970: 60)

When this world-view and its consequences work their way back

into the life-world, they are taken to be self-evident.

(Husserl 1970: 68)

Jakob Klein has continued Husserl's thinking along

these lines. According to Klein, the work of the founders

of modern science, Galileo, Stevin, Kepler, Descartes, was

kindled by an interest in applied mechanics and applied optics.

There was already a scientific inheritance from the ancients.

But where there were once several sciences, there came to be

simply science. The several sciences which were grounded in

prescientific interests of the time became the grounds of the

new science. The worth of science as such came to be beyond

question. The new science is thus erected on the basis of

the old science but in "deliberate opposition to the concepts

and methods of the older sciences." (Klein 1968: 119) The

claim to universality on the part of the new science arises

partly from its opposition to the older sciences or "school"

sciences. Although the new science shares with the older

sciences the most general propositions of the scientific or

theoretical attitude it interprets these propositions from

a wholly different basis.

And this reinterpretation of the ancient body
of doctrine, which brings with it a character-
istic transformation of all ancient concepts,
lies at the foundations not only of all concept
formation in our science, but also of our

ordinary intentionality, which is derived
from the former. (Klein 1968: 120)

The new science comes to form the basis in experience

upon which the formation of scientific concepts typically

rests. It thus comes to conceive of its own activity in a

way different from ancient science.

> It sees itself not only as the science of nature,
> but as natural science - in opposition to school
> science. Whereas the naturalness of Greek science
> is determined precisely by the fact that it arises
> out of 'natural' foundations, so that it is
> defined at the same time in terms of its dis-
> tinction from, and its origin in, those founda-
> tions, the 'naturalness' of modern science is an
> expression of its polemical attitude toward school
> science. This special posture of the 'new' science
> fundamentally defines its horizon, delimits its
> methods, its general structure, and, most important
> determines the conceptual character of its con-
> cepts. (Klein 1968: 120)

With science itself thus forming the grounds of knowledge

and experience, the connection of the conceptual development

to the practical intent underlying it is forgotten and the

mutual relatedness or internal connection of concepts within

the total edifice of science is emphasized. The intentionality

of each concept is no longer thematic and a new mode of

generalization becomes ascendant, and a scientized world is

developed. There develops a new mode of generalization in

which method is emphasized, and the generality of the object

is not distinguished. Thus in the modern period with the

ascendance of a 'universal' science attention came to be con-

centrated on method, or the operations performed on newly

introduced symbols. (Klein 1968: 122)

Hans-Georg Gadamer picks up the theme of the emphasis
on method. Gadamer begins with the statement that all know-
ledge is grounded in experience, but goes on to point out how
with the advent of scientific method, experience took on a
wholly different meaning. With this new meaning of experience
then, argues Gadamer, the human, as such, could no longer be
accounted for, even though the ground of knowledge was still
human experience. The human, for Gadamer, turns out to be
the ability to make practical judgements, in other words, to
decide the ends of action. He then goes on to characterize
the problem of human life in present day society in terms of
a distended relationship between knowledge and action and
suggests means for reintroducing the human, as such, as a
whole, into our idea of knowledge and practice.

The nexus of the problem of scientific method is that
it sets itself up as a legitimator of experience. It says
that the only legitimate experience is a perfectly certain
experience.

> The experience, which through the methods of
> the sciences may be validated as perfectly
> certain experience, possesses, by virtue of
> these methods, this distinction. This is that
> it is fundamentally independent of every
> situation of action and every integration of
> action into a pattern. This 'objectivity' at
> the same time says that it is able to serve
> every possible pattern of action. Precisely
> in modern science has this realized its de-
> velopment in a specific manner; and to a broad
> extent it has transformed the face of the earth
> into a man-made environment. The experience
> which has been reworked by the sciences now not
> only has the merit of being evident to and
> acquirable by everyone. In addition it raises
> the claim that on the basis of its methodological

> model it is the only certain experience and
> is that knowledge in which each and every
> experience alone finds its legitimation.
> What accumulates outside of science in the
> above-mentioned practical realm of experience
> and cultural transmission must not only be
> subjected to verification by science. Should
> it, yet, hold its own ground against this, it
> belongs, nonetheless, within the scope of
> science as material for research. There is in
> principle nothing which in this manner cannot
> be subordinated to the competence of science.
> (Gadamer n.d.: 10)

In this perspective it is believed that metaphysics

has been left behind, there is no such thing as essence,

and thus there is a limitation of all empirical knowledge

to scientific experience. "Nothing which is capable of being

experience can remain withdrawn from the competence of

science. If we encounter anywhere something unpredictable,

accidental, contrary to expectations, the claim of universal-

ity of science certifies itself in this as well." (Gadamer

n.d.: 11) All this, then, is an effort to make our experience

of the world reliable.

There are problems, however, with science's claim

to be all of knowledge. Science must forever be incomplete

even if we accept its claim of universality with respect to

its readiness to work over new experiences, for:

> Even if the application of science enters into
> all practice, they are still not identical.
> For practice means not only the making of
> whatever one can make. Practice is also always
> choice and decision between possibilities. It
> always has a relationship to man's "being".
> (Gadamer n.d.: 11)

In antiquity there was no such distended relationship between

knowledge and action; the human was treated as such, as an

entirety. Theory was simply that which guided practice.
In Egypt and Babylonia geometry and mathematics were theoretic-
al pursuits which grew out of practice, for practice. Thus
science was only the highest ascent of the knowledge which
guided practice. In ancient Greece we have the first instance
of "pure theory", knowledge for its own sake, and thus a
new relation between theory and practice grew out of this;
science and its application went separate ways.

Since in ancient Greece, however, the human was still
seen as such, there was not yet the atomistic, reductive view
of the human which characterizes modern science and its
method and distends the relationship between theory and
practice. In the seventeenth century, particularly with
Descartes and Galileo:

> Only that which could be controlled could have
> validity as experience. Thus experience itself
> in the seventeenth century again became a
> tribunal of verification before which the
> validity of mathematically projected laws could
> be confirmed or refuted. (Gadamer n.d.: 12-13)

In this way a knowing conquest of nature could be brought
about. Galileo, for example, could by means of abstraction
understand laws which were intertwined in a network of
relations. This abstract isolation of individual relation-
ships makes possible a new kind of relationship of knowledge
to practice, that of a constructed application.

The knowledge of science and of everyday life, al-
though initially in opposition, are brought together by means
of subjecting to the "tribunal of verification" the human

experience in daily practice, thus _making_ everyday experience
consonant with the constructed application of science. We
now come to the key to the problem. The human is seen at
once as a being which can be explained in terms of abstracted
causal relations, and as one which can make use of these
relations in terms of a constructed application for the
attainment of desired ends. To avoid the untenable contra-
diction involved in this formulation we must see the human
as extraordinary since he is capable of applying knowledge
and making his environment, his culture. In other words, a
being which behaviorism could explain could never make use
of behaviorism.

Since the human is not, as in the mechanistic world-
view, explicable in terms of molecules in motion, we must
attempt to formulate "human" in other terms. For Gadamer,
this may be done in the following manner. The human being
may be characterized as having an apparent wealth of capacity
for perception, movement and inequality; as having a relation-
ship to his own body. Since the human being at least
partially creates himself, understanding himself is a task
which is unending, incomplete and continually in view. In
short, humans have history. The value of science in this
enterprise of understanding is simply to elucidate the com-
plicated mechanisms which make possible human reactivity and
consciousness. To behave theoretically, then, belongs to
human practice. We, as beings, make decisions as to the ends
of our actions, even if only in giving assent to the constructed

applications of scientistically derived rules, and our language makes possible the viewing of future behavior and, thus, the relation of means to ends.

As hinted at by Husserl, Klein and Gadamer, there are different sorts of interests giving rise to different conceptions of knowledge. One sort takes as the interest constituting its knowledge the furthering of many practical aims of different sorts of people. The other technically delimits the possible aims of everyday life through the demand for the control of experience, even though it, as well, was originally based on practical aims. Husserl also hints that the interest behind those aims in controlling experience through the idealization of reality is an interest in domination.

> Along with this growing, more and more perfect
> cognitive power over the universe, man also
> gains an ever more perfect mastery over his
> practical surrounding world, one which ex-
> pands in an unending progression. This also
> involves a mastery over mankind as belonging
> to the real surrounding world, i.e., mastery
> over himself and his fellow man, an ever
> greater power over his fate, and thus an ever
> fuller "happiness" -- "happiness" as rationally
> conceivable for man. (Husserl 1970: 66)

At this point we can establish the connection between knowledge and interest. In the phenomenological critique of psychologism and behaviorism and the resulting notions of intentionality and apperception, we have a formulation of this relationship. Asserting that the world tells us what it is, results in untenable contradictions. Perception is, rather, the active making of the distinction between object

and background. Since objects are thus actively constituted there is a "unity of meaning" which is reflective of human purposes, in the organization of the world after a specific scheme. Thus, to grasp the meaning or use of an object is simply to view it as that object. Perception is evaluation. The world does not divide itself up for us. Different "modes of intentionality", ways of dividing up the world, thus circumscribe the ways of achieving a technical control over a world so conceived, and thus set parameters of action orientation. An "interest" in domination is a "mode of intentionality" in which absolute technical control is emphasized. Intentionality is invariant. Interest, however, reflects various emphases. A claim to self-evidence or objectivity emphasizes an interest in technical control. The interest in domination is furthered on the part of the scientistic conception of knowledge, furthermore, by the concealment of its ties with particular interests. It sets itself the task of presenting itself as self-evident.

