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POLITICAL THEORY AND PERSONAL KNOWLEDGE

by

Collin R. Piprell B.A.

A thesis submitted to the Faculty of
Graduate Studies and Research in partial fulfillment
of the requirements for the degree of
Master of Arts
Department of Political Science

Carleton University

Ottawa, Ontario

January 4, 1978

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ABSTRACT

This paper provides an interpretation of Michael Polanyi's theory of personal knowledge. It is the writer's thesis that this epistemological alternative to "objectivist" scientific standpoints can inform the contemporary theoretical debate within the discipline of political science. One general contribution to modern political thought can be found in a more comprehensive perspective that may enable one to view the currently fragmented approaches and objectives of theory and research as a potentially unified endeavour. The knowledge of fact and value, the practice of science and criticism, the study of politics and ethics all become continuous and intimately interrelated activities, rather than distinct conceptual categories.

As well, the categories of negative liberty as opposed to positive liberty, and the idea of the individual as opposed to the community, are reconceptualized. Freedom and authority, it is argued, can be compatible forces within a system of spontaneous order directed to a leading interest transcending the interest in maintaining a stable social and economic system.

Finally, it is argued that the theory of personal knowledge offers a modern ground for the retrieval of an authoritative, rather than coercive, guide to political (and moral) action. This, together with a revised and more comprehensive notion of what actually constitutes the "political", may point the way towards an adequate justificatory theory for liberal-democratic values and institutions, as well as reconcile the pursuits of political science and political philosophy.

ACKNOWLEDGEMENTS

The epigraphs on page 1 of the text are taken from the following sources:

Leo Tolstoy, quoted in W. G. Runciman, Social Science and Political Theory (Cambridge: Cambridge Univ. Press, 1969); p.156.

Michael Polanyi, "The Two Cultures", in Marjorie Grene ed., Knowing and Being: Essays by Michael Polanyi (Chicago: Univ. of Chicago Press, 1969), p.41.

The titles of the following periodicals shall be abbreviated in footnotes:

American Journal of Political Science (AJPS)

American Political Science Review (APSR)

TABLE OF CONTENTS

	<i>page</i>
INTRODUCTION	viii
PART ONE - OBJECTIVIST SOCIAL SCIENCE	
Chapter 1 OBJECTIVES OF MODERN POLITICAL THEORY AND RESEARCH	1
I. The Behavioral Revolution	2
II. The Post-Behavioral Revolution	5
III. Theory and Practice	7
Chapter 2 SOME LIMITS ON OBJECTIVIST THEORY	21
I. Prediction	24
II. Explanation	28
III. Description	31
PART TWO - PERSONAL KNOWLEDGE AND SCIENCE	
Chapter 3 THE THEORY OF PERSONAL KNOWLEDGE I	45
I. Understanding	47
II. The Structure of Tacit Knowing	52
III. Scientific Discovery	60
IV. Problems of Grounding Truth, and a Metaphysics	68
V. Indwelling	76
VI. Indwelling and Culture, the "I" and the "We"	80
Chapter 4 THE SCIENTIFIC COMMUNITY	107
I. Scientific Community as a "Form of Life"	109

II. The "Rules" of the Scientific Form of Life	115
III. Mutual Authority	121

PART THREE - PERSONAL KNOWLEDGE AND POLITICS

Chapter 5	THE THEORY OF PERSONAL KNOWLEDGE II .	149
	I. Emergence	154
	II. Science and the Humanities . . .	165
	III. Hermeneutics as an "Under- standing" Method	178
Chapter 6	THE POLITICAL COMMUNITY	195
	I. Freedom and Technology	198
	II. Freedom and Morality ,	213
	III. Dimensions of Community	221
	IV. The Free Society	240

Chapter 7	CONCLUSION	266
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BIBLIOGRAPHY	281
------------------------	-----

TABLE OF FIGURES

	page
Figure 1 THE STRUCTURE OF TACIT KNOWING	53

INTRODUCTION

The intention of this essay is to analyse the means whereby Michael Polanyi attempts to establish a basis upon which modern Western man may ground "truth", as well as theoretically derive a basis for authority and political obligation. We shall examine his endeavour to justify a moral sense and an ethics which avoid both the absolutism of dogmatic rationalism as well as the radical relativism of "objectivist"¹ thinking. At the same time, the role of political theory and philosophy within modern thinking about politics shall be clarified.

Polanyi, generally speaking, is concerned to provide an alternative to the deterministic implications of positivistic science and of historical materialism (as well as to the radical, horizonless freedom suggested in some existentialist thought). He offers his epistemological theory of "personal knowledge" as a more adequate standpoint from which to describe and explain the growth of man's knowledge.

The modern objectivist schools of thought, in his opinion, threaten the pursuit of pure science and have led to the denial of man's true project. The inability of objectivism to justify evaluative judgments which have significance beyond particular social and historical contexts

implies that man's behaviour is only causally determined, and that man has no moral responsibility beyond that of a contingent and parochial obligation to his society.

In broad terms, Polanyi attempts to establish the existence of universal values by which men may guide themselves. He begins with a critique of the assumptions of modern scientific thinking, and ends with what is essentially a moral argument, attempting to offer theoretical justification for personal responsibility to the community and obligation to transcendent ideals. Polanyi rejects the critical paradigm of logical empiricism, which is grounded in a radical scepticism. He develops an epistemological alternative to the positivist basis of the scientific method, and derives from this what he considers to be sufficient reason for the "dogmatic" holding of certain beliefs. This, in turn, permits him to express a critical preference for one type of social organization rather than another. At a time when contemporary liberal-democratic thinkers are searching for an adequate theoretical basis for political obligation and authority within Western democracies, Polanyi suggests what is perhaps a fruitful approach to a consistent justificatory formulation.

Within the framework of personal knowledge, problems inherent in the Cartesian dualism which pervades modern Western thought are overcome. It no longer makes sense to

distinguish strictly between categories that are formally dichotomized by objectivism. Man and world, subject and object, fact and value, description and evaluation, science and criticism, relative and absolute, individual and community, freedom and authority are among those categories which must be reconceptualized. Science ideally becomes one unified study of man and nature - with man resuming his rightful position at the centre of his universe, and claiming responsibility for his own actions.

Despite the contributions of scientific rationalism to moral, social, and intellectual progress, the ideal goals of science are ultimately misleading and unattainable. Polanyi goes so far as to maintain that the authority of science has become "the greatest single source of fallacies today."² Furthermore, in its implicit denial of personal responsibility, it becomes a convenient and effective instrument of totalitarian violence. Part of our immediate problem, says Polanyi, is to avoid the fallacies of science while maintaining both the material and intellectual benefits it can provide. The answer, he implies, lies in a philosophical anthropology:

... we can start mending this supposed break between science and our understanding of ourselves as sentient and responsible beings by straightening out our conception of scientific knowledge

Let us incorporate into our conception of scientific knowledge the part which we our-

selves necessarily contribute in shaping such knowledge.³

A theory of knowledge which includes the active and continuing participation of the knower in his knowledge will help to establish, for one thing, a continuity between the methods and subject matter of the natural sciences and the humanities. In spirit, Polanyi is close to Husserl, who has said that

... science is a human spiritual accomplishment ... which, in being practised and carried forward continues to presuppose this surrounding world [the intuitive surrounding world of life, pre-given as existing for all in common] as it is given in its particularity to the scientist.⁴

Furthermore, Polanyi goes on to follow, although in a distinctive manner, Husserl's idea of the premier project of modern thought - the

... scientific inquiry into the way in which the life-world constantly functions as sub-soil, into how its manifold prelogical validities act as grounds for the logical ones, for theoretical truths.⁵

Perhaps part of the basis of certain inherent problems within modern social science is that philosophical endeavour is no longer granted any practical value, in many quarters. It is often seen as only one esoteric and compartmentalized facet of man's activity. Polanyi's ideas, however, point the way to a possible reconceptualization of philosophy as a vital critical complement to all of our investigations - whether of "nature" or of "man". More-

over, it can be argued, political philosophy is that pursuit which is most immediately concerned with the understanding of the realm of interpersonal activity - the realm which is actually constitutive of all our conceptual knowledge.

Maurice Merleau-Ponty has suggested that

Philosophy and [the social sciences] have long lived under a segregated system which has succeeded in concealing their rivalry only by refusing them any meeting-ground, impeding their growth, making them incomprehensible to one another, and thus placing culture in a situation of permanent crisis.⁶

This separation has been ostensibly maintained despite the fact that as soon as the social scientist interprets his data, he is involved in philosophizing.

Merleau-Ponty prescribes a critical role for philosophy, one which is not merely compatible with the sciences but one which is essential if science is to preserve contact with the underlying interests of human community. Polanyi

would concur with the statement that

Philosophy is not a particular body of knowledge; it is the vigilance which does not let us forget the source of all knowledge

... each time the [scientist] returns to the living sources of his knowledge, to what operates within him as a means of understanding the forms of culture most remote from him, he practises philosophy spontaneously.⁷

The spectacular growth of scientific knowledge, Polanyi would argue, can be attributed partly to the fact that in practice scientists do not actually honour the

formal tenets of scientific method. Perhaps in the natural sciences it does not particularly matter that knowledge lacks a real philosophical grounding, or a criterion of truth other than that a proposition or theory "works." However, when our knowledge of human phenomena must refer for its authority to the premisses of natural science, where these have been misleadingly formalized by a philosophy of science, then Polanyi maintains that the consequences are culturally destructive.

Polanyi is commonly described as an experimental chemist turned philosopher of science. His concern is usually understood to be that of a critique of the orthodox conception of scientific method. James Wiser, for example, has said that:

Although his own interest is to establish the social position of the scientific imagination, his investigation can be expanded easily so as to include the elements of a general social theory and its accompanying ethical arguments.⁸

Polanyi, himself, in the Preface to Personal Knowledge, says that this book

... is primarily an enquiry into the nature and justification of scientific knowledge. But my reconsideration of scientific knowledge leads on to a wide range of questions outside science.⁹

In the present essay, however, it is argued that his critique of the scientific orthodoxy is better described as a secondary objective (although a necessarily prior one

in terms of approach). It represents a means towards a larger critique of Western social and political thought. It is Polanyi's argument that an inconsistent and self-contradictory scientism has filled that vacuum left by the near extinction of older sources of authority transmitted by tradition. Whereas the false ideal of detached and disinterested neutrality is "perhaps harmless" in the physical sciences, "we shall see that it exercises a destructive influence in biology, psychology, and sociology, and falsifies our whole outlook far beyond the domain of science."¹⁰

In fact, given the intimate relationship of thought and society which shall become apparent within the framework of personal knowledge, and the consequent irreducibility of science and criticism, we can argue that any critique of knowledge (scientific or otherwise) must involve a critique of society.

In Chapter Three of the text, we shall examine the structure of tacit knowing, reestablishing the personal participation of the knower in what is known, arguing for the essential intersubjectivity of conceptual knowledge, and finding a basis upon which we might speak meaningfully of a

metaphysics. Chapter Four will go on to interpret the scientific community in terms of the theory of personal knowledge - arguing for the compatibility of freedom and authority within a system of spontaneous order. In Part Three, we shall develop the conception of an evolutionary process of emergent meaning, suggesting a continuity between biological evolution and man's knowing and attribution of meaning to his existence. It will become apparent, in Chapter Five, that Polanyi is attempting to provide criteria of meaning other than the bi-furcation of all phenomena into either sense or non-sense, scientifically meaningful or non-meaningful. On the basis of these arguments, we shall contend that there is a continuity between the subject matter and methods of the sciences and the humanities. Then, using the scientific community as an ideal model, and applying the alternative criteria of significance which were justified in Chapter Five to political community, we shall argue that the "political" must be reconceived of as a multi-dimensional interest and activity. Revised conceptions of truth, freedom, and authority, it will be indicated in Chapter Six, can be related to an analytic perspective which might once more justifiably view politics and ethics as being irreducibly part of the same study.

Rather than initially review Polanyi's critique of the assumptions and practice of natural science, we have

chosen, in the first two chapters, to provide an overview of the discipline of political science. It will appear that the current orthodoxy within this pursuit (inasmuch as one can say that an orthodoxy actually exists) has borrowed many of those same formal assumptions that the philosophy of natural science describes. Our object here will be to show that there are inherent problems in this enterprise, and that these dilemmas lead us just as surely to that position where we must at least seriously consider alternative epistemologies. At the same time, it is hoped that the succeeding arguments, outlining the theory of personal knowledge as one alternative worthy of our interest, will appear more immediately relevant to political thought - indicating, for one thing, what is possibly most significant about "post-behavioral" theory, inasmuch as it could legitimately be called a "revolution" or counter-revolution within the discipline.

