

THE CONCEPT OF PURPOSE
IN MODERN SYSTEMS THEORY

by

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B.A. (Hons.), Simon Fraser University, 1969

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF ARTS
in the Department
of
Political Science, Sociology and Anthropology

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SIMON FRASER UNIVERSITY

August, 1970

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ABSTRACT

Modern Political Science aspires to be a relevant force in political life, an aspiration that is commendable insofar as it seeks to replace the mindlessness that is characteristic of political behavior with decisive action based upon knowledge and reason. This, however, has led to an epistemological problem pertaining to the status of knowledge. The behavioral persuasion in Political Science has tried to solve this epistemological problem by refusing to deal with it, accepting uncritically the Unity of Science thesis, and blindly adopting the methodology that they believe characteristic of modern physical science. *Non sense*

Methodologies, however, cannot be abstracted from a subject area because methodologies hold within them an epistemology based on a concept of the subject matter under investigation. As such, applying "the methodology of science" to social or political reality limits the type of questions that can be asked by political scientists to questions of a type that would be pertinent to the physical sciences. But the physical sciences deal with inanimate objects which cannot direct their own behavior. The very fact of "science" is evident that man can direct his own behavior. Consequently, the "methods of science" restrict inquiry into human behavior that exists at the precognitive level.

Human behavior, however much it may often appear to the contrary, is characterized by its ability to act upon reasoned

choice. In other words, man has the capacity to exist at the cognitive level. This being the case, any science of man must develop a methodology that incorporates a "concept of the subject" that is pertinent to man.

In their zeal to be scientific social scientists, like the logical empiricists in philosophy, have tried to rid themselves of all metaphysical concepts, yet, in this endeavor, social scientists have failed to realize that they merely shifted from one metaphysics to another. And, this new metaphysics is such that it tends to deny those characteristics that make it possible for men to be scientists. In short, the positivistic metaphysics is dehumanizing.

Political scientists, then, are faced with the choice of accepting the robot view of man dictated by their methodology, or they can recognize the problem and direct their energies towards a search for a method that does not, when applied to human behavior, block the road to inquiry.

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INTRODUCTION

The present character of political science is neither scientific nor political, an unhappy state that results largely from a misconceived attempt to mimic the methodology of the physical sciences. In its attempt to be "scientific" political science has uncritically adopted a theory of knowledge that is covertly metaphysical in origin and that threatens in its application to preclude the possibility of any science. My objection to this approach lies not in that it is metaphysical, for, I will argue, no theory of knowledge can be anything else. What I do object to, however, is its peculiar capacity for blocking the road to inquiry.

The purpose of this thesis is to argue squarely for the adoption of a different metaphysical notion, one based on a concept of man rather than on a sterile concept of "scientific" inquiry. This would, in a sense, return political science to its origins wherein a concept of man's nature played a commanding role in the development of political theories. However, I do not intend to do this in any usual fashion. That is, I do not intend to start from a metaphysical base and work up to a political theory, for it is precisely this approach and the evident weakness in it that has led to the mess we are presently in -- the inexorable course from Plato's metaphysics to Aristotle's empiricism to Descartes's psychologisms and modern positivistic science.

Rather, I choose to argue from the present "scientific" position, illustrating its inadequacies and showing how, as a matter of logical necessity, certain long neglected philosophical categories are required, categories which necessitate metaphysical treatment. I will argue further that the metaphysics required is in many respects quite new, and that the root idea for such a position can lie in a concept of man.

The thesis will proceed as follows. In Chapter I, I will present an overview of the problems facing the leading aspect of contemporary political theory, known as systems theory. In this, I will argue that though systems theory is fundamentally a viable concept, it has been rendered sterile by its adherence to a Newtonian concept of existence to which a particular offshoot of modern philosophy known roughly as logical positivism is pertinent.

In Chapter II, I will endeavor to show, through the context of the behavioral school in psychology, the inherent consequences of an adherence to the dominant "covering law" version of scientific positivism. This approach will hereafter be referred to as the Hempel-Nagel paradigm, in honor of two of its strongest and most systematic advocates.

In Chapter III, I will show that the behavioral school of political science in general is pursuing an approach that inherently relies on positivism for legitimation; and systems theory, a development within behavioralism, relies on

the Hempel-Nagel paradigm, a development of positivism. Having done this, I will show, through an exploration of the works of David Easton and Eugene J. Meehan, that positivism entails a false quest for certainty, and, as such, tends to preclude the possibility of a social science.

Chapter IV is an exploration of philosophical concepts ranging from the Hempel-Nagel paradigm to Richard Taylor's categories of "agency" and "purpose". In this chapter, I will present counter-arguments to the Hempel-Nagel paradigm, showing that even in the physical sciences it involves extremely vague or otherwise dubious concepts, principally fatalism and a suspicious view of causality. Further, I will argue that the subject matter of the physical sciences is logically distinct from that of the social sciences and that this distinction is based on the categories of agency and purpose. Finally, from the arguments presented, I will develop a concept of man, a concept which must be entertained before "social science" can even be considered.

In Chapter V, to conclude, I will make some recommendations for political science and social philosophy in general. These proposals center around the concept of "rule" as suggested by Ludwig Wittgenstein and explored by Peter Winch in his book The Idea of a Social Science. And, as "fatalism" is rejected in previous arguments, I will make some proposals for a social science based on a particular concept of action.

The most vulgar type of determinism

Ward
Barber
Bart

(The Gauntlet)

SYSTEMS THEORY: An Overview of Political Science

simple theory
theory
the same theory

Systems theory is perhaps the most complex and most pervasive theory in political and social science today. Some notion of system underlies ~~game~~ theory, communications or cybernetic theory, functionalism and structural functionalism, and "general systems theory" itself. But more, systems theory is presently a la mode. To ignore it is to ignore a vital aspect of social reality, for as Gabriel Almond clearly states in his Presidential Address delivered at the annual meeting of the American Political Science Association, "The emerging analytical framework in contemporary political theory is the concept of system..."¹ In order, then, to assess both political science and social science generally, we could do worse than to begin with the concept of "system".

Acquiescence

But, as I have stated, systems theory is perhaps the most complex theory now abroad. Science, however, seeks simplicity and uniformity. Why then, should we bother ourselves with a complex theory when simpler theories have not yet been fully explored? This question must be dealt with on two levels. In the first place, most of the simpler theories presuppose the existence of some kind of system, and, as will be illustrated in this chapter, simple systems have been found to be unhelpful

1. Gabriel Almond, "Political Theory and Political Science", The American Political Science Review, Vol. LX, No. 4, p. 876.

in understanding social reality in general, and more particularly, they have proven unhelpful in understanding political reality.

On a higher level of abstraction, the paradigm of simplicity must be rejected on the ground that there is no good reasons for accepting it, and there is good reason for being wary of it. As Willard Van Orman Quine clearly argues in his criticism of experimental findings about the behavior of dogs, "By the very nature of our criterion...we get evidence either of uniformity or of nothing. An analysis of experimental criteria in other sciences would no doubt reveal many further examples of the same sort of experimentally imposed bias in favor of uniformity, or in favor of simplicity of other sorts." ²

OG

This problem of bias poses perhaps the greatest threat to the possibility of a science of man. It will be my contention that the social sciences are particularly susceptible to such a bias, particularly when social scientists uncritically adopt what they believe to be the methodology of the physical sciences. Such methodologies seem to be underscored with presuppositions about the nature of the subject matter, and it seems impossible to adopt a methodology without accepting these presuppositions. This problem is dealt with in detail in Chapters

2. Willard Van Orman Quine, "On Simple Theories of a Complex World", in Margaret H. Foster and Michael L. Martin, ed., Probability, Confirmation, and Simplicity; The Odyssey Press, Inc., New York. 1966. P. 251.

II and IV, however, it is necessary to briefly mention it here.

The presuppositions of the physical sciences can be viewed as a particular concept of physical reality, a set of metaphysical judgements about nature that exclude consciousness and the possibility of self-direction. And upon reflection, such a concept seems perfectly viable in the realm of the physical sciences. In the social sciences, however, such a concept is disastrous. Consider: If we can not direct our own behavior, then we cannot organize ourselves for to do so would require direction. If we cannot organize, we cannot do science. Yet if there is one thing social scientists want to do, it is science. Consequently, we are faced with a dilemma. We have a method of inquiry which has proven fruitful in another context, but the method itself implicitly denies the possibility of inquiry when applied to man. I refer to this dilemma as the behavioral dilemma for it is the behavioral persuasion in politics that is most immediately confronted with it, and "systems theory" in politics is its vehicle.

In order to illustrate this dilemma, it is necessary then to briefly explore the development of systems theory.

THE CONCEPT OF SYSTEM

Briefly, "A system is a set of objects together with relationships between the objects and between their attri-

butes".³ Stated as such, it would be difficult to locate anything that is not a system, for nothing stands alone. That is, in order to understand any phenomenon it must be viewed within a context of relating factors. Systems theory recognizes the importance of such contexts and tries to locate them through a framework that "analytically differentiates the object of the study from its environment, directs attention to the interaction of the system with other systems in its environment, to its own conversion characteristics, and to its maintenance and adaptive properties".⁴ Political systems, then do exist and they can be delineated through the use of the appropriate analytic tools. These tools are systems models, and the task of the political scientist is to apply the correct model to the phenomenon in question. This raises the problem of isomorphism, a problem that will be dealt with at length in Chapter III.

Systems Theory: A Brief History. In order to briefly illustrate the problem of isomorphism and to indicate the intellectual environment in which systems theory has come to prominence, a brief history of systems theory is in order.

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3. A.D. Hall and R.E. Fagan, "Definitions of a System", General Systems Yearbook, Vol. I. P. 18.
 4. Gabriel Almond, op. cit., P. 876.

The quest for an isomorphism between a model and a phenomenon under investigation is characteristic of the method of the physical sciences. In the physical sciences isomorphism is tested empirically through the calculus of inference inherent in the model.⁵ In a loose sense, a properly isomorphic model can predict facts about the phenomenon of which we are not initially aware. In systems models, this promise of predictability applies not only to more facts, but to the whole system state. This promise of predictability is perhaps the single factor that best explains systems theory's rise to prominence. The quest for predictability is closely related to the quest for certainty, and it is my contention that such a quest underscores the mainstream of political science today.

The feature of predictability is best illustrated in a simple mechanistic system. If the system is static, its system state is constant and knowable for all time. The concept of change is unknown. An example to such a system is our solar system.⁶ Given the existence of the sun and the planets,

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5. The concept of the calculus of inference is well exemplified by Stephen Toulmin in his discussion on the straight line theory of light. Having recognized the model of the wall and its shadow and recognizing that the length of the shadow is a function of the angle of the sun's rays striking the wall, the prediction that light travels in straight lines clearly follows. It further follows that the behavior of light (reflection and refraction) can be explained through the use of plane geometry. Philosophy of Science; Harper and Row, Publishers, New York, 1953, pp. 23-30.
 6. Anatol Rapoport, "Some System Approaches to Political Theory", in David Easton, ed., Varieties of Political Theory, Prentice-Hall, Inc., Englewood Cliffs, New Jersey, 1966, p. 130.

along with the law of universal gravitation, it is possible to predict, or more accurately, to calculate the exact behavior of the various bodies. When discrepancies between the calculated and the observed are discovered, as has been the case with our solar system, it is possible to predict, through calculation and deduction, the cause of the discrepancy. In such a system discrepancies can result only from an incomplete knowledge of the system or from outside intervention. In the case of our solar system, observed discrepancies were overcome or explained by positing the existence of other planets, and in the case of Neptune and Pluto, this approach was successful. In the case of the "Planet" Vulcan, however, this approach did not work. The discrepancies resulted from an incomplete knowledge of the effects of interactions among bodies in the system, not from the existence of an unknown planet. In such a system, though it would require complete knowledge, complete predictability is in principle possible if all of the variables are known.

A slight modification introduces the concept of change, but change in a strictly calculable manner. "A certain complex of relations at a given time implies a certain complex... at a later time."⁷ Thus, change is introduced, but only from one state to a specified state or to one of a group of specified states. Full knowledge of the present state would permit contingent predictions about future states. The predictions

7. Anatol Rapoport, op. cit., p. 130

would be contingent only in the sense that they rely on the behavior of a specified set of key variables. But all of the possible outcomes are strictly predictable.

These system models were borrowed from sciences such as thermodynamics and astronomy, two sciences that are well established and well developed. These systems are simple equilibrium systems and they can best be described by Newton's first law of motion. Accordingly, "Every body continues in its state of rest or of uniform motion in a straight line, unless it is compelled to change that state by forces impressed upon it." ⁸

The astonishing success in physics of such simple mechanical models rather naturally gave rise to an approach in social sciences known as "social physics" or "social mechanics" but which could best be described as "social statics" for it did not conceive of nor could it account for change occurring from within the system. "In 'social mechanics' society was seen as an 'astronomical system' whose elements were human beings bound together by mutual attraction or differentiated by repulsionMan, his groups, and their interrelations thus constituted an unbroken continuity with the rest of the mechanically interpreted universe." ⁹ Change could be viewed only in terms of

8. Issac Newton. Cited in Richards, Sears, Wehr and Zemansky, Modern University Physics; Addison-Wesley Publishing Company, Inc., 1960. Pps. 21-22.

9. Walter Buckley, Sociology and Modern Systems Theory; Prentice-Hall Inc., Englewood Cliffs, New Jersey, 1967. P.8.

outside intervention, for the system could not affect its own behavior. Further, in the spirit of Newton's third law of motion, "...the change in motion is proportional to the motive force impressed; and is made in the direction of the straight line in which that force is impressed."¹⁰ In other words, the behavior of the system is predictable.

But the simple mechanical model was a grave disappointment to social scientists because it could not in fact be depended upon to predict anything. Society, it was found, largely through trying to apply the mechanical model, just did not behave as a closed system. Unexpected changes occurred, and though attempts were made to blame them on outside intervention or on accidents, the arguments remain unconvincing, taking the form of excuses rather than reasons.

Realizing that the people forming social systems could only metaphorically be said to behave in terms of Newtonian mechanics, the concept of system was altered. It was hoped that some concept of system could give a better account of social change than that postulated in the simple mechanical system. The alterations, however interesting, were not successful.

In later arguments, I intend to show that systems theory has not really evolved beyond Newtonian physics, to which

10. Isaac Newton, cited in Modern University Physics, Op. Cit., p. 83.

the Hempel-Nagel paradigm is appropriate. This is particularly apparent in the work of B.F. Skinner, but as will be shown in Chapter III, this equally applies to systems theory in political science.

The Organic Model. The organic model of social behavior attempts to draw an analogy between an organism and society. This analogy has been carried through in many ways, often without even mentioning the word "system" and often viewing organisms in a very mechanical sense. But, as will be shown even in these the concept "system" is implied, while the problem of the nature of the system is merely ignored. Ignoring, however, is no substitute for solution.

The early users of the organic model have been labelled "social Darwinists" because they viewed society in terms of the individual organisms. "Many of the followers of Spencer exploited to extremes the organismic analogy, searching out the social analogue of the heart, brain, circulatory system, and the like."¹¹ Various organizations or institutions were examined in terms of their function in maintaining the system.

This model was a great improvement over the mechanistic model in that it permitted the concept of change, but it was not consciously directed change.

11. Walter Buckley, op. cit., P. 11.

One school of thought, that of Herbert Spencer, viewed change in terms of natural evolution. The "best" would naturally rise above the inferior, for by being best they would be best suited to survive. To support this argument, Spencer draws an analogy to the process of natural selection -- as he interprets it -- in animals at large:

Note further, that their carnivorous enemies not only remove from herbivorous herds individuals past their prime, but also weed out the sickly, the malformed, and the least fleet or powerful.

....

Meanwhile the well-being of existing humanity, and the unfolding of it into this ultimate perfection, are both secured by the same beneficent, though severe discipline, to which the animate creation at large is subject. ¹²

Though few people today would openly subscribe to Spencer's views in total, his concept of change, change through the survival of those best able to adapt to new situations, is still powerfully held by the organic theorists.

To the organic theorist change occurs; it occurs within the framework of a system that performs certain basic functions that give continuity to human existence, but its functions are limited to supplying a framework through which the

12. Herbert Spencer, Cited in William Ebenstein, (ed.), Great Political Thinkers; Holt, Rinehart and Winston, Inc., New York, Four Edition, 1951, P. 650.

existence of the species is "guaranteed". But this is a function that is taken for granted, one of the "imponderables" that could not be analyzed or understood. ¹³

Again, however, this system proved unsatisfactory. Organisms can and do die. The same forces that Spencer viewed as leading to the improvement of the system could also destroy it. Wars can get out of hand; disease, which should strike down only the weak, is seldom a noble ally. By permitting disease to spread unchecked, or by war escalating beyond control, no one is safe, the environment becomes polluted so that not even the best can survive. How, it was asked, could the system maintain a degree of stability in the light of all the turmoil that results from natural existence?

Human behavior, it was found, contrary to the views of Spencer, conforms to some set of norms, thus permitting the members of the society to act with a considerable degree of confidence in their relations with their fellows:

We need only remark that in social life people sometimes compete and sometimes, for whatever reason, co-operate, and that they could do neither effectively unless they could count up to a point on what others would do. These fairly stable

13. Karl W. Deutsch, The Nerves of Government: The Free Press, N.Y., 1963, p. 32. As Deutsch noted "The implied sharp separation between these mysterious 'mircle parts' and the ordinary knowable elements of the system, and usually, also, the presumed static characteristics of both the knowable and the 'imponderable' elements, then led to the classic picture of an 'organism' with certain parts eternally mysterious, and with no chance of fundamental re-arrangement of its elements".

mutual expectations, which are the conditions of purposive action in any society, are only fulfilled where there are some generally accepted ways of behaving. ¹⁴

How could this aspect of social reality be accounted for without rejecting the concept of systems altogether? Again, borrowing from biology, a solution was found.

The problem of systems maintenance was not unique to the social sciences. Biologists long sought an explanation for the adaptability of organisms, a search that led to the concept of "homeostasis". Briefly, homeostasis is... "the tendency of an organism to maintain its internal composition and state with fair constancy and within a range suitable for its continual functioning." ¹⁵ Further, "...homeostasis in a broader sense, makes it possible for an organism to maintain itself in the face of a universe of destructive forces". ¹⁶ As a result, the concept of man changed. Just as man and his society could not be viewed as harmonious particles existing in a state of equilibrium, man and his society could not be viewed simply as being constantly in conflict because in some fields there was co-operation.

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14. Dorothy Emmet, Rules, Roles and Relations; St. Martin's Press, New York, 1966, p. 11. See also Karl Deutsch, The Nerves of Government, op. cit., for a good discussion of the limitations of the organic model, pps. 30-34.
15. G.G. Simpson & W.S. Beck, Life: An Introduction to Biology; Harcourt, Brace & World, Inc., New York, 1957, p. 106.
16. Ibid., p. 106.

But this led to an obvious dilemma. Homeostasis is essentially a teleological concept, a fact that is readily accepted by biologists:

As noted...such apparently goal-directed structures and functions, which we call "teleonomic", can be explained in historical evolutionary terms without the postulate of an actual goal. 17

The goal of the functioning part is the maintenance of the system. Strangely, in spite of its teleological nature, social scientists - the behaviorists who sought to remove such "unscientific" concepts from their discipline - eagerly accepted homeostasis as a viable concept. This is particularly evident in the work of the functionalists.

Functionalism. The "functional approach to politics attempts to examine socio-political phenomena in terms of the consequences that phenomena produces to the system, or, in some cases, strictly in terms of the consequences to the factors involved. The central orientation of functionalism....[is] expressed in the practice of interpreting data by establishing their consequences for larger structures in which they are implicated." 18

17. G.G. Simpson and W.S. Beck, Life: An Introduction to Biology, op. cit., P. 106.

18. Robert K. Merton, Social Theory and Social Structure; rev. The Free Press, New York, 1957, Pps. 46-47.

In this case the concept of system is usually ignored. "Robert K. Merton, for example, tends to make functional analyses in terms of interacting sets of variables...and he comes close to eliminating the concept 'system' entirely...." ¹⁹

In spite of Merton's refusal to use the term "system", his reference to "larger structures in which they are implicated" suggests that the functions are functional within a context - indeed it would be ludicrous to argue otherwise. He does not, however, as Robert Brown has argued about functionalists in general, specify the structure which the function influences. In fact, as Brown argues, it is difficult to think of a structure-function relationship without thinking in terms of a system:

A sound function-explanation can be phrased in a variety of ways. All of them, however, require either the explicit statement or the implicit assumption of two such generalizations: one asserting that some condition is necessary for the maintenance of a system, and another asserting that some trait is necessary for the fulfillment of this condition. ²⁰

This approach, however, reflects back to the mechanistic system model. It is in fact the mechanistic model with the concept "function" umbilically attached, with no indication of its

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19. Eugene Meehan, Contemporary Political Thought; The Dorsey Press, Illinois, 1967, p. 163.
20. Robert Brown, Explanation in Social Science; Aldine Publishing Company, Chicago, 1963, p. 115.

source or direction. As Eugene Meehan succinctly argues, this approach is "...not a functional 'theory', but a method of inquiry that is rigorous and demanding and promises nothing." ²¹ It is a study of individual phenomena, assumes the existence of some mechanism through which stability and change occurs, and examines the phenomena in terms of consequences to this unstated mechanism.