> From everyday experience we know that ideas serve often enough to furnish our actions with justifying motives in place of the real ones. What is called rationalization at this level is called ideology at the level of collective action. In both cases the manifest content of statements is falsified by consciousness' unreflected tie to interests, despite its illusion of autonomy. The discipline of trained thought thus correctly aims at excluding such interests. In all the sciences routines have been developed that guard against the subjectivity of opinion, and a new discipline, the sociology of knowledge, has emerged to counter the uncontrolled influence of interests on a deeper level, which derive less from the individual

> than from the objective situation of social
> groups. But this accounts for only one side
> of the problem. Because science must secure
> the objectivity of its statements against the
> pressure and seduction of particular interests,
> it deludes itself about the fundamental
> interests to which it owes not only its impetus
> but the conditions of possible objectivity
> themselves. (Habermas 1971: 311)
> (cf. quote from Kersten p. 149 this chapter)

Jurgen Habermas picks up Husserl's notion of the

rootedness of theory in the guiding interest of life-world

situations and his critique of the "objectivist" illusion of

modern science which loses sight of active human subjectivity.

Habermas, however, sees in Husserl's interest in pure theory,

objectivity and certainty a reliance on the same ontology

inherent in positivism. He criticizes Husserl for, after

establishing the connection between knowledge and interests,

trying to effect a total separation of interest and theory.

Husserl had arrived at the conclusion that science's image

of a "reality-in-itself consisting of facts structured in

a law-like manner" (Habermas 1971: 305) conceals the const-

itution of those facts and prevents awareness of the connection

between knowledge and life-world interests. Habermas believes

Husserl to be mistaken in the claim that since phenomenology

brings this to consciousness, it itself is free of such in-

terests. (Habermas 1971: 306) Husserl's expectation that

a return to a method of revealing such interests is in itself

a practical reorientation is false.

> It is to this freeing of knowledge from interest
> that Husserl attaches the expectation of practical
> efficacy. But the error is clear. Theory in the
> sense of the classical tradition only had an impact

on life because it was thought to have dis-
covered in the cosmic order an ideal world
structure, including the prototype for the
order of the human world. Only as cosmology
was theoria also capable of orienting human
action. Thus Husserl cannot expect self-
formative processes to originate in a pheno-
menology that, as transcendental philosophy,
purifies the classical theory of its cosmo-
logical contents, conserving something like
the theoretical attitude only in an abtract
manner. Theory had educational and cultural
implications not because it had freed knowledge
from interest. To the contrary, it did so
because it derived pseudonormative power from
the concealment of its actual interest. While
criticizing the objectivist self-understanding
of the sciences, Husserl succumbs to another
objectivism, which was always attached to the
traditional concept of theory. (Habermas 1971: 306)

Habermas suggests, on the contrary, the acceptance

of an emancipatory cognitive interest, instead of a falsely

based hope of separating science from interest. The emancipat-

ory aspect of phenomenology is precisely and simply its re-

vealing of the connection between knowledge and interest

which is suppressed in the positivistic self-understanding

of the sciences. What it reveals is that the mathematically-

mechanistically oriented sciences have an interest in control

and domination revealed in the delimiting of the range of

legitimate experience in their reliance on method. The

revealing of this connection also reveals the possible

autonomous formation of goals by human beings and the con-

comitant conceptions of knowledge. This possible emancipatory

interest behind the revealing of the connection and the

formation of new conceptions with different non-mechanistic,

human grounds is itself repressed in the positivistic,

mechanistic conception of knowledge. Thus part of the interest

of the abstract, mechanistic conception of knowledge is the

repression of an interest in emancipation, particularly

since the predictability resulting from the application of

scientific method demands the control of experience.

The specific interests, cognitive and social, which

are connected with and help constitute the abstract, mechanistic

view must be analysed historically. Franz Borkenau has carried

out this historical analysis and characterizes the transforma-

tion in philosophy mentioned by Husserl, Gadamer and Klein

as transformations in the conceptions of nature and of human

society. According to Borkenau, the mathematical-mechanistic

world view came to characterize thought in metaphysics, the

theory of knowledge, physics, and social theory. Borkenau

describes the mathematical-mechanistic world view as follows:

> It is mechanistic insofar as all events are
> reduced ultimately to movements of qualitatively
> similar bodies and to transformations of movement
> within a space-time continuum . . . , it is
> mathematical insofar as scientificness and
> certainty are recognized only in the form of
> proof of Euclidean geometry and its corollaries
> and insofar as there exists in it the tendency
> to express it in terms of events conceived as a
> sum of transformations of motion by means of a
> set of linear approximations.
> (Borkenau 1932: 311-12)

This world view is connected, logically and histori-

cally, claims Borkenau, to a newly arriving set of social

relations, particularly production relations. The connection

is not, however, the popularly conceived one of the efficacy

of this model for the creation of new production techniques

based on the new science. It was rather that a newly arising form of production, manufacturing processes, provided the preconception for the new abstract, mathematical-mechanistic world view. Although the scientific world view was later able to provide applications to production, in the manu- facture period there were no applications of natural science in production. Borkenau explains the influence of the manu- facture preconception as follows:

> Manufacture, as a systematic reduction of work to the most primitive manual processes and as a large operation of dividing up manual labor, requires no natural science and promises not to make use of it; of all centuries of modern history the seventeenth is by far the poorest in technical inventions, its natural science is the purest abstract theory. Within this, manufacture plays above all the role of a pre- conception, insofar as the manufacturing process of production is characterized by the most thorough-going abstraction from everything qualitative. The extreme division of labor creates on the one hand an abstract general substrate of labor, whose chemical and other qualities are ignored as much as possible, and which is to be viewed only as "stuff in itself", as pure matter; it creates, on the other hand, the completely unqualified worker, who is con- sidered only as labor power in itself, whose function is labor in the abstract, pure physical movement. The greatest classic physicist of the manufacture period, Galileo, deals in his main work, the "Discorsi", with the laws of abstract work. (Borkenau 1932: 312)

During that period, then, rather than provide an orientation toward technical applications, the analogy of a manufacturing work process provided a paradigm for the ex- planation of all events. It is in the class struggles which accompany the development of this new mode of production

that Borkenau seeks to explain the generalizing of the
mathematical-mechanistic world view. He proposes to get at
this "pre-history" of the mechanistic conception of nature
by examining the history of the concept, "natural law". In
this concept, claims Borkenau, images of natural and social
order become connected from the thirteenth century on. The
concept arises as an expression of the change from hereditary
to occupational society, and with Aquinas becomes the object
of systematic argument. What is remarkable in the new concept
is that its two terms, lex and natura, law and nature, were
until that time thought to be strictly opposed as representat-
ive of the good of God and the evil of the flesh, respectively.
Aquinas comes out in justification of a nascent entrepreneur-
ship by ascribing to the human being the ability to realize
God's works on his own. For the ascription of this ability,
however, he needs to assert that the law of God is "the ex-
pression of the general natural inclinations of humans, of
a natural harmony between their physical make-up and their
psychic aspirations which can come to their rightful fruition
only in a properly ordered society." (Borkenau 1932: 313)
With this doctrine Aquinas proves to be apologist for the
feudal social order since it is seen as "natural", and since
the estates are said to have different natures, they each have
a different natural law. With Aquinas, however, the notion
of natural law is applied only to human society.

With the disruption and misery during the fall of the
feudal order, however, it became impossible to view the human

being as essentially good in view of such misery. Humans

came to be seen as incapable of effecting their own redemption.

The problem of harmonious order now became amplified. Now,

with Nicolas of Cusa, the possibility of a harmonious con-

ception endures through his positing of a harmonious realm

of being in opposition to the realm of appearance. The

structure of nature now provides a paradigm for moral law

since one cannot be obtained from viewing a wrecked human

life, and nature begins to be interpreted in mathematical

measures.

> The separation of the physical from the moral
> law of nature leads to the notion that societal
> life can be deductively or analogically under-
> stood only from the laws of an outer nature,
> while Thomas Aquinas wanted, vice-versa, to
> explain nature from the purposes of human life.
> (Borkenau 1932: 315)

Cusa proved to be an ideologue for oligarchy in

justifying a harmonious social order within the downfall of

feudalism. His philosophy of harmonious order had no value

for those classes deprived of tradition and faced with the

prospect of simply adjusting to the conditions of a budding

money capitalism. Calvinistic pessimism, which denied

harmonious order, became the ideology of these classes and

prepared the entrepreneur for an asceticism and self-denial

necessary for delaying gratification for the sake of future

wealth while it also prepared the lower classes for the

self denial required in the capitalist mode of production.

These positions are brought more and more together,

however, beginning with the philosophy of Ficino. With

Ficino the harmonistic philosophy of being is connected with

Calvinistic pessimism in the following way:

> The 'appetites' of the soul drive irresist-
> ably toward meaningless motion. That is its
> "fatalis lex". But while the apparent move-
> ment is meaningless, it does have an essential
> meaning. In the cycle of countless earthly
> lives bound by the wanderings of the soul all
> objects of passion pass by in order that life
> be freed of them all. With Ficino the
> Calvinist doctrine of the meaninglessness of
> human existence stands side by side with the
> harmonistic philosophy of being.
> (Borkenau 1932: 316)

Now the harmonistic interpretation of nature is emphasized

and supported by Ficino's construction of the spiritual and

physical worlds as a system of circles.