Notes to the Introduction

¹The type of thinking at which Polanyi directs his philosophical critique includes many variations, although it can be argued that they are generally positivistic in their fundamental presuppositions. Polanyi, however, chooses to use the term "objectivist" to describe them, since this connotes the fact that they all have "set up as the ideal of knowledge the conception of natural science as a set of statements which is "objective" in the sense that its substance is entirely determined by observation, even while its presentation may be shaped by convention." (Polanyi, Personal Knowledge: Towards a Post-Critical Philosophy [N.Y.: Harper and Row, 1964], p.16). With an approach based in radical scepticism, they ostensibly refuse to consider "real" any other than data which are felt somehow to be tangible and essentially independent of man's knowing of them: "The method of doubt is a logical corollary of objectivism. It trusts that the uprooting of all voluntary components of belief will leave behind unassailed a residue of knowledge that is completely determined by the objective evidence. Critical thought trusted this method unconditionally for avoiding error and establishing truth." (Ibid., p.269). The logical positivist foundation of objectivism has been typified by L. Kolakowski as having four basic characteristics (although in dealing with any one objectivist thinker, this typification might have to be qualified). It is denied that there is any essential reality underlying, or lying beyond, that which is accessible to direct empirical observation - the "rule of phenomenalism." Reference to phenomena must be connected to our scientific language in a direct, one-to-one relation of empirical acquaintanceship. General or conceptual terms must be regarded as merely heuristic devices, and we must not be led into assuming that there exist substantives which correspond to what is implied in them - the "rule of nominalism." Thirdly, cognitive value is denied to normative statements and value judgments. Facts and values are absolutely heterogeneous. Finally, the positivists commonly hold a belief in the essential unity of the scientific method. Where this method is apparently inadequate in the social sciences, it is only because these disciplines have not yet developed to the level of the natural sciences. Eventually, all knowledge could be expressed in the common mathematical language of the "exact" sciences. (Kolakowski, The Alienation of Reason: A History of Positivist Thought [N.Y.: Anchor Books, 1969], pp.3-8). Thomas Spragens has suggested that all modern

thinkers who are properly classed as objectivist share two essential features. First, they presuppose a given, static ontology; and second, they assume an essential homogeneity of knowledge and the world - a one-levelled ontology.

(Spragens, The Dilemma of Contemporary Political Theory: Toward a Postbehavioral Science of Politics [N.Y.: Dunellen, 1973], p.73). Within this orthodoxy, any statement about human behaviour that purports to be scientific must be capable of being either ostensibly verified or deductively tested. Otherwise, that statement does not contribute to meaningful, intersubjectively transmissible knowledge: "All contemporary positivists are convinced that valuational predicates have no experiential counterparts; as for predicates characterizing logical values ('true', 'false') they are supposed to refer not to things but only to sentences [the effect of these fundamental premisses of positivism result finally in] the reduction of all knowledge to biological responses." (Kolakowski, Alienation, pp.207, 208). With the spread of both positivism and Darwinian evolutionary theory, a belief arose that man's existence and behaviour represent an accidental development, and that human thought is only one particular adaptation to the environment - a function of the organism similar to respiration and digestion. These attitudes, as well as an "awakening of the historical sense, [led to] a combination of ethical evolutionism and historical relativism [as] the predominant attitude in our science." (Max Weber, "Objectivity in Social Science and Social Policy", in E. A. Shils and H. A. Finch eds., Max Weber on the Methodology of the Social Sciences [Glencoe, Ill.: Free Press, 1949], p.52). Polanyi claims that, despite disclaimers on the part of particular objectivists, their position logically implies a Laplacean mechanics. Their ideal objectives, strictly speaking, "sustain a universal tendency to enhance the observational accuracy and systematic precision of science, at the expense of its bearing on its subject matter." (Personal Knowledge, p.141).

²Michael Polanyi and Harry Prosch, Meaning (Chicago: Univ. of Chicago Press, 1975), p.25.

³Ibid., pp.28, 29. This may be considered a re-statement of the classical Greek dictum that it is first of all necessary to "Know thyself." However, as our arguments develop, we shall see that the knowing subject must first be understood differently than it traditionally has been.

⁴Edmond Husserl, "The Life-World and Theoretical Praxis", in Existential Phenomenology and Political Theory: A Reader, ed. Hwa Yol Jung and with a Foreword by John

Wild (Chicago: Henry Regnery, 1972), p.3. He goes on to say that "When science poses and answers questions, these are from the start, and hence from then on, questions resting upon the ground of, and addressed to, the elements of this pregiven world in which science and every other life - praxis is engaged." (Ibid., p.4).

⁵Ibid., p.7.

⁶Maurice Merleau-Ponty, "The Philosopher and Sociology", in Jung (ed.), Existential Phenomenology, p.65.

⁷Ibid., p.81.

⁸James L. Wiser, "Personal Knowledge and the Promise of Autonomy", Political Theory 2 (Feb., 1974):81.

⁹Polanyi, Personal Knowledge, p.xiii.

¹⁰Ibid.

PART ONE

Objectivist Social Science

CHAPTER 1

OBJECTIVES OF MODERN POLITICAL THEORY AND RESEARCH

Science is meaningless because it gives no answer to the question, the only question important to us: "What shall we do and how shall we live."

Leo Tolstoy

Empirical induction, strictly applied, can yield no knowledge at all, and the mechanistic explanation of the universe is a meaningless ideal ..., because the prediction of all atomic positions in the universe would not answer any question of interest to anybody.

... [Further], the naturalistic explanation of morality ... must ignore, and so by implication deny, the very existence of human responsibility. It too is absurd.

Michael Polanyi

We shall begin this discussion by asking: "What is the object of political science research?"¹ Without agreement as to the ends of our pursuit, what hope is there that we might expect agreement as to the most fruitful attitudes

toward, or areas and methods of, research? How can we assess the results of any specific research in any meaningful way? As a beginning, we can discuss the answers to these questions which have been offered by behavioral theorists, whose influence has been widespread in the post-World War Two decades.

I. The Behavioral Revolution

One prominent behavioral theorist, Robert Dahl, reports with approval how the American Social Science Research Council (SSRC) defined its task in 1950: research was to be

... concerned with the development of theory and improvement of methods which are needed if social science research on the political process is to be more effective.²

Again, he refers to SSRC policy outlined in 1951 by David Truman, who stated that the "ultimate goal" of the political scientist was to be the development of a science of the political process where "fruitless speculation" should give way to empirical verification. "Ought" statements should ideally be eliminated, and quantified terms should be used wherever possible. An empirical political science should be concerned with description -- with "what is" -- and not with "oughts" and "appraisals".³

Similarly, Dwight Waldo, in his Political Science in the United States: A Trend Report, concludes that the most

important trend is towards a conception of reality as that which is amenable to study using the methods of the natural sciences - where techniques and concepts of the physical and biological sciences are freely borrowed. He sees a concomitant preference for the existential, rather than the conceptual; for the "real", rather than the ideal.

Despite differences among various behavioralists, in David Easton's opinion, they do have the common goal of modeling their methodological assumptions after those of the natural sciences. Empirical theory must, in principle, be reducible to testable propositions:

Unlike the great traditional theories of past political thought, new theory tends to be analytic, not substantive, explanatory rather than ethical, more general and less particular.⁵

Others have suggested that behavioralism may be viewed as an attempt to bring political science either to a more comprehensive paradigmatic level or, perhaps, to provide a paradigm where there had been only non-scientific (or pre-paradigmatic) theory before.⁶ Gabriel Almond, for example, agrees that a new paradigm, as yet "crude, partial, and often pretentious in its first formulation", has arisen in the past few decades. This paradigm, "more surely scientific", has the concept of the "political system" at its centre.⁷

Many would reject this view, however, and say that despite some broad transformations in the discipline because of the "behavioral revolution", it does not in fact represent a paradigmatic change. More accurately, they would maintain, it can be conceived of as simply representing new developments in techniques of data accumulation and analysis. What has actually resulted is the generation of many distinct "theories", whereas a true paradigmatic change is presumably evidenced when the community of scientists tend to hold one theoretical approach in preference to possible alternatives. As a result, it could be argued, contemporary political science has been ostensibly undertaking "normal science",⁸ while having no actual underlying paradigm.⁹

In addition to the evident disunity in theory and method, it was also early becoming apparent that there were inconsistencies inherent in the positivistic, behaviorally-oriented approach to political phenomena, in practice. Somit and Tanenhaus, for example, mention that the American Social Science Association had been heavily policy-oriented since its inception in 1865. Even during the post-World War Two period, when a large number of political scientists began to

... reflect on the possible incompatibility between the scientific pursuit of knowledge and participation in programmed and applied policy undertakings ... the idea that

political scientists should attend strictly to scientific inquiry made very slow headway.¹⁰

Dwight Waldo, in his survey of the discipline, also marks a growing concern with policy problems - parallel and opposed to the predominant tendency towards strictly objectivist scientific method, and caused, he suggests by "environmental" factors (i.e., social crisis and unrest). This former tendency has led to inconsistent and even paradoxical theoretical positions for those of the behavioral persuasion. Waldo notes an early trend to "escape from ethical relativism", but concludes that it is characteristic of a relatively smaller group which leans toward "religion, idealism, or natural law." The larger, behavioral group - adhering to "some form of naturalism" - still explicitly attempts to maintain normative neutrality in their research.¹¹

II. The Post-Behavioral Revolution

It may be suggested that

... political scientists take themselves too seriously, and the subject of their discipline not seriously enough [The] basic problem behind the divisions within the discipline [is] the question of how political analysis can be related professionally to political evaluation.¹²

In fact, a much discussed "rescue operation from within positivism itself" was attempted.¹³ Easton's article, "The New Revolution in Political Science," has been hailed as

a harbinger of "the transformation of the [behavioral] revolutionary advance into a caput mortuum." ¹⁴

In this paper, Easton noted that the behavioral revolution was scarcely completed before it had been "overtaken by the increasing social and political crises of our time." ¹⁵ This was reflected in a new conflict within the discipline of political science, itself. Easton now describes the rise of a post-behavioral revolution whose slogans are "relevance" and "action." In fact, whereas there had been much talk of the decline of political theory, it can be suggested that this "decline" has merely represented a crisis in objectivist political science; where there is espoused the idea of a fact/value dichotomy. Scientists of the latter persuasion have strongly tended to view theory in distinct categories of either "scientific" (behavioral) methodology, or as value-laden "ideology." ¹⁶ Theory has been reduced by them

... in the name of methodological purification
... to the lowly role of handmaiden to political science conceived in behavioralist terms -
[- finally becoming equated with experimental hypothesis. This approach leaves us] with
'theories' of voting behavior, decision-making, social change, and the like, but no theories of right action in politics. ¹⁷

At the same time, the importance of a value-cognitivist "resistance movement" has not been generally recognized by positivistic thinkers. The value-cognitivists, as well, have tended not to recognize each other's contributions and

similarities in principle.

III. Theory and Practice

Perhaps we may generalize, and say that one central goal of all political scientists is the establishment of a common body of political knowledge. A major division, however, exists between a standpoint which would want to simply describe and explain the world, and one which would wish to change it.

The behavioralists have been largely limited, within the formal principles of the scientific method, to (1) the description of empirical phenomena, (2) the explanation of causal relationships between those phenomena, and (3) predictions based upon regularities observed in these relationships. Easton, for example, in A Framework for Political Analysis, emphasizes the importance of theory as it functions to systematize research. Here, research and theory are seen as intimately interwoven, but still as being divorced from political practice in a crucial way. In line with objectivist precepts, theory and research could clarify and criticize policy, but only in those ways first made explicit by Max Weber.

Weber did not want to suggest that value judgments should be withdrawn from scientific consideration, but only that the problem is "rather what is the meaning and purpose

of the scientific criticism of ideals and value-judgments."¹⁸

He maintains that the prescription of ultimate goals or values - of social ideals - is a matter for social policy. Social science must strictly limit itself to the critical analysis of "facts", avoiding metaphysical speculation. This does not imply an attitude of "moral indifference", but only represents an injunction for the scientist to be very explicit as to where "his scientific investigation leaves off and where he begins to appeal to sentiment."¹⁹

What he must try to provide is the logical analysis of social values and goals - of both their fundamental premisses and the probable consequences of seeking to realize them - in such a way that his analyses are empirically verifiable and intersubjectively transmissible. All that the social scientist can legitimately do is (1) evaluate the efficacy of means to given ends, (2) criticize the practicability of these ends, (3) assess the costs or benefits of secondary consequences of achieving these ends, (4) determine, partly through an historical investigation, whose interests gave rise to, and are being served by, these ends and means, and finally (5) aid in the clarification of the pre-suppositions which gave rise to particular evaluations of ends, critically evaluating the logic and consistency of these positions.