As no attempt is made to explore the larger framework, Merton's approach loses the prospect of predictability. Moreover, it loses the prospect of explanation, being essentially an empirical method for gathering data that serves little more than a descriptive function, and, as no system of knowledge has yet been developed for the social sciences, the nature of this function is quite nebulous.

Consequently, the promise of "scientificity" remained unfulfilled. Human behavior, collectively or individually, could only metaphorically be discussed in terms of "functions", leaving echoing in the abysmal void the question - function in terms of what and towards what?

In an attempt to answer this question a different

21. Eugene Meehan, Contemporary Political Thought, op. cit., p. 121.

school of functionalism arose,²² a school of analysis that was exclusive in its use of organic analogies.

Organisms are, in a general sense, self maintaining. That is, an organism can be disrupted and, providing that it is not disrupted beyond some critical level - a level that differs from one particular organism to another - can regain its previous state. An example of this is the loss of moisture by a plant on a hot day. The plant needs water to perform the functions required for its survival, but on a hot day it loses water through openings in the leaves called stomata. The opening and closing of these stomata is controlled by a complex combination of reactions in a group of cells called guard cells. Sunlight striking these cells begins a chemical reaction that increases the osmotic potential of the guard cells, which leads to their becoming filled with water, thus expanding, and in doing so they open the stomata.²³ In excessive sunlight, it could be assumed, the stomata would be wide open, thus permitting water to escape from the plant nearly unchecked. As the water supply to the plant is not unlimited such unchecked escape of water would quickly lead to the death of the plant - more water

22. I am making no pretence of chronological order in this particular case, for the development of both approaches to functionalism. Merton's main contribution was in criticizing the organic functionalism of the Parsonian school, but Merton's functionalism predates the Parsonian approach in that it relates back to the mechanical model. As Meehan argues, Merton's functionalism is "...factorial and mechanical". Meehan, Contemporary Political Thought, op. cit., p. 163.

23. G.G. Simpson and W.S. Beck, Op. Cit., p. 93-95.

would be leaving than entering until no water was left, only dry burnt out stems and leaves. But this is not necessarily what happens. As the plant begins to wilt the guard cells lose their excess water through diffusion to their surrounding cells, a feature that is going on all the time. However, water diffuses out of the guard cells more readily than it can be brought in through osmosis, consequently, in strong sunlight there is a net loss of moisture in the guard cells, causing them to shrink and the stomata close. Moisture can no longer escape. The organism is saved. Not necessarily. Plants often die from extensive dehydration, but, where it not for the mechanism just described, the death rate would be much higher.

What has just been described is a simple organic system, a system capable of maintaining itself under some severe circumstances. But, as is obvious to any critical eye, specific functions are carried out by specific structures; in the case of our plant example, by "guard cells", cells specially equipped. If the analogy is to be carried through to the study of societies, the question immediately arises "What are the functional imperatives of a society and what structures perform these functions?" These are the questions that Parsons tried to answer.

Again, however, real people have refused to conform to the neat categories of the beleaguered social scientists. People, it was found, do not behave strictly the way organisms are supposed to behave. An organism must have functional unity,

that is, all of the functions of the system must be directed towards maintaining the system or it will perish.²⁴ Organisms cannot cope with dysfunctional units. In terms of society, "Merton...points out that the postulate of unity is untenable on empirical grounds...and that not every item in a culture has a definite function".²⁵ Further, "Concrete societies weaken, disintegrate, or show symptoms of 'social pathology' ".²⁶

S.F. Nagel goes on to argue:

Functionalist anthropology is apt to lose sight of this corollary and to speak about social facts 'having' such-and-such 'functions' as though these were self-evident truths. Yet, if we simply aimed to show that exogamy facilitates co-operation, myths buttress codes of behavior, and religion helps towards social equilibrium, we should be implying that these mores of behavior fulfill the given necessities (under given conditions)....²⁷

Though he goes on to argue that this approach implies that the status quo is ideal, an argument that is clearly unacceptable,²⁸ Nadel clearly shows that functionalism is restricted to describing

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24. Meehan argues that the Parsonian model is based largely on "taking orderly social life as a norm...that the norm could be maintained only if certain common sentiments were shared by all members of society". Meehan, Contemporary Political Thought, Op. Cit., p. 116.
25. S.F. Nadel, Foundations of Social Anthropology; Free Press of Glencoe, Inc., New York, p. 357.
26. Ibid., p. 375-376.
27. A description can be interpreted either as what should be or what should not be depending on the values of the interpreter. Such interpretations are, however, clearly with reference to the status quo. Ibid., p. 376.
28. Robert K. Merton, Social Theory and Social Structure, Op.Cit. Cited in Meehan, Contemporary Political Thought, Op. Cit., p. 118.

what the observer believes to be the facts. As Merton argued, "[S]ocial function refers to observable objective consequences, and not to subjective dispositions (aims, motives, purposes)".

We find ourselves faced with a system - specified or not - that has functions but also has disfunctions; a system that seeks stability but is in fact riddled with turmoil; a system that, by definition of system, is oriented towards persistence or survival. Our discipline, however, is political science. Within this context, what does system mean? Or perhaps, what does political science mean? This question, as I will try to show, is central to an understanding of the works of two theorists who are of crucial importance to the social sciences. These are David Easton and Walter Buckley.

↙ Both Easton and Buckley recognize that human behavior is characterized by change, change in the very structure of human behavior. In criticizing organic models, Buckley argues that:

The basic point here is that where-as mature organisms, by the very nature of their organization, cannot change their given structure beyond very narrow limits and still remain viable, this capacity is precisely what distinguishes sociocultural systems.²⁹

29. Walter Buckley, Sociology and Modern Systems Theory; Op. Cit., p. 14.

Recognizing that this ability to change "structure" is the single crucial distinguishing characteristic of social behavior, Easton writes:

Hence, systems analysis delves into a theory that explains the capacities of a system to persist, not to maintain itself as this would normally be understood. It seeks a theory of persistence, not of self maintenance or equilibrium.³⁰

These two statements make clear the assumption common to all systems theorists: systems automatically seek to survive. Consequently, the perspective of modern systems theorists tends to be an odd mix of mechanistic systems and organic systems which accepts that, as in organisms, there are mechanisms that function to promote the persistence of the system, but unlike the organic model, these mechanisms can actually change the structure of the system. "The newer systems perspective...makes ample room for appreciation and analysis of the mechanisms making such morphogenesis possible."³¹ This change in attitudes resulted from both a realization that the older approach of adaption (characterized by the earlier example of the plant) could not account for changes brought about in the organism through evolution, and that it could not account for human behavior. To rectify the problem, social

30. David Easton, A Framework For Political Analysis; Prentice-Hall, Inc., Englewood Cliffs, New Jersey, 1965. p. 88.

31. Walter Buckley, Sociology and Modern Systems Theory; Op. Cit., p. 14.

scientists went back to the origins of the organic model, biology, and finally were convinced that their previous view of evolution was most inadequate. "Lester Ward pointed out.../ at the turn of the century/ that the struggle in evolution is not for "survival" (of individual organisms) per se, but more fundamentally, a 'struggle for structure'".³² Modern systems theory incorporates this approach to evolution in terms of changes in socio-political phenomena.

Given that social systems exist and given that their orientation is ultimately towards persistence, social scientists have been merrily developing systems paradigms and merrily applying them to society.

As social systems persist, we must find the mechanism through which such persistence is possible. This had led to the introduction of such terms as "feedback" and "control"; such terms as "entropy", "input" and "output";³³ and such key terms as "parameters", the importance of which will be discussed later. Interspersed in the matrix of these terms, David Easton argues that the study of "Political science is the study of the authoritative allocation of values as it is influenced by the distribution and use of power".³⁴ By so defining

32. Walter Buckley, Sociology and Modern Systems Theory, Op. Cit., p. 12.

33. For a good discussion of the significance of these terms see W. Ross Ashby, Cybernetics; John Wiley & Sons, Inc., New York, 1956. Karl Deutsch, 1963. Norbert Wiener, Cybernetics; The M.I.T. Press, 1948, The Human Use of Human Beings; Avon Books, 1950.

34. David Easton, A Framework for Political Analysis, Op.Cit., p. 50.

the political system, Easton illustrates some important problems existing in "his" society.

Easton is concerned with the political system while viewing politics in an extremely traditional manner. We find "political systems" that are concerned with the authoritative allocation of values. We find "parapolitical systems" that are also concerned with the authoritative allocation of values. The difference between the two, apparently, is that the parapolitical systems "...are sub systems of subsystems. The members of no parapolitical system either accept or are expected to accept the responsibilities for dealing with the major problems generated by the fact that an aggregate of persons live together in a society, share some aspects of life and are compelled, thereby, to try to resolve their differences together".³⁵ This raises a problem of boundaries that Easton never resolves - indeed he cannot, as we shall see in Chapter III. Further, in trying to develop a diagram of "A Dynamic Response Model of Political System"³⁶ he develops a model that is clearly potentially pathological.

If a system acts only in terms of "inputs" and "supported demands", the nature of these inputs will depend largely on the information circulated in the social environment.

35. David Easton, A Framework for Political Analysis; Op. Cit., p. 52

36. Ibid., p. 110.

It is then conceivable, it has in fact often been the case, that the people forming the "social environment" will be misinformed, or whipped into an hysterical frenzy by either unscrupulous opportunists or by well-meaning "true believers".

We find ourselves caught up in the old functionalist problem: we have a system, a system that strives to persist. What mechanism functions towards the persistence of the system and how?

This approach leaves a number of questions unanswered, even makes it impossible to ask the questions. In the first place, what evidence is there to suggest that social systems are persistence-oriented? Is it desirable that they be, and is it meaningful to ask if it is desirable that they be? Are there such mechanisms, or, we may as well call them by their proper names, functional imperatives, whose function is the persistence of the system? What is the role of man in this system? In short, common to all the approaches to systems and societies that have been discussed is a view of man and a view of science, both of which have proven unworkable within any systems approach yet devised.

"System" is an analytic construct, and being so can be easily manipulated to satisfy any number of needs. Man, though he has long been treated as an analytic construct has proven to be anything but any of the many analytic compartments

that have been built for him. Unfortunately, rather than change their view of man, social scientists have tried to develop more precise tools to discover man's true identity, an identity that they posited before they began their inquiry. This approach has been justified on the grounds that if man is not as the social scientists posit, then a scientific study of political and/or social behavior is impossible. For the sake of one view of science, man has been forced, analytically, to conform.

This attitude is amply confirmed in the field of modern systems theory, a theory of systems that tries to escape from the restrictions of the basically closed systems that have so far been discussed.

OPEN SYSTEMS. An open system is one that is influenced by or can influence its environment.³⁷ Organisms are in a sense open systems - they carry on an interchange with their environment. So is a flame.³⁸ Both of these do, in a sense, maintain themselves, but surely persistence cannot be credited to a "flame". Granted, a firefighter may disagree, arguing that "If you don't think a flame persists, try putting out a fire some time." But a flame does not seek out combustible material. True, in any major fire, sparks fly, and sparks are a major factor in the spreading of a fire, but sparks are scattered in all directions,

37. David Easton, A Framework for Political Analysis; Op. Cit., p.62.

38. Ludwig Von Bertalanffy, Robots, Men and Minds; George Braziller, New York, 1967. P. 73.

particularly in the direction that the wind is blowing if there is a wind, thus the sparks may be blown into a river or lake, and sparks cannot drag themselves that extra little distance to a clump of dry grass if they should fall short. In short, the flame cannot seek out new sources of fuel. It exhausts its supply, then dies.

In a sense, all must die. The one glaring regularity of the observable universe is the energy potentials are diminishing. An energy potential exists when there is an area of high concentration and one of low concentration. Energy flows from the high to the low, consequently, at some time in the future it appears that all energy will exist at the same level, there will be no direction, just random motion. This regularity is called entropy. "In open systems, we have not only entropy production owing to irreversible processes taking place in the system; we also have entropy transport, by way of introduction of material which may carry high free energy or "negative entropy".³⁹ However, such a view of an open system is quite mechanistic and the probability of survival of the system is left largely to chance. There is no room for directed action.

But the concept of "open system" is intriguing in that it brings to fore the nature of the parts of the system.

39. Ludwig Von Bertalanffy, Robots, Man and Minds, Op. Cit., p. 76

In order to clarify this point, it is useful to explore Walter Buckley's view of an open system.

To Buckley, "That a system is open means not simply that it engages in interchanges with its environment, but that this interchange is an essential factor underlying the systems viability, its reproductive ability or continuity, and its ability to change".⁴⁰ At the level of sociocultural systems the elaboration of structure that characterizes open systems becomes less substantive⁴¹ and becomes linked almost entirely by information exchange.⁴² Accordingly, sociocultural systems persist because they are based on an exchange and use of information. But this provokes the same objection that applied to Easton above; how do we know that something is information?

The assumption is again that systems persist, the difference being that the sociocultural system persists for different reasons. But this different reason, the existence of information, raises serious consequences about the prevailing view of man, a view that has developed from a simple stimulus-response to the more complex stimulus-response that characterizes computers. The open system dictates the need for purposeful behavior, and social scientists have interpreted this to mean

40. Walter Buckley, Sociology and Modern Systems Theory; Op. Cit., p. 50.

41. Ibid., p. 51.

42. Ibid., p. 50.

any behavior directed towards a goal, the goal being any feature of the environment with which the behaving object strives to attain a certain definite correlation.⁴³ "It is only at the higher levels of evolution or of cybernetic machinery that we find internal test parameters operating in accordance with signals or symbols standing for certain goal-states, which alone make possible goal-directed, "purposeful" behavior.⁴⁴ In other words, if you state the goal, and all of the rules towards its attainment, then you have purposeful behavior and your system is open.

But, do we (societies) have the kind of information required? Do we have a goal? Can survival be taken for granted? This last question can be clearly answered. As Norbert Wiener succinctly argues, survival in the past - survival of societies, survival of mankind in general - resulted largely from our technological impotence; "This has hitherto shielded us from the full destructive impact of human folly."⁴⁵

We must, as Von Bertalanffy argues, escape from the robot view of man.⁴⁶ Further, we must stop analysing analytic systems as though they had a separate existence.

43. Walter Buckley, Sociology and Modern Systems Theory, Op. Cit., p. 69.

44. Ibid., p. 69.

45. Norbert Wiener, God & Golem, Inc.; The M.I.T. Press, 1964, pp. 64-65.

46. Ludwig Von Bertalanffy, Robots, Men and Minds; Op. Cit., Ch. I.

Finally, we must stop looking for systems that do not exist and start developing a systems approach to life. We must, in short, explicate the idea of purpose for social theory. The alternative - to leave human existence in the hands of fate and madmen - is untenable.

BEHAVIOR AS A SYSTEM: According to the Logic of Positivism

In Chapter I, it was shown that systems theory has been restricted by an intellectual environment that is imbued with concepts of Newtonian vintage. This has led to a dilemma, a dilemma between a concept of inquiry and a subject that refuses to submit to the categories necessitated by the concept of inquiry. As was stated, the determining factor in the behavioral persuasion of political science is a concept of inquiry called "science", and it is the bias inherent in this concept of inquiry that is largely to blame for the dilemma. It may be objected that the apparent dilemma results from the yet infant stage of our discipline and that we need be but patient, and with the resulting increase in knowledge, the dilemma will work itself out. Like the early years of astronomy, we are missing some key variables, and, when we discover them, our problems will resolve themselves. This is a plausible argument. However, there is a further possibility, one that I hope to show is more probably the case. It is possible that our dilemma is paradoxical in the sense that it upsets crucial preconceptions¹ and that these preconceptions are implicit in the method of inquiry.

I will try to show that by pursuing the present

1. Willard Van Orman Quine, The Ways of Paradox, Random House, New York, 1966, p. 19.

course of inquiry that the dilemma, far from being resolved, becomes intensified. Further, I will show that the present method of inquiry is self-deluding in that it continually reinforces the bias it introduces; consequently, though it may lead to an increase in knowledge, there is no way that we can distinguish the "knowledge" from the bias. I realize that this criticism may be dismissed as irrelevant in the light of future arguments I will present in which I endorse the view that all knowledge must be viewed as problematic. However, the nature of the doubt differs greatly in the two areas. In the first instance, further research along the same lines will serve only to reinforce the existing data, and serve to "fulfill" a quest for certainty. In the second instance, however, on the principle that the subject is not determined by the methodology, data would be refutable, resulting in a concept of adequacy rather than certainty.²

This chapter will concern itself with a more complete analysis of, and the consequences inherent in, the peculiar nature of inquiry that underlies the behavioral school of politics. The problem will be developed through exploring "behaviorism" in psychology, using the philosophy of Carl Hempel and Ernest Nagel as a paradigm of the style of inquiry. A separate treatment of political behavioralism will be undertaken in the next chapter.

2. See the section on Eugene Meehan in Chapter III, and see Chapter IV.

BEHAVIORISM

It is with caution that the term "behaviorism" is introduced in a discussion of political science. I explicitly distinguished this term from "behavioralism"³ for the stated intentions of the two schools of research are quite different. In terms of their background theory however, the two schools are quite similar. Further, in as much as behaviorism is more dogmatic in its adherence to a particular philosophy, it provides a useful context in which to illustrate the consequences of that philosophy.

Behaviorism, according to B.F. Skinner, one of its chief architects, "...is not the scientific study of behavior, but a philosophy of science concerned with the subject matter and methods of psychology."⁴ Immediately, this statement provokes the questions, (1) "In what way is this philosophy concerned with the subject matter; (2) what is the relationship between the subject matter and the methodology; and (3) what is the relationship between the philosophy and the methodology?"

PHILOSOPHY + METHODOLOGY = SUBJECT

"The basic issue is not the nature
of the stuff of which the world is

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3. David Easton, "The Current Meaning of Behaviorism", in James C. Charlesworth, ed., Contemporary Political Analysis; The Free Press, New York, 1967. pps. 12-13.
 4. B.F. Skinner, "Behaviorism at Fifty", in T.W., Wann, ed., Behaviorism and Phenomenology; The University of Chicago Press, Chicago, 1964. p. 89.

made or whether it is made of one stuff or two, but rather the dimensions of the things studied by psychology and the methods relevant to them." 5

Is it meaningful to speak of the "basic issue" when the goal of inquiry is largely the discovery of basic issues? This question is perhaps not pertinent in that it represents a view of inquiry not presented in the statement in question; however, in order to be pertinent to a statement, that statement itself must be understandable. Skinner is very much interested in the "stuff of which the world is made", particularly the "stuff of which man is made", but his interest is developed in such a way as to make his assertion irrelevant. We will find that in Skinner's analysis, the method of inquiry dictates the nature of the subject matter.

Skinner's method of inquiry is designed to find causal explanations. ⁶ Further, he asserts that "...a scientific analysis of behavior has yielded a sort of empirical epistemology." ⁷ However, even a cursory analysis of his method indicates that he began with, rather than developed, an empirical epistemology, and this epistemology is derived from that view of knowledge that considers causal relationships as being, ultimately, the only relationships that can be explored

5. B.F. Skinner, "Behaviorism at Fifty," Op. Cit., p. 77.

6. Ibid., "When I said 'explanation' I simply meant the causal account". p. 102.

7. Ibid., p. 84.

through the methods of science.

But Skinner is not satisfied with asserting that only causal relationships can be explored through the methods of science, he asserts further that there are no other relationships. "Unless there is a weak spot in our causal chain so that the second link....[the mental process] is not lawfully determined by the first, ...[the environmental variable or cause] or the third, ...[the response or effect] by the second, then the first and third links must be lawfully related."⁸

Skinner's methodology is biased by a theory of knowledge⁹ that has been explored and developed in philosophy by the logical empiricists or logical positivists. As this approach to knowledge has been adequately developed and documented only in philosophy, particularly by Ernest Nagel and Carl Hempel, a digression is here in order. Afterwards, through the perspective of logical empiricism, Skinner's arguments will be dealt with in detail.

THE COVERING LAW PARADIGM

The deductive nomological approach to knowledge, or the Hempel-Nagel paradigm, is a development in logical positivism, an approach to knowledge that seeks "facts" unblemished by

8. B.F. Skinner, Science and Human Behavior; The Macmillan Company, New York, 1953, p. 35.

9. For a good discussion of the influence of a background theory in Skinner's work see Michael Scriven, "A Study of Radical Behaviorism", in Herbert Feigl and Michael Scriven, eds., Minnesota Studies in the Philosophy of Science: Vol. I, University of Minnesota Press, Minneapolis, 1956.

any metaphysical notions. The Hempel-Nagel paradigm adds that these "truths" form a closed mechanistic system that can be understood through a knowledge of the variables and the laws relating them. Once this is known, further knowledge of the system simply entails deduction from the appropriate variables and the laws.