Borkenau goes on to describe the interplay between

the growing mechanistic conception of nature and the further

transitions to bourgeois modes of production. He traces

this development through the bourgeois revolutions in Holland,

France and England, the rise of the bourgeois class and

through the works of Copernicus, Galileo, Machiavelli,

Althusius, Descartes and Hobbes, through the notions of social

contract, anthropology and theology. Although, as Borkenau

notes, this development is marked by constant changes in the

nuances of class rivalry and changes in the place of the human

being in the world-system, the definite result of this develop-

ment is, nonetheless, particularly with Descartes and Hobbes,

an overwhelmingly mechanistic interpretation of the human and

the natural in support of those classes benefitting from

rationalized forms of production.

Both Hobbes and Descartes were members of the gentry
in their respective countries. According to Borkenau,
Descartes' chief problem was to posit thematically the
essential good of the world in the face of its bad appearance.
(Borkenau 1932: 326) Descartes finally reinstituted the hope
of a universal science. Mathematical mechanics is made the
key to human and external nature. His attack on pessimism
is achieved through changing thought about the world rather
than changing the world itself. The essence of the world is
made identical with the essence of human reason. Borkenau
claims that this contemplative attitude, which is common to
all bourgeois philosophy, is conditioned secondarily by the
agreement between the French gentry and the basic social
power relations but is primarily conditioned by the "handling"
of the human being under capitalism. This optimism worked
in support of the gentry in that it attempted to convince the
middle classes to conceive of fatality optimistically. This
did not lead, however, to a formulation of a vastly different
or revolutionary morals but simply attempted to interpret
"unavoidable fate" optimistically.

> The law-like interpretation of fate as a purely
> external event means: (1) its mechanistic
> interpretation as a chain of purely external
> causal connections, (2) the rationalization of
> these external causal connections, i.e., its
> conception in mathematical laws.
> (Borkenau 1932: 327)

The extent of the relationship between social order
and activity, science and technology, domination, and abstract

thought is demonstrated further by Lynn White. White traces
the infusion into European warfare of the stirrup. The
stirrup made mounted shock combat possible. A mounted com-
batent could then use a lance or swing a weapon with force
without falling off his horse. White ascribes to the pro-
fusion of the stirrup a key place in the development of
feudalism, particularly with Charles Martel after the Battle
of Poitiers. With the new possibility of large, standing
mounted armies further social changes were required. The
institutions of vassalage and benefice were developed, Church
lands were confiscated, a new plough was developed and other
agricultural methods changed to provide support for such
armies in the interest of expansion. White hints at some
possible connections between social activity, technological
thought, and underlying interest.

> As our understanding of the history of technology
> increases, it becomes clear that a new device
> merely opens the door; it does not compel one
> to enter. The acceptance or rejection of an
> invention, or the extent to which its implications
> are realized if it is accepted, depends quite as
> much upon the conditions of a society, and upon
> the imagination of its leaders, as upon the
> nature of the technological item itself. As we
> shall see, the Anglo-Saxons used the stirrup,
> but did not comprehend it; and for this they paid
> a fearful price. While semi-feudal relationships
> and institutions had long been scattered thickly
> over the civilized world, it was the Franks alone
> - presumably led by Charles Martel's genius - who
> fully grasped the possibilities inherent in the
> stirrup and created in terms of it a new type of
> warfare supported by a novel structure of society
> which we call feudalism. (White 1962: 28)

White later turns his attention, once providing his
interpretation of the origin and development of feudalism,

to the study of the diffusion or invention of mechanical

and power devices, and discovers that even when a particular

tool or the appropriate knowledge had been available for

centuries, it is not until the late middle ages that they

are really put to use in using nature's forces.

> Inasmuch as the Hellenistic age invented not
> only the cam but also gearing in its three
> basic forms - star, crown, and worm - and was
> producing very elaborate geared mechanisms by
> the first century B.C., it is strange that
> its ingeneous technicians did not make greater
> progress in developing sources of power. Hero
> of Alexandria's steam reaction turbine and his
> rather doubtful little windmill seem to have
> had no influence upon technology until the
> Renaissance. (White 1962: 79-80)

Thus the institutionalization of a device or innovation re-

quires both appropriate social conditions and some kind of

abstract conception of its "implications". It is only with

retrospect that a historian can view with incredulity the

fact that Greeks did not have clocks, mills and cranks, even

though they may have had many of the requisite parts. A

need for a device, and the means of its implementation re-

quire also a perceived need for its use, a need or interest

in part developing with and requiring certain social conditions

and certain abstract conceptions of nature and its measurability.

A clock does not get invented until someone has a need or

interest in the precise measurement of time.

Thus the organization of human life, conceptions of

nature, and the use of tools in the conduct of life, develop

and change together, each effecting the other. A certain

graphic representation of motion is required for the construc-

tion of relatively complex machines. The use of certain
machines for productive or military purposes is predicated
on a specific organization of human labor. One cannot have
mills without millers. Not only do science and technology
in their constructed applications have a reciprocal effect
on social organization but they also effect the human con-
ception and performance of natural physical movement. The
crank, one of the most important inventions in the development
of technology, involves a form of motion which is difficult
for humans to conceive without extensive practice. The more
abstractly conceived types of movement used in the development
of technology are actually contrary to inherent notions and
performance of motion in humans.

> Continuous rotary motion is typical of in-
> organic matter, whereas reciprocating motion
> is the sole form of movement found in living
> things. The crank connects these two kinds of
> motion; therefore we who are organic find that
> crank motion does not come easily to us. The
> great physicist and philosopher Ernst Mach
> noticed that infants find crank motion hard to
> learn. Despite the rotary grindstone, even
> today razors are whetted rather than ground:
> we find rotary notion an impediment to the
> greatest sensitivity. The hurdy-gurdy soon
> went out of use as an instrument for serious
> music, leaving the reciprocating fiddle-bow --
> an introduction of the tenth century -- to become
> the foundation of modern European musical de-
> velopment. To use a crank, our muscles and
> tendons must relate themselves to the motion of
> Galaxies and electrons. From this inhuman
> adventure our race long recoiled.
> (White 1962: 115)

White also points out that many of these developments
were connected and coincident with an abstract physics and
mathematics already in the fourteenth century as "tendencies

of that age", and states that "regularity, mathematically

predictable relationships, facts quantitatively measureable,

were looming larger in men's picture of the universe." (White

1962: 125) Already in the age of Aquinas, then, we have the

beginning of an abstractly, quantitatively approached organiza-

tion of social life, human movement, mechanical design and

human project in general. Borkenau's beginning with Aquinas

in tracing the connection between the mechanistic world view and

budding capitalist interests now appears less strained,

particularly since another writer links Aquinas with mercantile

interests.

> In the middle ages the antagonism (between
> town and country) was first deepened by the
> hostility of tough barbarian conquerors against
> soft Roman townsmen, then almost institutional-
> ized by the feudal notion of a tripartite
> society of noblemen, clergymen, and peasants
> (with no recognized role for traders), and
> lastly exasperated by the resentment of con-
> servative, slow-moving lords and farmers against
> pushy and revolutionary burghers. The Church,
> too, in spite of the efforts of Aquinas and a
> few other thinkers to reach a more equitable
> appreciation of the functions and needs of
> merchants was unable to overcome the strictures
> of its own old-fashioned economic theories,
> formed in agrarian surroundings and hardened
> by Greco-Roman biases against trade.
> (Lopez 1971: 149)

White, however, ends up simply hinting at the kind of

interest involved in the developments which he describes.

The hope of unheard-of power over the human and the natural

is depicted as the impetus for the development.

> By the middle of the thirteenth century, then,
> a considerable group of active minds, stimulated
> not only by the technological successes of recent
> generations but also led on by the will-o'-the-

wisp of perpetual motion, were beginning to
generalize the concept of mechanical power.
They were coming to think of the cosmos as
a vast reservoir of energies to be tapped and
used according to human intentions. They were
power-conscious to the point of fantasy. But
without such fantasy, such soaring imagination,
the power technology of the western world would
not have been developed. (White 1962: 133-4)

Support for the notion of the connection of the will

to power as formative of scientific abstraction and techno-

logical application in terms of the domination of people comes

from the fact that from ancient times through Charles Martel

and somewhat less so into modern times the sole area of the

use of technical application is in warfare. "In a practical

direction the sole systematic application of the Ancient's

physical knowledge was to warfare." (Giedion 1969: 32) With

the interest in conquest, expansion, control and domination

thus spurring on the interest in furthering technical control

of natural forces in those interests we move in a course of

development through a subjection of the human being to a

rigidly organized labor process in the interests of those

not performing the labor,the requirement that human movement

replicate forms of motion alien to human physical make-up,

a reorganization of social institutions to meet new productive

and military requirements, and finally to a period in which

the apparently self-evident worth of technological application

based on abstract science and its absolute claim to account

for all significanct process produce a social situation in

which a blind faith in progress yields to production for the

sake of production. (Giedion 1969: 31) Once industrial

production becomes a possibility people are literally forced
from country to city in the Enclosure movement into a miserable
life of poverty and monotanous labor, which mechanization is
said by apologetic historians to improve the satisfaction of
human needs. (Thompson 1963: 207-384)

Knowledge and Interest: "Objectivity" as Ideology

The invocation of the terms 'human' and 'society' in
this context, however, turns out to be, at best, ambiguous,
and at worst, ludicrous and nonsensical. It is thus with
some grounds that Siegfried Giedion declares that we have
regressed from, not advanced on, the Greeks.