However, science can have nothing to contribute to the question of whether or not particular values should be expressed, says Weber - this involves only "will and conscience", not empirical knowledge.²⁰ Arnold Brecht has elaborated on this idea: the scientific method

... does not enable us to state, in absolute terms, whether the purpose pursued by us or by others is good or bad, right or wrong, just or unjust, nor which of several conflicting purposes is more valuable than the other It cannot set the goal.²¹

As mentioned earlier, however, social scientists have traditionally had conflicting attitudes in practice, where personal values and commitments (reflected in a continuing interest in policy) interfere with professional, objectivist values of neutrality. This conflict was exacerbated during the 1960's, when growing civil unrest and widespread social problems could hardly be ignored. In 1963, a random sample of the political science profession was asked questions designed to discover their evaluation of the significance of contemporary research. Fully 38.5 percent of the respondents either "agreed" or "strongly agreed" that "the really significant problems of political life cannot be successfully attacked by the behavioral approach." Similarly, 40.8 percent of the sample considered that "much of the work being done in political behavior is only marginally related to political science."²²

In 1974, a decade later, some political scientists can suggest that

... the collective political phenomena which political scientists have studied most in recent years [e.g., electoral behaviour] have been diminishing in importance, while the phenomena we have tended to neglect have been waxing in public significance so that political science is now less relevant to an understanding of contemporary politics than it can and, I think, should be.²³

A ritualistic devotion to method can achieve neither scientific nor human goals. It has been suggested that social science should serve as a communicative link between science and the humanities, but that blind devotion to methodological perfection tends to result only in a preoccupation with trivial questions.²⁴ Easton, for example, in his "New Revolution," admits that there are normative presuppositions underlying the scientist's research, and that one demonstrable consequence of neglecting to acknowledge these has been the failure to anticipate imminent social crises.²⁵

In his earlier works, Easton had indicated that the behavioral method would lead us in "the unique task of theory" - which was to develop criteria, within the scientific framework, which would allow us to "test for the relevance of empirical data." This theory would provide "a richer understanding" of political phenomena (within this "framework", of course).²⁶ In the "New Revolution", how-

ever, he moves away from these insular goals to suggest that we now need

...boldly speculative theorizing that is prepared to build upon rather than to reject the findings of contemporary behavioral science itself and that is prepared to contemplate the implications of these findings for political life, in the light of alternative, articulate value frameworks ... or ... we cannot help but imprison ourselves within the limitations of the ongoing value framework.

Creative speculation about political alternatives would allow, he suggests, for the possibility of our value and political structures changing to adapt themselves to the needs and problems of a changing society. Nevertheless, Easton still maintains his essential value relativism. Values are considered to be conditioned emotional responses, causally determined by the individual's personal, social, and cultural experience. He believes that the "paradigm" of behavioral scientific method is entirely appropriate in the long run. Unfortunately, he observes, in comparison with the natural sciences, the social sciences operate on a drastically shortened time scale, exaggerated by the crisis-ridden and rapidly changing nature of modern societies. In the physical sciences, there is leisure for the pursuit of "normal science" between significant discovery. In social science, he suggests, perhaps the press of events requires us to suspend, to some extent, our scientific ideals of pure research and act "in our professional capacity so as to put whatever knowledge

we have to immediate use."²⁸

Thus, we now have an additional explicit goal in political theory and research: that of prescription for social change. Research is to be applied to the resolution of social problems. Many so-called "post-behavioralists" advocate a problem-oriented research and educational programme in political science. Theoretical goals of description and explanation are to serve a further goal of social change. From this perspective, "the principal tasks of social science are social criticism and social engineering."²⁹

Again, the structure of human knowledge and values are presumed to be "unavoidably relativistic". The social scientist can only provide

... what reasons can be given for preferring to live in one situation rather than another, where both are attainable and the choice is real.³⁰

A growing number of social scientists, however, oppose this relativistic formula of description, explanation, prediction, and control - or, "social engineering". Many would fundamentally disagree with either Easton or Meehan, for example. Rather than devote theory and research to the elaboration of systematic, "pure theory" or else to the formulation of solutions to immediate problems in the social environment, relativistically offering advice to whatever interests there be in maintaining social stability, there

should be greater emphasis on formulating clear and relevant questions:

What is required is not an end to theoretical efforts but their redirection toward real problems. [The goals of explanation, prediction, and the control of the physical and social environment are] ... after all, only goals I fail to see how science itself can be justified except on the basis of some prior norms.³¹

It seems that the significance of the "post-behavioral revolution" lies partly in the recognition of the intimate inter-relationship between our scientific knowledge and our personal values as members of a community. The post-behavioral writers hold differing theoretical perspectives and assumptions, but there does appear to be a general agreement to the effect that political theory and research must have some rational connection with social policy and social change. Furthermore, many of these thinkers

... reject the view that restricts scientific theorizing to the sphere of reflections upon regularities in the data of sense perception and in elaboration of systematic interpretive constructs; and they, therewith, reject as specious the celebrated and correlative dichotomies of fact-value and objective-subjective.³²

There is a general recognition that values necessarily play an important role in theory and research, as well as in other social behaviour, but opinion varies as to the nature of values and as to their role in scientific pur-

suits. Easton, for example, believes that policy-directed theory and research should be guided simply by values that are relevant or important to that given society. Here, we may suggest that a note of caution is advisable. Political science, even presuming that one may currently call it a science, is poorly developed and fragmented. It may even be said to lack a truly paradigmatic conceptual framework. Without being sure of one's theory, or even of the nature of one's theoretical subject matter, how can one reasonably prescribe important change? The piecemeal approach of "social criticism and social engineering," where value tends to become equated with action and efficiency as well as stability, leads to the definition of political science as

... nothing more than a collection of rigorously stated individual hypotheses aimed at manipulating the real world.³³

Generally, we might say that the early flush of success occasioned by the "behavioral revolution" of the early 1960's was soon opposed by a "post-behavioral revolution" which claimed that the new political science orthodoxy had become conservative and irrelevant. Nevertheless, an important continuity is apparent between the two movements: that is the common "belief in the scientific study of politics."³⁴

At the same time, however, part of the conflict lies in the fact that the nature of science and human knowledge

is itself at issue. In the present essay, we shall attempt to address this latter problem. Within the perspective of "personal knowledge" which shall emerge from our analysis, the question, for example, of which approach should be emphasized - analytic, empirical research, or speculative and non-objectivist theory -- turns out to be inherently misleading. The question should rather be: To what purpose should both approaches be applied?³⁵

In the next section, we shall examine some consequences of failing to recognize certain apparent limitations on the scope of objectivist theory, given its methodological presuppositions and its ideal objectives. From this discussion we shall derive the argument that a further goal of social scientific endeavour must be made explicit and systematically addressed, if the problems so far suggested are to be resolved.

Notes to Chapter 1

¹In a similar vein, Dante Germino suggests that we first of all "engage in an activity [we may call] meta-theory, or theory about theory It is necessary first to understand the nature of political theory before we can reasonably consider what condition it is in." (Germino, "The Revival of Political Theory," Journal of Politics 25 [Aug., 1963] 437, 438). Our alternative to a broadly legitimized idea of the role of political theory "is a decapitated science of politics - a science that knows means and methods but is ignorant of ends." (Ibid., p.460).

²Robert A. Dahl, "The Behavioral Approach in Political Science: Epitaph for a Monument to a Successful Protest," APSR 55 (Dec., 1961):771.

³Ibid.

⁴Dwight Waldo, Political Science in the U.S.A.: A Trend Report (Paris: UNESCO, 1956), pp.18-30.

⁵David Easton, A Framework for Political Analysis (Englewood Cliffs, N.J.: Prentice-Hall, 1965), pp.22.

⁶A. Somit and J. Tanenhaus, The Development of Political Science (Boston: Allyn and Bacon, 1967), p.175.

⁷Gabriel A. Almond, "Political Theory and Political Science," APSR 60 (Dec., 1966):869-875.

⁸"Normal science," in Thomas Kuhn's terms, is the routine aggregation of knowledge characteristic of the periods between "paradigmatic revolutions." A new paradigm accommodates and reinterprets the preceding bodies of theoretical and empirical knowledge. A characteristic of either a pre-paradigmatic or a pre-revolutionary stage is the existence of several theories standing opposed one to the other. (See Kuhn, The Structure of Scientific Revolutions [Chicago: Univ. of Chicago Press, 1970]).

⁹This is the opinion of Sheldon S. Wolin, e.g. (see Wolin, "Political Theory as a Vocation," APSR 63 [Dec., 1969]:1062-1064). Bertrand de Jouvenal supports this view also, saying that "the theory of any science is an integrated whole from which past theories have been discarded. Political theory is a collection of individual theories which [are] more or less impervious to the impact of new observations and to the advent of new theories." (de Jouvenal, "On the Nature of Political Science," APSR 55 [Dec. 1961]: 774). Dahl, in referring to the behavioral revolution, suggests that this perspective has, in fact, tended to unify the social sciences by bringing political science more into line with methods and conclusions in the other disciplines. However, he does admit of its fragmentary effect on political theory as far as general theory, speculation, and standards of evaluation are concerned (Dahl, "Epitaph for a Monument," p.770).

¹⁰Somit and Tanenhaus, Development of Poli. Sci., pp.43, 45, 195.

¹¹Waldo, Trend Report, pp.18-30.

¹²George J. Graham Jr., "Political Science and Action," introducing Part Two of The Post-Behavioral Era, ed. by George J. Graham Jr. and George W. Carey (N.Y.: David McKay, 1972), p.103.

¹³Germino, "Revival of Theory," p.453.

¹⁴Ellis Sandoz, "The Philosophical Science of Politics, Beyond Behavioralism," in Graham and Carey (eds.), The Post-Behavioral Era, p.286.

¹⁵David Easton, "The New Revolution in Political Science," APSR 63 (Dec., 1969):1051.

¹⁶Germino, "Revival of Theory," pp.437, 459.

¹⁷*Ibid.*, p.452 (italics mine). This attitude has had demonstrable consequences. For example: "In some major graduate schools the study of political theory has been divided into what is euphemistically called 'traditional' political theory and 'empirical' political theory. The separation is justified in the name of a philosophically and

historically crude dichotomy between 'fact' and 'value', between 'empiricism' and 'superstition', between 'science' and 'philosophy'." (Thomas L. Thorson, Biopolitics [N.Y.: Holt, Rinehart, and Winston, 1970], p.37). In a 1968 survey of the field, Neil A. McDonald and James N. Rosenau found that opinion is divided as to whether political theory represents the crucial focus of meaningful endeavour; whether it should be considered a field of specialization within the discipline; or whether even it represents a legitimate area of study. They suggest that whereas more and more political scientists are coming to consider political theory as a specialized field, the majority of them at the same time consider it to be the least significant area of research, as well as that area least in line with the advance of the discipline as a "science". To add to this confusion, McDonald and Rosenau further discovered that there is controversy over what should be subsumed under the notion "political theory," as well as dissatisfaction with the diverse and somewhat unconnected activities that are commonly considered as being within its realm. Attempting a first step towards clarifying this muddle, they make a preliminary distinction between "Political Theory" as a formal academic field, and "political theory" as a general intellectual activity. Immediately following World War Two, Political Theory was understood to include ideology and political philosophy, as well as theory as an explanatory tool with which to organize empirical data. However, with the coming of the "behavioral revolution," political scientists began ostensibly to confine themselves to empirical, analytic theory and explicitly attempted to avoid normative or metaphysical theorizing. With the legitimacy of these latter components of theory challenged, and with the growing concentration of the rest of the discipline in many areas of specialization (often with their own distinctive methodological and theoretical approaches), Political Theory suffered increasingly from fragmentation and controversy, where political theory (as an intellectual activity) was appropriated by each particular area of concentration, leaving no unifying approach whereby a distinct concept of political theory becomes obvious. (McDonald and Rosenau, "Political Theory as Academic Field and Intellectual Activity," in Marion D. Irish ed. Political Science: Advance of the Discipline [Englewood Cliffs, N.J.: Prentice-Hall, 1968], pp.21-55).

¹⁸Max Weber, "Objectivity in Social Science and Social Policy," in E. A. Shils and H. A. Finch eds. and trans., Max Weber on the Methodology of the Social Sciences (Glencoe, Ill.: Free Press, 1949), p.52.

¹⁹Ibid., p.60.

²⁰Ibid., pp.52-54.

²¹Arnold Brecht, Political Theory: Foundations of Twentieth-Century Thought (Princeton, N.J.: Princeton Univ. Press, 1970), pp.124, 125. This attitude is carried to its logical conclusion when Albert Einstein suggests: "If someone approves, as a goal, the extirpation of the human race from the earth, one cannot refute such a viewpoint on rational grounds." (Quoted in Brecht, *ibid.*, p.9).

²²Somit and Tanenhaus, Development of Poli. Sci., p.194. When we ask ourselves whether there has been a true paradigmatic change within the discipline, as certain behavioralists have claimed, we have only to imagine a similar sample of physicists, e.g., responding to this type of question in the same way.

²³David C. Schwartz, "Toward a More Relevant and Rigorous Political Science," Journal of Politics 36 (Feb., 1974):104.