One of the main tenets or dogmas¹⁰ of this approach to knowledge is the concept of "reduction". All knowledge is, in principle, reducible to some primary factors that can be understood fully only through a general nomic logic. It is an approach that stresses the unity of knowledge; that is, the form of explanation used in one field of experience is logically the same as that used in any field of experience, and that the form is best exemplified in the more established sciences, particularly physics and chemistry. Ultimately, all explanations can be reduced to statements of primary variables and their laws of interaction.

REDUCTION. According to Carl Hempel, the question of reducibility has been raised most energetically with reference to biology, on the ground that this discipline could, in principle, be reduced to a study of physical and chemical interactions. Other disciplines, however, are not excepted. Of particular

10. Willard Van Orman Quine, "Two Dogmas of Empiricism". "The other dogma is reductionism: the belief that each meaningful statement is equivalent to some logical construct upon terms which refer to immediate experience." From a Logical Point of View; Harper Torchbooks, Harper & Row, New York, 1953, 1961. p. 20.

interest to the empiricists is the possibility of reduction in psychology, as here it would have a direct bearing on "the famous psycho-physical problem, i.e., the question of the relationship between mind and body."¹¹ Accordingly, Hempel argues, "A reductionist view concerning psychology holds, roughly speaking, that all psychological phenomena are basically physico-chemical in character; or more precisely, that the specific terms and laws of psychology can be reduced to those of biology, chemistry, and physics."¹²

Hempel goes on to mention the possibility of such reduction in the social sciences, arguing that the terms and laws of the social sciences would, someday, be reduced to the laws and terms of psychology, biology, chemistry and physics. But, if one is a careful observer, it becomes obvious that if biology can be reduced (in principle) to physics and chemistry, and psychology can be reduced to biology, then it follows that psychology can be reduced to physics and chemistry. Likewise, to argue that the social sciences are, in principle, reducible to psychology, biology, physics and chemistry, seems to be little more than a confusing way of arguing that all phenomena can be understood, fully, only through the laws of physics and chemistry.¹³

11. Carl Hempel, Philosophy of Natural Science; Prentice-Hall Inc., Englewood Cliffs, New Jersey, 1966. p. 106.

12. Ibid., p. 106.

13. Hempel does not argue that this is yet possible, but he does argue that if perfect knowledge were possible, it would be developed in terms of his reductionist principle.

In attempting to justify this approach to knowledge, Ernest Nagel argues: "...no logical [emphasis his] contradiction has yet been exhibited to the supposition that both the formal and non-formal conditions for the reduction of biology may some day be fulfilled." ¹⁴

Nagel and Hempel perceive the struggle for knowledge as being the reduction of all statements about phenomena to their basic logical constructs and statements of their relating forces. By understanding the nature of the forces and of the constructs and their capacities to combine and interrelate, the behavior of all phenomena can be predicted:

"Thus, the reductive 'definition' of a psychological term would require the specification of biological or physico-chemical conditions that are both necessary and sufficient for the occurrence of the mental characteristic state, or process (such as, intelligence, hunger, hallucination, dreaming) for which the term stands." ¹⁵

Given that knowledge of all physical phenomena - including according to this approach, all phenomena - can be reduced to knowledge of physical and chemical actions and reactions, the obvious question is, "What is the nature of knowledge in these disciplines - physics and chemistry?"

14. I have been cautioned by a philosopher, that arguing that something can be fully understood only through reduction to physico-chemical laws is not the same as arguing that these phenomena can be understood at all only through such reduction. However, I am attempting to establish a particular theory of knowledge.

15. Hempel, Philosophy of Natural Science, Op. Cit., p. 107.

Explanation: As we speak of knowledge of a phenomenon in terms of the extent to which we can explain it, in the discipline in question, Hempel and Nagel argue that knowledge is that which can be deduced from general laws of science:

"Deductive-nomological explanations satisfy the requirement of explanatory relevance in the strongest possible sense: the explanatory information they provide implies the explanandum sentence deductively and thus offers logically conclusive grounds why the explanandum phenomenon is to be expected." 16

This, however, Hempel argues, is insufficient. An explanation, in its strictest sense, must be deduced from general laws and statements of initial conditions, but it must meet two further conditions. In the first place, sufficient conditions must exist for the phenomena to take place, and the explanation must be testable - "the statements constituting a scientific explanation must be capable of empirical test." 17

Consequently, "scientific research in its various branches seeks not merely to record particular occurrences in the world of our experience: it tries to discover regularities in the flux of events and thus to establish general laws, which may be used for prediction, postdiction, and explanation." 18 This position, however, provokes the question, "What is the nature of general laws?"

16. Hempel, Philosophy of Natural Science, Op. Cit., p. 52.

17. Ibid., p. 49

18. Carl Hempel, Aspects of Scientific Explanation; The Free Press, New York, 1965. p. 173.

"The laws required for deductive - nomological explanations....are.... statements of universal form. Broadly speaking, a statement of this kind asserts a uniform connection between different empirical phenomena or between different aspects of an empirical phenomena. It is a statement to the effect that whenever and wherever conditions of a specific kind F occur, then so will, always and without exception, certain conditions of another kind, G."

But, how are these laws discovered or developed? "We may leave aside here", Hempel asserts, "the question of ways of discovery; i.e. the problem of how a new scientific idea arises, how a novel hypothesis or theory is first conceived; for our purpose it will suffice to consider the scientific ways of validation; i.e., the manner in which empirical science goes about examining a proposed new hypothesis and determines whether it is to be accepted or rejected." ¹⁹

Both Hempel and Nagel recognize that their ideal type of explanation is seldom used in the natural sciences, but they insist that this results from imperfect knowledge. Scientists use probabilistic and statistical law explanations, but the "knowledge" that results can never be considered conclusive as is the case with deductive-nomological explanations.

It becomes apparent that to Nagel and Hempel the "world" or the "Universe" in the broadest possible meaning of

19. Carl Hempel, Aspects of Scientific Explanation, Op.Cit., pp. 82-83.

the term is mechanistic, a term that they themselves use to describe their approach to knowledge. This universe is deterministic; that is, its behavior, internally, is regulated by exact laws, laws which have dominion over the land and the sea, the fishes and the birds, and all of the beasts, including man. As all phenomena are subject to these laws, once these laws are understood, the behavior of all phenomena can be predicted if the exact state of the universe can, at any one time be ascertained. That is, if we know what is and know all of the laws regulating the behavior of what is, then any future state can be calculated through the process of deduction. This being the case, one of the goals of Hempel and Nagel, that of prediction, will have been attained.

CAUSALITY. There remains one point of interest to social scientists in the Hempel-Nagel approach, a point that is perhaps the most important of all - the nature of causation. It is essential to note that theirs is but one view of causation; other views will be presented in Chapter IV, but it is through this view of causality that social scientists have adopted the empiricist credo. If it can be shown that causal logic and nomic logic are essentially the same, then, as will be seen in Chapter III, the behavioral school in politics is at least implicitly based on some concept of nomic logic.

Accordingly, the "relation between causal factors

and effect is reflected in our Scheme (D-N): causal explanation is at least implicitly, deductive-nomological".²⁰ Consequently, it would seem logical to argue that at the purest level of knowledge there would be no difference between a "causal explanation" and a "deductive-nomological explanation".²¹

Ideally then, science seeks universal laws and observational data that would permit the full understanding of the universe; permitting the full understanding of the universe at any given time, including the prediction of the state of the universe at any given time in the future.²² This ideal would embody a completely deterministic system²³ and though, Hempel argues, it is unlikely that our level of knowledge will ever be sufficient to grasp a total understanding of the system, we should continue to strive in that direction.

Consequently, it is clear that the Hempel-Nagel paradigm is mechanistic and deterministic. Further, there is

20. Carl Hempel, Aspects of Scientific Explanation, Op. Cit., p. 349.

21. This is implicit when Hempel argues "When this kind of causal locution is used, there usually is some understanding of what "proper" or "standard" background conditions are presupposed in the given context. But to the extent that these conditions remain indeterminate, a general statement of causal connection amounts at best to the vague claim that there are certain further unspecified background conditions whose explicit mention in the given statement would yield a truly general law connecting the "cause" and the "effect" in question. Aspects of Scientific Explanation, Op. Cit., p. 348

22. Ibid., p. 88

23. Ernest Nagel, Structure of Science; Harcourt, Brace & World, Inc., New York, 1961. p. 606.

no significant distinction between the concept of universal causation and the deductive nomological approach to knowledge. As a result, Skinner's preoccupation with causality places him among the adherents to the Hempel-Nagel paradigm.

SKINNER - METHOD AND RATIONALE

Skinner's approach to knowledge is imbued with a logical empiricist philosophy. To some extent this is quite understandable, even commendable. Skinner's approach to psychology can be viewed as a reaction against mentalistic concepts propounded by the Freudian school and by many phenomenological schools. However, as with the logical empiricists in philosophy,²⁴ the behaviorists have substituted one epistemology for another, rejecting the one for being metaphysical yet ignoring the metaphysical basis of that which they substitute, namely, assumptions about universal regularity and causality that allow explanations in terms of covering laws. Having adopted a "new" epistemology, they proceed to "prove" themselves correct, rejecting criticism on the grounds that they are in a "developmental" stage and appealing to the dogma of empirical verifiability as the ultimate and only standard by which a claim to knowledge could be ascertained. In Skinner's case this "proof" has taken the form of empirical observations from repeatable experiments with pigeons and rats. His epistemology, though irrefutable, can be discredited only by discrediting the nature of his experimentation.

24. See Michael Scriven, "Logical Positivism and the Behavioral Sciences", in Peter Achinstein and Stephen F. Barker, eds., The Legacy of Logical Positivism; The John Hopkins Press, Baltimore, 1969.

Skinner's approach to experimentation has two main tenets. First, "we cannot account for the behavior of any system while staying wholly inside it...we must turn to forces operating upon the system from without,"²⁵ and, second, "Unless there is a weak spot in our causal chain so that the second link is not lawfully determined by the first or the third by the second, then the first and third links must be lawfully related."²⁶ Clearly then, Skinner views phenomena as behaving in terms of causal laws; consequently, explanations of behavior must take the form of causal explanations which, as has been shown, are equitable to Hempel's deductive nomologisms. It becomes quite obvious that the concept of "cause" plays a deterministic role in Skinner's research.²⁷ An explanation is "simply...the causal account,"²⁸ and other forms of research are rejected for their "predilection for unfinished causal sequences",²⁹ which, roughly interpreted, has a double significance. First, it rejects mentalistic approaches, for truly they do not produce finished causal sequences. Second, it incorporates a theory of knowledge based on a Hempelian view of "pure" causation. Finally, Skinner insists that "Behaviorism ...is...a philosophy of science concerned with the subject matter and methods of psychology."³⁰

25. B.F. Skinner, Science and Human Behavior, Op. Cit., p. 35.

26. Ibid., p. 35.

27. See "Law of Effect" in B.F. Skinner, Science and Human Behavior, Op. Cit., pps. 60 and 206.

28. B.F. Skinner, "Behaviorism at Fifty", Op. Cit., p. 102.

29. Ibid., p. 93

30. Ibid., p. 79

Skinner is arguing that behaviorism is a philosophy of science concerned with the subject matter and methods of psychology, but the subject matter has already been defined as existing in terms of strict causal relationships, consequently, to state that he is not interested in whether the universe is made up of one stuff or two is empty. By definition, those aspects which are not strictly physical "can in no way alter (it)...[the causal chain]." ³¹ This results in "a sort of empirical epistemology" ³² based on observable and testable data. Clearly, this falls squarely into the Hempel-Nagel approach to the philosophy of science.

If Skinner's theory is testable, empirically verifiable, and in fact, judging by the abundance of the data he presents, empirically verified, then my criticism of the Hempel-Nagel epistemology is without foundation. But Skinner's methods and conclusions have been criticized by many noted scholars including two empirically oriented philosophers, Michael Scriven and Noam Chomsky. As a result, the only way to reach any conclusion on this matter necessitates an investigation into the nature of Skinner's experimentation and the criticisms thereto.

Skinner's rationale is clear. Individual organisms are technically open systems; that is, they interact with their environment. Their behavior is the output of the system or the effect of the causal chain. As there is an output there

31. B.F. Skinner, Science and Human Behavior, Op.Cit., p. 35

32. B.F. Skinner, "Behaviorism at Fifty," Op. Cit., p. 89.

must also be an input for "nothing comes from nothing" or, less poetically, in terms of the law of conservation of energy, energy cannot be created or destroyed. The important question now becomes "what is the relation between the 'input' and the 'output'?" a question that is most pertinent to the problem at hand. Skinner however, categorically dismisses this question, insisting that the relation is strictly, in the Hempelian sense, causal, and that the system can in no way affect this relationship.

To verify his assertion, Skinner performed experiments on rats and pigeons. These experiments took the form of depriving an animal of some necessity, such as food or sexual gratification. In the case of food, "this means a pigeon which has been deprived of food for a certain length of time or until its usual body-weight has been slightly reduced",³³ to the extent, according to Michael Scriven, of their losing "80 per cent of their ad lib weight;"³⁴ By so starving and rewarding a pigeon it can be conditioned to stretch its neck. According to Skinner, "We have therefore, a new sort of control over its behavior: in order to get a pigeon to stretch its neck, we simply make it hungry."³⁵ Similarly, rats can be conditioned to press a bar to receive a pellet of food; or to work through a maze for food or sexual gratification. However, in the case of sexual gratification at least, even if a naive rat is continually frustrated, it has been found experimentally, that he

33. B.F. Skinner, Science and Human Behavior, Op. Cit., p. 68.

34. Michael Scriven, "A Study of Radical Behaviorism", Op.Cit., p. 103.

35. B.F. Skinner, Science and Human Behavior, Op. Cit., p. 68.

will continue to increase his efficiency in passing through a maze. ³⁶ Consequently, in this case at least, an explanation of the rat's behavior cannot be attributed solely to an external variable. Further, in the case of starvation, this form of what I call "desperate behavior" must be treated for what it is, a non-normal situation.

Similar desperate behavior has been recorded by many observers. Amateur social scientists such as John Steinbeck in his books "The Grapes of Wrath" and "In Dubious Battle" ³⁷ have recorded desperate behavior among human beings, where humans behave much as do Skinner's rats and pigeons, but they have also recorded other behavior, no less desperate, where the actions or responses or outputs were quite different and, in terms of Skinner's analysis, quite unexpected. Further, there are many cases where people behave much as do Skinner's rats and pigeons when there is little reason to consider the behavior desperate. But it is Skinner's response to such unexpected behavior that shows the full limitations of his approach. In those circumstances where an organism behaves unexpectedly, this apparent deviance is dismissed as merely being a response to a stimulus other than

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36. Fred D. Sheffield, J. Jepson Wulff, and Robert Backer, "Reward Value of Copulating without Sex Drive Reduction", Journal of Comparative and Physiological Psychology, Vol. 44, p. 3-8, 1951.
37. John Steinbeck, In Dubious Battle; Bantam Books, The Viking Press, Inc., New York, 1936, 1964. The Grapes of Wrath; Bantam Books, The Viking Press, Inc., New York, 1939, 1964. See also Leon Festinger, Henry W. Rieken and Stanley Schachter, When Prophecy Fails; Harper Torchbooks, Harper & Row, New York, 1956.

that expected by the observer. In other words, Skinner's method is not falsifiable for it necessitates seeking the stimulus only after the response occurs. Consequently, in the words of Noam Chomsky:

"....the word stimulus has lost all objectivity in this usage. Stimuli are no longer part of the outside physical world; they are driven back into the organism. We identify the stimulus when we hear the response. It is clear from such examples, which abound, that the talk of stimulus control simply disguises a complete retreat to mentalistic psychology." 38

Skinner succeeds, largely, in merely substituting one form of mentalism for another. It amounts essentially to a shift from a mentalism of the observed to a mentalism of the observer. Yet the results have the appearance of being empirically verifiable.

SYSTEM AND CONTROL. To Skinner, man is a technically open system, one that adjusts to its environment. All behavior is "controlled" by the environment, and the only methods of changing the behavior of the system "reduce to manipulating...[its] environment, verbal or otherwise." 39 Even if the system is

38. Noam Chomsky, "A Review of B.F. Skinner's Verbal Behavior", in Jerry A. Fodor and Jerrold J. Katz, The Structure of Language; Prentice-Hall, Inc., Englewood Cliffs, New Jersey, 1964, p. 553. The examples Chomsky refers to include looking at a red chair, if we say "red", "the response is under the control of the stimulus "redness"; if we say "chair", it is under the control of the collection of properties (for Skinner, the object) "chairness" (110), and similarly for any other response".

39. B.F. Skinner, "Behaviorism at Fifty", Op. Cit., p. 92

"controlling" its own behavior, a concept which Skinner accepts,

"He.../[an individual system/] controls himself precisely as he would control the behavior of anyone else - through the manipulation of variables of which behavior is a function. His behavior in so doing is a proper object of analysis, and eventually it must be accounted for with variables lying outside the individual himself." 40

This creates a somewhat cloudy situation within the context of Skinner's background philosophy. An individual can control himself by exercising control over his environment which would, in turn, re-exercise itself over him, only, it would now be doing so along the lines which he, somehow, considered desirable. This, to me, appears peculiar, as does Skinner's general predilection for control, a concept that seems to result from the predictability aspect of the Hempel theory of knowledge. This would equate somewhat as follows: If we can calculate from a set of laws and specified conditions what will follow, we can predict the consequences of changes in the specified conditions. "Science helps us in deciding between alternative courses of action by making past consequences effective in determining future conduct." 41 This statement is fairly straightforward, and is quite similar to Article 7 of David Easton's eight major tenets of the behavioral

40. B.F. Skinner, "Behaviorism at Fifty", Op. Cit., p. 92.

41. Ibid., p. 436.

credo.⁴² However, Skinner goes on to say that "We all control, and we are all controlled..."⁴³ To refuse to accept control,is merely to leave control in other hands."⁴⁴

As I have argued above, this is a disturbing statement in that it appears to be a paradox. How can the "determined" determine the nature of the determiner, unless one has in mind a master-slave relationship whereby the slave determines the master's behavior towards him by being completely subservient? Yet even this would violate part of the quotation.

To put it briefly, the paradox in Skinner appears to involve purpose: how can the apparently purposeful behavior Skinner would require of his actors be compatible with an explanatory theory that is so trenchantly, mechanically deterministic? Whatever might be Skinner's peculiar shortcomings, however successful might be particular attempts to patch up certain mistakes, this fundamental perplexity must remain. It is part of his philosophy.

42. David Easton, A Framework for Political Analysis; Prentice-Hall, Inc., Englewood Cliffs, New Jersey, 1965, p. 7. "The application of knowledge is as much a part of the scientific enterprise as theoretical understanding. But the understanding and explanation of political behavior logically precede and provide the basis for efforts to utilize political knowledge in the solution of urgent practical problems of society."

43. B.F. Skinner, Science and Human Behavior; Op. Cit., p. 438.

44. Ibid., p. 439.

But why, it could be asked, should a political scientist bother himself with so unrelated a problem. Behaviorism is behaviorism and behavioralism is behavioralism and never the twain shall meet. They have their view of science and of knowledge, we have our own. But consider Eugene J. Meehan's argument, "...scientists seek intellectual instruments that permit understanding and control of phenomena - that control is the central factor in scientific enterprise".⁴⁵

Are we really so far apart?

45. Eugene J. Meehan, Explanation in Social Science: A System Paradigm; The Dorsey Press, Homewood, Illinois, 1968, p. 4.

POLITICAL SCIENCE AND BEHAVIORALISM *

It is difficult to generalize about the epistemology that pervades the "behavioral persuasion" in political science, yet, I will argue, such an epistemology does exist. The problem of dealing with behavioralism results largely from its almost mindless search for a rigorous empiricism that stresses both "scientific" theory and a process of verification testable by reference to "behavior". "If all this still appears rather vague, we can only plead that behavioralists themselves are often astonishingly imprecise in their statements." ¹

Behavioralists, like behaviorists, generally believe that statements about human behavior must be empirically testable. According to David Easton:

1) There are discoverable uniformities in political behavior. These can be expressed in generalizations or theories with explanatory and predictive value.

2) The validity of such generalizations must be testable, in principle, by reference to relevant behavior. ²

Regularities do exist, and once discovered, have predictive value. Further, "the theorist must be assuming the existence and validity of still another kind of proposition, namely, some generalized or

27 ³ Mulford Q. Sibley, "The Limitations of Behavioralism": in James C. Charlesworth, ed. Contemporary Political Analysis; The Free Press, New York, 1967. p. 52.