> We owe, in large measure, our understanding
> of the world to the Greeks. From them we
> inherited a magnificent foundation: mathematics
> and geometry, modes of thought and expression.
> Yet, we have departed a long way from the Greeks.
> In many respects we have gained; in the main, we
> have lost. (Giedion 1969: 14)

What is hidden by the ideology of the mastery of nature
based on abstract science is the mastery of the human being
which it inevitably implies. For various reasons, which will
be discussed here, the domination of nature involves the
domination of people. The faith in progress based on scientific
technology, the matery of nature as it is typically referred
to, is ideological because the question is hardly ever raised
as to just what "mastery" means. The phrase, the human
mastery of nature, is ambiguous; and, although it is assumed
that the human conquest of nature is carried out by means of

science and technology, explanations or accounts of this

connection have hardly ever been offered.

> (T)he real object of domination is not nature,
> but men. . . . . The necessary correlate of
> domination is the consciousness of subordination
> in those who must obey the will of another; thus,
> properly speaking, only other men can be the
> objects of domination.
> If the idea of the <u>domination</u> of nature has any
> meaning at all, it is that by such means —— that
> is, through the possession of superior techno-
> logical capabilities —— some men attempt to
> dominate and control other men. The notion of a
> common domination of the human race over external
> nature is nonsensical. The point can be under-
> stood best by examining what is signified by the
> word 'nature' in relation to the mastery of nature
> through science.
> (Leiss 1972: 122)

That science and technology are not politically neutral

has already been argued on different fronts. Scientific

method itself involves the control of experience, not just

experimentally but also in the legitimation and absolutization

of its world-view. They are related historically to class

interest and are applied principally in rigidly organizing

human life and labor and in warfare. In their attempted

claim to self-evidence they ideologically deny the possibility

of different conceptions of order being applied to different

interests, even though their world-view itself derives,

<u>logically</u> <u>and</u> <u>historically</u>, from the interests of specific

classes and people in specific historical situations. In

interpreting the whole universe mechanistically science is

prescribing an ethic. The thereby limited range of experience

which is considered admissable delimits a range of possibilities

for human action. The ensuing further development of social

organization in the image of the scientific view of the universe
and its acceptance as self-evident is a further indication of
the ethically prescriptive character of the scientific world
view.

Interest is always formative of knowledge. What is
involved in this statement is not that we can, at will, form
a cosmology in our interests and acquire a commensurate mastery
in a life-world created in the image of that cosmology. No
expression of the will to power alone can make successful the
application of mathematical-mechanistic science in industry
and warfare. The case is simply that the absolutization of
the mathematical-mechanistic world view makes highly unlikely
the application of human knowledge in other interests than
warfare and other forms of domination, like industry. The
acceptance of science's claim to represent all of experience,
nature and reality in a dangerous acceptance, an acceptance,
however, which itself is pre-conditioned by a historical
profusion of societal and scientific forms based on a mathe-
matical-mechanistic model. The standard apology on behalf
of modern science is that it is practical. This, however,
is infantile question-begging, since it leads us back simply
to the question of the interests on which science is based.
What objectives can be served? The acceptance of the value
of the mastery and power over things leads to a conception
of the world as value-free. The world comes to be seen as
stuff for particular purposes.

> The life world is permanently 'de-valued' as
> the realm of purely subjective experience from
> the viewpoint of science, despite the fact that
> this is the world in which all human activity
> occurs. Secondly, the abstract-universal
> characteristics of the science based upon the
> mathematization of nature make it intrinsically
> impossible for that science to possess a direct
> relationship to specific goals formulated in
> human practice; the science can only make
> available through its technical applications a
> certain range of new possibilities for practical
> use. This means that such a science cannot
> transcend the purely technical level, that is to
> say, it cannot contribute to the formation of
> an objective basis for the judgements, choices,
> and valuations that must be made at every point
> in human practical life. (Leiss 1972: 131)

The aspect of domination inherent in the scientific world view

becomes apparent when the technological a priori contained

in its image of nature is revealed. A range of ends or

purposes is delimited in a view of nature. A brief survey

of anthropological literature reveals the "practicality" of

a myriad of views of nature. (cf. Levi-Strauss, Eliade) Thus,

since a _view_ of nature is always involved in the use of nature,

there is no such thing as nature per se. If there is a nature

ultimately and completely in itself then there is nothing

which we might say about it. The view of nature involved in

modern science already contains intrinsically the possible

range of human action which might be directed within and

toward a nature thus conceived.

Although its method claims to be one of observation,

modern science tells us to ignore our senses. According to

science, the nature which is given to us in sense perception

masks an underlying mathematical structure. If we turn the

tables in this process, however, we may more readily say
that science casts a "veil of ideas" over the nature which
we experience in our everyday life. (Leiss 1972: 139) The
self-denial thus involved in the enforcement of the scientific
"veil of ideas" which is involved in seeing ourselves and
our environment simply as "stuff" is repressive enough without
the ideology and practices of the social sciences which view
humans and societies according to the same mode of abstraction
and possess the same capability of conceiving means of technical
control. A scientific-technological attitude justified on
the grounds that it satisfies human needs thus appears
irrational in its dependence on the continued and increasing
instinctual renunciation. In this way, self-preservation is
made into an end in itself. (Leiss 1972: 152) To conceive
even of external nature alone solely in mathematical-mechanistic
terms is a dominating conception of human nature as well since
it precludes the efficacy of human action in the world. The
attempt to convince people that this is the way it is, is
also contradictory since it is both the assertion that all
that happens is determined and thus our actions must be pre-
defined accordingly and is also an exhortation to act as though
that were the case instead of acting in some other way, which
would be impossible if the mathematical-mechanistic world view
were absolute.

Science and technology do not thus provide means which
may be used for any ends. Galilean and post-Galilean science

contain an instrumentalist technological a priori; the control

of nature is the basis of its conceptual organization.

> The technological a priori is a political a
> priori inasmuch as the transformation of nature
> involves that of man, and inasmuch as the 'man-
> made' creations issue from and re-enter a societal
> ensemble.
> (Marcuse 1964: 154)

In the seventeenth century a science developed which became

a large part of the organizing principle of the ensuing life-

world. Scientific and technological projects of today are

based on the same mode of abstraction and issue from a life-

world created in that image. At this point attention might

also profitably be paid to the possible liberative influence

of technology in view of problems of social and international

conflict and the public effect of the control of mass

communications which effects the consciousness of the connection

of interests with science and technology in order to reveal

the historical possibility of human decision and choice in

technological application for the satisfaction of human needs.

This, however, is beyond the scope of the present work. I

shall restrict myself to an examination of the ideological

character of modern scientific and instrumental thought and

of the alternatives revealed in that examination. It is

ideological chiefly because in the mechanization of the universe

and the ensuing mechanized social reality technology "provides

the great rationalization of the unfreedom of man and demon-

strates the technical impossibility of being autonomous, of

determining one's own life." (Marcuse 1964: 158) This ideo-

logical character, although related to the mathematical-mechanistic world view, does not rest simply in that world view itself. The interests in controlling and dominating nature and humans, which created the mathematical-mechanistic world view, are now those interests in absolutizing it. Surely the results obtained technologically from the mathematization of nature prove its accurate conception of a segment of nature and can be used to satisfy real human needs. It is the interest involved in absolutizing the mathematical conception of nature and the human which I am calling ideological and repressive.

Even the absolutization of the mathematical mechanistic view of nature contains human political consequences. The absolutization of a similar view of humans and society which derives from both the view of nature and its consequences increases the technical and ideological means of control over human beings. The emphasis on externality and constraint in absolutizing the status quo pointed out in chapter one coupled with the technical nominalism of Lazarsfeld are the present culmination of the logical and historical connections between the absolutization of the mathematization of nature and the domination of human beings. In the accurate depiction of a mechanized social reality after a mechanistic image, the social scientist, unless a dialogue concerning the ends of social inquiry is involved, will simply help provide new means for the technical control of people.