²⁴James F. Davidson, "Political Science and Political Fiction." APSR 55 (Dec., 1961):851.

²⁵Easton finds an index of this failure to anticipate social crisis in the fact that the APSR, during the years 1958 to 1968, "published only 3 articles on the urban crises; 4 on racial conflicts; 1 on poverty; 2 on civil disobedience; and 2 on violence in the United States." (Easton, "New Revolution," p.1057).

²⁶Easton, Framework, p.133.

²⁷Easton, "New Revolution," p.1058. Easton's formulation is still considered by some members of the discipline to be the definitive statement of "post-behavioralism." See, e.g., Philip L. Beardsley, "A Critique of Post-Behavioralism," Political Theory 5 (Feb., 1977):97-111.

²⁸Easton, "New Revolution", p.1055.

²⁹Eugene J. Meehan, "What Should Political Scientists Be Doing?," in Graham and Carey eds., Post-Behavioral Era, p.59.

³⁰Ibid., p.61. See also p.58.

³¹Marc J. Roberts, "On the Nature and Condition of Social Science," Daedalus 103 (Summer, 1974):62, 53. These remarks provision our subsequent discussions of the irreducibility of man's knowledge and his interests in the world.

³²Sandoz, "Beyond Behavioralism," p.295.

³³Theodore J. Lowi, "The Politics of Higher Education: Political Science as a Case Study," in Graham and Carey eds., Post-Behavioral Era, p.34.

³⁴Michael E. Kirn, "Behavioralism, Post-Behavioralism, and the Philosophy of Science: Two Houses, One Plague," Review of Politics 39 (Jan., 1977):82.

³⁵This was one conclusion of Arnold A. Rogow's article, "Whatever Happened to the Great Issues?," APSR 51 (Sept., 1957):764.

CHAPTER 2

SOME LIMITS ON OBJECTIVIST THEORY

Having described some prevailing attitudes toward the objectives of political science research, we can now discuss evident limitations - some widely recognized, some not - on the scope of orthodox theoretical approaches. It shall be argued that the express goals of behavioral and "post-behavioral" theory are either unrealistic, or else unattainable within an objectivist framework. Hidden value judgments and frequently unconsidered assumptions on the part of the methodologist can result in research being directed by values and objectives not made explicit in his method. Thus, the results of his research cannot be justified in terms of his own positivistic criteria. It will be indicated partly that these unspoken values and premisses inhere in pre-scientific concepts and language. In a later chapter we shall see that they also impose themselves on the researcher by means of other factors within his social environment.

We can argue that the limits on social research are of two initial types: (1) necessary limits, implicit in the very subject matter of the social sciences; and (2) self-imposed limits, which are partly caused by a fundamen-

tal misconception of the real nature of the subject matter of social science. This is reflected in (and, conversely, partly determined by) the uncritical acceptance of arbitrary definitions of reality.

It has been suggested that:

Classical political theorists, at least political theorists in the Platonic and Aristotelian tradition, conceived of the political realm as having a scope as wide as society itself, and of political society as being a whole, a community.¹

In contrast to this perspective, objectivist social science has considered one of its primary theoretical problems to be that of

... locating stable units of analysis which might possibly play the role in social research that the particles of matter do in the physical sciences.²

Then, from the reductive analysis of these units and the relations between them, the goal is to build up successively more comprehensive levels of explanation culminating in a "general theory of man," which could be finally expressed in the common language of the exact sciences. It can be argued that there are three major assertions which distinguish behavioral explanations (and which appear to inhere in many post-behavioral formulations, at their basis):

- (1) Individuals rather than groups constitute the proper units of analysis
- (2) facts must be separated from values
- (3) legitimate explanations always run in terms of laws or generalizations, but never in terms of descriptive statements of particular occurrences.³

In the same way that they believe it is possible in the physical sciences, they believe that

... there are discoverable uniformities in political behavior [which] can be expressed in generalizations or theories with explanatory and predictive value.⁴

These aims of the prediction-generalization model of science - "to discover reality", or "to predict correctly" - might be considered dangerously simple and misleading objectives, especially in the social sciences. A strictly behavioral science, in particular, has uncritically borrowed the ideals of Newtonian physics (apparently unconcerned that it is generally accepted that they no longer hold even in the natural sciences). In fact, objects in the theory of physical science are themselves only inaccurate abstractions, and are treated as such.⁵ Here, these "laws" are valuably informative, and inaccuracy can be accommodated within theory, up to a point. However, the "objects" of study are different in the social sciences, and the costs of treating them as abstractions can be much greater.

I. Prediction

We may begin this part of our critique with what is probably a necessary limit on the scope of social science and theory - the goal of prediction.⁶

To begin with, nowhere is there recorded a genuinely successful prediction in social science, at least one which has been rigorously formulated and subsequently verified. Where certain apparently law-like hypotheses exist in areas such as voting behaviour, verifying cases are countered by many falsifying instances. We can characterize these formulations at most as being "probabalistic."⁷ An objectivist may answer that this is only because the necessary tools and data have yet to be discovered. However, even this argument can be dealt with.

A first source of unpredictability has been clearly formulated by Karl Popper, who points out that radical conceptual innovation cannot be predicted.⁸ Quite simply, if one were to be successful in this type of "prediction", one would have had to anticipate the actual innovation - in fact, establishing the new concept. This no longer represents prediction, but actually constitutes invention. Any prediction based on other data would be falsifiable in principle, given the possibility of future conceptual innovation which could act to influence the originally predicted course of events.⁹

Again, if one is presented with alternative possible decisions, how is one to predict which decision will be made? If the decision - or policy-maker does make this prediction, then that decision has already been made, and may no longer be characterized as a prediction. The strict objectivist might respond that this does not deny the possibility of an "objective" observer, armed with generalizations, successfully predicting the decision. However, this "detached" observer cannot predict his own future, or how his decisions and actions might affect that future decision. This entails the problem of self-fulfilling and self-negating predictions, where the subjects may alter their behaviour in reaction to predictions made about it. The observer's predictions become part of the system of observation, and it "becomes necessary to predict one's predictions, leading ad infinitum to an infinite regress."¹⁰

Despite these latter objections, some will argue that, in spite of questions of "free will," etc., political scientists do

... happily make limited generalizations, e.g. about voting behavior and coalition behavior, and at least loosely check them against subsequent behavior without suffering apparent difficulties.¹¹

However, the relative importance of short-term voting behaviour studies may be questioned (besides which fact, as we have mentioned, there are many falsifying instances of

these generalizations). As far as predictive-generalization theory about coalition behaviour is concerned, this suggests a further source of unpredictability.

In political science, "game theory" has been applied, for example, to studies of coalition behaviour and military strategy. If we assume a perfect game situation, then we become involved in another infinite regress. Each participant in the game (especially if he is aware of formal game theory) begins to predict the others' predictions of what he will do; and what they will predict that he will predict that they will predict that what he will do, and so on In practice, this perfect situation never exists, but here we are faced with another problem: the individuals and groups involved in conflicts and coalitions have other intentions and motivations influencing their behaviour - and not all of these are necessarily accessible to empirical observation. In this type of open situation, the observer cannot tell for certain in which "game" his subjects are in fact playing at any given moment.

✓ A final source of unpredictability that we may mention is that of contingency. This is actually a more general reference to factors which include, for example, the possibility of conceptual innovation. Other contingent influences upon the future course of events could be upheavals in the physical environment. There is a standard illustra-

tive example which might sum up the importance of contingency. It has been suggested that we could hypothesize that the Roman Empire was founded on the length and shape of Cleopatra's nose. Economic and political factors conceivably could be outweighed by the influence of a pretty face on key decision-makers. This latter instance relates to our discussion of the "open game situation," where the observer (in this case the historian) cannot be sure of which meaning intentions and conventions are directing the subjects' actions, in fact.

We can now move to a discussion of certain current attempts at explanation - the formulation of law-like statements concerning observed regularities in human behaviour. Actually, the impossibility of prediction would in itself most powerfully deny the possibility of verifying law-like generalizations. Unpredictability would mean that any generalization is necessarily fallible.¹² However, even if we were to grant the possibility in principle of strict predictions based upon observed regularities, it can be indicated that the concepts and methods being applied in this area have at best a limited utility. They have seriously restricted themselves in the kinds of questions asked of the world and in their ensuing conclusions.

II. Explanation

For our present purposes, we shall criticize just one particularly influential theoretical approach in contemporary political science.

David Easton's "systems analysis" has been generally considered to be a valuable tool of explanation. He, himself, felt that it might point the way to an empirically oriented, general theory of political man. This theory, he says, will have as

... its major and gross unit of analysis ... the political system and ... the [relevant] interactions among persons ... form the basic units of these systems All social systems must be interpreted as being analytic in character.¹³

Easton's theory attempts to be entirely nomothetic, as opposed to being idiographic. Particular phenomena such as parties, legislative bodies, and constitutions are avoided. Only "relevant interactions" between units of the "system" are to be considered. These relevant interactions are those which are "oriented toward the authoritative allocation of values for a society."

The political system is seen as an adaptive, self-regulating, and self-transforming process of converting "inputs" (system supports and demands) into "outputs" - correcting itself constantly by means of the "feedback" of inputs generated by prior output. These outputs are represented

by that behaviour which allows the system to persist. Easton's theory is fundamentally dependent upon this notion of "persistence." Nowhere, however, does Easton attempt to indicate why the system should "authoritatively allocate values" - converting inputs into outputs - in order to have the system survive.

Thomas Thorson offers an incisive critique of this type of attempt to formulate an empirical and general theory of political phenomena. He suggests that Easton has simply and uncritically borrowed the biological systems theory of the organism, wherein the role of the idea of "persistence" is clearly that the organism can be said to have failed to persist when it is dead. However, Easton plainly views the political system (at least for theoretical purposes) as being composed of abstracted "interactions," not living organisms. It is hard to see, then, how the biological role of persistence applies to social systems.

If we make Easton's idea of persistence explicit, Thorson argues, we see logically he must conclude that

... the political system authoritatively allocates values in the particular ways that it does ... in order to allow the system to persist ... [and] a theoretical system of behavior which is defined as a system which authoritatively allocates values - not randomly or for the hell of it - but in order to allow the system to persist could not possibly fail to persist.¹⁴

Continuing his argument, we are reminded that

Easton's definition of politics as a system that persists is meant to be entirely general, applying to any and all cases.

If we logically develop this further, we discover that

... a political system fails to persist when and only when his definition of politics fails to apply

... [or], the political system fails to persist when there is no longer any politics, or politics fails to persist when it fails to persist. The political system persists when there is politics, or politics persists when it persists.¹⁵

How costly, we may ask,

... is an abstraction allegedly relevant to politics, that leads us to conclude that the French Revolution, the coming of the New Deal, the Labour victory in 1945, Hitler's taking power, and indeed, I suppose, the German conquest of Poland are all instances of persistence?¹⁶

Within Easton's framework, general change is accommodated, or "handled,"¹⁷ while particular changes (of parties, institutions, governments, value-systems, etc.) are considered to be irrelevant. As Thorson says, in contrast to the logical terms of Marxist theory, for example, systems analysis has no explanatory power. It only provides us with a description that such-and-such a change happened. rightly or wrongly, Marxism is at least "logically suited to explaining why the French Revolution, for example, occurred."¹⁸

In summary, whereas systems theory may have some expository or heuristic value, it will only result in something like a "truism" if intended as adequate to make absolu-

tely general statements which would be appropriate to any society in any historical period. The only way to avoid tautologous "explanation" - or, mere description - is to "either limit the generality arbitrarily or in accordance with a 'value'." ¹⁹

III. Description

We have suggested that the idea of a conceptual framework as a methodological approach is not in fact a generally explanatory procedure. Where this framework is ideally applied by a "detached" observer attempting to comprehensively embrace a "whole" - the political system- part of the problem is that his supposedly objective theory is itself a part of that whole. To be even apparently consistent, it must either operate on the basis of non-scientific (or pre-scientific) judgments, or it results only in description. We shall now argue even further that the formal objectivist approach to description, in general, is inadequate and unscientific in its own terms.

Logical empiricism has supposed that the advance of human knowledge is ultimately concerned with the discovery and verification of "facts." As Ernst Cassirer has pointed out, it is true that:

A theory not based on facts would indeed be a castle in the air. But this is no answer to the problem of a true scientific method; it is, on the contrary, the problem itself. ²⁰

It remains to be answered: what is the meaning of a "fact"? We shall argue against the oft-maintained position that facts are always facts and nothing else, and that only the interpretation changes.