2. David Easton, A Framework For Political Analysis; Prentice-Hall, Inc., Englewood Cliffs, New Jersey, 1965. p. 7.

causal statement about the relations of facts. Only on the basis of this causal theory is he able to specify with some assurance how his goals can be achieved." ³

Easton is stressing two kinds of positions. First, the application of knowledge is as much a part of the scientific enterprise as theoretical understanding; ⁴ and, second, he is presenting an epistemology. We can act decisively only if we can be certain of "a universal connection between relevant facts." Knowledge then consists of empirical facts and universal connections or causal laws. ⁵ Consequently, Easton's approach to knowledge falls into the Hempel-Nagel approach of deductive-nomologism.

To the same effect, Heinz Eulau, in stressing the need to be scientific, asserts that "science can test only causal relations", ⁶ and that "the future success of behavioral research depends first on the construction of empirical theory which is behaviorally relevant". ⁷ It would seem that we must find

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3. David Easton, The Political System; Alfred Knopf, New York, 1953, p. 311.
 4. David Easton, A Framework For Political Analysis, Op. Cit., p. 7.
 5. The concept of "causation" does not have only one meaning. However, its meaning as used by Easton appears to fall in line with the meaning given to it by the logical empiricists. For a discussion of this term see Chapter IV.
 6. Heinz Eulau, Behavioralism in Political Science; Atherton Press, New York, 1969, p. 17.
 7. Heinz Eulau, "Segments of Political Science Most Susceptible to Behavioristic Treatment" in James C. Charlesworth ed., Contemporary Political Analysis; The Free Press, New York, 1967. pps. 49-50.

"causal relations" within a study of behavior that is "behaviorally relevant". This is a rather peculiar statement, asserting that behavioral science is that science that studies behavior that is relevant to behavioral science and that this behavior exists in terms of causal relationships. Needless to say, this tells us little about behaviorism except that some concept of causation must be given central focus. J

Eulau, however, does not exercise a monopoly over peculiar statements. In rejecting the position which I support, that behaviorism threatens to be deterministic, Karl Deutsch argues that "there is no need to put more 'causality' or 'determinism' into our symbolic models than we have reason to expect to find in the situations we intend to investigate with their aid." ⁸

According to Vernon Van Dyke, "Political Science is concerned with general laws, whether or not they are called by this name. It is also concerned with the reasons and rules for action, with theories, and with the necessary and sufficient conditions for events. How else could explanation and prediction occur? How else could decisions be made?" ⁹ In what could be viewed as a rejoinder, Evon Kirkpatrick argues that "The behavioral sciences, generally have yet to prove their claim to be able

8. Karl Deutsch, The Nerves of Government; The Free Press, New York, 1963. p. 13.

9. Vernon Van Dyke, Political Science: A Philosophical Analysis; Stanford University Press, Stanford, California, 1960. p. 203.

to construct a science of man, to discover the laws of human behavior which can serve as a basis for accurate prediction and control." 10

Then there are statements like that of Alfred De Grazia's "All science is 'social science' in the sense that it is ruled by laws of sociology to some considerable degree." 11

It is clear enough from these specimen statements and from an inspection of the literature that behavioralists have adopted the Hempel-Nagel paradigm, though perhaps not in any very rigorous manner; and, in so doing, they are driven to seek the variables and laws of a deterministic system. To this end there are two recognized approaches. The first and least sophisticated seeks the "facts" which are believed to be immediately perceivable to the trained observer. This approach is best articulated by Arnold Brecht and devastatingly criticized by Thomas L. Thorson:

We are told that one observes the facts,
describes the facts, and to the extent
that it is possible measure the facts.
On this basis empirical generalizations

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10. Evon M. Kirkpatrick, "The Impact of the Behavioral Approach on Traditional Political Science", in Austin Ranney, ed., Essays on the Behavioral Study of Politics; University of Illinois Press, Urbana, 1962. p. 25.
11. Alfred De Brazia, "Commentaries on Morgenthau's Paper": in James C. Charlesworth, A Design For Political Science; The American Academy of Political and Social Science, Philadelphia, December, 1966. p. 81.

are formulated, their implications are made explicit by deduction, tentative explanations are advanced, and the consequences are subjected to further tests. ¹²

This approach is characteristic of empiricism in its reliance on the dogma of reduction, "the belief that each meaningful statement is equivalent to some logical construct upon terms which refer to immediate experience." ¹³

The second approach, that which is most worth criticising, attempts to set up a system of logical constructs. This is the approach of model building. If a model is to be useful it must be in some fundamental ways isomorphic to the subject it seeks to explain. This raises the problem that is common to empiricism in general, and particularly to the Hempel-Nagel paradigm, the problem of isomorphism.

In the physical sciences the problem of isomorphism is solved experimentally. Through the calculus of inference that is implicit in the model, the implications of the model can be tested empirically through experimentation. Why this is so is a puzzle in that there is no way of empirically demonstrating, or accounting for, the necessity behind this isomorphism. Yet, the physical sciences are successful in

12. Thomas L. Thorson, The Logic of Democracy; Holt, Rinehart and Winston, New York, 1962. p. 97.

13. Willard Van Orman Quine, From a Logical Point of View; Harper Torchbooks, Harper & Row, New York, 1953, 1961. p. 20.

pursuing knowledge in this way.¹⁴ It seems that the only viable explanation for this approach must be based on some a priori assumptions about the nature of physical reality. Clearly, these assumptions are metaphysical.¹⁵

In the case of modern systems theory, however, the models do not seem to be verifiable in that they have no calculus of inference, or, more directly, there are as many inferences as there are theorists, and none of them have proven verifiable. Consequently, there is no testable isomorphism. In place of empirical verifiability as exists in the physical sciences, the social sciences have introduced isomorphism through definitional fiat. This is particularly obvious in the work of David Easton, as we shall see. This has resulted from an acceptance of the

14. Stephen Toulmin, Philosophy of Science; Harper & Row, New York, 1954. pps. 28-39.

15. This is obviously the case with the principle of the Uniformity of nature. The situation is, however, an odd one in that "in whatever sense we understand the Uniformity Principle, whether as assumption, as discovery or as manifesto, it has one special weakness: that of irremedial vagueness... For to talk of Nature as uniform is to say hardly anything: no one either assumes or has discovered, or expects to discover an unlimited degree of uniformity in an unlimited number of respects. Stephen Toulmin, Philosophy of Science, Op. Cit., p. 152. However, as Toulmin also admits, the principle does seem to play some role as a pre-logical decision to do science in the first place. The methods of science seem to be set up in such a way as to be oriented towards some concept of nature. See N.R. Hanson, Patterns of Discovery; Cambridge University Press, 1965. p. 67. Peirce, however, goes so far as to argue that scientists must accept some metaphysical concepts, one of them being a peculiar notion of regularity much like the Uniformity Principle. See W.B. Gallie, Peirce and Pragmatism; Dover Publications, Inc., New York, 1952, 1966. pp. 154-155.

Hempel-Nagel paradigm conjoined to a dawning awareness that there are serious problems in applying it. Somehow, we just do not "yet" have the kind of facts that the paradigm demands.

In the physical sciences suitable facts can be found to lend credence to the Hempel-Nagel paradigm. ~~It~~ It will be my contention, however, that such "facts" cannot be found in the social sciences, on the ground that the subject matter of the social sciences is logically distinct from that of the physical sciences: a distinction that is based on the logical categories of agency and purpose. Before discussing agency and purpose, however, it is necessary to illustrate the dilemma of attempting to implement the Hempel-Nagel paradigm to the social sciences. We turn then to the work of David Easton and Eugene J. Meehan.

David Easton: The Concept of System

The consequences for political science of the positivistic epistemology about which I have written at length are perhaps best seen in David Easton's concept of system - surely a paragon of contemporary work. These consequences are essentially of two connected sorts. First, the system in fact is not isomorphic to reality, as any properly scientific model must be; and, second, it cannot be, for the sufficient reason that its central concept - authority - is logically of a sort as in

16. This is not to say that this is the paradigm used in the physical sciences. See Chapter IV for criticisms and alternate possibilities.

principle to require a different sort of reference to reality than is understood by isomorphism in the scientific sense. Put cryptically for the moment: scientific isomorphism represents events or processes which "are" and "always will be", but Easton's "authority" represents no "is", it represents an indeterministic process of "becoming".

We proceed with these in order, but with a word of caution. While the first part is easily enough presented, the second part requires arguments yet to be developed. Consequently, part two of this critique will not be conclusive - it will, rather, present problems and confusions in Easton's theories which, on later analysis, will show the epistemological basis of Easton's theory to be defective.

I. THE PROBLEM OF ISOMORPHISM. To begin with, Easton's system is an "analytic system"¹⁷, a term that is by no means clear in the context of Easton's usage. A system can be analytic in two ways. First, it can be analytic in the sense of being an a priori truth; that is, the system's existence is accepted as a prior or integral necessity of man's existence. Second, a system can be analytic in the sense that it is tautologous; that is, the system has no existence outside of someone's definition. In this sense, the system becomes a tool, or, as David Easton cryptically

17. David Easton, A Framework for Political Analysis, Op. Cit., pp. 35-45.

puts it, "a framework for political analysis", having no necessary connection with reality. Easton, however, appears to want it both ways, using the "tautological" approach as a tool for delineating the a priori system.

If the system's existence is a prior truth, as it would have to be, given the Hempel-Nagel paradigm, the task of the political scientist entails simply discovering both the laws governing the system and the variables from which it is constituted. This, as I have shown, is essentially what Easton is trying to do.

To borrow an example from Easton, if we were trying to analyse religious behavior, the a priori approach would stipulate that there was religious behavior and that such behavior could be understood only through an understanding of the laws governing the religious variables. Obviously, this could tell us nothing about religious behavior unless we could be certain that what we were examining was indeed religious behavior. And, the only way that we could be certain would be to have full knowledge, and, having such, we would know what aspects of human behavior were indeed religious. But if we did have full knowledge we would have no need to analyse. What in fact occurs is an analysis of behavior that we believe to be religious.

It is in his treatment of this group that it becomes apparent that Easton is seeking an a priori truth. To

Easton, "Conceivably the analytic system could be much broader than the membership system since many persons could engage in religious behavior without belonging to religious units." ¹⁸ This strongly implies that behavior can take a form that is prior to human designation. But we still do not know what religious behavior entails. This forces us to the tautological approach to systems theory, using definitions to solve the problem of isomorphism.

If we cannot fully understand the nature of any behavioral system without being able to understand all behavioral systems, how can we find the boundaries of any system so that it can be analyzed? Do we generalize from having analyzed the behavior of a somehow designated group, concluding that any behavior that corresponds to that entered into by members of that group somehow embodies the behavior we seek to understand?

We find ourselves in a quandary. If we analyse the behavior of a group that is designated appropriate through definitional fiat we risk incorporating behavior that has nothing in fact to do with the behavior we want to analyze. A safeguard is the comparative approach, whereby many appropriately designated groups are examined, but what is then done with the data? The behavior that is found common to all or to most of the groups is arbitrarily designated as the behavior that was

18. David Easton, A Framework for Political Analysis, Op. Cit., p. 37.

originally sought. In this way the definitional noose is tightened, with the hope that sooner or later the correct definitions will be found.

But perhaps these corresponding characteristics are essentially of a social nature and that it is the non-corresponding characteristics that, in "reality", designate a system. Otherwise, why would a person raised in one religion change his adherence to another? If the person were sincere in his move it must be based on what he would perceive to be a substantive difference between the two groups.

How does the analytic system help us here? Easton claims that it helps to simplify reality, "...that for purposes of theoretical treatment political activities will be differentiated and temporarily abstracted from all other kinds of activities".¹⁹ This seems reasonable but we have already been cautioned against the myth of simplicity. Further, on what basis is the behavior abstracted? It would seem that it is not so much the abstracting that is analytic as is the framework through which the abstracting takes place. Consequently, the statement that "Just because a political system is an abstraction of one definite kind of behavior among many other kinds, does not leave it any the less empirically observable..."²⁰ is of

19. David Easton, A Framework for Political Analysis, Op. Cit., p. 44.

20. Ibid., p. 44

questionable meaning on the ground that what is construed as politics is behavior within a context that is developed through definitional fiat. What results is a situation wherein we are forced to say: this behavior is political because it exists within a political context, and the context is political for... A, B, and C reasons, which makes it political because... Because what? What designates behavior as being political? What are the boundaries of the system and how are they derived?

Behavior is political only insofar as it exists within a context that is somehow construed to be involved in the kinds of things that political systems involve themselves with. This is an analytic statement. Clearly, we know no more about political systems than when we started, yet, if we are to remain within the confines of the Hempel-Nagel paradigm we cannot escape the dilemma of trying to find a system within which our behavior is necessarily restricted.

We find ourselves forced to make a decision. Are political systems delineable by discovering lawful regularities, thus analytic in the Hempel-Nagel tradition, or do we have a concept about the role of political systems and delineate the system by tracing out the pattern associated with the preconceived role? Easton seems to adopt both. The system is "analytic", and what distinguishes it as political is its orientation "towards the authoritative allocation of values

for a society".²¹ Is this statement descriptive, analytic, or imperative? It is an imperative, treated as though it were analytic yet believed to be descriptive. We must pursue this since the tangled nature of this statement is a consequence of the epistemology in question. In order to do so, however, we must explore the nature of Easton's model more fully. This will require a digression for Easton's model is based on the concept of cybernetics. And, as the major difficulty in Easton's model results from conceptual problems in cybernetics, this digression will lead back to Easton's concept of authority.

THE MECHANICS OF CYBERNETICS. The cybernetic model incorporates a system that has the capacity for directing itself towards a goal. Conceptually, this model incorporates two interrelated difficulties, both of which are central to Easton's problem. The first of these is the concept of "goal"; the second, that of directing or steering.

It becomes evident that "cybernetics" assumes the existence of a technically open system, and it assumes that this system is somehow controlled. This control is expressed in terms of "inputs", "outputs" and "feedback", and is directed towards some concept of purpose or goal that is expressed in terms of the "behaving object seeking to reach a

21. David Easton, A Framework For Political Analysis, Op. Cit., p. 50.

definite correlation in time or in space with some other object".²²

Finally, the purpose attributed to some behaving mechanism is either known beforehand in that its purpose is that designed into it by its maker, or its purpose can be determined only after extensive observation of the mechanism's behavior.²³ In other words, the goal of a mechanism that is designed by someone other than ourselves can be determined only through observation, and, from these observations we impute a goal that explains the observed behavior.

To this point the philosophy of cybernetics seems perfectly plausible. However, its propounders go on to assert that having determined the goal of a mechanism, it is then possible to predict future positions of the mechanism in terms of that goal.^{23A} This clearly illustrates a belief in the existence of regularities, or, more explicitly, a belief in the Uniformity of Nature Principle. This approach is clearly in keeping with the mechanistic epistemology of Hempel and Nagel, and is almost identical to Skinner's behaviorism. There is considerable justification for this assertion but a statement of principle by the authors of modern cybernetics should be sufficient to close this discussion:

22. Arturo Rosenblueth, Norbert Wiener, and Julian Bigelow, "Behavior, Purpose and Teleology", p. 18, Philosophy of Science, Vol. 10, 1943.

23. Arturo Rosenblueth and Norbert Wiener, "Purposeful and Non-Purposeful Behavior", Philosophy of Science, Vol. 17 (1950) p. 325.

23A "To predict the future of a curve is to carry out a certain operation on its past." Norbert Wiener, Cybernetics; The M.J.T. Press, Cambridge, Massachusetts. 1948, 1965. p. 6.

We believe that men and other animals are like machines from the scientific standpoint because we believe that the only fruitful methods for the study of human and animal behavior are the methods applicable to the behavior of mechanical objects as well. ²⁴

The main distinction between Skinnerian behaviorism and cybernetics seems to lie in the concept of feedback, yet this difference is more apparent than real. To Skinner, self-control was possible in that it was possible for the "self" to control the variables that controlled it. This can be interpreted as a very crude, almost inarticulate expression of the concept of feedback. This concept is articulated by Wiener as follows:

We thus see that for effective action on the outer world it is not only essential that we possess good effectors, but that the performance of the effectors be properly monitored back to the central nervous system, and that the readings of these monitors be properly combined with the other information coming in from the sense organs to produce a properly proportioned output to the effectors. ²⁵

Karl Deutsch reinterprets this to "...a communications network that produces action in response to an input of information, and includes the results of its own actions in the new information by which it modifies its subsequent behavior". ²⁶

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- 50 24. Arturo Rosenblueth and Norbert Wiener, "Purposeful and Non-Purposeful Behavior", Op. Cit., p. 326.
25. Norbert Wiener, Cybernetics, Op. Cit., p. 96.
26. Karl Deutsch, The Nerves of Government, Op. Cit., p. 88

Deutsch lists three types of feedback. First, and least sophisticated, is what he calls "goal-seeking" feedback.²⁷ This type is that expressed in the above quote. It informs the behaving mechanism about the present relationship between it and its goal. This feedback can be of two kinds: positive, or deviance amplifying, and negative or deviance deminishing. It is negative feedback that is important in the concept of control.

A second kind of feedback is learning: "It allows for feedback re-adjustments of those internal arrangements... [or parameters] that implied its original goal, so that the net will change it's goal, or set for itself new goals that it will now have to reach if its internal disequilibrium is to be lessened".²⁸ It is here that the problems of authority begin to be manifest.

Finally, the third kind of feedback is consciousness of the internal consequences of the systems "outputs" and of the "inputs" from the environment.²⁹

These three types of feedback can, according to Deutsch, be constructed as a concept of mind, which, "...might be provisionally defined as any self-sustaining physical process that includes the nine operations of selecting, abstracting,

27. Ibid., p. 97.

28. Ibid., p. 92.

29. Karl Deutsch, The Nerves of Government, Op. Cit., p. 98.

communicating, storing, subdividing, recalling, recombining, critically recognizing, and re-applying items of information." ³⁰ Clearly, this description attempts to be purely mechanistic, being derived largely from the field of computer research. ³¹ It does not mention the development of ideas, the method of decision making or, more generally, the creative process. It describes activity within a controlled environment. It describes in principle the process of total exploration within a set of clearly defined laws, a situation that could exist only within the confines of nomic logic and the Newtonian universe to which it is applicable. In other words, it is a complete exploration of one goal state.

In a strictly physical setting, the cybernetic model is quite valuable. However in such a setting, only the first type of feedback is conceivable. It is in fact the concept of feedback that makes cybernetics at all a viable concept. But this very concept, when applied to human interactions, loses all of the objectivity which made it viable in the first place. Information is subject to interpretation, consequently, if the term "feedback" is to play the same role as it does in computers when it is applied to human behavior there must be a standard by which information is evaluated. This necessitates a concept that can be ignored in the case of computers because the authority

30. Ibid., p. 133

31. Norbert Wiener, Cybernetics, pps. 169-180.

function is fulfilled by the people who design and program them. But who programs the programmer? With this we find ourselves faced with Easton's problem of authority. ^{31A}

II. THE PROBLEM OF AUTHORITY. David Easton's political model is that analytic "cybernetic" system which is invested with the authoritative allocation of values. The term "authoritative" refers both to the authorities who make the decisions and to the belief that their decisions will be accepted. According to Easton, "An allocation is authoritative when the persons oriented to it consider that they are bound by it." ³² Further, the occupants of authority roles are those who "engage in the daily affairs of a political system; they must be recognized by most members of the system as having the responsibility for these matters; and their actions must be accepted as binding most of the time by most of the members as long as they act within the limits of their roles." ³³

These authorities form what is essentially the mind of the system, interpreting the feedback and initiating action for the system as a whole. ³⁴ As such the mind of the

31A Obviously, in Easton's model there is no isomorphism and no calculus of inference. In this Easton's discussion of "feedback", "inputs", "outputs", and "boundaries" take the form of "metaphor" rather than "model", and, it can be argued that there is nothing wrong in this for an infant discipline. There are, however, good reasons for rejecting this argument in this case.

32. David Easton, A Framework For Political Analysis, Op. Cit., p. 50.

33. David Easton, A Systems Analysis of Political Life; John Wiley & Sons, New York, 1965. p. 212.

34. David Easton, A Framework For Political Analysis, Op. Cit., p.129.

system appears to be of a type logically distinct from that of the system, for the only condition in which the concept of "decision" can be understood is that in which more than one goal-state is possible. If this were not the case, then the existing goal-state would be constant, beyond change except from external variables, variables over which the laws of the system could have no control. Consequently, the authorities, if they are to fulfill their function, must be of a type that are, with reference to the system, logically similar to external variables. ³⁵

The central concept of authority, however conceived, resists statement by any law statement pertinent to the Hempel-Nagel paradigm. Unfortunately, no rigorous analysis of this assertion is possible here for the necessary arguments are not developed until Chapter IV. In spite of this it is essential that we tentatively introduce some concepts to illustrate some implications of Easton's dominant concept.