> When this methodology makes its appearance in
> the social sciences, for example, it advertises
> itself as "value-free" inquiry, that is, an
> approach wherein the researcher vigorously attempts
> to divorce himself and his evaluations from the
> material of his study. In illuminating the
> processes by which choices and decisions are
> actually made under particular circumstances,
> these studies can result in the development of
> techniques for controlling behavior; on the other
> hand, they cannot aid in improving the quality
> of the choices that are made. With respect to
> the control of both men and nature we find our-
> selves in possession of ever more efficient
> means for the accomplishment of ever more obscure
> ends. (Leiss 1972: 132)

The most curious aspect of the position of value-
freedom is revealed in the adamance of its adherents. The
holders of this position have a value in denuding the universe
and its investigation of value. Weber and others exhort us,
correctly, not to believe that we can derive value positions
by means of the methods of modern science. If, however, we
are to pose our problem as one of the enlistment of science
in the cause of humankind then we must formulate an inquiry
which has as its task the discussion and clarification of
that cause. The scientistic prescription against the reason-
ing of ends or values thus turns out in the end to contradict
the tenet of not deriving values from method and values
becomes based on scientific method in considering all other
values to be simply subjective. In this sense, ends and
values become subjected again to a scientistic tribunal. It
is considerations such as this which may have led Marcuse to
write, "Epistemology is in itself ethics, and ethics is
epistemology." (Marcuse 1964: 125)

Our human experience which becomes mystified through pressure to accept the view of a mechanistic universe helps to mechanize our lives and our society. The necessity of this acceptance, however, reveals the presence of human choice and decision. No matter how many technical rules are developed for application to no matter how many types of situations, human choice and practical judgement is still necessary, even if only for deciding which rule fits where. A mechanistic social science attempts to rid the social world of human choice as much as possible and to convince people that there is none there at all. The necessity to convince, however, is evidence that the opposite is true. Thus Marcuse writes, "The world of immediate experience -- the world in which we find ourselves living -- must be comprehended, transformed, even subverted to become what it really is." (Marcuse 1964: 123)

> The first comprehensive attempt to apply scientific method to the rationalization of human conduct - what may be termed the first systematic program of behavioral engineering - turned out to be, not a dispassionate and positive science of behavior, but a wholly passionate and negative campaign to make men behave. (Matson 1966: 36)

The absolutization of perspectives furthering the mastery of nature is thus illusory and ideological when the claim is made on its behalf that it serves the satisfaction of 'human' needs, when in actuality "what we call Man's power over Nature turns out to be a power exercised by some men over other men with Nature as its instrument." (C.S. Lewis

The <u>Abolition</u> <u>of</u> <u>Man</u> 39, quoted from Leiss 1972: 195) The
subjection of our own immediate experience to technical and
mechanistic requirements serves to mystify our experience.
R.D. Laing describes the situation with respect to a child
of two.

> As he is taught to move in specific ways, out of
> the whole range of possible movements, so he is
> taught to experience, out of the whole range of
> possible experience.
> Much current social science deepens the mystifica-
> tion. Violence cannot be seen through the sights
> of positivism. (Laing 1967: 51)
>
> The choice of syntax and vocabulary are political
> acts that define and circumscribe the manner in
> which 'facts' are to be experienced. Indeed, in
> a sense they go further and even create the facts
> that are studied. (Laing 1967: 53)

Knowledge, Social Activity, and the Reification of Positivism

The meaning of both (oddly enough) Lazarsfeld and
Husserl becomes clear. The "power over man's fate" turns out
to be a self-fulfilling prophesy. If people experience groups
simply in terms of their 'cohesiveness' the predictability of
our actions as well as the cohesiveness of groups is enhanced.
An orientation to reality in terms of its definition in
universal, certain, reliable terms <u>is</u> the creation of a social
world which can to a great extent be accounted for in those
terms. What is left over, what cannot by those terms be
accounted for, is revealed in the necessity of the initial
orientation. Human activity is characterized by its always
having a purpose. Decision and direction are involved no

matter how strongly determinant is the pressure of highly
organized group life.

The claims to externality, uniformity, regularity,
universality, and certainty produce, when believed in or
enforced, a social world which is almost accountable in those
terms. Much of this was anticipated and realized by Marx
as early as 1844. His critique of classical political
economy focuses first on its assumption that the sole character-
istic of human nature is an interest in self-preservation and
that human labor is simply wage-earning activity. The
struggle between capitalist and laborer described by Marx is
viewed as inevitable once the assumption is made that the
laborer's sole interest is in maintaining his physical exist-
ence and, further, that even this can only be done by earning
a wage in a capitalist system. Aside from the contradictions
contained in the system itself, Marx goes on to point out the
fallacy in the assumptions themselves. Marx considers human
activity to be something other than simply wage earning
activity and admits of other possible purposes than mere self-
preservation. He points to the presence of purpose in human
activity by distinguishing the human from the animal relation-
ship to nature.

> The animal is immediately one with his life
> activity. It does not distinguish itself from
> it. It is its life activity. Man makes his
> life activity itself the object of his will and
> of his consciousness. He has conscious life
> activity. It is not a determination with which
> he directly merges. Conscious life activity
> distinguishes man from animal life activity.
> It is just because of that that he is a species
> being. Or rather, it is only because he is a species

> being that he is a conscious being, i.e., that his own life is an object for him. Only because of that is his activity free activity. Estranged labor reverses this relationship so that it is just because man is a conscious being that he makes his life activity, his _essential_ being, a mere means to his _existence_. (Marx 1964: 113)

The ability of the human being to separate himself from his environment and direct activity toward it is what makes possible both human purposive activity and the alienation resulting from the employment of all human activity for the maintenance of a system. The conception of what is produced and the conception of its worth are involved from the beginning, for the worker

> not only effects a change of form in the material on which he works, but he also realizes a purpose of his own that gives the law to his modus operandi, and to which he must subordinate his will. And this subordination is no mere momentary act. Besides the exertion of the bodily organs, the process demands that, during the whole operation, the workman's will be steadily in consonance with his purpose. This means close attention. The less he is attracted by the nature of the work, and the mode in which it is carried on, and the less, therefore, he enjoys it as something which gives play to his bodily and mental powers, the more close his attention is forced to be. (Marx 1967: 174)

What happens, then when purposes of activity are taken to be the self-evident ends of a system is that the only human purpose involved is a decision to support one's existence by means of wage-earning activity. The mechanistic orientation of human beings to nature, which conception was first based on a manufacturing labor process, in turn further mechanizes the labor process itself. Labor thus performed is estranged labor.

> What, then, constitutes the alienation of labor?
> First, the fact that labor is external to the
> worker, i.e., it does not belong to his essential
> being; that in his work, therefore, he does not
> affirm himself but denies himself, does not feel
> content but unhappy, does not develop freely his
> physical and mental energy but mortifies his body
> and ruins his mind. The worker, therefore, only
> feels himself outside his work, and in his work
> feels outside himself. He is at home when he is
> not working, and when he is working he is not at
> home. His labor is therefore not voluntary but
> coerced; it is _forced_ _labor_. It is therefore not
> the satisfaction of a need; it is merely a _means_
> to satisfy needs external to it. Its alien
> character emerges clearly in the fact that as soon
> as no physical or other compulsion exists, labor
> is shunned like the plague. External labor, labor
> in which man alienates himself, is a labor of
> self-sacrifice, of mortification. Lastly, the
> external character of labor for the worker appears
> in the fact that it is not his own, but someone
> else's, that it does not belong to him, that in
> it he belongs, not to himself but to another.
> (Marx 1964: 110-11)

The same instrumental reason that deprives human labor

of human purposes deprives social inquiry of human purpose.

The interest in technical control, in making people behave,

which involves a form of labor "merely as a means to satisfy

needs external to it" is the same interest involved in a social

science which has prescriptions in principle against the

incorporation of the furthering of practical human goals into

its inquiry. An inquiry based on a mechanistic, positivistic

conception of nature and of society can only have as its

interest the control and domination of people.

The positivist emphasis on "sensorily apprehended

reality", furthermore, contains contradictions and, hence,

ideology in itself. We find this out when we observe what

happens when one of its adherents, Ernst Mach, pushed its

tenets to their absurd conclusions.

> (T)he basis of Mach's outlook is simple: that
> all knowledge is a matter of sensations and
> that what men delude themselves into calling
> "laws of nature" are merely summaries of
> experiences provided by their own - fallible -
> senses. "Colors, space, tones, etc. These
> are the only realities. Others do not exist,"
> he had written in his daybook.
> (Clark 1971: 60)

Here Mach has totally relativized the source and validity
of knowledge and, yet, he calls our senses fallible. Against
which "organization of experiences" is Mach checking experience
and which could provide a criterion for deciding that our
senses are fallible? Only an underlying concern for the
universal certainty and reliability of all experience could
lead one to want to devise a system with all-encompassing
applicability.

Thus Mach's own hidden organization of experience,
as well as the concern on the part of others for social
approval, externality, constraint, rationality, and predict-
ability for the sake of managing human activity create the
conditions for the testing and validation of ideas in the
conduct of scientific inquiry. The ideology, and hence
danger, which I see at work here is that it becomes possible,
through convincing others that certain conceptions of structure
are self-evident, to orient perceptions, and hence action-
orientation, by means of a kind of policed nominalism. As
Laing, Husserl, Klein, Gadamer, Marcuse and Habermas have
suggested, theories create facts, facts which then, in social

conditions also reflecting to a certain extent the same conditions formative of the testing situation, may be taken to be self-evident.

Decisions are made, then, which define the role of experience in inquiry. Rules for the making of such decisions, however, are defined insitutionally, not logically. (Habermas 1974: 201) The creation of facts by theories, then, is carried out in accordance with those same rules. It is the attempt to claim self-evidence for the organization of observation and experience which is specifically ideological and repressive in the research process. In inquiry itself it is important to recognize and be aware of the "rules" which organize that inquiry.