Apart from meaningless sense impressions there is no experience that abides as a 'fact' without an element of valid interpretation having been imparted to it.²¹

It is asserted that there must always be a coefficient of personal judgment, an assertion of relevance, which is vital to our "factual" knowledge. Facts are never facts, purely and simply. They are relevant facts.²²

A basic problem of formal scientific method is that it uncritically (or unreflectively) uses words and concepts which are pre-scientific in their origins. In this way, tacit assumptions, or premisses, are introduced into the deductive systems and world-views of science. These assumptions necessarily enter into the kinds of questions asked of reality and the conclusions reached in theory - thereby providing no grounds for these conclusions in terms of the objectivists' criteria of ostensive verification or of "testability." Here, perhaps, lies the fundamental criticism of objectivist method. Even if the predictive - generalization model were to apply to human phenomena in principle, its success would be precluded by this problem in practice.

The goal of "objective" science is to achieve a systematic explanation which is universally valid and amenable to controlled verification by anyone at any time; such an explanation must be "causal" and, therefore, deal with a world of "facts" which in themselves are independent of the subjectivity of the observer.²³

We can argue, however, that there is an unavoidable personal element in theory and research. The objectivist theorist seems to believe that there exists - independently of man and consciousness - a rational, essentially mathematical structure underlying a world of empirical "objects" and their interrelations. Further, he appears to trust "that if we gather enough 'facts' the explanatory and predictive theories will spontaneously emerge."²⁴

This represents a "naïve inductivism" which denies the personal involvement and contribution of the researcher in the process of discovery - the recognition of significance and interrelationship. One facet of this problem, especially in the social sciences, is the fact that the scientist does not stand outside a society, where he is an idealized Archimedean point or simply an object standing over against the world as an object external to himself. Instead, the object of study is also (at least in some part) the subject of the research. Part of the significance of this circumstance is that the theorist conceptualizes, or imposes an order upon reality, rather than primarily uncovering "laws" or empirically verified propositions about the relations between "things." In this way, he himself contri-

butes to the actual constitution of "social objects and social worlds."²⁵

Max Weber has said that

... it is not the 'actual' interconnection of 'things' but the conceptual interconnections of problems which define the scope of the various sciences. [Furthermore, since the stimulus for posing scientific questions is always provided by practical questions], the very recognition of a problem coincides, personally, with the possession of specifically oriented motives and values.²⁶

No scientific analysis of social phenomena can be absolutely objective:

Expressly or tacitly, consciously or unconsciously - [problems and methods] are selected, analysed and organized for expository purposes

Order is brought into [the chaos of historical and social cause and effect] only on the condition that in every case only a part of concrete reality is interesting and significant to us, because only it is related to the cultural values with which we approach reality.²⁷

As well, the same "part" of reality - the same data - may be interpreted differently in light of different methodological presuppositions and frameworks.²⁸ Any use of words and concepts, no matter how "commonsensical," immediately involves the investigator in ontological theory and judgment. This is perhaps most easily seen in the use of what may be called "dialectical terms," as they are to be distinguished from so-called "positive terms." Abiding by the rules of "phenomenalism" and "nominalism" (see p.xvii,

n.1), a strictly positivist science would ideally restrict itself to the use of positive terms - which refer only to tangible particulars (which themselves are supposedly directly and empirically verifiable). However, one could never approach any important social problem or phenomenon without employing dialectical terms in reference to definitions, universals, and general concepts (e.g., "nation," "exploitation," "participation"). These latter terms may be described as positional, inasmuch as they indicate a location of meaning on an evaluative scale of judgment. In every case that one uses a dialectical term, one is necessarily involving one's own appraisal in the essentially arbitrary (given objectivist presuppositions, at least) positioning of the meaning on a bipolar evaluative scale. He has already made a commitment, or expressed a valuation, merely in his use of language. Positive terms, in contradistinction, deal only with observable data, the essential validity of which is not commonly in serious dispute. However, when there appears controversy concerning the validity of alternative judgments - how empirical data should be interpreted, or which data are relevant to a problem - then dialectical terms necessarily enter into the discourse.

Theories are not "facts" that are assembled and systematized, although theory may be applied to ordering data. Nor is a theory

... ever a 'logical relationship', least of all one between 'facts'. There are no logical relations between facts, only between meanings.²⁹

The objectivist has arbitrarily chosen to equate "meaning" with "objects" or "facts", or else with empirical testability and deductive logic.

Even the positive terms used to describe facts are open to the same criticism that we have levelled at the use of dialectical terms. As we shall argue further in following chapters,

... not even the facts of science are facts for the unchanging 'subject as such' (of 'the language as such'), but they are constituted in a concrete and therefore historically determined human horizon of meanings.³⁰

Descriptive statements in "positive" science do not

... describe facts 'just as they are', but rather facts of the behavioral environment of the scientists, who interpret the sentences by using them

... every particular knowledge obtained presupposes a certain understanding of the world, which is not rooted in the individual as such, but instead was developed in the process of interaction between many individuals."³¹

To understand the actual meanings of the facts that we describe in concepts and words, it becomes necessary to attempt to reflect upon and investigate a realm of phenomena that lies obscured behind an a priori presupposition of the logic of science - that which Apel terms "convention." As

he says

Conventions are needed to construct "semantical frameworks" as possible languages of science and to interpret these frameworks as applicable to languages of science with the help of a metalanguage, which is, in practice, the non-formalized language of the science already being used. Conventions are also needed to establish observational statements which could function as basic propositions for confirmation and falsification of hypotheses or theories.³²

These conventions (those "rules" of the relevant, or of the founding, "language-games," see p.43f., n.31 and p.138f., n.4, infra) are already uncritically presupposed by the rules of a conceptual framework such as systems theory. To a positivist, for example, it must seem that these conventions are established in some utterly pre-rational or irrational manner, since

... conventions cannot be deduced from first principles within a calculus [and] neither can they be derived from empirical observation or by induction from such observation [as behavioral psychology must try to do].³³

Any way of thinking that insists upon positing a static, given world of objects that are somehow independent of men's appreciation of them yet permit him to have objective knowledge of them, can be led either to acknowledge the existence of irrational (in objectivist terms) factors at the basis of its science, or else admit of the possibility of forms of rationality and knowledge apart from the logic of empirical science.

The major difficulty with objectivist theories in the social sciences is that they are open to the same criticism that they themselves level at "metaphysical" or "natural law" frameworks of investigation and evaluation. At the same time they prohibit any critical evaluation of ultimate social and political goals and values, and cannot ground logically anything other than a relativistic or arbitrary moral sense of obligation to community. Individuals and groups are seen as being unjustified in civil disobedience, for example, in obligation to higher, ideal normative claims, while social science is incapable of providing evaluative critiques of, or prescriptions for, the basic structures and goals of particular societies. It can be argued that objectivism tends to become an ideological formula - an unjustifiable delimitation of what may be legitimately investigated by the scientific method, itself in danger of becoming only a set of conventional rules and evaluative criteria, of arbitrary norms to distinguish between "meaningful" and "meaningless" statements.

We shall now proceed to examine an alternative to the "methodical solipsism" which leaves the knowing subject unable to account for himself - an Archimedean point removed from the world, and essentially independent of the community, unable to justify a sense of responsibility to himself or to his society, and unable to show why he should choose one course of action or the other.

Notes to Chapter 2

¹Clarke E. Cochran, "The Politics of Interest: Philosophy and the Limitations of the Science of Politics," AJPS 17 (Nov., 1973):745. James L. Wiser elaborates on this observation when he asserts that: "informed by the noetic experience, [Classical Greek science and political science] was guided, not by a methodology, but rather by the knower's sense of theoretical relevant." (Wiser, "Political Theory, Personal Knowledge, and the Public Truth," Journal of Politics 36 [Aug., 1974]:662). The "personal elements intrinsic to scientific judgment" were understood to be inevitable, and "the universality of a truthful judgment, properly performed" was accepted as sufficient in itself. (Ibid., p.663). These propositions shall be clarified in PART TWO, Chaps. 3 and 4, when we discuss the nature of tacit knowing and Polanyi's reconceptualization of a "truth" which is grounded in "personal" judgment.

²Easton, Framework, p.13 (italics mine).

³K. W. Kim, "The Limits of Behavioral Explanation in Politics," in C. A. McCoy and J. Playford eds., Apolitical Politics (N.Y.: Thomas Y. Crowell, 1967), p.39.

⁴Ibid., p.40.

⁵For example, says Thorson, mechanical laws used to describe the action of a ball on an inclined plane assume all balls to be perfect spheres - whereas, in reality, none are. Again, Newton's laws of planetary motion assume the mass of these bodies to be concentrated in a single point (Biopolitics, p.47).

⁶The substance of this discussion is partly borrowed from a lecture presented by Alasdair MacIntyre at Concordia University (Montreal, Dec. 8, 1974), entitled "The Predictability and Unpredictability of Social Behavior."

⁷Later in this paper, we will suggest that probability statements probably can never be entirely formulated in an explicit and articulate manner (see, e.g., p.89, n.16).

⁸Karl Popper, The Poverty of Historicism (London: Routledge and Kegan Paul, 1961), pp.v-vii.

⁹Michael Polanyi has also remarked upon this dilemma: "The future is beyond our control, since it is beyond our comprehension. How should we be able to predict discoveries - which are discoveries precisely because no one could have deduced (predicted) them from what was already known? But discoveries ... can change the whole direction of human living The future will be the meanings that men then will have achieved which men now have not yet achieved. We cannot plan what these shall be." (Polanyi and Prosch, Meaning, pp.206, 207).

¹⁰Stanislav Andreski, Social Sciences as Sorcery (London: André Deutsch, 1972), p.22. See also Popper, Poverty of Historicism, pp.14, 15.

¹¹Ian Budge, "The Scientific Status of Political Science: A Comment on Self-Fulfilling and Self-Defeating Predictions," British Journal of Political Science 3 (Apr., 1973):249.

¹²Thorson points to the apparently uninformative nature of the concept "prediction", itself, as it has sometimes been used in the sciences. Newtonian physics, e.g., presupposes general laws that are universally valid. At the same time, a generalization may only be validated by a series of correct predictions (Thorson, Biopolitics, p.21). However, "you can take the term 'prediction' to mean the same as 'explanatory inference' - but then the doctrine that the function of explanatory theory is to yield predictions leads straight back to the original, unhelpful tautology: 'The purpose of explanatory theories is to explain'." (Stephen Toulmin, Foresight and Understanding [Indiana Univ. Press, 1961], p.35. Quoted in Thorson, Ibid.). As we shall see in our later discussion of "personal knowledge," Polanyi would attribute the apparently uninformative nature of these statements to a tacit faith in a teleological principle which the formal presuppositions of objectivist science does not permit the scientist to articulate.

¹³Easton, Framework, pp.23, 36, 37.

¹⁴Thorson, Biopolitics, p.62. Thorson cautions us to: "Remember then the system is an abstraction, a theoretical construct. Death for a system defined as a system that persists would be self-contradictory". With organisms, on the contrary, "the notion of 'failing to persist' has a very concrete referent." (Ibid., pp.63, 64).

¹⁵Ibid., p.65.

¹⁶Ibid., p.66.

¹⁷Easton, Framework, p.106.

¹⁸Thorson, Biopolitics, p.68.

¹⁹Ibid., p.70.

²⁰Ernst Cassirer, An Essay on Man (New Haven, Conn.: Yale Univ. Press, 1962), pp.58, 59.

²¹Michael Polanyi, Science, Faith and Society (Chicago: Univ. of Chicago Press, 1964), p.89. Polanyi offers us an illustrative example: Newton had observed that evaporated water always left a residue. As a result, he concluded that evaporation always involved a partial transmutation of water into earth. The experience that gave rise to this notion is still repeatable. However, the "fact" of transmutation is no longer accredited (Ibid.).

²²Polanyi, Personal Knowledge, pp.253-55.

²³Joseph J. Kockelmans, "Phenomenology and the Sciences of Man," in Kockelmans ed., Phenomenology (N.Y.: Anchor Books, 1967), p.416.

²⁴Alvin W. Gouldner, For Sociology: Renewal and Critique in Sociology Today (London: Allen Lane, 1973), p.355. On the other hand, for theorists such as C. Wright Mills, "the collation of systematic data was above all 'one way to invite imagination' ... to stimulate 'a personal and inward quality'." (Ibid., referring to Mills, The Sociological Imagination, This view is also supported by thinkers such as Michael Polanyi, who finds vital elements of imagination and "connaissanceurship" involved in the process of investigation and discovery (Polanyi, Personal Knowledge, pp.54, 55, 60, 64, 65 et passim), and Karl Popper, who agrees that there can be an "intuitive" insight that is prior to all apparent direct application of formal scientific method (Popper, The Logic of Scientific Discovery [N.Y.: Harper and Row, 1959], pp.14, 31, 32, 76n.). In essence, one may first reach significant "conclusions" in an unexplicit manner, before then going on

to justify them (see also, infra, pp.61,62). Part of the problem, as we suggested in our Introduction, has been the separation of philosophy and science. This has led to the "exclusive focus on the quantifiable (or supposedly quantifiable) aspects [of human phenomena], coupled with the utmost carelessness about the meaning of words." (Andreski, Sorcery, p.108).