"Authority", as Easton is using it, involves the cybernetic concepts of "goal" and "feedback", two concepts that necessitate the introduction of the logical category of "purpose". As was stated previously, cybernetics escapes this problem when dealing with inanimate nature by ultimately appealing to human

35. Norman Malcolm, "Intentional Activity Not Explained by Contingent Causal Laws", in Leonard I. Krimmerman, ed., The Nature and Scope of Social Science: A Critical Anthology; Appleton-Century Crofts, New York, 1960. pps. 347-349.

actions. In such cases, "purpose" is not an integral part of the mechanism, it exists only to the extent that it has been built into the machine by a purposive agent. Consequently, "purpose" cannot be scientifically, isomorphically represented in a model unless that model can take into consideration a purposive agent. Yet what has happened is that the cybernetic model, which necessitates the prior existence of something like man, has been applied to explain human behavior. But a model cannot explain that which it must presuppose; consequently, the only aspects of human behavior that the model can explain does not include those characteristics which are essential to make the model viable in the first place. Consequently, an uncritical adherence to this approach entails a mindless denial of humanity.

This apparent antagonism between the category of purpose - represented in the choices required to direct the system - and the Hempel-Nagel paradigm springs from the determinism inherent in that paradigm. In short, there is a basic antagonism between the logical apparatus of universal laws and the indeterminacy of the apparent necessity to choose among alternatives involving future goal states. In this sense, laws and models suitable to the Hempel-Nagel paradigm are either based on, or themselves represent, a particular goal state. "Authority", however, is in the business of precisely changing or manipulating goal states. What kind of laws could cover such phenomenon? The authorities seem to stand above the possibility of being covered by universal deductive laws, in fact,

it seems that it is only through authoritative decisions that such laws are possible in the first place.

This is not intended as a conclusive objection to Easton's model; it is an attempt to indicate problems involved in the analysis of purpose which must be considered. Easton is of no help to us in such an analysis for he seems to be unaware that such a problem exists. What he does is misguidedly try to be "scientific", thus explaining his preoccupation with an analytic system. Then, from an analysis of American political behavior, he develops a model which he assumes is analytic. However, in his analysis he records behavior that cannot be treated by the paradigm within which he operates. Believing, however that there is no other paradigm, Easton fails to analyse the very concept which is not only central of his model, but is central to exposing the confusion into which he has fallen.

Towards A Recognition of Purpose

Behavioralism has been a reaction against metaphysics and formalism. In this, social scientists have followed the well-worn path of empiricists in general, denouncing all forms of metaphysics except their own. Yet, as I have shown, this has led to a dilemma. Even if the empiricist dogmas are employed, the only way that they can tell us anything about "the world" is determined entirely by the congruence between "the world" and the dogma. In this sense, the dogma is like a key to a code. As long as the code and the key are isomorphic,

the key can be used to decipher any message existing in the form of that code. If, however, the code is of a different logical type, the key is of no value, and little can be gained from arguing that "if only the code were of the correct logical type we could decipher it." Yet the empiricists expect us to accept something even more ludicrous than this. They insist, a priori, that the code and the key are isomorphic, and apologize for their astounding failures in deciphering anything on the grounds that they have not yet had time to discover how to apply the key. Consequently, we find ourselves with systems that are not systems, because we can not find the boundaries in spite of the plea that "if only we fully explore political interactions the boundaries will become apparent." But this form of analytics boggles the mind when we ask "What is a political interaction?" They retort, that which exists between participants whose behavior is politically relevant. "Political behavior is that behavior which exists within the political system."

At this point, in a weakened condition, we are subdued by the awesome observation - politics is distinguished by "the authoritative allocation of values." By exploring all authoritative allocations, making allowances for "parapolitical" systems, the political system is completed, all within the empiricist framework. Not so. The term "authoritative allocation of values" is not empirically verifiable because all behavior can be so described. So all inclusive a term can tell us nothing about any specific interaction. It can then be

argued that the term was meant - as is obvious that it was - to delineate only specific types of behavior. But what is this specific type of behavior that only the political system enjoys? What, in fact, designates this behavior as being political? Is it political, a priori, because it is political; is it political, analytically, because it is the behavior that is found in the political system - thus reviving our original objection; or is it political because someone says it is?

If this last possibility is the case, then some concept of purpose is unavoidable. We must view political systems as being more or less the direct result of human actions upon non-political reality. If these actions were purposive in the sense that they were directed towards the attainment of something, and there is no justification whatever to insist that such has ever been the case, then political science cannot abstract itself from investigation into the concept of purpose. To do so would serve only to strip our discipline of all that is "scientific" and all that is "political". Undoubtedly, we could find some designation for what would be left, but most assuredly, it would not be political science. It is with this perspective, that Eugene Meehan addresses himself to systems theory and to the social sciences in general.

EUGENE J. MEEHAN: Systems and Purpose

Eugene Meehan does not address himself to such questions as "What is 'the political system'"; "How does the political system function?"; or even "Is there a political

system?" To Meehan such questions are either irrelevant or premature. To Meehan, the concept of "system" is a human construct, and as such, was developed to meet certain human needs. Consequently, such concepts as "knowledge" and "explanation" become meaningless unless viewed through some concept of purpose. Without "purpose" nothing is relevant.

Knowledge and Purpose. There is a difficulty in Meehan's approach to knowledge. When he addresses himself to "knowledge" he says one thing but when he discusses applied knowledge he addresses himself to what is, in effect, a different epistemology, with no indication that he is himself aware of the shift. As a result, this section will explore only his view of knowledge, leaving the problem of the conceptual shift for a later discussion.

Meehan addresses himself to a concept of "imperfect" knowledge and to the dilemma this poses to man. As man exists in a somewhat hostile environment, if he is to survive he must have tools with which to cope with that environment. Knowledge is the primary tool. As such, knowledge can be evaluated only in terms of its consequences to man.³⁶ This "instrumental" approach to knowledge is based on the necessity for decisive action and the impossibility of perfect knowledge. But this raises questions about the nature of knowledge.

36. Eugene J. Meehan, Explanation in Social Science: A System Paradigm; The Dorsey Press, Homewood, Illinois, 1968, p. 17.

To Meehan, knowledge can be viewed only within a certain framework. Some concept of purpose forms part of that framework. This framework is completed by two other necessary conditions. The first of these is the nature of the relationship between man and his environment. Man is linked to his environment in some way through his senses. That is, he experiences his environment through his senses. These experiences are in turn somehow organized, conceptualized, given significance. Knowledge then is man's organization of his experiences with his environment. This organization is imposed on the environments, never discovered. ³⁷

The second factor in the framework is public accessibility. That is, knowledge, in the sense in which Meehan is using it, must be available in oral or written form, and open to anyone with suitable training. ³⁸ Private knowledge can exist, and can play an extremely important role in early stages of inquiry, but as it is itself not subject to critical analysis, it is insufficient and cannot be treated scientifically. ³⁹ Science, in turn, is defined as a process of "critical analytic evaluation that makes possible the expansion and cummulation of reliable knowledge." ⁴⁰

37. Ibid., p. 15.

38. Eugene J. Meehan, Explanation in Social Science: A System Paradigm; Op. Cit., p. 16.

39. Ibid., p. 16.

40. Ibid., p. 16.

A third factor, that which was mentioned first, is a concept of purpose. Man's tools are designed to enable him to accomplish something. Basic however, is the need to survive. Without survival, a discussion of purpose is at best extremely naive. Consequently, the purpose in seeking knowledge must, at its absolute minimum, be directed towards survival.⁴¹

Ultimately, the quest for knowledge is the quest for tools that can increase man's probability of survival. It would then appear to follow that knowledge must equip man with the tools necessary to intervene to control those forces in his environment that could destroy him. This leads directly to Meehan's view of explanation.

Explanation, Systems and Purpose. If, as Meehan argues, knowledge can be viewed only in terms of its contribution to man's survival, the Hempel-Nagel deductive nomologism, along with its unitary view of knowledge, can be of little assistance to man. Knowledge would then enable a man to be aware of what was occurring but this epistemology must render him incapable of "acting" on that information. Meehan rejects this approach on the grounds that it is sufficient only if man's aim is to adapt to the environment rather than control it for his own purposes.⁴² If he seeks to control his environment, as Meehan clearly does, then a new concept of explanation is essential. But, does Meehan's approach meet the requirements?

41. Ibid., p. 15

42. Eugene J. Meehan, Explanation in Social Science: A System Paradigm; Op. Cit., pp. 24-25.

The system paradigm differs from the deductive paradigm in that "In the deductive paradigm, the empirical and the logical come together through the 'empirical generalizations' used in explanation", whereas, "In the system paradigm, the linkage is made between an empirical description and a complete logical system."⁴³ The fusion of "the logical and the empirical" is rejected on the grounds that "the adequacy of an explanation cannot be judged solely on logical grounds; some measure of logical competence is needed, but field-relevant knowledge is also essential."⁴⁴ The term "adequacy" refers to the problem of incomplete knowledge. We need, and this is critical for it is central to the contradiction in Meehan's argument, a concept of explanation that can adequately cope with the problem of imperfect knowledge. Such an approach must deal with that which is relevant in a field of inquiry rather than on some preconceived formalistic approach.

To this point there is little with which to quarrel. Human purposes play a commanding role in the quest for and the evaluation of knowledge. As the deductive paradigm does not allow for adequacy of an explanation, or, in Stephen Toulmin's words, for field dependence, it cannot fulfill our needs. Adequacy, in the deductive paradigm, is based on form. The form is either correct or incorrect, and if correct we have

43. Ibid., p. 11

44. Ibid., pps. 11-12. For a good discussion of this point see Stephen Toulmin, The Uses of Argument; Cambridge University Press, 1964. Section I.

perfect knowledge. If the form is incorrect, we have imperfect knowledge, but to evaluate only in terms of perfect and imperfect gives us no basis upon which to act except that of perfect knowledge. And, as such perfection has, I feel fairly confident to state, never been attained, we must remain inactive, if indeed action is even possible, or face the condemnation of randomness. Such an approach is untenable.

Meehan's solution, however, offers very little. Accordingly, "the phenomena to be explained is a logical consequence of the interactions of known variables according to stipulated rules, and any phenomenon that appears in an empirical environment is isomorphic to the loaded system as explained by it."⁴⁵ This immediately raises conceptual problems but a discussion of them will be postponed until Meehan's concept has been further developed.

According to Meehan, an explanation is of two parts, an empirical description and a logical system. The difficulty in Meehan's approach is in the relationship between the empirical and the logical, but stems almost directly from his concept of system.

The Logical System. According to Meehan, a system consists of a set of variables and a set of rules that define every conceivable interaction between those variables.⁴⁶ Further, all

45. Eugene J. Meehan, Explanations in Social Sciences: A System Paradigm. Op. Cit., p. 67.

46. Eugene J. Meehan, Explanations in Social Sciences: A System Paradigm. Op. Cit., p. 50.

systems are by definition, closed and finite otherwise there could be no entailment.⁴⁷ More correctly, nothing could be considered necessary, and this forms the crux of the difficulty in Meehan's approach to knowledge.

A system is a logical construct that is completely defined and is used along with an empirical situation which is such that all of the "entailments of the system have empirical counterparts in observation."⁴⁸ How does this differ from the Hempel-Nagel approach to explanation? Meehan argues that the distinction lies in the nature of the goal of explanation. "The goal in explanation is a perfect match or fit between a complete system and a description rather than a logical fit between a single event and a general proposition, as in the deductive paradigm."⁴⁹ But this is a misinterpretation of the Deductive Paradigm. As I have shown, the deductive paradigm is in fact developed around the notion of a closed system.

Meehan's systems and consequently reality, are, "in principle...fully calculable...."⁵⁰ Yet, as I have shown, this calculation from full knowledge of the variables and their rules of interaction is exactly what Hempel and Nagel present

47. Ibid., p. 51.

48. Ibid., p. 51.

49. Ibid., p. 51.

50. Eugene J. Meehan, Explanation in Social Science: A System Paradigm; Op. Cit., p. 51.

in their deductive nomological explanations. There seems to be little, if any, difference between Hempel's general laws and Meehan's rules of interactions.

Explanation. Explanation, in terms of Meehan's system paradigm seeks to interpret reality within the confines of a logically closed system. Variables in this system are given, somehow, "empirical" significance, then, "assuming that the description is accurate, and that the formal system is logically consistent, explanation is achieved by showing that:

1. If the terms of an abstract calculus are loaded with a given set of concepts, each linked by rules of correspondence to specific empirical perceptions, the rules of interaction of the variables in the system are matched by the relational propositions in the description.
2. Within the loaded system, the phenomenon to be explained appears as a formal entailment.
3. Other entailments of the loaded system are matched by observations within the empirical situation. ⁵¹

There seems to be significantly little difference between entailments from variables and the rules governing their interactions and deductions from general laws.

Purpose. B.F. Skinner proposed that self-control was possible through the self's manipulation of the variables that controlled the self. In a similar manner, Eugene Meehan proposes the concept

51. Eugene J. Meehan, Explanation in Social Science: A System Paradigm; Op. Cit., p. 57.

of purpose. To Meehan, behavior is purposeful in that it contributes to man's survival and man can intervene to control phenomena, yet all phenomena can be explained adequately only through his systems approach. But his systems approach is a closed system governed by strict rules of interaction and the system is, in principle, completely congruent with empirical reality. As such, all behavior is predictable in the sense that it can be calculated from knowledge of the rules and the present state of the system.

This approach enables man to predict the future in that "The expectations are justified because the system demonstrates that given variables, interacting according to stipulated rules, will lead formally to a particular outcome."⁵² It enables further, according to Meehan, "intervention and control in principle over the situation by indicating which elements in the empirical situation could be modified to produce different results."⁵³ As long as the description is accurate and the rules of interaction correctly states, all potential consequences of the situation can be calculated. However, how can man who is also a phenomenon behaving in accordance to strict rules, intervene against the rules that are governing his behavior?

Meehan recognizes that human existence is marked

52. Ibid., p. 57.

53. Eugene J. Meehan, Explanation in Social Science: A System Paradigm, Op. Cit., p. 58.

by decisions, judgements, and in general, dilemmas that lie outside the realm of empiricism. Yet, these dilemmas can exist only in a context of imperfect knowledge. This, it appears at times, he recognizes, arguing that knowledge cannot be judged by absolutist principles, only on the basis of adequacy in a particular situation. However, when he tries to apply his approach to any given situation, he immediately demands more than can possibly be attained. A few examples should serve to illustrate the point.

According to Meehan, "Without adequate descriptions and explanations, the actor in the situation is forced to choose among unknowns - a contradiction in terms."⁵⁴ Yet, is it meaningful to speak of choice unless we are in a situation of imperfect knowledge? Can any other type of choice be made? Meehan, to support his position, presents us with a fairly common situation - choosing a household pet. To Meehan, no one can choose a household pet from among five living creatures. This does not give us enough information on which to make a choice. And on this, I concur. But I disagree when he states that to "choose", would mean to compare each of the live animals to some model or ideal of a household pet, and "living" is not an adequate specification of variables.⁵⁵ When I acquired my dog, she was but a young pup, six weeks old. What variables

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54. Eugene J. Meehan, Value Judgment and Social Science; The Dorsey Press, Homewood Illinois, 1969. p. 55.
55. Eugene J. Meehan, Explanation in Social Science: A System Paradigm, Op. Cit., p. 55.

were specified then? She wet the floor, spread her food all over the place, tore my socks to shreds. Is this what I sought in a household pet? Would she grow to be vicious or friendly? How could I tell? What variables would be adequate to specify whether or not a six-week old pup would make a good household pet? The kind of knowledge that Meehan insists on was in no way available to me, yet I found no difficulty in choosing my dog. Had she turned out to be vicious or excessively unclean, I could have shot her and raised another pup.

A second example of Meehan's perfect knowledge assumption is obvious in the following:

"The social scientist must be prepared to state the consequences of changes in organization or social structure in terms specific consequences for specific individuals or classes if he wishes to make value judgements." 56

Again, is it possible to know the full consequences, specific or otherwise of any action before that action has taken place. Meehan insists that it can and presents his systems approach as the means through which this is to be achieved. But this method is not novel to Meehan, it is merely an accurate statement of the deductive paradigm proposed by Hempel and Nagel.

Meehan recognizes that decisions are an integral part of life and that they are based on knowledge and on human

56. Eugene J. Meehan, Value Judgment and Social Science; Op. Cit., p. 35.

purposes. However, his stress on perfect knowledge presents us with a situation that prohibits us from taking any action unless we achieve that which has never been achieved, perfect knowledge. Meehan, in spite of his correct observations about the need to recognize the concept of purpose, is still seeking general laws which he calls rules of interaction, and, he argues, unless we develop accurate laws, our actions must forever be relegated to the level of randomness. ⁵⁷

CONCLUSION

One part of the spirit of behavioralism can be summed up as "empirical verifiability". As this is one of the main dogmas of logical empiricism it is not inconceivable that other aspects of that philosophy should have also been adopted or developed. Indeed, as I have shown this is largely the case. As this philosophy is essentially based on a concept of system it is reasonable to assume that logical empiricism has played a large role in the development of modern systems theory, and indeed, as I have shown, it has. This is not to say that the philosophy was adopted in total nor that it was adopted only after a careful analysis. Quite the contrary, it was adopted piece-meal, misinterpreted, misused, misunderstood, yet accepted uncritically, and often unawares.

57. Eugene J. Meehan, Value Judgment and Social Science; Op. Cit., p. 55.

In spite of these handicaps, modern systems theory has developed, and, though it has been largely useless in explaining phenomena, it has provided political scientists with new concepts about the very nature of political science itself. Analytic systems have shown us that political behavior cannot be taken for granted and that the study of politics abstracted from human purposes is inconceivable.

Political science can abstract itself from epistemological questions only at its peril. Regardless of the methodology, questions pertaining to the nature of knowledge cannot be ignored for methodologies have implicit within them the rudiments of a theory of knowledge. This being the case, as was seen in B.F. Skinner's approach to experiment, the method of analysis dictates the nature of the data, thus introducing a bias of serious consequence.

In their zeal to escape biases of personal preferences or of concepts with only metaphysical basis, ~~social scientists~~ have adopted a metaphysics so limiting in its application that actors have been rendered totally incapable of action. But people do act, make decisions, intervene to control phenomena and both enjoy the benefits from and suffer at the consequences of these actions. That this is so cannot be denied on empirical grounds. People behave as they do because they have reason or reasons to behave as they do, and as present behavior is based on decisions that in some way were reached in the past, present decisions affect future behavior. They do not predict future events.

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This introduces us again to the realm of purpose, a concept considered necessary by Eugene Meehan, but as was shown, given his epistemology, the concept was correct, but was unworkable.

FROM DETERMINISM TO PURPOSE:Science and Social Science

The basic dilemma of an empirical science of behavior has been illustrated in the preceding chapters. Systems theorists recognize that man is continually faced with decisions and they recognize that these decisions are ultimately based on available knowledge and a goal. But their approach to political science is based on a quest for certainty, a quest that is manifest in their dependence on the existence of "necessary relationships" or "causal or nomic logic". As "nomic logic" appears to preclude the possibility of real human choices, modern systems theory seems to preclude the possibility of political science.

Consequently, if there is to be a science of politics, it is necessary to follow at least one of two non-exclusive courses of action. If we choose to stay within the empirical tradition, it is possible to discredit the "necessity" aspect of causal or nomic logic. This results in an essentially non-fatalistic form of determinism, and would have interesting implications if applied to modern systems theory. If, however, we choose to go beyond the realm of empiricism, and there is no logical reason why we should not, we can adopt the position that "causation" does not preclude concepts of "agency" and "purpose", arguing that while "causal or nomic logic" may be adequate to explain some phenomena, it is totally inadequate in explaining others. As both approaches amount to, in some

sense, an indictment of "causal" or "nomic logic", both approaches will be explored in order to determine their potential consequences to political science in general, and systems theory in particular.

PART I

CAUSALITY

Fatalism and Determinism Criticized

The Hempel-Nagel approach to causality is that of necessary connections. Modern systems theory is imbued with this notion, but occasionally strange statements are made that imply other possibilities. One such statement was Deutsch's assertion that "there is no need to put more 'causality' or 'determinism' into our symbolic models than we have reason to expect to find in situations we intend to investigate with their aid." Another equally peculiar statement is Walter Buckley's treatment of causation: "Modern systems research has suggested, rather, the concept of 'equifinality' and 'multifinality', whereby different initial conditions lead to similar end effects, or similar initial conditions lead to different end effects."¹ This is to say that for any cause there are many possible effects or for any action there are many possible reactions.

In terms of nomic logic such statements are either incomprehensible or are based on incomplete knowledge of the facts. However, the theorists mentioned appeal to new develop-

1. Walter Buckley, Sociology and Modern Systems Theory; Prentice-Hall, Inc., Englewood Cliffs, New Jersey, 1967. p. 79.

ments in philosophy, such as the indeterminacy principle, to give credibility to their statements. As will be seen, such an appeal will not justify their statements, not because they fail to conform to the canons of nomic logic, but because they have misunderstood the new developments to which they appeal.