> The demand for controlled observation as the
> basis for decisions concerning the empirical
> plausibility of causal hypotheses entails a
> pre-understanding of definite rules. It is
> certainly not sufficient to know the specific
> aim of an investigation and the relevance of
> an observation for specific assumptions. In-
> stead, the meaning of the research process
> as a whole must be understood in order that I
> may know to what the empirical validity of basic
> statements refers at all, just as the judge must
> always have understood the meaning of judicature
> as such. (Habermas 1974: 203)

The problematic nature of methodological considerations in social inquiry now becomes clear in its interplay with the institutional structure out of which it arises and which it in turn supports through its findings and through the ideological nature of its claim for the self-evidence of its most basic tenets. The social, ethical, historical and philosophical

status of this methodological debate may now be discussed.
In the critique of positivist and rationalist methodologies,
alternatives are revealed through the disclosing of the
basic human intent and purpose involved in all knowledge.
This is the theme of the following chapter.

CHAPTER IV

Conclusions - The Quest for Certainty and the Practice of Sociology

In contemporary social science the debate concerning the relative roles of evolution, conflict and human action in the production of society and of social science has become a heavily methodological one. The position on this issue as outlined thus far represents an attempt to trace the process of development of a world-view and its effects, which does not lean solely on a "factor" as cause of this development. It is specifically the role of human action which makes this impossible. Admittedly, to the degree that people make history behind their own backs, the role of conscious human action is diminished. What is being emphasized here, however, is that no factor can be singled out as in principle, in the fashion of a model, able to account for the development of human relationships and the concommittant world-views.

It is still possible, as for example with Borkenau, to provide an account of actual historical conditions without stating the necessity, according to an abstract principle, of the relations and conditions found.

> Borkenau is not proposing a simplistic determinist account, for he explicitly denies that the beginning of the manufacturing process was the "cause" of the

> mechanistic world-view. Rather, both arose
> together and interacted constantly, the progress
> of each conditioning and encouraging that of the
> other. (Leiss 1972: 88)

The methodological debate resulting from these issues
has as its basis the question of the relation between knowledge
and interest. This involves both the possible involvement
of interest in the formation and use of knowledge in the object
under investigation and in the investigation itself. If we
take the sides in this debate to be represented by Popper,
for example, on the one side, and Habermas on the other, a
curious fact comes to light. Even Popper places a premium
on the role of knowledge in evolutionary development and
connects certain philosophies and epistemologies with differ-
ent politics. In this light the exhortation to objectivity
and value-neutrality becomes curious.

Thinkers on the positivist side of this debate them-
selves attempt to formulate the grounds for their approach
to knowledge in terms of the "practicality" of that knowledge
and hence of the approach to it. This amounts simply to a
relativization of "interest", for it is only with reference
to specific purposes that an activity or the form of knowledge
which guides that activity may be said to be practical. An
attempt, furthermore, to convince us that a given set of
historical conditions is a natural state of affairs, as in
principle beyond our control, is thus an attempt at mystifica-
tion. Those who occupy superior positions within those
conditions have an interest, if they are to retain that position

in misinforming those occupying inferior positions. Even

with respect to an accurate description of conditions, then,

letting alone the question of their cause or necessity, those

in inferior positions have inherently a stronger interest in

conveying accurate pictures than those in more privileged

positions. Lucien Goldmann discusses the omnipresence of

such interest in the research process:

> There are no brute facts. No inquiry, no
> monograph is ever exhaustive. It only asks
> certain questions of reality and chooses the
> facts in the light of these questions. More-
> over, in the image that it constructs, the
> importance given to the different facts that it
> accepts for recording is proportional to what
> the problems represent for the researcher or
> investigator. Thus there is always a set purpose,
> a collection of preconceptions that decide:
>
> a) which questions may and may not be asked of
>   reality:
> b) the importance to be given to the different
>   factors in which an interest is taken.
>   (Goldmann 1969: 48)

Although the traditions and preconceptions employed

in this process of selection have themselves their material

and historical foundations, there are, however, many traditions

and interests to be drawn from. We are not cognitively bound

in any causal sense to accept simply an ascendent empiricist

approach to our environment. It is possible in engaging in

inquiry to "transcend" the consciousness of one given class

by

> a) effecting a synthesis of the elements of
>   truth provided by the perspectives of several
>   different classes; and b) by preserving the
>   elements of understanding already expressed
>   earlier by this or that thinker but later abandoned
>   under the influence of social, economic and political
>   changes. (Goldmann 1969: 58)

This now brings us to the key point in the issue of the connection between interest and accurate, objective knowledge. Knowledge and interest are always related. The world does not divide itself up for us. An inquiry or approach which attempts to deal with reality on the basis of external causation and the supposed testing of propositions which state those causal relations is precisely on that account less comprehensive than one proceeding as described by Goldmann. An inquiry which utilizes the knowledge or inform- ation generated by various perspectives, each serving the interests of various classes, and which in this fashion attempts as comprehensive as possible a picture of social reality will thus have as its own interest an emancipatory interest. It will at least contribute to the de-mystification of the ideology of externality and constraint which serves the interest only of a ruling class.

> Marx had also demonstrated the social conditioning
> of the historical and social sciences themselves
> and the impossibility of transcending certain
> limitations in the understanding of human reality
> without transcending at the same time the frame-
> work of capitalist society and objectively serving,
> either consciously or unconsciously, the interests
> of the proletariat by this very research.
> (Goldmann 1969: 66-7)

The historical fact of exploitation bears a relation to mechanism. Mechanism has served as an ideology to the extent that it justifies given conditions as inevitable. This ideology thus serves the interest of that class occupying a privileged position. Various world-views are connected to

the interests of various classes. When the holders of the

mechanistic view enter into the methodological debate the

acquisition of knowledge about human reality is taken to be

a matter of sorting out "facts" according to "self-evident"

testing procedures. Popper, for example, is purported to

have produced a method whereby we may rationally and "critically"

test ideas according to principles. As civilized people we

are thus seen as possessing the ability to "let hypotheses

die in our stead". (Der Spiegel Jan. 7, 1974: 84) This,

however, ignores the actual struggles and conflicts waged in

the world and in fact provides ideological support for the

status quo.

> In the struggle between liberals and leftists at
> German universities, the British professor Sir
> Karl Popper is receiving more and more attention.
> He is the most significant philosopher of science
> at present and as theoretician of a pluralistic-
> open society is the most vehement opponent of
> utopians and system-changers.
> (Der Spiegel Jan. 7, 1974: 84)

It is this refusal on the part of bourgeois science

and philosophy to realize its grounds in given conditions

which gives rise to a debate about method. The controversy

is imposed by the self-restriction of bourgeois science.

> In the controversy about method the actual
> political struggle is reproduced as a battle
> of minds. Accordingly, critical theory treats
> the expectation of a resolution of this con-
> flict in the pure medium of the mind as a
> bourgeois illusion. (Wellmer 1974: 15)

Critical theory, on the contrary, does not thus focus away

from the context in which it itself is constituted. It hopes

to become a "catalytic moment within the social complex of

life which it analyzes." (Habermas 1973: 2)

Habermas develops the notion of the relatedness of
knowledge and interest. The organization of experience in
our lives in a certain period of history and in a specific
political context is also analyzable. We may examine the
institutional and methodological context which also "deter-
mines the utilization of information scientifically produced."
(Habermas 1973: 6) This "object domain", based on our pre-
scientific, a priori organization of experience, determines
the basis for science. Things which are capable of being
manipulated are studied by empirical-analytical science.
The subjects encountered in interaction are symbolically
understood and this symbolization is studied by the hermeneutic
sciences. These sciences deal with technical control and
intersubjective communication, prediction and interpretation,
respectively. "There is a systematic relationship between
the logical structure of a science and the pragmatic structure
of the possible applications of the information generated
within its framework." (Habermas 1973: 8)

Habermas characterizes these technical interests as
deep-seated interests, directing our knowledge. They are
abstract, quasi-transcendental and invariant.

> (T)hey result from the imperatives of a socio-
> cultural life-form dependent on labor and language.
> Therefore the technical and practical interests
> of knowledge are not regulators of cognition
> which have to be eliminated for the sake of the
> objectivity of knowledge; instead, they them-
> selves determine the aspect under which reality
> is objectified, and can thus be made accessible

> to experience to begin with. They are the
> conditions which are necessary in order that
> subjects capable of speech and action may have
> experience which can lay a claim to objectivity.
> Of course the expression "interest" is intended
> to indicate the unity of the life-context in
> which cognition is embedded: expressions capable
> of truth have reference to a reality which is
> objectified (i.e. simultaneously disclosed and
> constituted) in two different contexts of action
> and experience. The underlying "interest"
> establishes the unity between the constitutive
> context in which knowledge is rooted and the
> structure of the possible application which this
> knowledge can have. (Habermas 1973: 9)

When the emphasis in science is on technical control

it becomes a productive force. "As civilization has become

increasingly scientific, the dimension within which theory

was one directed toward praxis has become correspondingly

contructed" so that "expanded technical control over nature

and a continually refined administration of human beings and

their relations to each other by means of social organization"

is demanded. The relationships of power underlying this

control become ever more powerful by virtue of the fact that

they may not be seen through by a mechanistic image.