²⁵ Gouldner, For Sociology, p.105.

²⁶ Weber, "Objectivity," pp.68, 61.

²⁷ Ibid., pp.72, 78.

²⁸ Cases may be found that exemplify both this latter problem and the problem of selectivity in the recognition of "relevant" data. For example, "the presupposition that social systems, of whatever kind, have a built-in tendency to equilibrium is undemonstrable, and therefore as incapable of providing satisfactory explanations as the assumptions underlying Marxism. Functionalism, as a theory, is not a set of causal laws but an interpretation which places a priori emphasis and value on the normative elements of social systems, just as Marxism places a prior emphasis and value on the essential conflicts which it points to in such systems." (Runciman, Social Science and Political Theory, p.120). For two different interpretations - one, a neo-Marxist approach stressing conflict, and the other a structural-functionalist approach emphasizing equilibrium - both dealing with essentially the same data, and both within a structural-functionalist framework, compare Gouldner, For Sociology and Robert K. Merton, Social Theory and Social Structure (N.Y.: Free Press, enlarged ed., 1968).

²⁹ Brecht, Political Theory, p.501.

³⁰ Karl-Otto Apel, Analytic Philosophy of Language and the Geisteswissenschaften (Dordrecht, Holland: D. Reidel, 1967), p.33.

³¹ Ibid., pp.33, 47. These ideas will be elaborated upon more fully in PARTS TWO and THREE. Apel, in another work, has performed an insightful critical analysis of the ontological basis of positivistic ontological assumptions. He says that the most deeply rooted of the metaphysical presuppositions of modern science is "the idea of knowledge as description and explanation of objectified

data, conceived - a priori - as cases of instances of possible laws." (Apel, "The A Priori of Communication and the Foundation of the Humanities," Man and World 5 [Fall, 1972]:4). Underlying this premise, Apel discovers that there are other assumptions which all may have their source partly in a "methodical solipsism which is the last consequence of Cartesian subject-object metaphysics." (Apel, Analytic Phil. and Geisteswissenschaften, p.47). "Methodical solipsism" here refers to a tacit presupposition that "one solitary subject of knowledge could objectify the whole world, including his fellowmen in principle, [winning] objective knowledge about the world without at the same time presupposing knowledge by sign-interpretation or intersubjective understanding, which [itself] cannot have the character of objectivity," (Apel, "A Priori of Communication," p.5). Although we have been arguing that we cannot simply assume a realm of independent "facts," Apel suggests that, within objectivism, "it has to be presupposed, a priori, in the logic of science that there exist facts that are independent of human thinking about them, [and] that those facts can be recognized, intersubjectively, as facts." (Ibid.). Further, these latter two presuppositions (equivalent, he says, to the Leibnizian principles of, "truths of reason," based in logic, and "truths of fact," based in experience) suggest another a priori assumption of positivism: "The presupposition of an ideal language of science which can bring together mathematical logic and experienced facts in an unequivocal manner." (Ibid.). Ludwig Wittgenstein, himself, whose Tractatus Logico-Philosophicus (London: Routledge and Regan Paul, 1922) was long considered to be the definitive statement of the logical positivist position, later in his career recognized the metaphysical basis of his earlier philosophical approach to be unjustified. He then made a major break with the ontology of his former attitude. Rather than assuming "that the structure of reality determines the structure of language, [he] suggested that it is really the other way around: our language determines our view of reality." (David Pears, Wittgenstein [London: Fontana/Collins, 1971], p.13). This, in turn, led him to a second change in his fundamental assumptions. Where previously he had supposed that philosophical analysis could uncover a single, unified logical structure underlying all language, he now came to believe that the "logical space" of language was not one, but rather represented diverse areas of language use (or, "language-games" in which the meanings of words are implicit in the rules of their use in any particular "game". This idea is discussed further infra, p.138, n.4). He came to realize that even formal logic is simply one narrow and special use of language. There is

no reason to believe, as did the logical atomists and later logical positivists, that this sort of system underlies the language with which we describe reality. Wittgenstein came to believe that this was simply a case of "deceptive pointing," where "if logical and mathematical necessity appear to have some independent objective backing, that is merely an illusory projection of the relevant linguistic practices." (Ibid., p.130). Thus, even mathematics has only the appearance of necessary truth, while in fact deriving its validity from human activity. Our resistance to this idea, says Wittgenstein, is based in a temptation to look for "laws" (in the sense of natural science), seeking an underlying generalization. Our "craving for generality" also leads us to equate the meaning of a word or concept with "proper names" (denoting "simple particulars," or "facts," given to us in "sense impressions" in experience), and then to confuse "the bearer of a name with the meaning of a name." (P. F. Strawson, "Critical Notice of Wittgenstein's Philosophical Investigations," in H. Morick ed., Wittgenstein and the Problem of Other Minds [N.Y.: McGraw-Hill, 1967], p.9. This tendency, he felt, "is the real source of metaphysics, and leads the philosopher into complete darkness." (Anthony Kenny, Wittgenstein [Cambridge: Harvard Univ. Press, 1973], p.153).

³²Apel, "A Priori of Communication," p.6 (italics mine).

³³Ibid. In positivist thought, "a convention seems to be the same thing as a solitary or arbitrary decision, such as, for instance, the decision of a sovereign ruler who, according to Hobbes, establishes and interprets the law by the authority of his will, or still earlier in the history of nominalism, the fiat of God's will which ... precedes all reasoning." (Ibid.).

PART TWO

Personal Knowledge and Science

CHAPTER 3

THE THEORY OF PERSONAL KNOWLEDGE I

These foregoing arguments, however inadequate, have been designed to raise serious doubts about the appropriateness of objectivist scientific methods and concepts to the achievement of their own express goals of prediction, explanation, description, and prescription.

Even if these goals were attainable in principle; having described different social institutions and processes; explained their interrelationships (according to logical empiricist criteria); predicted future developments on the basis of this; and, finally, expressed a preference for particular developments as opposed to others¹ - how are we to provide other than a purely emotional and subjective or an arbitrary justification for this choice? This, it will be argued, is where philosophy and political theory must have a central role to play in our pursuit of meaningful knowledge.

Karl Marx has said that "Philosophers have only interpreted the world, in various ways; the point is to change

it."² However, without prior theoretical understanding social change is vulnerable to the direction of arbitrary and contingent, essentially irrational factors. By the consistent refusal to reflect upon its philosophical foundations, objectivism seems to rely upon a blind and non-empirical "faith in the appropriateness of the methodology."³

Alternative formulations that do claim to justify logically a critical capacity, such as "historical materialism," also rely upon non-demonstrable presuppositions, it seems, of the "true" nature of things. The epistemological alternative which we have chosen to develop in this paper, in fact, was partly inspired in opposition to a Marxist materialism which presupposes that political activity and the advance of knowledge "should be directed by the public authorities to serve [their particular vision of] the welfare of society."⁴

Some "post-behavioral" thinkers have suggested that, while we need more concern with theory within the discipline, too much emphasis on "relevance" can hinder the theoretical endeavour. We should consider the "Great Issues" (see p.20, n. 35, supra), but with a concomitant awareness that these change from generation to generation. In our research, we should look for values and principles that, perhaps, are virtually universal.⁵ Only thus can we approach what should be, we shall argue, a universally justifiable and self-grounding critical and evaluative capacity.⁶

I. Understanding

At this point, we may suggest a further goal of theory and research - that of "understanding." This objective must be explicitly added to those of description, explanation, prediction, and prescription if these latter goals are to be approached rationally and effectively (within their uncertain limits). Michael Polanyi has suggested that we may liberate ourselves from the "violent and inefficient despotism" of a scientistic objectivism by accrediting understanding as a valid form of knowledge.⁷

The radically sceptical critical methods of both positivists and neo-positivists have rejected the legitimate pursuit of an understanding that seeks to transcend the scientistic description of immediately given empirical "facts." Any idea that there exist metaphysical implications in our knowledge of "what is" which can carry us beyond the realm of observable phenomena and their logical relations has been denied. Polanyi rejects the empiricism of modern science which

... disclaims any intention of understanding the hidden nature of things; [whose] philosophy condemns any such endeavour as vague, misleading and altogether unscientific.⁸

The latter standpoint cannot address itself to what Polanyi indicates is the fundamental problem for epistemology - the dependence of the knowing subject in his holding of any knowledge upon the role of personal decision and judgment,

whether in science or in everyday life.⁹

It has been said that

... higher and prior to research, there is reflection. The [social scientist] should first conduct a dialogue with himself and with others to see what he already knows/believes about the matter at issue and to evaluate critically the results this produces.¹⁰

This experience or activity - reflection - has been lost and forgotten (or, perhaps more accurately, explicitly disavowed) in objectivist thought.¹¹ Its goal is the investigation and clarification of that knowledge which objectivism presupposes as given. As a methodical approach, it is interested in the structure of self-knowledge which must be assumed in any system as being prior to that which we know explicitly.¹² This goal leads Polanyi, in his Personal Knowledge, to state his primary purpose as that of achieving

... a frame of mind in which I may hold firmly to what I believe to be true, even though I know that it might conceivably be false.¹³

A concomitant aim will be that of re-equipping modern Western men^o

... with the faculties which centuries of critical thought have taught them to distrust. [We are invited] to use these faculties and contemplate thus a picture of things restored to their fairly obvious nature.¹⁴

In fact, he is not recommending that we learn to view ourselves and our world in any essentially different

manner.. He only suggests that we recognize how we actually are conscious of things, and learn to understand the process by which we constitute and maintain our "reality" - that public knowledge of the world.

Polanyi argues that any system of thought which does not recognize these philosophical foundations and attempt to ground itself in them is necessarily inconsistent. The ideal of precise knowledge of facts, or of the givenness of our phenomenal world in explicit concepts and terms is a misleading one. As does Wittgenstein, Polanyi understands the subject to give words their meaning in use.¹⁵ It will appear that if the researcher were actually to restrict himself to a set of explicit critical rules, the process of discovery and the advance of knowledge would be completely paralysed.¹⁶ At the same time, however, unrestricted speculation, relying solely on intuitive insight, would lead only to "extravagant wishful conclusions". In fact, Polanyi maintains, the advance of knowledge involves elements of both activities - a non-specifiable intimation of pre-existent order in reality and progress according to established rules within a given method.

The proper balance between them is achieved by a "third party" which stands above, or transcends, the opposing impulses of critical caution and creativity.¹⁷ There is posited, then, a normative principle which mediates

between an intuitive, creative intentionality and critical rules of method. This represents a personal, judgmental element of valuation at the foundation of our explicit knowledge. It establishes a necessary and vital link between our knowing and our being interested in the world.

In summary, Polanyi argues that the assertion of fact, the claim that anything is "real" or "true," necessarily involves a personal coefficient. Entirely impersonal criteria of what is to be called "fact" are impossible, at least within any consistent epistemology. The activity of self-reflection will lead us to ask why we believe one thing to be true and another false. It will address itself always to the grounds which allow us to recognize and accredit an assertion such as that of a scientific fact. We must always acknowledge a system of largely a-critical acceptances which is logically prior to any particular assertion of fact. The function of philosophical reflection is that of uncovering these pre-scientific beliefs with a view to understanding them more adequately. From a perspective of self-reflection,

... the process of examining any topic is both an exploration of the topic, and an exegesis of our fundamental beliefs in the light of which we approach it; a dialectical combination of exploration and exegesis. Our fundamental beliefs are continuously reconsidered in the course of such a process, but only within the scope of their own basic premisses. 18

His own self-reflexive investigation leads Polanyi to infer an ontology of the mind from his epistemological description of the activity of knowing.¹⁹ This epistemology - how we "mean" something - first of all implies the existence of "mind" (an ontological claim). This mind, if we interpret Polanyi correctly, is to be understood simply as an active and necessary relationship between the knower and the known.²⁰ (This shall be elaborated upon later, p. 85 , infra). This ontological claim is of a functional nature, not essentially a substantive one, and as such is inextricably linked with his general epistemological theory.

It seems apparent that the interconnectedness of these latter aspects of Polanyi's thinking is rooted in an older notion of intentionality.²¹ Through an essentially "phenomenological" reflection upon the process of knowing, he has granted fundamental existential status, first of all, to the dynamic operation of a from-to relationship within our knowledge of the world.²² This is a restatement of the Husserlian conception that there can be no consciousness without consciousness of something.

In the preceding pages we have concluded that objectivism cannot accredit "understanding" (since it rejects as "metaphysical," and therefore unscientific, any claims of reality beyond phenomenal appearances and deductive logic). Similarly, it cannot perform, legitimately, the activity of

"self-reflection" (since this experience, whether informally undertaken or applied methodically, is directed to understanding). Objectivism has formally rejected the reality of consciousness and the knowing subject as "self," wherein the operation of "intentionality" is manifest and the capacity for reflection upon the activity of knowing is possible. Yet, we have indicated that these activities must be accredited as "real" phenomena if those explicit goals of objectivist science, itself, are to be effectively pursued even in principle.