There are two possible approaches to discrediting the concept of necessity that pervades nomic logic. The first, and futile, attempt tries to show that people can cause events to occur, but insists on the existence of general laws of nature, and, consequently, on nomic logic. The second, and more promising approach rejects nomic logic and raises serious doubts about the status of general laws.

NOMIC LOGIC AND HUMAN CAUSATION. According to John Hospers "determinism is the doctrine of universal causation".² As such, the doctrine asserts only that every event has a cause and is not concerned with "whether the cause is mental or physical, whether it is inorganic nature or organisms or people or God... determinism only says that every event has a cause of some kind, whether we ever find out what it is or not."³

But to assert that a particular event was caused is to assert that "sufficient conditions"⁴ existed and that these conditions were related to the event by a general law of

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2. John Hospers, An Introduction to Philosophical Analysis; second ed., Prentice-Hall, Inc., Englewood Cliffs, New Jersey, 1967 p. 322.
 3. Ibid., p. 322.
 4. Ibid., p. 272.

nature. For example, "that heat is produced in any specific instance when friction occurs can be deduced from a general law of nature asserting the constant conjunction of friction and heat."⁵ These general laws are, in turn, not the result of any epistemology, they exist in nature and it is their existence which necessitates the relationship between a cause, of whatever kind, and an effect. This approach would then necessitate that such causes as people or God must satisfy the stipulation of sufficient condition and be lawfully related to the effects that they cause. Such laws are, by definition, general, and thus applicable in all similar classes of events. To argue otherwise would be to argue that a specific relationship between person A and person B was lawful and that that law applied only in this specific instance. If such were the case, the concept of law would be totally useless.

However, if, as is necessitated by the concept "law", there are classes of events with particular laws governing relationships within those classes, is it possible to escape the doctrine of fatalism,⁶ that which it purports to reject? For, as Hospers succinctly argues, fatalism "flies directly in the face of empirical facts."⁷

5. John Hospers, An Introduction to Philosophical Analysis; Op. Cit., p. 283.

6. "Fatalism does not deny that everything that happens has a cause. It only denies that human beings have the power to change the course of events." Ibid., p. 322.

7. Ibid., p. 323.

In order to clarify this point, it is necessary to present my arguments in a little more detail. If person A is the cause of effect E, then A and E must be lawfully related, consequently event (A,E) is an example of a class of events X which is lawfully related by the general law of nature N. But, according to the deterministic principle, events of class X must also have a cause R. Consequently, event (R,X) causes event (A,E) and cause R must be lawfully related to event (A,E). As a result to say that person A causes an event is to present us with an unfinished causal sequence. The deterministic principle, viewed through the framework of nomic logic demands that person A's actions be itself viewed as an effect that is lawfully connected to some, as yet, undiscovered cause.

When is this regression to stop? Is it an infinite regression of effect to cause; possibly it is a regression to some view of being? In effect, the question boils down to a search for a final cause. And if man's behavior is logically necessary in terms of some non-necessary empirical law,⁸ the search for causes must go beyond man. Consequently the doctrine of fatalism cannot be avoided.⁹

8. John Hospers, An Introduction to Philosophical Analysis; Op. Cit., p. 203.

9. For a similar view see Norman Malcolm, "Intentional Activity Not Explained by Contingent Causal Laws", in Leonard I. Krimerman, ed., The Nature and Scope of Social Science: A Critical Anthology; Appleton-Century-Crofts, New York. 1969.

It becomes evident that nomic logic applied to a concept of general laws of nature can lead only to a doctrine of fatalism. Yet, as Hospers points out, this doctrine is untenable on empirical grounds. As I have shown, this contradiction is central to the behavioralist dilemma.

Determinism and Responsibility

A second theorist who insists on determinism or Universal causation, yet rejects fatalism, is Michael Scriven. According to Scriven, "We may take determinism to be the doctrine that every event in and every state of the world are wholly governed by precise laws."¹⁰ This position at first seems identical to both the Hempel-Nagel epistemology and to the thesis put forward by John Hospers, and like Hospers, Scriven rejects fatalism. However, Scriven's rejection of fatalism is more promising because it is based on a different view of explanations, causation and laws.

LAWS AND DISCIPLINES. Scriven's rejection of fatalism is contingent on the rejection of the unity of science thesis. He contends that the distinction between disciplines is manifest in the explanations as they actually occur in both the social sciences and the natural sciences. In this, it is essential to assert that nomic logic plays no role in the natural sciences, and any attempt to adopt it leads to the absurdities described in the last chapter.

10. Michael Scriven, Primary Philosophy; McGraw-Hill Book Company, New York, 1966. p. 200.

Scriven's rejection of nomic logic is based on the grounds that none of the examples presented as evidence by Hempel and Oppenheim in their original statement of the deductive nomological approach to explanation¹¹ can be made to accord with the requirements of the deductive model.¹² This is not to say that laws are not used in science, for indeed they are; it is a rejection of one view of the nature of and relationship between laws and the phenomenon they seek to explain. According to Scriven, scientific laws are both probabilistic and inaccurate¹⁴ and explanations derived from these laws are essentially non-deductive in character.¹⁵ It seems that Scriven is arguing that explanations in natural science can be only problematic and never, as in the case in the Hempel-Nagel paradigm, necessary.¹⁶

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11. Carl G. Hempel and Paul Oppenheim, "The Covering Law Analysis of Scientific Explanation", Philosophy of Science, 15:2, pp. 135-174
 12. Michael Scriven, "Definitions, Explanations, & Theories", in Herbert Feigl, Michael Scriven & Grover Maxwell, eds., Minnesota Studies in the Philosophy of Science; Vol. II, University of Minnesota Press, Minneapolis, 1958. p. 193.
 13. Ibid., p. 194. See also Michael Scriven, "Explanations, Predictions and Laws" in Herbert Feigl & Grover Maxwell, eds., Minnesota Studies in the Philosophy of Science; Vol. III; University of Minnesota Press, Minneapolis, 1962. Michael Scriven, "The Limits of Explanation", in Bernard Baumrin, ed., Philosophy of Science: The Delaware Seminar: Vol. II; Interscience Publishers, John Wiley & Sons, New York, 1963. Michael Scriven, "The Temporal Asymmetry of Explanations and Predictions", in Bernard Baumrin, ed., Philosophy of Science: The Delaware Seminar, Vol. I; Interscience Publishers John Wiley & Sons, New York, 1963.
 14. Michael Scriven, "The Key Property of Physical Laws - Inaccuracy", in Herbert Feigl & Grover Maxwell, eds., Current Issues in the Philosophy of Science; Holt, Rinehart & Winston, New York, 1961.
 15. Michael Scriven, "Definitions, Explanations & Theories", Op. Cit., p. 192.
 16. Michael Scriven, "A Possible Distinction Between Traditional Scientific Disciplines and the Study of Human Behavior", in Herbert Feigl and Michael Scriven, eds., Minnesota Studies in the Philosophy of Science, Vol. I, University of Minnesota Press, Minneapolis, 1956, pp. 334-335.

Having done away with the Hempel-Nagel paradigm in the natural sciences, Scriven approaches the social sciences, arguing that explanations in the science of behavior is of a logically different kind than that found in the natural sciences. These explanations are non-deductive, central to the study of behavior, and connected to requirements of universality and repeatability of effect.¹⁷ In other words, "In history and psychology there are very well established ways of directly supporting such statements which do not involve stating laws such as those in physics."¹⁸

The distinction between the discipline is based on the nature of the statements from which we infer an explanation. In the natural sciences these statements take the form of laws, in the behavioral sciences, according to Scriven, truisms are logically acceptable.

Truisms and the Escape From Fatalism. The behavioral sciences need not be encumbered with a search of general laws as they exist in the natural sciences. "The reason is that they... [tru-isms] are based on extremely reliable knowledge of behavior despite its being usually too well known to be worth mentioning, and too complex to permit precise formulation."¹⁹ "This can

17. Ibid., p. 339

18. Michael Scriven, "Definitions, Explanations & Theories", Op. Cit., p. 194.

19. Michael Scriven, "Truisms as the Grounds for Historical Explanations", in Leonard I. Krimerman, ed., The Nature & Scope of Social Science: A Critical Anthology; Appleton-Century-Crofts, New York, 1969. p.

be called knowledge of human nature though not scientific knowledge." ²⁰

The difference between truisms and laws is that the former are not necessarily binding, not even probably binding in the sense applicable to physical laws. Unlike physical laws, many truisms could form the basis of an explanation of the same behavior and be equally plausible. The choice between one truism and another must be made on the basis of "situational" or "professional" expertise: accordingly, "The mechanic in his special field and the historian in his, like each of us in the field of human behavior, has learned to spot cause and motives from myriad clues of language and context - in objects, documents, or persons - and even though we can rarely give any exhaustive list, we can often be rightly confident that 'It must have been this - there's nothing else it could have been,' because we can be fairly sure we would have spotted any others that were present in the course of our thorough search." ²¹

This statement presents the concept of adequacy and introduces the diagnostic view of causation. I will have more to say about this shortly.

20. Michael Scriven, "Causes, Connections and Conditions in History", in William H. Dray, ed., Philosophical Analysis and History; Harper & Row, New York, 1966. p. 254.

21. Michael Scriven, "Causes, Connections and Conditions in History", Op. Cit., p. 251.

As truisms are not limited by necessary connections it is logically consistent to subscribe to the doctrine of determinism and reject fatalism, however, in order to develop this point more fully, as Scriven does, it is necessary to explore his views on prediction.

Determinism and Prediction. According to the propounders of nomic logic, explanation and prediction are symmetrical. The perfect explanation would yield perfect predictions, consequently both determinism and fatalism would be the case. Scriven rejects this position on empirical grounds, arguing that while he subscribed to a deterministic doctrine such a doctrine did not entail fatalism and that fatalism must be rejected on empirical grounds.

It is in fact possible to prove "that the behavior of an individual who has in his possession all of the information about him that you have, is unpredictable if he wants it to be, because he will be able to duplicate any prediction that you make, and, because of his motivational conditions, he will in fact do something else."²² But, in order to be consistent, this behavior must itself be repeatable, otherwise we can only wonder at this amazing determinism that permits us to do as we please.

22. Michael Scriven, "Views of Human Nature", in T.W. Mann, ed. Behaviorism and Phenomenology; Phoenix Books, The University of Chicago Press, 1964. p. 172. See also Michael Scriven, "The Complete Robot: A Prolegomena to Androidology", in Sidney Hook, ed., Dimensions of Mind; Collier Books, New York, 1960. pps. 116-117.

In spite of his own arguments, Scriven tenaciously clings to the deterministic doctrine.²³ Further, he will under no circumstances accept fatalism. Man is responsible for his actions if he makes a choice to act as he does even if it is not possible for him to have acted otherwise. For to have made a choice implies that he had good reason to believe that he could have done otherwise even if he in fact could not.²⁴ We see here perhaps the best example of the behaviorist dilemma, the conflict of two doctrines - one which "cannot possibly be correct", and the other which "cannot possibly be incorrect."²⁵

23. "Second, I cannot see any way in which one could establish the claim that human behavior is in principle undetermined and hence, distinguishing its study from that of the presumably determined inanimate world. No matter in how many respects two human state-descriptions are the same, if the ensuing behavior differs, we shall regard that as evidence that somewhere in the individual or genetic histories or in the current circumstances, there must be a difference in the value of a parameter." Michael Scriven, "A Possible Distinction Between Traditional Scientific Disciplines and the Study of Human Behavior", Op. Cit., p. 331.

24. Michael Scriven, Primary Philosophy, Op. Cit., p. 331.

25. Scriven has since reconsidered his position and now rejects Determinism and Nomic Logic as being one and the same. "In recent discussions, some positivists have argued that causal explanations of the kind mentioned above really do implicitly refer to laws in a way which salvages the original thesis. It is true, they say, that the law may not be known, but that there is a law connecting the alleged cause with the effect certainly is implicitly asserted, given the explanation. In my view, this claim is simply a result of a commitment to determinism, and determinism is false." "Logical Positivism and the Behavioral Sciences", in The Legacy of Logical Positivism, p. 207.

In spite of this major weakness, Scriven has succeeded in escaping from the suffocating sterility of nomic logic. His arguments, apart from his conclusions, lend good support to the contention that man can affect the course of events, and, as such, he re-opens the possibility of a social science.

The Diagnostic Approach to Causality

Michael Scriven introduced a view of causation that differs radically from that presented previously. This view presents causation not as a series of necessary connections but a series of relationships that have led to a particular event. According to Norwood Hanson, "the primary reason for referring to the cause of X is to explain X".²⁶ Consequently, the concept of causation becomes a function of an epistemology. As such, to ask for a "causal explanation" is either to be redundant or to ask for an explanation of a particular metaphysical base. In the same vein, Stephen Toulmin argues that whenever questions are asked about causes, special attention is drawn to an event, and the investigation of its causes is a scrutiny of its antecedents focussed on discovering "what would have to be different for this sort of thing to happen otherwise - what in the antecedents God or man would need to manipulate in order to alter the spot-lighted event."²⁷

26. Norwood Hanson, Patterns of Discovery; Cambridge University Press, 1965. p. 54.

27. Stephen Toulmin, The Philosophy of Science; Harper Torchbooks, Harper and Row, New York, 1953, 1960. p. 121.

This is not to say that we should be anthropocentric. What is essential is that the approach be diagnostic.²⁸ The concepts of determinism or agency play no role whatever. In fact, such concepts as the uniformity of nature and universal causation that are strongly appealed to by the determinists are shown to be metaphysical in nature and generally of no value in the physical sciences.

The uniformity of Nature principle, according to popular belief, is essential if science is to exist.²⁹ Toulmin argues that this belief is unfounded. Scientists may appear to subscribe to such a principle, but they in fact place little importance to it. It is more the form of scientific inquiry that suggests the existence of a Uniformity principle than any belief common to scientists. "Non-uniformities and non-correlations, independencies and disconnections are quite as important..."³⁰

This argument has particular force in quantum physics. "Here with quantum phenomena we cannot predict, because we cannot possibly have 'all of the data'; there exists no conception of what it would be like to have data beyond those with which any well designed quantum mechanical problem does begin."³¹

28. Ibid. p. 121.

29. John Hospers, An Introduction to Philosophical Analysis; Op. Cit., p. 259.

30. Stephen Toulmin, The Philosophy of Science, Op. Cit., p. 153.

31. Norwood Hanson, The Concept of the Positron; Cambridge University Press, 1963. p. 30.

The only apparent uniformity in this field exists on the macro-level, and it is a statistical uniformity. On the micro level, things happen with no apparent cause and no apparent uniformity. Carbon 14 nuclii disintegrate quite apart from any known external stimulus. There is no way of predicting which atom will disintegrate next.³² The Uniformity principle can be shown to apply only in the highly artificial realm of Newtonian Mechanics.³³

The principle of causality, quite apart from the question "What caused A?" is the second and related major tenet of determinism. Toulmin and Hanson argue that the causal principle is a statement of the "metaphysical shadows of the arguments we employ in the physical sciences".³⁴ This results largely from the form of experimentation that exists in the physical sciences. These are designed to be as chain-like as possible.³⁵ Consequently, explanations appear chain-like but this results not from the features of the phenomena under investigation, it is a direct consequence of the scientist's training. The chains are deductive,³⁶ and any suggestion of causality can be treated as nothing more than a "metaphysical shadow."

32. Ibid., p. 32-33.

33. Ibid., p. 32.

34. Stephen Toulmin, The Philosophy of Science, Op. Cit., p. 164.

35. Norwood Hanson, Patterns of Discovery, Op. Cit., p. 67.

36. Ibid., p. 61.

There is, however, one important consideration. The diagnostic approach to causality must not be viewed as a counter doctrine. That is, this approach does not deny that factor A within context MPZ resulted in or caused B. For, indeed, this is essentially what this approach insists does occur. What this approach denies is the existence of cross contextual or universal causations.

The Realm of Possibility

There appears to be no evidence in the physical world that entails determinism, much less fatalism. This does not prove the validity of concepts such as "purpose" or "agency", but at least they are no longer precluded. We must enter the realm of possibility for clearly there is no other. As Richard Taylor clearly states, men do sometimes think that they are not caused to do some of the things that they do. Undoubtedly, they are often mistaken. But to affirm that they must always be mistaken is to affirm "that a certain philosophical theory must (somehow) be true."³⁷ As we can no longer afford the luxury of "perfect knowledge" we must come to grips with what we have and develop a concept of adequacy. Such a concept must, of course, be somehow related to a concept of purpose.

37. Richard Taylor, Action and Purpose; Prentice-Hall, Inc., Englewood Cliffs, New Jersey. 1966. p. 264.

PART IIPURPOSEReasons and Appraisals

It would appear that the subject matter of the social sciences must be treated as being of a logically different type than that of the physical sciences. The difference, however, cannot be expressed in terms of explanatory adequacy alone, for the physical sciences are no closer to perfection than are the social sciences. The difference can be expressed only in terms of the nature of the phenomena under investigation. Some human behavior is understandable only with reference to an agent, and, as such, is logically different from the behavior of inanimate things.

The concept of purpose has, however, been used to describe inanimate behavior. The implications of this usage of "purpose" are severe unless it can be illustrated that such usage is itself based on a misconception. But, in order to illustrate this misconception, it is necessary to develop and clarify the concept of "agency". In order to understand agency, however, it is necessary to understand causation, which is itself meaningful only if we accept existence and change. In short, we find ourselves faced with five concepts each of which is central to an understanding of physical and social reality, and each irreducible to the others. These concepts are "existence", "change", "causation", "agency", and "purpose".³⁸

38. Richard Taylor, "Thought and Action", Inquiry, Vol. 12, p. 149.

As some of these categories are contentious, it is necessary to explore and develop some of their more important implications. In the case of the categories of "agency" and "purpose" it is essential to show their importance to political science, for without agency we cannot escape fatalism. Finally, as it is with reference to the category of purpose that behavioral criteria prove themselves most inadequate, a brief discussion of the contrast between purpose as used by Richard Taylor and purpose as developed in the behavioral sciences will be undertaken.

EXISTENCE. The broadest and least contentious of our categories is "existence". This is not to say that it has not been questioned, for indeed it has. "How can we know that anything exists?" is an articulation of the dilemma of the complete skeptic. If it is a quest for certainty, the dilemma cannot be resolved. For in order to be sure, in this sense, that we were not being deceived, we should have to have completed an infinite series of verifications; and it is an analytic proposition that one cannot run through all of the members of an infinite series. ³⁹

According to A. J. Ayer, the skeptic's dilemma is based on applying the wrong criteria in evaluating empirical propositions. The criteria of certainty is applicable only to

39. A.J. Ayer, The Foundations of Empirical Knowledge; Macmillan and Company, Ltd., London. 1940, 1964. pps. 44-45.

the "a priori" propositions of logic and mathematics.⁴⁰ In dealing with empirical propositions "our procedure ... is inductive, and it remains inductive however much sensible evidence we may accumulate."⁴¹

This raises the question of adequacy. If we cannot be certain, and there is no reason to believe that we can, what constitutes adequate knowledge? In other words, given the context of this discussion, what constitutes adequate evidence that we exist? Very few of us would even consider such a question worthy of an answer for truly the evidence is so abundant. But this evidence is often discredited; we find that we often suffer from illusion. According to Ayer, "our senses do sometimes deceive us. We may, as the result of having certain sensations, expect other sensations to be obtainable which are, in fact, not obtainable. But, in all such cases, it is further sense-experience that informs us of the mistake that arise out of sense-experience."⁴²

It would appear that the question of adequacy is intimately connected with a concept of potential self-correction that echoes C.S. Peirce's contention that "inquiry"

40. A.J. Ayer, The Foundations of Empirical Knowledge, Op. Cit., p. 45.

41. Ibid. . p. 45-46.

42. A.J. Ayer, Language, Truth and Logic; Dover Publications, Inc., New York, 1946. p. 39.

of every type, fully carried out, has the vital power of self-correction and of growth." ⁴³ This contention can easily be challenged, but like so many of the propositions dealt with it cannot be disproven. This problem will be re-examined later. Suffice to say that without "truth" we need a type of self-correcting agent.

To the complete skeptic we can indicate nothing. We accept the category of existence because we have good reason to believe that we exist, but if we are called upon to specify these reasons they become less convincing. But to deny that we exist is to quit, thus implying the consequence that we will soon no longer exist.

CHANGE. The category of change is less general, not because it is less applicable, but for the commonsensical reason that unless something exists to speak of it changing is vacuous. Again, this category has its skeptics, but their objections are rejected on the same grounds that the detractors of existence were rejected. Phenomena appear to change and on the basis that we "cannot step into the same river twice" we accept this category.