> In this process the relationship of theory to
> praxis can now only assert itself as the purposive-
> rational application of techniques assured by
> empirical science. The social potential of
> science is reduced to the powers of technical
> control - its potential for enlightened action
> is no longer considered. (Habermas 1973: 254)

The application of technique in an environment viewed

as "stuff" takes the ends or purposes of that activity to be

self-evident. This apparently self-evident end, however,

turns out to be simply the maintenance of the system. This

relating of means to ends without consideration of ends them-

selves may be termed instrumental reason. Empirical-analytic

science is founded on an interest in and helps support a

social world in which the person is divested of responsibility

and is thought to be "unreasonable" if he desires to act in

ways not commensurate with modern institutions. The more

such a science is accepted as the means to comprehend the

social world the more will the social world tend to conform

to that image. The debate about scientific method thus be-

comes a practical question, for in order to regain for the

person an element of conscious practical decision, the

illusion must be broken that the world itself, or a scientific

construction, tells him directly how he should act.

> First, production processes were revolutionized
> by scientific methods. Then expectations of
> technically correct functioning were also trans-
> ferred to those areas of society that had become
> independent in the course of the industrialization
> of labor and thus supported planned organization.
> The power of technical control over nature made
> possible by science is extended today directly
> to society: for every isolatable social system
> whose relations can be analyzed immanently in
> terms of presupposed system goals, a new discipline
> emerges in the social sciences. In the same
> measure, however, the problems of technical control
> solved by science are transformed into life
> problems. For the scientific control of natural
> and social processes - in a word, technology -
> does not release men from action. Just as before,
> conflicts must be decided, interests realized,
> interpretations found - through both action and
> transaction structured by ordinary language.
> Today, however, these practical problems are them-
> selves in large measure determined by the system
> of our technical achievements.
> (Habermas 1970: 56)

Horkheimer terms the form of reason which takes as

its task the relation of means to presupposed system goals

subjective reason. Reason in this case is simply a faculty

of the mind which relates means to ends. Aims or purposes

in themselves are never deemed reasonable or unreasonable.

We may simply decide only whether the means selected are

appropriate or not. Any decision as to choices of courses

of action related to "values" is deemed a matter of "taste".

A discussion of the merits of aims is deemed meaningless.

"From the subjective approach, such a discussion is possible

only if both aims serve a third and higher one, that is, if

they are means, not ends." (Horkheimer 1974a: 6)

> The difference between this connotation of
> reason and the objectivistic conception resembles
> to a certain degree the difference between
> functional and substantial rationality as these
> words are used in the Max Weber school. Max
> Weber, however, adhered so definitely to the
> subjectivistic trend that he did not conceive of
> any rationality - not even a 'substantial' one by
> which man can discriminate one end from another.
> If our drives, intentions, and finally our
> ultimate decisions must a priori be irrational,
> substantial reason becomes an agency merely of
> correlation and is therefore itself essentially
> 'functional'. Although Weber's own and his
> followers' descriptions of the beaurocratization
> and monopolization of knowledge have illuminated
> much of the social aspect of the transition from
> objective to subjective reason . . . Max Weber's
> pessimism with regard to the possibility of
> rational insight and action, as expressed in his
> philosophy, . . ., is itself a stepping-stone in
> the renunciation of philosophy and science as
> regards their aspiration of defining man's goal.
> (Horkheimer 1974a: 6fn.)

Habermas describes the ideological role of this form

of reason and its apparently self-evident validity. "(T)he

perpetuation of objectively absolute domination", argues

Habermas, "is concealed through the invocation of purposive-

rational imperatives." (Habermas 1970: 85) In this fashion
a positivistic, mechanistic world-view helps in the construction
of a life-world and a society which reflects and to a large
extent may be accounted for by that world-view. In present-
day society people have been persuaded by means of assent to
a scientistic world-view and its concommitant faith in the
expert that right and wrong courses of action may be distinguished
by the application of scientific rules to reality. Even
though their consulting the expert belies the centrality of
their own decision making in the practice of life, this fact
does not come to consciousness and a technical knowledge of
the organization of knowledge in society is not made available.

Gadamer describes the technicalization of social life
as a general process as follows:

> The spontaneity of the one who makes use of
> technology is in truth precisely by means of
> this technology more and more eliminated. He
> must fit into the rules of the matter and to
> that extent renounce "freedom". He is dependent
> on the correct functioning of the technology.
> (Gadamer n.d.: 25)

Gadamer uses the examples of traffic psychology and health-
care systems to further describe this process. That the
individual is required more and more to unlearn the ability
to make instant practical decisions can be seen in the break-
down of traffic systems. The malfunction of a traffic light
inevitably results in loss of life and limb when simple
decisions may have prevented it. Our trained orientation to
the observance of rules decreases our ability to make decisions.
In the example of health care practice the goal of health becomes

a meaningless problem. The practice of health care involves
primarily the creation of specialists who learn to distinguish
situations and make diagnoses of them according to specified
rules. In this sort of society "The pigeon-hole into which
a man is shoved circumscribes his fate." (Horkheimer 1974a: 23)

This instrumental reason or one-dimensionality in which
science and technology play their role both as ideology and
as productive and planning forces is the concrete manifestation,
as it were, of positivism. A scientific view which states,
as an eternal principle, that humans behave in ways determined
by outside forces has helped create a situation in which this
is almost true because of the acceptance of the view. The
human betterment expected from mechanism by thinkers from
St. Simon to Lundberg is dillusory.

> Mastery of nature has not brought man to self-
> realization; on the contrary, the status-quo
> continues to exert its objective compulsion.
> The factors in the contemporary situation -
> population growth, a technology that is becoming
> fully automated, the centralization of economic
> and therefore political power, the increased
> rationality of the individual as a result of his
> work in industry - are inflicting upon life a
> degree of organization and manipulation that
> leaves the individual only enough spontaneity to
> launch himself on the path prescribed for him.
> (Horkheimer 1974b: 4)

In his novel, The Man Without Qualities, Robert Musil
deals with the theme of the concretization of positivism.
The repressive and technical nature of our institutions and
even our language is able to serve at the same time as a
panacea for even stomach-aches. He describes a couple walking
down a street in Vienna knowing that they are in their "proper

place in a capital city that was also an imperial residence"

and that, "They had their initials significantly embroidered

on their underclothing." (Musil 1965: 4) They witness a

traffic accident in which a pedestrian is either seriously

injured or killed by a truck and a crowd gathers around the

victim.

> The lady and her companion had also approached
> and, peering over heads and bent backs, contemplated
> the man lying on the ground. Then they stepped
> back and stood hesitating. The lady had a dis-
> agreeable sensation in the pit of her stomach, which
> she felt entitled to take for compassion; it was
> an irresolute, paralysing sensation. The gentleman,
> after some silence, said to her:
>
> "These heavy lorries they use here have too long a
> breaking-distance."
>
> Somehow the lady felt relieved at hearing this,
> and she thanked him with an attentive glance.
> Though she had doubtless heard the expression many
> times before, she did not know what a breaking-
> distance was, nor had she any wish to know; it was
> sufficient for her that by this means the horrible
> happening could be fitted into some kind of pattern,
> so becoming a technical problem that no longer
> directly concerned her. (Musil 1965: 5)

Even the way we communicate with one another takes place on

technical grounds. Feelings in the pits of stomachs are taken

care of by a technical language which makes every experience

fit a normal pattern. The system thus can be seen as continuing

as it should no matter how much death and violence we encounter.

The concern of the lady in Musil's novel is similar

to that of the modern sociologist. In concerning ourselves

simply with depicting trends and patterns we absolutize reality

so that objective knowledge is seen only in terms of what

exists. A convenient packaging of social reality is produced

in which the necessary existence and relation of the objects of the description is assumed. Weber's iron cage has become a metaphysical precept. The divorce of ethical considerations from scientific inquiry is in itself an instrumentalist ethic. The adapting to and fitting in with present conditions is seen implicitly as the Good. The efficient functioning of the present system becomes the raison d'etre of social theory and criticism. The acquisition of accurate information about society and social conditions is a necessary ingredient in changing conditions, but:

> What is singular about the "rationality" of science and technology is that it characterizes the growing potential of self-surpassing productive forces which continually threaten the institutional framework, and at the same time, set the standard of legitimation for the production relations that restrict this potential. The dichotomy of this rationality cannot be adequately represented either by historicizing the concept or by returning to the orthodox view: neither the model of the original sin of scientific-technical progress nor that of its innocence do it justice. (Habermas 1970: 89)

A sociology which defines trends and makes them absolute is thus an ideology on behalf of adaptive behavior. A fitting in with present conditions is taken to be a self-evident aim. There is now no difference between purposive-rational action and conscious interaction on the part of either humans or human sciences. "The concealment of this difference proves the ideological power of the technocratic consciousness." (Habermas 1970: 107)

As Gadamer, Habermas and Marcuse have pointed out, the generation of information about present conditions, al-

though repressive in its present social scientific context, is necessary also for the production of any change in those conditions. The difference for the human sciences between the two situations is one of an underlying perspective. In the repressive context the information attained is seen as constituting an inevitable set of conditions which we, as humans or as scientists, must fit into. The reservations on principle against value or ethical considerations in the conduct of such inquiry appears at best curious in modern social science. An orientation to human freedom on the part of human science does not deny the determining aspect of social conditions.