We suggested (above, p.xvi) that if orthodox theories of meaning cannot logically justify their own foundations, and if they can be shown to be inherently inconsistent and self-contradictory, then their proponents can only reasonably at least consider alternative epistemologies and their possible application to scientific, philosophical, social, and political problems. It is in this light that we shall now consider Michael Polanyi's epistemological theory of "personal knowledge."

II. The Structure of Tacit Knowing

Rather than admitting a personal element of evaluative judgment in man's appropriation of knowledge only as a regrettable and ideally eliminable factor, Polanyi emphasizes that it is a necessary and vital coefficient of what man believes

to be reality, or "truth."

The concept of "intentionality" and the notion of a "third party" as a judgmental aspect of all knowing can give us insight into the epistemological theory of "personal knowledge." Consciousness and knowledge is properly understood as rooted in human activity, and this knowing activity may schematically be described as having a triadic structure. Initially, this structure might be diagrammed thusly:

Figure I

The Structure of Tacit Knowing²³

the "third party"
(transcendental ego)

Subsidiary awareness,

attends from tacit knowledge as the proximal pole of intentionality, and represents the noetic structures of consciousness.

Focal awareness

is attended to in the constitution of explicit knowledge as the distal pole of intentionality, and represents the noematic structures of consciousness.

Within this schema, the knowing subject attends from the tacit coefficients of his knowledge to the explicit aspect of what he knows - or, that which he may conceptualize and articulate. When we focally attend to something, we are subsidiarily aware of certain particulars of a tacit nature:

The thing which we focally observe or attend to is the meaning of the tacit component of our knowledge.

Polanyi argues that the two kinds of knowing - subsidiary and focal - are mutually exclusive in respect of any particular meaning integration, or object of knowledge. In effect, they represent two different types or modes of consciousness. When we attempt to attend focally to the subsidiary particulars, we lose sight of the significance of that which they together imbue with meaning. An explicit integration of particulars will never produce that meaning for us constituted by tacit inference from the same elements.

All knowledge, says Polanyi, is either tacit or else grounded ultimately in tacit knowing. No knowledge can be entirely explicit. The objectivist ideal of formalizing all scientific knowledge would, then, be self-defeating. We would be left with no knowledge whatsoever.²⁴ Polanyi asserts that tacit knowing "is the fundamental power of the mind," and that our self-understanding, the advance of scientific knowledge, and the development of human culture are misled by the self-contradictory attempt to deal with our world by wholly explicit rules and assumptions. Formal logic, rules of scientific method, and the general systematization of knowledge are not to be discarded as means; they must only be rejected as ideal ends: "The pursuit of formaliza-

tion will find its true place in a tacit framework."²⁵

For purposes of exposition, Polanyi has started with an idea that seems commonsensical to most people: We always know more than we can tell. An illustrative example which he has frequently used is that of a skill such as swimming or bicycling.²⁶ We do learn these skills, but we do so in a largely inexplicit, non-formal process of both trial and error and imitation of someone already skilled in the art. Of course, it is possible subsequently to formalize many of the particular physical and mental operations involved, analytically reducing them to an explicit set of principles and rules. However, we could never grasp the skill solely from an articulated elaboration of these particulars. Furthermore, having already learned the art of swimming in a tacit manner, and then been made aware of the formal operational principles which make the achievement mechanically possible, it is common experience that the concentration upon these latter aspects can produce a disintegration of the skill, itself, as a holistic integration of these particulars.²⁷

A similar "logical disintegration" occurs when we analytically reduce a human physiognomy, for example, to its constituent features. The meaning of a physiognomy lies in its appreciation as a whole, wherein we attend to it as a recognizable face from our subsidiary awareness of its features as clues to that meaning. One normally finds it

difficult to recall particulars, in detail, even of a very familiar face. Even more, perhaps, one would find it impossible, in all likelihood, to recognize a physiognomy by means of analytically and explicitly examining its features taken one at a time.²⁸

This refers us to another device Polanyi has used to support his epistemological claims: the reinterpretation of the empirical findings of Gestalt psychology, in its investigations of perception. Gestalt experiments in the perception of entities such as physiognomies have spoken of the "functional appearance" of parts within the wholes represented by gestalten. These parts, as we have just seen, are perceived differently together than when they are taken in isolation. Polanyi has said that this phenomenon offered him his first clues to his own conceptual reform, but that scientists have consistently "run away from the philosophic implications of Gestalt."²⁹

Gestalt psychologists, still hampered by objectivist presuppositions, have tended to look upon these perceptions as being passive experiences, "without envisaging that [they] represent a method - and indeed the most general method - for acquiring knowledge."³⁰

It is evident, says Polanyi, that these perception integrations actually represent active processes, requiring skill and effort. This may be inferred partly from the

fact that many integrations seem natural to the adult, whereas they must be learned by children. (This extends even to the mere perception of objects as such).

Polanyi has developed a theory of knowledge from this type of analysis of comprehension - one in which the activity of perception studied by Gestalt psychology

... now appears as the most impoverished form of tacit knowing. As such it will be shown to form a bridge between the higher creative powers of man and the bodily processes which are prominent in the operations of perception.³¹

In The Tacit Dimension, Polanyi describes four structural elements of the knowing activity: the functional, phenomenal, semantic, and ontological aspects of tacit knowledge.³²

The functional aspect refers to that reliance we place upon the subsidiary particulars of our knowledge in order to attend to an object of interest. (For example, the meaning of a physiognomy is focally attended to while we rely tacitly on our awareness of its particular features.³³ If we were to shift our focal awareness to these latter particulars, we would come to rely upon an anterior set of particulars in order to do so. Their previous functional quality would be lost.

The phenomenal aspect of tacit knowing involves our subsidiary awareness of the possession of our tacit knowledge as part of the perception of the focal appearance of a com-

prehensive entity. This tells us that there is a meaningful integration to which we are attending. Its "reality," however, is embodied in the ontological claim of tacit knowing (infra). We can be aware of the "meaning" (the active, "functional" quality) of certain features without explicitly recognizing these particulars.

The semantic aspect describes the integration of subsidiary particulars through the intentionality, or intending act of the knower which constitutes the meaning of the comprehensive entity - "the appearance of a perceived object [such as a physiognomy, or a stone, or a universal such as "man"] with constant properties."³⁴

~~The phenomenal and functional aspects of knowing are~~ here combined to imbue the comprehensive entity with meaning. In effect, the physiognomy is the meaning of its features. If the subsidiary particulars were to be attended to directly and critically, as we have seen, the knower would come to rely upon a substratum of his knowledge in order to integrate and uphold what he now perceives. The semantic aspect that he had previously upheld would be lost, and the knower would then attribute a new meaning to that to which he is attending.

Finally, the ontological aspect refers to that experience where one instrumentalizes the tacit coefficients of one's knowledge to attend to an object of intention, making a claim to contact "reality." This can be deduced,

says Polanyi, from the latter three aspects of our knowledge.

Since tacit knowing establishes a meaningful relationship between two terms [the proximal and distal], we may identify it with the understanding of the comprehensive entity which these two terms jointly constitute.³⁵

The ontological function of tacit knowing shall be clarified in our subsequent discussion of scientific discovery, but for now we shall refer to Polanyi's example of the operation of this aspect provided in "The Logic of Tacit Inference." The claim to "reality" does not necessarily imply that the comprehensive entity in question must be a material object, for instance. A general class of things as a concept may be given ontological status. It is simply meant to imply that it does somehow relate to a reality independent of the knower. As Polanyi points out, a universal term such as "man" may refer to many particular "men" - all with different particular characteristics. A man might be black or white, short or tall, one-legged, two-legged, or have no legs. The question is:

What is a man like to whom the concept of 'man' refers? ... The answer is that in speaking of man in general we are not attending to any kind of man, but relying on our subsidiary awareness of individual men, for attending to their joint meaning. This meaning is a comprehensive entity, and its knowledge is wiped out by attending to its particulars in themselves.³⁶

The universal concept "man" does not refer to any particular men, but all men at all times, taken as subsidi-

arily constituting the general thing "man," which is understood to be as real as any perception of an object in our awareness of things.

III. Scientific Discovery

The notion of an "ontological function" of tacit inference can be clarified through the discussion of Polanyi's analysis of the processes of scientific discovery and problem-solving.

Within the theory of "personal knowledge", real discovery is never entirely a logical process, proceeding according to precise rules. There is involved always the heuristic crossing of a logical gap. Originality and creativity require the actor temporarily to forsake any formal system, and confidently rely primarily on his tacit knowing in order to achieve a meaning integration. This cannot be explicitly or deductively derived from any set of premisses which he could formalize before the act of discovery. The deepened understanding provided by discovery provides a new perspective on the world. The non-formalizable heuristic leap from problem to discovery has changed the knower himself, it has altered his way of attending to the world, and to this extent is irreversible.³⁷

Polanyi has said that Western investigations of the process of scientific discovery have for centuries recognized and concentrated only on the processes of deductive

reasoning and empirical inference. They have systematically ignored another aspect of our knowledge - the "logic of contriving."³⁸ Again, this may be attributed to the fact that the formal assumptions of these investigators have prevented them from acknowledging the personal participation of the knower in his knowledge.

First of all, we may examine the actual logical position of formal premisses within any empiricist deductive system. As we saw in our previous critique of the descriptive enterprise in objectivist social science,

... science deals with facts borrowed largely from common experience. The methods by which we establish facts in everyday life are therefore logically anterior to the special premisses of science, and should be included in a full statement of these premisses.³⁹

In fact, it is argued, the logical premisses of what we hold to be 'factual' are never fully known to us before this factuality is established. These facts are not formally derived from other explicit facts. Rather, our logical premisses are recognized a posteriori by reflecting back upon how we did actually establish the facts they suggest. When men acknowledge the validity of an original contribution to science, law, or art, for example, it is the achievement as a whole which is first recognized as authentic. This recognition is prior to the establishing and accrediting of its anterior-formal premisses. In other words,

... we believe in certain explicit presuppositions of factuality only because we have discovered that they are implied in our belief in the existence of facts. 40

However, if we do not arrive at discovery simply by a process of induction and deduction, then by what means are we brought to integrate new comprehensive entities or understandings?

We have discussed the process by which the knower tacitly instrumentalizes subsidiary particulars in the achievement of a skilful performance or a meaning integration. Polanyi has said that, although the integration itself does require the committed intention of the knower, there is nevertheless an element of passivity involved. In effect, the tacit coefficients of our knowing are directed towards some 'purpose', which represents, as it were, the "external pole" of our intention. The particulars (including the premisses which we may later formalize in reflection upon the act) are intrinsically unimportant in this context. They represent merely a device we utilize to bear upon something that is effectively given ontological status (in the sense that it somehow relates to a reality independent of the knowing activity). The knower relies upon these tacit coefficients in confidence that they constitute part of the semantic aspect of a pre-given reality, which he submits to in discovery.

The act of personal knowing can sustain [the relation of meaning to what is meant and the relation of the parts to the whole] only because the acting person believes that they are apposite: that he has not made them but discovered them. The effort of knowing is thus guided by a sense of obligation towards the truth: by an effort to submit to reality.⁴¹

We do actively 'make' or constitute our reality, in a sense; and the shape of this reality is determined to some extent by our particular cultural heritage and personal experience and capacities. However, we do not shape this reality just as we please: it is not simply an artifact, which could as easily have assumed any other shape. According to Polanyi,

... the Pygmalion at work in us when we shape a conception is ever prepared to seek guidance from his own creation; and yet, in reliance on his contact with reality, is ready to re-shape his creation, even while he accepts its guidance.⁴²

The standards which we set for ourselves in the process of scientific discovery are analogous to those of visual perception, for example. Here, the muscles and other organs involved perform a delicately coordinated series of adjustments in order to provide an image that is recognized as being optimally distinct. This type of achievement is continuous with the higher capacities for learning. At both inarticulate levels and levels involving speech and conceptual knowledge, purposive action is moved to achieve standards which are self-set and self-satisfying. The recog-

nition of a problem, such as the need to bring an object into visual focus, inspires in the organism an emotional element akin, even at this level, to "intellectual passion."