CAUSATION. A good deal has already been said about causation,

43. C.S. Peirce, in Vincent Tomas, ed., Peirce: Essays in the Philosophy of Science; The Bobbs-Merrill Company, Inc., New York, 1957. p. 233. "This is a property so deeply saturating its inmost nature that it may truly be said that there is but one thing needful for learning the truth, and that is a hearty and active desire to learn what is true".

but there is good reason to say a little more. Since David Hume, it has been fashionable to try to reduce causation to change.⁴⁴ This influence was noted in the work of Karl Deutsch and Walter Buckley,^{44A} but in general, this approach has gained little support in political science. As has been shown, this discipline adheres to the equally dubious concept of "necessary connection". There are other possibilities, however, as noted earlier, and it is these developments that interest us here.

The category of causation introduces an element of order to the category of change. That is not to say that all change is orderly, but that some order can be found to exist in nature. As has been shown, this category plays an important, though somewhat unclear role in scientific inquiry. In so far as it introduces order, causation cannot be reduced to the category of change for to say that "A caused B" is equivalent to saying that, given sufficient conditions 'A' had the power to make 'B' happen.⁴⁵ Though this approach clearly rejects the amalgamation of the two categories, it also denies universal

44. Richard Taylor, Thought and Purpose, Op. Cit., p. 152.

44A Buckley rejects the concept of necessary connection for he realizes that it precludes any concept of purpose. However, in his attempt to introduce the concept of purpose, he adopts an epistemology that not only rejects "necessity" but the concept of purpose as well.

45. "For to say that A made B happen obviously only means that A caused B, and to say that it did this by virtue of its power to do so obviously means nothing more than that A produced B by virtue of its efficacy as a cause - or, in short, that A caused B." Richard Taylor, Action and Purpose, Op. Cit., p. 39.

causation. The category of causation asserts that given a particular context, some variable, be it man, matter, or God, has the "power" to cause some event to take place. This is clearly quite distinct from change and from universal causation. It is essentially a diagnostic approach to causation.

This concludes the discussion of the three categories that are, from a logical point of view, actually employed in the physical sciences. An adequate understanding of physical phenomena can be attained by operating strictly within the confines of these categories, as is attested by the continual great advances in the physical sciences. In the social sciences, however, attempts to restrict ourselves to these categories have proven generally futile. There remain, however, two categories, agency and purpose.

AGENCY. As has been argued, the category of agency plays little if any role in modern political science, and, indeed, in philosophy. "Much modern thought, more or less beginning with Descartes and Spinoza, has involved the attempt to reduce agency to causation."⁴⁶ This is usually done by viewing the agent, in a Skinnerian way, as just one more link in a causal chain. To some people, however, the agent becomes an extremely important link, so important in fact that it becomes almost meaningless to speak of a causal chain. A single example should serve to clarify this point.

46. Richard Taylor, "Thought and Purpose", Op. Cit., p. 152.

If we try to explain the circular movement of a ship's propellor, we invariably refer to the engine. Granted, we refer also to the transmission and to the drive shaft and possibly to the torque transmitted to the propellor through the drive shaft, but invariably we must answer the question "where does the torque come from?" The only way we can answer such a question is with reference to the engine. Granted, the workings of the engine must themselves be explained either in terms of valves, pistons and steam pressure, or in terms of accessible potential energy contained in fossil fuel. If we refer only to these factors, we will be faced with the somewhat ludicrous explanation that the energy in fossil fuels causes the propellor to turn, viewing the second link as being unimportant in that it can in no way affect the relationship between the fuel and the propellor. However, an engine that does not work does affect the relationship, particularly if its "not working" results in its flooding thus possibly leading to a fire. In such a case the engine's behavior leads to the release of energy from the fossil fuel and might indirectly lead to the propellor's sinking considerably further into the water.

Consequently, the actions of the propellor are explicable only in reference to an agent, which is, in this case, a fairly simple machine. An act cannot be explained without reference to an agent.⁴⁷ In this case, it is perfectly correct to speak of the agent as being caused to do what

47. Richard Taylor, Action and Purpose, Op. Cit., p. 63.

it does, but there is no good reason for believing that this must always be the case,⁴⁸ for clearly, the engine did not just occur. It has no purpose of its own. It was developed by a purposive agent.

According to Michael Scriven there is no good reason for believing in determinism, indeed "determinism is false." But, man can be viewed as nothing other than a complex mechanism,⁴⁹ a mechanism that is non-deterministic. This mechanism is distinguished from machines in that it is living, and it is distinguished from other living mechanisms by its degree and type of organization. Anything that this mechanism can achieve is a function of its organization, but this organization is not necessarily stagnant. Consequently, we have a mechanism that is not necessarily predictable, that has feelings, motives, intentions, desires, that are functions of its organization, and as that organization is itself potentially dynamic, the possible functions of such a mechanism are essentially infinite. But, if this is the case, a possible consequence of such a wide range of functions is that of purposive

48. "The concept of agency is, therefore, perfectly compatible with the thesis of universal determinism to which one might at first want to oppose it. It would not, however, be consistent with any claims to the effect that every event can be fully understood and explained in terms of certain conditions sufficient for its occurrence and without any reference to an agent, or with a claim to the effect that, there being conditions sufficient for everything that ever happens, agents therefore have nothing to do with their acts and are never causes of them. There is, however, nothing in human experience to render such claims as these plausible in the first place." Richard Taylor, "Thought and Purpose", Op. Cit., p. 163.

49. Michael Scriven, Primary Philosophy, Op. Cit., p. 181-197.

behavior, which would, once achieved, open a whole new infinite range of variables.

PURPOSE. As has been shown, the category of agency can be dealt with in strictly mechanistic terms, where the term "mechanistic" refers to strictly physical events. It was also seen that such a mechanism could, conceivably, direct its behavior through the context of concepts, motives, and desires - concepts that, though produced by physical processes, can in no way be described as physical. It is this possibility that introduces us to the category of "purpose".

The strongest argument in favour of the category of "purpose" is intimately connected to the behavioral dilemma. According to the behavioral criteria, behavior is in some way goal-oriented and this goal can be determined only through reference to the behaving phenomena's behavior. This position is well articulated in the cybernetic developments of Norbert Wiener and Arthuro Rosenblueth.

Purpose As a Function of Behavior. "The term purposeful is meant to denote that the act of behavior may be interpreted as directed to the attainment of a goal - i.e., to a final condition in which the behaving object reaches a definite correlation in time or in space with respect to another object or event." ⁵⁰ As the goal is to be determined by observing the

50. Arthuro Rosenblueth, Norbert Wiener and Julian Bigelow, "Behavior, Purpose and Teleology", Philosophy of Science, 10: 1943. pps. 18-24.

behavior of an object, Richard Taylor correctly points out that a rolling stone would qualify as a purposefully behaving object.⁵¹

However, Rosenblueth and Wiener were interested primarily in servo-mechanisms⁵² such as radar controlled guns and sound-guided torpedoes.⁵³ Accordingly, a sound-guided torpedo is purposeful, and, according to the behavioral criteria, the goal of the torpedo can be determined through observation under widely varying conditions. But, a sound-guided torpedo focusses on the loudest sound and it can be diverted from the intended target by some high frequency sound waves emanating from the intended target.

Let us assume, therefore, three possible behavior patterns for a sound-guided torpedo. (1) The torpedo explodes upon contact with a ship; (2) The torpedo explodes without having made contact with a ship; and (3) the torpedo sails along until it runs out of fuel. What is the goal of such a torpedo? If the torpedo is merely trying to run out of fuel, the fact that it explodes, possibly sinking a ship, are definitely aspects of its behavior, but such a consequence is merely an unfortunate occurrence. But these behavior patterns, according

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51. Richard Taylor, "Comments on a Mechanistic Conception of Purposefulness:", Philosophy of Science, 17, 1950. p. 311
52. They do claim, however, that there is virtually no difference between the study of man and the study of machines. Arthur Rosenblueth and Norbert Wiener, "Purposeful and Non-Purposeful Behavior", Philosophy of Science, 17, 1950. p. 326.
53. Arthur Rosenblueth and Norbert Wiener, "Purposeful and Non-Purposeful Behavior, Op. Cit., p. 321.

to Rosenblueth and Wiener, are irrelevant. The aspect of behavior that is important, is that the torpedo follows a sound, and "If the missile is pursuing the same sound waves, it is pursuing the same target"⁵⁴ and it is purposeful. In other words, as long as the torpedo is doing what someone wants it to do, it is purposive. Any deviation from this rule renders it non-purposeful.

It becomes clear that purpose, in this context, must apply to an agent other than the behaving mechanism. The only way that we can speak of the torpedo having a goal is in the borrowed sense that someone or an agent had a goal and that the torpedo was merely the instrument through which he was pursuing his goal.⁵⁵

In an attempt to salvage the behavioral criteria of purpose, Walter Buckley has modified the Rosenblueth, Wiener, Bigelow position by arguing that "purpose must involve some internal representation of a goal state, and that it may be in the future or even be non-existent."⁵⁶ Just exactly what

54. Ibid., p. 321.

55. "The difficulty with all such examples is, again, that they are examples of mechanisms designed only to subserve certain purposes of men, having none of their own, and can thus be described as having goals or purposes only in this borrowed sense." Richard Taylor, Action and Purpose, Op. Cit., p. 239.

56. Walter Buckley, Sociology and Modern Systems Theory, Op. Cit., p. 70.

Buckley means by this is unclear, and he does nothing to clarify his position when he adds that "The question of how that representation got into the system, whether it was designed into the servo-mechanism or learned as a belief or motive by the man, is a different question, one that should not prejudice the problem of the purposiveness of the behavior per se."⁵⁷ Buckley is merely avoiding the issue in two ways. In the first place, the question which he dismisses is central of the problem; and, second, allowing for internal representation can tell us about a goal only if that representation is known. The problem is to discover that representation. The question becomes "Can behavior serve as an adequate criterion for the discovery of a mechanisms goal state?"

In order to clarify this question an example is in order. Imagine two telescopes; one designed to search for the planet Vulcan, the other designed to search the skies at random.⁵⁸ Assuming that the two telescopes are identical with the exception of their goal state, is it possible to distinguish, given only extensive observation, the difference in their goal states? If the behavior of each telescope appeared equally random, as it would, then the behavioral criteria would prove totally insufficient to meet the demands placed upon it.

57. Richard Taylor, Action and Purpose, Op. Cit., pps. 238-239.

58. Richard Taylor, Action and Purpose, Op. Cit., pps. 238-239.

Behavior as a Function of Purpose. The full limitations of the behavioral criteria become apparent if we can present an act that is inexplicable or extremely peculiar without reference to some purpose. Examples of this are easy to find, such as a man suddenly awakening in the middle of the night and shooting a hole through his mirror,⁵⁹ but for the purpose of this essay, I will use examples of which I have first hand knowledge.

A survey crew was cutting a line and had to fell a rather large tree. This tree was on a cliff overlooking a main thoroughfare, and this cliff was also a point, the road having to make a sharp turn to get around it. As there was danger of the tree falling on the road, two members of the crew were sent in vehicles to block the road until after the tree had fallen. The tree fell away from the road on one side of the cliff, but fell across the cliff in such a way that the upper part of the tree fell over the road on the other side of the point. The top of the tree, about $1\frac{1}{2}$ feet in diameter, broke off and fell across the box of the pick-up truck that was used to block the road. A tourist, whose car had been stopped by the truck must have been a behavioral scientist for he immediately exclaimed "that was a hell of a way to load a truck!"

Similarly, if a man throws a gun to his shoulder causing it to discharge such that the bullet lodges into a tree,

59. Ibid., p. 237.

can we infer that his goal was to shoot at the tree or even to discharge the gun? ⁶⁰ It is perfectly conceivable that he was simply throwing the gun to his shoulder to test the gun for fit and that the discharge was unintentional. Further, he may have been shooting at some game and missed; or, finally, he may have been shooting at the tree. In all these cases, the behavior is identical except for the agent's goal or purpose.

Finally, people do often seek "real" though non-existent goals, from Holy Grails to Promised Lands. But, unlike a machine whose behavior would then appear random, a person is not limited to only one goal nor is he restricted to a total commitment to any one goal. In pursuing a goal, we have the potential to learn, both about our goal and about other possible goals. Consequently our quest need not be futile nor self-destructive, even though the goal does not exist or exists only in our imagination. As we learn we can re-evaluate our goals and change our behavior in terms of our new knowledge. Such behavior requires a concept of man as maker of choices in terms of purposes. It is both logically irreducible to any other concept and is, in fact, a fair approximation of how people think they really behave. ⁶¹

60. Richard Taylor, Action and Purpose, Op. Cit., p. 237.

61. "Metaphysics, even bad metaphysics, really rest on observations, whether consciously or not; and the only reason that this is not universally recognized is that it rests upon kinds of phenomena with which every man's experience is so saturated that he usually pays no particular attention to them."
C.S. Pierce, in W.B. Gallie, Pierce and Pragmatism; Dover Publications, Inc., New York, 1952, 1966. p. 182.

Sketches on a Concept of Man

It seems then that any solution to the behavioral dilemma must reintroduce a concept of man. In fact, the previous discussion has been an attempt to clear away the remains of a few stubborn robots who, though being the creation of our discipline, have attempted to render their very creators helpless in the struggle for knowledge. Believing that we were being "scientific" we developed a "man", but rather than mould him in our image, we have tried to mould ourselves into his. Had our creation been successful our work would be finished, but not as a result of our success; rather, as a consequence of our failure.

Robots are not proper subjects for social analysis. Social scientists must deal with human beings. But we find ourselves faced with an ever recurring problem - What is man? As the behavioral criteria has proven itself incapable of answering this question it seems necessary that some other approach be taken.

Determinism has proven futile. The concept of purpose, however, seems promising. But how can a concept of purpose be incorporated into a concept of man? The answer to this is almost astoundingly simple, existing perhaps in the form of one of Scriven's truisms. People often think that they are correct when in fact they are incorrect, yet seldom is their being incorrect fatal. When we become aware of a mistake

we "correct" it. Though there is no guarantee that the corrected course of action will prove to be any more viable than its predecessor, as we pursue the new course of action we again learn and in the light of this new information we further judge our actions and purposes. In other words, human behavior can be characterized by the two terms "actions" and "appraisals" and by a belief that we as people have the capacity to make intelligent choices among relatively unknown alternatives. Consequently, our concept of man clearly involves concepts like "freedom" and logically approaches that of a creator and a savior, not in the sense of an all powerful being, but on the grounds that he has a relatively unlimited capacity for action.

But how, it may be asked, can a man such as I have proposed behave as do members of our modern states? Clearly so perfect a being would not tolerate the degree of inhumanity that pervades virtually every aspect of human existence. On empirical grounds then, man's nature appears to be quite different from that presented above. Such objections, though apparently powerful, can be rejected as being the mere whimperings of sterile robots. However, they do provoke a question that must be explored. How can a being with man's capacity submit to the level of dehumanization that characterizes our robot society? An answer to man's alienation is to be found in the field of Sociology of Knowledge.

I have no intention of giving any detailed account of the dehumanizing process. This has been done by

others.⁶⁴ What is important is to try to develop a re-humanizing process. This is essential if we are to escape from the alienating influences of behavioralism and the Newtonian world view that it represents. In short, political science must be a science of development rather than a science of abstraction.

64. Ernest Becker, The Birth and Death of Meaning; The Free Press, New York, 1962. Ernest Becker, The Structure of Evil; George Braziller, New York, 1968. Parts I and II. Ludwig Von Bertalanffy, Robots, Men and Minds; George Braziller, New York, 1968. Norbert Wiener, God & Golem, Inc.; The M.I.T. Press, Cambridge, Massachusetts. 1964. Norbert Wiener, The Human Use of Human Beings; Avon Books, New York, 1967.

SOME IDEAS FOR POLITICAL SCIENCE

"Because they are historical products of human activity, all socially constructed universes change, and the change is brought about by the concrete actions of human beings. If one gets absorbed in the intricacies of the conceptual machineries by which any specific universe is maintained, one may forget this fundamental sociological fact." ¹

In the previous Chapter, I have given reasons for thinking the social sciences logically distinct from the physical sciences. This distinction culminated in a concept of man, a concept that presents man as being potentially a "creator" and a "savior". If such a concept is viable, then how can it affect the nature of the social sciences, and particularly, political science? It is primarily to this question that this chapter is directed.

A Systems Approach to Political Behavior

My approach to systems theory has been largely an exploration of what I have called "the behavioral dilemma."

1. Peter L. Berger and Thomas Luckman, The Social Construction of Reality; Doubleday & Company, Inc., Garden City, New York, p. 116.

This dilemma has been shown to be based on a conflict between a concept of inquiry and a concept of the nature of the subject matter. In systems theory, this dilemma is well exemplified in the work of Heinz Eulau, who, though rejecting the possibility of a completely positivistic study of man, argues that political science can attain the positivistic ideal:

Because human action is purposive and goal oriented, the possibility of an altogether positive behavioral science is indeed questionable, but because human action is purposive, does it follow that "systems as wholes" are also purposive? ²

Eulau answers in the negative, arguing that as the systems are analytic; no other answer is possible. But as was shown in Chapter III, such an approach is unclear, unhelpful, and precludes the possibility of a social science. We now find ourselves faced with the question, "can a system be purposive?"

A "system" can be purposive in the sense that a machine is purposive: the political system is purposive in the borrowed sense that political systems are developed to fulfill human purposes. ³ As such, the political process can be viewed only as a morphogenic process. That is, "the sociocultural

2. Heinz Eulau, Behavioralism in Political Science; Atherton Press, New York, 1969. p. 16.

3. "Political Systems are brought into being as direct or indirect results of more or less deliberate human actions upon non-political reality..." Herbert J. Spiro, "An Evaluation of Systems Theory", in James C. Charlesworth, Contemporary Political Analysis; The Free Press, New York, 1967. p. 174.

pattern....[of which the political system is an integral part]
 is generated by the rules (norms, laws, and values - themselves
 generated in a similar manner) and by the inter-actions among
 normatively and purposively oriented individuals in an ecological
 setting." ⁴ Consequently, the full understanding of a political
 system can appeal neither to initial conditions and laws nor to
 final causes. "Attention must finally be paid to the interactions
 ...[of purposive individuals] generated by the rules, seen as
 only limiting frameworks of action; to the new information,
 meanings, and revised rules generated by the interactions; and to
 the more or less social products that represent the current state
 or structure of the ongoing process." ⁵

The Concept of Rule

The key terms in the above statement is "rule", a term that is unfortunate in that it has been used to delineate everything from nomic laws to "truisms" to something very much like "rules of protocol." Clearly, if the term "rule" is synonymous with "nomic law" the same objections that I have presented in the bulk of this thesis apply here. Buckley, however, uses the term to designate something that acts as "only limiting frameworks of action". This usage of the term "rule" seems similar to that developed by Ludwig Wittgenstein in his Philosophical

4. Walter Buckley, Sociology and Modern Systems Theory; Prentice-Hall, Inc., Englewood Cliffs, New Jersey, 1967. pps. 61-62.

5. Ibid., p. 62.

Investigations, and as such, it might be useful to examine it in the light of Wittgenstein's usage. Accordingly, "Following a rule is analogous to obeying an order. We are trained to do so; we react to an order in a particular way." ⁶

Political behavior, then, would be rule governed, but there would be no necessity that a political actor need be able to articulate these rules. The rules, to an actor fully immersed in any particular social environment, become "invisible" in that they are "usually too well known to be worth mentioning, and....(perhaps) too complex to permit precise formulation." In effect, they become equivalent to Michael Scriven's "truisms". Accordingly, "the rule here does not specify any determinate outcome to the situation, though it does limit the range of possible alternatives; it is made determinate for the future by the choice of one of these alternatives and the rejection of the others - until such time as it again becomes necessary to interpret the rule in the light of yet new conditions." ⁷

It would appear that these rules are, ultimately, prescriptive in that "If it is possible to say of someone that he is following a rule that means that one can ask whether he is doing what he does correctly or not." ⁸ In other words, it is possible to fail to follow a rule correctly and it is possible

6. Ludwig Wittgenstein, Philosophical Investigations, I; Basil Blackwell, Oxford. 1963. p. 82, Section 206. See also sections 192-243.

7. Peter Winch, The Idea of a Social Science; Humanities Press, New York, 1958, p. 92.

8. Ibid., p. 32.

to have to choose between several contradictory rules, including rules that have not as yet been applied. But a rule of behavior cannot exist until it has been tried for the only factor that designates something as a rule is someone's conscious or unconscious adherence to it.

If political behavior is so rule governed, then, clearly, political analysis must direct itself to making the rules explicit. That is, political science must address itself at least to the prescriptions that underlie political behavior. But, as these rules or prescriptions do change, political science must address itself to the dynamics of change. This must include the nature of the transformation from one rule to another and the very nature, development and origin of the rules, otherwise political science would be little more than an afterthought.