> Human freedom is finite, and this finiteness
> manifests itself negatively in its lack of
> absolute creativity and positively in its
> dependence on others. Consequently it is
> just as incorrect to claim that man creates
> the situation as it is to assert that he
> is determined by the situation.
> (Strasser 1967: 508)

The task of empirical human science can be to point out those things on which our freedom is dependent at any given time, to point out the boundaries of freedom. Although sociology is not expected to study freedom as such, an orientation to fact and condition, in full awareness of the character of freedom, is necessary for providing human science with direction, for connecting it explicitly with interests for which there need be no apology. Positivistic sociology, in its pretention to value freedom, can only be oriented toward mastery and control in which human beings are the means to

sociologically perfect relations. The alternative lies more

in a difference in background assumption and orientation than

in method.

> Sociology is the science of human freedom and
> of all the obstacles this freedom encounters
> and overcomes in part. The other human
> sciences, . . . , are distinct from sociology
> only through the limitation of the direction
> taken by the effort (to overcome the obstacles)
> and by the selection of the obstacle to overcome.
> The reality studied by all these sciences is
> the same - namely, the human condition, viewed
> in the particular light thrown upon it by a
> specific method. (Georges Gurvitch quoted from
> Strasser 1967: 511-12)

An argument for value freedom is a value-laden argument.

Science is of little human value if it accepts as its value

the reification of a scheme of relations amongst objects and

sees understanding as simply the most convenient packaging

of the facts of experience. Strasser outlines four conclusions

resulting from the dialectic between human freedom and social

determination.

> 1) The reality of human freedom can neither be
> disproved nor proved by empirical methods, for
> this freedom is the basis of all human activities,
> including that of pursuing science. . . .
>
> 2) Even though empirical human science works
> with exact, statistical methods, it does not imply
> a deterministic philosophy.
>
> 3) Man's freedom is presupposed in all human
> sciences. This freedom makes the scientific dis-
> course in question possible; consequently it
> cannot be a term of this discourse. In other
> words, freedom is not a "factor" in the empirical
> sense.
>
> 4) Empirical human science is a complex of sciences,
> all of which throw light on the finite aspect of
> human existence. They determine the boundaries

> and the conditions of the concrete exercise of
> human freedom. Thus they tell us, albeit
> indirectly, in what concretely the freedom of
> individuals consists. (Strasser 1967: 512)

The difference between absolutizing method and treating it in the above fashion leads ultimately to a difference in conceptions of knowledge and the potential purpose of science in society. If we view knowledge as the passive reception of images which can be verified through a contrived notion of intersubjectivity and as an expertise which can then be applied to the world, we are proceeding unaware of the real nature of our knowledge and are taking an ethical and political stance which remains unaccounted for in our pretension to value-neutrality and objectivity.

An empirical human science which searches for absolute regularity and certainty with reference to human beings is taking such a position. The concealment of the ethical and political stance in this formula is part of the ideology which seeks to convince people that they are objects in order to treat and control them as such. Horkheimer's statement about the last remaining remnant of spontaneity now becomes clear. The assent of the person is a small but necessary part of his own repression and the assent is the result of an ideology.

The resulting fear of not fitting in is found in science as well as in other parts of society. Here we see the kernels of truth in symbolic interactionism's emphasis on the significant other and in Kuhn's work on paradigms and

scientific community. The personal courage required to deviate from repressive, technically useful trends such as is found in Immanuel Velikovsky is rare. That this process rests on personal courage is aptly described by Carlos Castaneda. As an anthropologist cum sorcerer's apprentice Castaneda was experiencing the same sort of insecurity and anxiety concerning the self-confidence necessary to carry through with one's convictions and commitments. He confesses to his teacher, Don Juan, that he sometimes believes that he knows what he should do but lacks the necessary self-confidence, and receives the following reply:

> "I'm afraid that you are confusing issues", he
> said. "The self-confidence of the warrior is
> not the self-confidence of the average man. The
> average man seeks certainty in the eyes of the
> onlooker and calls that self-confidence. The
> warrior seeks inpeccability in his own eyes and
> calls that humbleness. The average man is
> hooked to his fellow men, while the warrior is
> hooked only to himself. Perhaps you are chasing
> rainbows. You're after the self-confidence of
> the average man, when you should be after the
> humbleness of a warrior. The difference between
> the two is remarkable. Self-confidence entails
> knowing something for sure; humbleness entails
> being impeccable in one's actions and feelings.
> (Castaneda 1974: 15-16)

John Dewey rejects the possibility of absolute certainty philosophically but celebrates its possibility in practice, in the fashion of Lundberg and Lazarsfeld, by actively controlling the world.

> Knowing is, for philosophical theory, a case of
> specially directed activity instead of something
> isolated from practice. The quest for certainty
> by means of exact possession in mind of immutable
> reality is exchanged for search for security by
> means of active control of the changing course

> of events. Intelligence in operation, another
> name for method, becomes the thing most worth
> winning. (Dewey 1960: 204)

Here again, however, we encounter the problem of the aim of

science and of other action. For Dewey, certainty seems to

be a goal in itself, control for the sake of control. This

also, however, involves control of the controlling activities,

since, if any action which can have effect is allowed, the

resulting reality is then possibly one different from that

controllable by the ascendant "operational intelligence".

Even this view, when pushed to the extreme, involves the notion

that our world is, at least in principle, changeable.

Heisenberg's physics understands the activity of modern

physics, which has essentially adopted Dewey's view, to be

studying not nature, but our relationship with it.

> (C)ontemporary physics cannot study the behavior
> of a natural phenomenon as it is in itself,
> entirely apart from the human effort to comprehend
> it, but rather must find its subject matter in
> the active interplay between man and external
> nature. (Leiss 1972: 88)

It was originally the discovery of the predictability

of a segment of reality that produced means of control, and

now it is the possession of means which produces predictability.

Scientific sociology specifies our relationship to the social

world, not the essential nature of the social world. Sociology's

reliance on a classical scientific model is not only out of

date; it thereby fails to understand the possibility of its

effect and thereby also the essential changeability of a world

which it wants to see as regular and immutable. Even the

kind of control which Dewey speaks of points to the change-
ability of the world. The view of the social as external
and constraining is the modern sociologist's conception of
a desired relationship to the world and is thereby, in as
much as it is part of an official ideology, a force in pro-
ducing constrained social relations.

An awareness of this, however, can be brought to bear
on an enlightened conception of society and of social inquiry.

> The separation between individual and society in
> virtue of which the individual accepts as natural
> the limits prescribed for his activity is
> relativized in critical theory. The latter con-
> siders the overall framework which is conditioned
> by the blind interaction of individual activities
> (that is, the existent division of labor and the
> class distinctions) to be a function which
> originates in human action and therefore is a
> possible object of planful decision and rational
> determination of goals. (Horkheimer 1972: 207)

Although such planful decision can never be a completed project,
vis-a-vis Heisenberg, reservations on principle against it
are ideologically dangerous. "Technocratic consciousness re-
flects not the sundering of an ethical situation but the
repression of "ethics" as such as a category of life."
(Habermas 1970: 112)

Information generated by this form of consciousness
is only administratively useful. The administered world is
reaffirmed in the concern for prediction prevalent in nomo-
logical science. Its pretension to disinterestedness amounts
simply to a cover-up. A form of knowledge which claims not
to be connected with interest has as its interest, an interest
in domination. The interest, in turn, which seeks a compre-

hensive view of what is, but which also retains the right to judge it, has as its interest an emancipatory interest. It is this sort of interest which not only is aware of the inherent relation of knowledge and interest but which leads to a _closer_ relation between them.

The quest for certainty and predictability, under-girded by a metaphysic of externality and constraint, which views the world as neutral "stuff", thereby precludes any actual attempt to evaluate and change. An expectation that the world tells us what it is is simply an implicit positive evaluation of a certain organization of experience.

> The world does not contain any information. It is as it is. Information about it is created in the organism through its interaction with the world. To speak about storage of information outside the human body is to fall into a semantic trap. Books or computers are part of the world. They can yield information when they are looked upon. We move the problem of learning and of cognition nicely into the blind spot of our intellectual vision if we confuse vehicles for potential information with information itself. We do the same when we confuse data for potential decision with decision itself. (Illich 1973: 93)

This confusion springs from the "need" for certainty. The quest to fit into a technocratic apparatus is present also in the sociologist who nominalistically imposes a form of predictability on the world. The chasing of rainbows by the sociologist is a search for false confidence, an ideolog-ically dangerous search. The completed pictures which are sought after implicitly deny the transformability of what we are drawing pictures of. The description of actual conditions does not necessitate absolutizing them.

> The need for absolute intellectual certainty,
> Adorno argued, was likely to be a reflex of
> personal insecurity: 'freedom is never given,
> always threatened. . . . The absolutely certain
> as such is always unfreedom . . . . It is a
> mistaken conclusion that what endures is truer
> than what passes'. (Jay 1973: 68-9)

Thus a sociological practice which dismisses the need for certainty and the absolutization of reality, although it cannot change the world, is necessary for any sociology to in any way enlighten the activities of sociologists themselves. This task of knowing is necessarily also philosophical and personal. The aesthetic and personal satisfaction resulting from the production of convenient pictures of the world which reinforce our membership in an academic community is dangerous although comforting. If we ourselves are not included in our analyses, a practice which is simply comforting and adaptive will follow. The control of our own behavior which is argued for in scientific method involves also the fear of not fitting in with a paradigm, personal or scientific. Once we recognize, however, the origins and practical rootedness of our own activity we may also decide freely about what actual risks are involved in not fitting in. The greatest risk, objectively, is in adapting.

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