We are left, however, with political institutions. How are these to be analyzed? To begin with, the term "institution" has many possible meanings, the distinction being the breadth of applicability. The meaning can range from one aspect of a political system to the system itself. However, these differences are essentially unimportant for this discussion. Political institutions are in some way the product of rule-governed political behavior. To the extent that this is the case, these institutions represent an aspect of the morphogenic product of the prescriptions existing in a particular society. Such a

product, with reference to the political system as a whole, can be referred to as the "purpose" or the "spirit" of the system. As such the system or institution can be analyzed only with reference to such a purpose.⁹

Viewed in this sense, the concept of "purpose" when applied to a social system becomes a function of the socializing process of that system. It is through the process of socialization that a society's norms, goals, and rules are inculcated, and to some extent enforced.¹⁰

SOCIALIZATION AND ALIENATION. The political scientist appears to find himself analyzing the behavior of actors that have been systematically alienated since birth, indeed, the political scientist is himself so alienated. This, however, provokes an important question. What justification is there for arguing the existence of alienation? Granted, given my concept of man, a concept of alienation from "self" becomes logically necessary if we are to make any sense of social reality. But this leaves my position open to the criticism that "alienation" is introduced only to salvage an admittedly metaphysical position. Such

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9. "...the symbolic universe is self-maintaining, that is, self-legitimizing by the sheer facticity of its objective existence in the society in question." Peter L. Berger and Thomas Luckman, The Social Construction of Reality; Op. Cit., p. 105.
 10. Political analysis would then be a kind of functional analysis, using the term "function" to mean "contributing towards something desired". Political analysis would explore the relationship between the dominant purposes and the state of the system, commenting on the possible consequences of the dominant purposes themselves.

criticism may be valid, and should be explored through extensive studies. However, there is a considerable and increasing catalogue of evidence to support the existence of a concept that is logically necessary for alienation to be possible. This concept is socialization.

The relationship between socialization and alienation should be fairly obvious. In order to be alienated it is necessary that one be socialized into a world view that is contrary to one's nature. It is through the process of socialization that the rules of social behavior are learned from "total immersion", they are seldom learned in such a way that they can be articulated. The behavior patterns are learned through stimulated imitation, and, as such, the rules are followed unconsciously. Obviously, then the first step away from alienation entails a consciousness of the rules. By making the rules explicit, man can become aware of his alienation. But awareness is not synonymous with cure. There may, in fact, be little merit to speaking of a cure for alienation. Awareness, however, can lead to a struggle for improvement. The question becomes, "Is there any room for political science in the struggle for awareness and/or the struggle for improvement? In other words, is there any merit in the concept of a prescriptive social science?"

POLITICS AND VISION. Political systems are purposive in that they are developed to fulfill human expectations, but modern political theory has been characterized by a concerted effort to reject as

unscientific and metaphysical any attempt to introduce the concept of purpose to political analysis. By so doing, the political system has been denied the vitality of consciousness that is characteristic of the actions of purposive individuals. This problem has long been recognized, having been clearly articulated at the turn of the century by Lester Ward,¹¹ and later, in a much different context, echoed by Karl Deutsch.¹² Unlike Ward, Deutsch seems to view the malign philosophic consequences of introducing "consciousness" as far outweighing the benefits. True, Deutsch argues, consciousness can lead to development, but nations that have developed consciousness "have in common this one fatal tendency towards the breakdown of national compromise and reconciliation. There are indications of the power of extreme nationalism in many countries - the kind of nationalism that in the end led to the ruins of Berlin."¹³

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11. Lester Ward, Dynamic Sociology, Vol. II; D. Appleton & Company, New York, 1883. pps. 632-633. "It is, in short, the question whether the social system shall always be left in nature, always to be genetic and spontaneous, and be allowed to go listlessly on, entrusted to by no means always progressive influences which have developed it and brought it to its present condition, or whether it shall be regarded as a proper subject of art, treated as other natural products have been treated by human intelligence, and made as much superior to nature, in this only proper sense of the word; as other artificial products are superior to natural ones."
12. Karl Deutsch, Nationalism and Social Communication; The M.I.T. Press, Cambridge, Massachusetts. 1953. p. 172. "Compared to the lightning thoughts or feelings of an individual, any group, such as a nation, has in this respect far less than the mental powers of a cat. Where there groups progress beyond the cat, they do so by shifting the mental work to individuals."

~~Ibid.~~, p. 186.

At first glance, Deutsch's arguments seem compelling but this results from confusing and merging two extremely disparate concepts. The rise of individual consciousness or the struggle from alienation is totally antithetical to the concept of national consciousness which Deutsch fears. It would appear, in fact, that the factors which led to the ruins of Berlin were conditioned by a denial of consciousness.¹⁴ The consequences which Deutsch fears, and this fear seems characteristic of the behavioral sciences, are the direct result of alienation and not the result of rising self-consciousness. Consequently, if we are to escape further tragedies such as Deutsch describes we must address ourselves to overcoming alienation.

Interestingly, social scientists often show little distaste for prescribing for societies other than their own. In studying underdeveloped countries it is considered no grave sin to make recommendations about what should be done to help that country to develop in our image. We study their political histories and pass judgments, arguing that as the approaches to development that have been tried have proven unsuccessful, it is time to try something else. And, where better to find guidelines than in a developed country? These countries are then urged to try "our ways" and reap the benefits.¹⁵

14. Erich Fromm, Escape From Freedom; Avon Books, New York, 1941. 1965. Chapter IV, "Psychology of Nazism", pps. 231-264.

15. For a Systems approach to development see Gunnar Myrdal, Asian Drama; Pantheon Books, Random House, New York, 1968. Appendix ii.

One notable approach to "development" is that pursued by Gabriel Almond. Almond recognizes the importance of socialization, and argues that the biggest problem facing underdeveloped countries is the lack of a cohesive dominant style of socialization.

According to Almond, by the function of political socialization, "We mean that all political systems tend to perpetrate their cultures and structures through time, and that they do this mainly by means of the socializing influences of the primary and secondary structures through which the young of the society pass in the process of maturation."¹⁶ In the course of his investigations of developing areas, he and James Coleman found that "one of the most striking features of all but a few of the seventy-six countries covered in this study is the fragmented character of their political culture."¹⁷ This fragmentation seems, according to a follow-up study by Almond and Verba,¹⁸ to be characteristic of underdeveloped countries.

The implied imperative in these studies is that if developing areas are to "really" develop they must change their socialization process and introduce different social norms, and that these should approximate those of the United States,

16. Gabriel Almond, "Introduction", in Gabriel Almond and James Coleman, eds., The Politics of Developing Areas; Princeton University Press, Princeton, New Jersey. 1960. p. 27.

17. James Coleman, "Conclusion", Ibid., p. 544.

18. Gabriel Almond and Sidney Verba, The Civic Culture; Little, Brown & Company, Boston. 1963, 1965. See also Karl Deutsch, Nationalism and Social Communication; Op. Cit.

for the United States is the most developed country.¹⁹ But developed countries such as the United States are exactly those countries in which alienation is most noticeable and potentially most destructive. Yet it is in these areas that the least is being done. It seems that prescribing for material well-being is acceptable, particularly if the prescriptions are for someone else. But it is increasingly becoming evident that "mental" well-being is at least as important, but in this area no one seems prepared to act.

We find ourselves in the interesting position of being afraid to act. We are afraid of accepting the responsibility of decisive action, arguing that we can never know if our decisions are correct until it is too late. But this argument involves a concept of knowledge that is totally inadequate and inappropriate not only for the social sciences but for any science. But the rejection of certainty does not justify ethical or moral relativity nor does it justify inaction. We need an approach to action that operates within the context of uncertainty. This would necessitate an approach to life that is, logically and literally, experimental.

Towards a Concept of Experiment

The purpose of any social experiment must be the development of a set of rules of behavior that are more compatible to man's potential, and thus, less alienating. As such,

19. In the Civic Culture, the United States is set up almost as a reference group.

it would be an experiment in morality. To those who object to the term "morality" I can only refer them back to my concept of man and to an apparently similar concept presented by Eugene Meehan:

"Man can only become a moral creature to the extent that the meaning of moral is rooted in human capacity and potential; man becomes moral by translating human possibilities into environmental conditions, making possible a rich and varied life experience that can create without reservation and enjoy with the confidence that is born of knowledge, and of awareness of the quality of one's own thinking." 20

In this sense, morality refers to the struggle away from alienation.

The problem that faces us, however, is what rules do we prescribe? I cannot answer this question, I can only suggest a way of trying to find an answer. The answer should by now be fairly obvious. We must become involved in social experiments and in this way test the rules that we are prescribing. These tests would involve experimental communities, probably not whole nations, though it is conceivable, even desirable that a nation as a whole direct its energies towards such communities. It would, however, be undesirable for a nation to try to implement just one large scale experiment for to do so would threaten to block the road to inquiry. Consequently,

20. Eugene J. Meehan, Value Judgment and Social Science; The Dorsey Press, Homewood, Illinois, 1969, pps. 153-154.

it would be conceivable that a nation state ²¹ be divided up in terms of experimental communities rather than states or provinces.

This approach would entail a close relationship between research directed towards discoveries about rules of political behavior and the implementation of potentially less alienating rules. This point is central for it is only by struggling against alienation that we can follow C.S. Peirce's main rule of reasoning. According to Peirce "...there follows one corollary which itself deserves to be inscribed upon every wall of the city of philosophy:

"Do not block the way of inquiry." ²²

This rule must be both adhered to and included as central to the new rules to be developed. Consequently, the first step away from alienation must entail consciousness for not only is alienation a denial of consciousness, it is only through consciousness that we can be aware of the consequences of our actions and thus leave open the possibility of inquiry.

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21. I am using the term nation-state not because I believe in the idea of the nation-state but because nation-states exist. My approach could quite conceivably lead to political evolution past the nation-state.
 22. C.S. Peirce, in Vincent Thomas, ed., Peirce: Essays in the Philosophy of Science; Bobbs-Merrill Company, Inc., New York, 1957, p. 230. Peirce goes on to argue that "on the other hand, to set up a philosophy which barricades the road to further advance toward the truth is the one unpardonable offence in reasoning, as it is also the one to which metaphysicians have in all ages shown themselves the most addicted. Yet science has been infested with overconfident assertion, especially on the part of the third-rate and fourth-rate men, who have been more concerned with teaching than with learning, at all time."

Obviously, this concept of experiment entails at least one logical distinction from experiments in the physical sciences. For in the physical sciences there can be no thought of the feelings, attitudes and thoughts of the subject under experimentation, yet in the social sciences an experiment would be no more than indoctrination unless these factors play an integral part in the experiment. In the social sciences the scientist is himself a subject of the experiment.

OBJECTIONS AND REFUTATIONS. There are undoubtedly a large number of objections which can be raised against any concept of social experimentation. I propose to deal with the three that I consider the most important. The first of these objections insists that the whole concept is impossible in that it is idealistic. In order to succeed it would necessitate the immediate existence of the factors we hope to develop. This argument is valid only if we think in terms of end results. We cannot, however, speak in terms of end results because we can have no conception of what such results would be. The proposed approach is developmental, and as such, we would, hopefully learn as we go along.

There is, however, a corollary to this objection, and this is much more difficult to handle. This corollary goes as follows. If alienation exists and is widespread, what would prompt anyone to want to take part in a social experiment? In the first place, the social experiments that I have proposed would not be immediately possible. It would be first necessary

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to generally raise the level of self-awareness through the larger community, be it nation-state or whatever. In order to reach this objective it is necessary that we systematically counter the alienating influences of our schools and mass-media, using these institutions to help break the strangle hold of alienation and its number one ally, fear.

But, it can be questioned, how can the alienated help raise the other alienated to a level of self-consciousness? Clearly, if everyone was equally alienated the problem would be insurmountable. There are, however, individual differences. This leads to the observation that "Socialization is never completely successful. Some individuals "inhabit" the transmitted universe more definitely than others."²³ Further, different people have different experiences, and, as it is only through experience that consciousness can increase, it is reasonable to presume that there will exist different levels of consciousness. But, it can be asked, how do we know that we are in the hands of the more conscious? This question leads directly to the second objection.

The second objection can be stated as follows.

"How can we be certain that our actions will not have detrimental effects on society? How can we prevent such effects?" Clearly, this does pose a serious problem. However, the solution is to be found in man's nature. If man can learn from his actions then

23. Peter L. Berger and Thomas Luckman, The Social Construction of Reality; Op. Cit., p. 106.

as the detrimental effects begin to manifest, new decisions can be made to counteract these effects. But, clearly, this can be so only if the initial decision is such that it produces no unalterable effects. In other words, there must be some limitations placed upon the scope of social experiments. These limitations, or set of rules, must form the framework within which social experiments may be carried out.

We must, at present, be concerned less with the experiments themselves than with a methodology, a logical structure for social experiments. This is, generally, what must be the direction of political science.

As this limiting framework must be based on some conceptions of man's nature, the term "natural law" seems to be an appropriate term for the framework to be developed. Such a natural law must be developmental, otherwise we would be taking the position that future knowledge could give us no pertinent information about man's nature. Such an approach would be clearly in contravention of our imperative against blocking the road to inquiry. However, it is presently possible to sketch out what H.L.A. Hart calls the "minimum content of natural law."

According to H.L.A. Hart, there are at least five truistic considerations, natural law minima, that form the minimum requirements for any viable concept of social rule or law. ²⁴

24. H.L.A. Hart, The Concept of Law; The Clarendon Press, Oxford, 1961. pps. 189-195.

These are: (1) human vulnerability; (2) approximate equality; (3) limited altruism; (4) limited resources; and (5) limited understanding and strength of will. Clearly, all but the first of these are subject to further research and development. ²⁵

Further, none of these four can be expressed in any clear, strict, manner. Approximate equality does not mean that we are approximately physically or mentally equal, nor is it intended as an imperative, as a goal we should strive towards. It can be interpreted only as a principle of intent, that everyone must be given an environment in which he has approximately equal opportunity to develop. How he develops is not relevant to this truism.

What is relevant to the truism of approximate equality, however, is the truism of "Limited understanding and strength of will." This truism asserts that our understanding of natural law will be limited and our ability to abide by it conditioned by individual differences. As such, it is necessary that there exist some legitimate body capable of imposing coercive sanctions against those who act contrary to the natural law. This body would have two functions; (1) protecting those who obey the law; and (2) helping those who violate it. Such a body would itself be developmental.

25. Some may argue that it is conceivable that human vulnerability will someday be overcome but the foreseeable possibilities are slim.

Finally, the first truism, that of human vulnerability, must be viewed as existing on an equal level to our Peircian imperative. This is necessary on two grounds. First, the sanctions of death has often been used to still the inquiring mind. Second, on a larger scale, if in the pursuit of knowledge we bring widespread destruction, that destruction will itself impede the possibility of further inquiry. Knowledge is of little use to a corpse.

This leaves but one major objection, one that asserts that we do not have the right to interfere with the social environment. This objection can be given little credence on the grounds that it is not possible to have a social system without having some group meddle in the affairs of others. But meddling has often proven disastrous, and for that reason a systematic effort conditioned by the fore-mentioned considerations becomes essential. Consequently, unless someone accepts the concept of meddling as being acceptable yet rejects any systematic approach towards development, this objection need be considered no further. In the case of the meddler, it is difficult to treat such a peculiar notion as even worthy of consideration.

There is, however, one good reason for taking action, and this reason is closely related to my concepts of man and of inquiry. In order to learn we must act. Contemplation is an important part of inquiry, but contemplation without action cannot be anything but sterile. Any rejection of fatalism must accept some concept of action.

CONCLUSION

Behavioral scientists have tried to adopt what they believe to be the spirit of science-objectivity. To this end they have tried to purge their discipline of all metaphysical concepts. This has led to a total rejection of nearly everything that has traditionally been labelled "social science". Correctly, it was found that the science of man was thoroughly imbued with one form of metaphysics or another, a state that was lamented as being untenable for a discipline pretending to the status of "science". Science, it was believed, pursued truth, unbiased by any form of metaphysics. "Scientific knowledge" was "objective", a truth for once and for all.

As the social sciences were clearly not objective, behavioral scientists tried to remedy the situation by rejecting the traditional approaches to their disciplines, adopting instead the proven methodologies of the physical sciences. It was, and still is, mistakenly believed that the spirit of science was an indivisible part of its methodology, and, as that methodology had been legitimated by its success in the physical realm, it was believed that its adoption would lend legitimation to the behavioral claim to science.

Unfortunately, though they were highly critical of their own disciplines, behavioral scientists proved completely uncritical in their adoption of the "scientific method". This

has resulted in the behavioral dilemma, a paradox incorporating a fatalistic epistemology and a desire to act. This desire is evident in the works of B.F. Skinner, David Easton and Eugene J. Meehan, yet these theorists remain unaware that their concept of action is antithetical to their epistemology.¹

There are two possible solutions implicit in the behavioral dilemma. On the one hand, if the desire to act dominates, the theorist must accept a peculiar form of elitism - one that views the scientist as being above the constraints of his epistemology, constraints that apply to everyone. The scientist would then necessarily be super-human, a claim that is necessarily tinged with metaphysics. On the other hand, there is the denial of the concept of action. This position wholeheartedly subscribes to the fatalism inherent in the behavioral epistemology, rejecting the concept of action as being just another form of metaphysics, one which had yet to be recognized for what it was. But this position denies the possibility of science, and as such is untenable on empirical grounds.

A third possibility rejects certain preconceptions implicit in the dilemma, viewing determinism as being itself

1. This criticism applies as well to Walter Buckley and to Ludwig Von Bertalanffy; however, in the case of these theorists, they recognize the threat inherent in the present methodology more clearly than their predecessors. Unfortunately, they fail to recognize that the threat resides in the methodology.

metaphysical. In the social sciences, however, this possibility remains virtually unexplored. Why this is so, is puzzling, yet, as I have shown, puzzles form the crux of the behavioral dilemma.

Behavioralists, generally, have been so concerned with ridding their disciplines of recognized forms of metaphysics that they have unconsciously adopted another, to which they steadfastly cling through their tenacious adherence to the methods of "science". As a methodology holds implicit within itself a concept of the subject under investigation, it is essential that that concept be pertinent to the subject. That this is the case is evident in the physical sciences, but it is also evident that the concept is inappropriate to the social sciences.

In their search for the spirit of science behavioral scientists have grasped the naive dogma of simplicity. In their quest for knowledge, all that was not simplistic was immediately reinterpreted through the dogma of reduction. Through the use of catch-word formulas the physical and social universes have been defined and interpreted and proffered as "truth". But the "method" adopted is not only inapplicable to the social sciences, it is not that used in the physical sciences.

What is to be our course of action? We have a clear choice. We can try to determine more accurately the methods of "science" and adopt them, or we can try to develop methods of our own. The first course entails a belief in the unit of science.

That is, an acceptance of the methods of the physical sciences entails a belief that the subject matter of the two fields is logically similar. In other words, it would entail an adoption of the concept of reality that has proven successful in the physical sciences. But this metaphysical conception of reality imposes a bias into the course of inquiry, a bias that has, in the case of the physical sciences, been well justified. The existence of this bias, however, introduces a doubt about the validity of the unity of science thesis for that thesis insists on some fundamental concept of objectivity that is incompatible to the bias of the physical sciences. It would appear in fact that it is impossible to pursue knowledge without some form of bias. It is imperative, however, that the bias be pertinent to the subject under investigation.

There is no good reason to suppose that the unity thesis is indeed a viable concept, and there is ample evidence to the contrary. As a result, if the social sciences are logically distinct from the physical sciences, the methods of the physical sciences are not only of no particular assistance, they are, in fact, a hindrance in that they deny the possibility of asking certain fundamental questions. And, as I have shown, questions about action and purpose are central to any science of man.

We must, then, direct our energies towards the development of a method of inquiry and analysis that is suitable to our discipline. Further, as the methods of the physical sciences incorporate a metaphysical concept about the nature of physical

reality, it appears essential that we develop a concept of man. Such a concept would then play a central role in our quest for a method.

Consequently, the most pressing problems facing the social sciences today are epistemological in nature and require a metaphysical treatment. This being the case, social scientists must become philosophers for the confusion that characterizes the behavioral sciences could be much more clearly approached if the social scientist were equipped with the philosopher's critical faculties. Further, this would accelerate the introduction of post-Newtonian concepts into social discourse, an introduction that is long overdue.

Human behavior is neither strictly determined nor is it random. Man's behavior is conditioned by rules, be they socially inculcated or individually derived. From this observation it is evident that man is distinct from strictly physical phenomena. Man can choose from relative unknowns. Robots, to our knowledge, cannot. To ignore this is to become an active participant in the process of alienation.

Social scientists generally, and political scientists in particular, have a choice. We can become the vehicle of alienation; or, we can begin the struggle towards "self-awareness". Clearly, the latter is the only viable alternative, the only alternative that does not violate the only true spirit of science.

DO NOT BLOCK THE ROAD TO INQUIRY.

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