This discomfort, and the concomitant intimation of a sense of rightness that is potentially realizable, parallels the motivation to pursue scientific discovery. Polanyi would maintain that we have an imaginative anticipation of a rightful state of affairs that is only potential. Our innate intuitive capacity spontaneously integrates those available tacit particulars of our knowledge; it somehow senses those resources which make possible the solution of the problem, and moves the imagination to address the problem.⁴³

At its basis, this formulation requires the assumption of an élan vital which is innate in Being. Polanyi must grant ontological status to a vital impulse operating at all levels of being, from those of inanimate matter to that of cultural activity (this will be further discussed when we analyse Polanyi's evolutionary paradigm). He describes this as an "active principle" which is apparent even in the exploratory activities and appetitive drives of the lowest organisms, and in higher capacities of perception. These he describes as

... self-moving and self-satisfying impulses of both purpose and attention which antedate learning in animals and themselves actuate learning [As well, they represent] the primordial prototypes of the higher intellectual cravings which both seek satisfaction in

the quest for articulate knowledge and accredit it by their own assent.⁴⁴

This active principle might be re-interpreted as being essentially synonymous with Polanyi's concept of "commitment." In Personal Knowledge, however, this latter term implied a voluntaristic striving towards certain standards. By the time of writing The Tacit Dimension, Polanyi had modified this conception.⁴⁵ Having more fully worked out the structure of tacit knowing, he realized that "commitment" may be more adequately described as that ontological relationship of "intentionality" which we referred to earlier.

So, it is what we could perhaps call a "primordial intentionality" which he refers to in Personal Knowledge when he suggests that commitment operates at every stage of evolution - where even the ingestion of food might be considered a committed act, signifying faith that the food is actually wholesome. Similarly, a man's observation of something in his environment is a commitment, inasmuch as he sees it in a particular manner - one which is conditioned by his faith in the given framework which he must implicitly accept.⁴⁶

Thus, we are given a picture of living creatures driven by an innate intentionality. This would leave them groping blindly in their world, except that they strive towards self-set standards of potential rightness. These standards are also self-satisfying, inasmuch as their achieve-

ment is spontaneously recognized as such. At the level of lower organisms and with the activities of alertness and perception, there is a continual effort to be aware of clues (tacit and otherwise) in the environment - an impulse to "make sense" of them by attending from them to comprehensive integrations that they potentially signify.

With the rise of language and culture, this becomes an impulse to integrate meaningfully and to understand our general experience. We do "perceive things," however we understand the process of "perceiving" or the nature of "things." It seems just as reasonable to assert also that we do not simply "perceive" - in some happenstance and chaotic fashion. We do appreciate an order in our perception of the world. We do generalize, establish regularities, and expect perceptions that are not "there" in the immediately given experience of the world. Polanyi maintains that we naturally involve ourselves continually in the attempt to establish intellectual control of our world; and that this characteristic is continuous with capacities also descriptive of lower animals:

The shaping of our conceptions is impelled to move from obscurity to clarity and from incoherence to comprehension, by an intellectual discomfort similar to that by which our eyes are impelled to make clear and coherent the things we see. In both cases we pick out clues which seem to suggest a context in which they make sense as its subsidiary particulars.⁴⁷

The process of advancing one's knowledge and skills, generally, or of scientific discovery specifically, relies upon an effort which is basically heuristic. Given a problem, the situation is appraised and appropriate elements are intuitively integrated as subsidiary particulars of a meaningful achievement that was imaginatively intended or anticipated. This "purpose," or recognition of teleological potentiality, is the actual shaper of this knowledge; it does not represent a causal process whereby the learned skill or discovered phenomenon has been determined by the particulars which constitute it.⁴⁸ This, of course, can and often does involve a trial-and-error type of activity, where various elements and integrations are tried. Recognition of the intended meaning achievement could quite possibly involve various combinations of diverse elements, within different given situations.

The extension of ourselves in the world through the innate urge to meaningful integration and skilful doing has the nature, then, of a heuristic groping. It is an inarticulate process of searching which leads beyond the original understanding, guided by intimations of a pre-existent rational order. Personal knowledge could be described as a fusion of the personal and the objective. A heuristic intellectual passion leads us to that point where consciousness is "overwhelmed by its own passionate activity." Our

experience of the world is briefly a direct one, independent of the "use of any pre-established modes of interpretation."⁴⁹

This represents an inarticulate and emotional evaluation, a setting of our own standards of a rightful performance. Our awareness of these standards is subsidiary, and is relative to our historical and cultural setting in some measure, yet they are recognized by the knower as being absolute and external to himself.

Now, even if we grant that the foregoing propositions are conceivably true, can we answer the criticisms that (1) such a view of human knowledge relies unjustifiably on ungrounded metaphysical assumptions, and (2) that it leaves us with a philosophical standpoint of extreme solipsism? We shall attempt to address these objections in a preliminary way in the following two sections, and in Chapter 4, The Scientific Community.

IV. Problems of Grounding Truth, and a Metaphysics

Until about the middle of this century, logical positivism sought a strict definition of validity and meaning (see p.xvii, n.1). Valid observational statements were to be made on the basis of empirical ostentation. Hypotheses

were to be deductively derived from other observational statements and then tested, again, by empirical verification. Encountering logical difficulties with its criterion of empirical "verification" as a means of establishing the truth of any assertion, some thinkers within the positivist tradition adopted a "fallibilist" position, where "falsification" ostensibly becomes the principle which grounds our scientific knowledge.⁵⁰ However, as we shall argue, scientists do not and cannot strictly apply this rule in practice (see, e.g., infra, p.102, n.67). Moreover, the temptation to grant scientific value to propositions or theories that simply "work" again merely begs the question of an ultimate justification for holding to any particular knowledge. The criterion of "usefulness" is useless, when there are no other theoretical criteria by which we may fundamentally justify anything as being "useful."⁵¹ Polanyi has remarked that modern philosophy of science finds itself in a strange situation: having no strict criteria of scientific truth, "we have no accepted theory of scientific knowledge today."⁵²

Most modern writers on scientific method must now take the validity of science as given; they see no need or else no possibility of a philosophical justification of their knowledge. The result is that "truth" becomes merely conventional: it is what scientists do, or what they believe to be true. Polanyi maintains that the predominant

belief in scientific explanation is preserved only by the consistent refusal to inquire into the pre-scientific basis of this knowledge. Any adequate theory of knowledge, it is argued, must be capable of critically reflecting upon its own origins. It must be able to justify the grounds upon which it rests; and

The impetus behind the neopragmatists' rather strained effort to characterize a true theory without any use of the notion of truth actually arises out of the inability to fulfill the criteria of truth laid down by the objectivist tradition.⁵³

Polanyi's theory of tacit knowing is designed to provide an acceptable alternative to the positivistic ideal of objectivity in current philosophy of science. How can he avoid charges, however, that his epistemology must rely on a purely subjective intuition which is either solipsistic or culturally and historically relative? Polanyi, himself, has referred to this apparent dilemma as "the paradox of self-set standards." If his epistemology is to be acceptable, it must somehow distinguish between an arbitrary, subjective choice and a responsible commitment where one is obliged by universal standards, even though they are self-set.

It is necessary, he suggests, first of all to reconceptualize our notion of "truth." The idea of the possibility of strictly precise knowledge must be rejected. Since we can never make our knowledge entirely determinate, even to

ourselves, we must learn to reconcile this limitation with our ideal of gaining "objective" knowledge. We must "accept the risks of semantic indeterminacy," while trying to establish criteria by which we may nevertheless understand that our scientific knowledge does bear upon an independent reality.⁵⁴ Since all knowledge is fundamentally tacit in nature, we cannot presuppose that duality of man/world, subject/object which would permit an explicit and precise testing of an observational statement by matching our descriptive term or definition with that which it designates - the phenomenal referent which objectivism would describe as being in the "external" world.

As we have seen, when we attempt to look at an observational statement or a proposition in a neutral, non-committal fashion, we are led to a reductionism which formally destroys the personal element which ultimately must affirm the truth or falsity of any assertion of fact. From a non-Cartesian, self-reflexive standpoint, a factual statement involves three aspects which are understood to be irreducibly part of the act of knowing:

personal passion, intentionality + confident
assertion + accredited facts

From the objectivist Archimedean point, somehow understood to be external to the act, these three elements become:

Subjective belief/assertion/alleged facts⁵⁵

In the former instance, Polanyi argues, we make a claim to personal knowledge, where we are intending the statement to be universally valid. In the latter case, we can have only subjectively affirmed statements. It seems that we can only claim that they are true by involving ourselves in logical inconsistencies. Polanyi would claim that "truth," as a meaningful and self-consistent concept, necessarily implies personal commitment in belief.⁵⁶

Objectivist responses to the problem of truth leave us with essentially arbitrary and irresponsible criteria for the holding of any knowledge or the performance of particular actions. Polanyi would rather describe the activity of scientific discovery and the establishment of human knowledge as a responsible, existential choice. Just as our bodily appetites strive, at one level, to satisfy certain standards of rightness (where there is a sense of a yet to be realized situation where these appetites may be satisfied), the "heuristic craving" actually implies a pre-given reality which has certain characteristics which will satisfy that craving. This intellectual passion involves, as we have seen, both a sense of a problem and the sense that its solution is at hand. Our intimations of this order lead us on to narrow the logical gap between what is immediately given to us and what is not yet existent but which is potentially there.

This order has no substantial presence,

... it is not a hidden object, but an idea never yet conceived As it emerges in response to our search for something we believe to be there, discovery, or supposed discovery, will always come to us with the conviction of its being true. It arrives accredited in advance by the heuristic craving which evoked it.⁵⁷

Thus, Polanyi offers us a reconceived idea of "truth." The positivists' programme of ideally reducing reality to its elemental particulars (which are subject to empirical verification or else to successive methodical approaches by means of falsification [see n. 50 , p.98 , infra]), and then extending a "truth-functional" deductive system to explain the whole is untenable. It rests on assumptions which are themselves ungrounded by the standards of its own formal criteria. A strict objectivism leaves us in a position where any knowledge is valid only if we choose to ignore the inconsistencies inherent in the fundamental premisses of the scientific method. However, without some set of beliefs to hold to, human endeavour of any kind would be meaningless. The theory of personal knowledge claims to offer a standpoint from which we can responsibly justify a fundamental commitment in belief. This alternative notion of truth does not hold any particular knowledge to be absolute and indubitable, but it can at least claim to be consistent with itself. Rather than "establish" truth, we "uphold" the validity of our knowledge. This implies an ongoing and active process that

admits of the conceivable falseness of any particular knowledge which we may hold at any given time, permitting the change of what we believe to be true. Nevertheless, our upholding of the truth is passionate - even "dogmatic," all the while it is conditioned by the sense that it could possibly still be false.

If our interpretation of Polanyi is correct, the reason that this is not a self-contradictory construction lies in the fact that our ontological claim is only that of a relationship of intentionality, an activity that is understood only to bear upon some indeterminate yet independent reality. More than any particular fact or theory, it is the criteria we apply which assure us (insofar as it is possible) that our present manner of upholding our knowledge is not only conditioned by our "universal intent", but is also such that it ensures the conditions for further discovery.⁵⁸ The value of a scientific discovery, for example, is personally appraised on the basis of a sense of the number of as yet undisclosed future manifestations of a reality implied in that discovery. These intimations are of a tacit nature; hence, our justification of a scientific truth is never explicit, ultimately.⁵⁹ Yet we may still have confidence in this knowledge, despite the fact that

... it is only the knowing that I confidently hold to connect with objective reality that ultimately is 'truth'.⁶⁰

And furthermore, as we have already suggested,

I speak not of an established universality, but of a universal intent, for the scientist cannot know whether his claims will be accepted.⁶¹

Our knowledge of reality can involve no more than this. It is the only ontology, or conception of truth, that we are capable of holding in a self-consistent way; and it is inseparable from an epistemology which attempts to ground our manner of meaning in the active, ongoing experience of men.

In summary, Polanyi declares himself committed to the belief in an independent reality that is accessible to human reason (in successive approaches, but never completely). All understanding that is properly so called, he says, contacts this reality through extended intimations of the possibility of further manifestations of an independent order.⁶² The advance of knowledge shows us man "pouring himself into an existence closer to reality,"⁶³ and the theory of personal knowledge means to provide "a harmonious view of thought and existence rooted in the universe."⁶⁴

In part, he has ostensibly answered the charge of solipsism. We do not simply have the conscious knowing subject; there is the metaphysical claim of an external reality as well. It remains to be seen how we may treat the problem of other minds, in this regard. This problem will be addressed in the next section. Following that, we shall look at the structure of the scientific community, and address the question

of whether or not personal knowledge can avoid the problem of relativism.

V. Indwelling

The preceding description of the activity of knowing indicates that we can never entirely specify our knowledge in an explicit sense. Furthermore, focally attending to the particulars of our knowledge destroys the meaning function of that which we had hitherto relied upon in order to attend to something focally. We shall now examine these claims in light of the logic of "indwelling."

We perceive things in our world and we interpret them from an interpretive framework based in a set of presuppositions in which we dwell acritically. We cannot entirely specify these presuppositions, because any assertion we make can only be made from within a prior framework of assumptions to which we are already committed. Hence, any presupposition within a particular framework with which we have identified ourselves cannot be completely "exteriorized" and then interpreted critically. In order to attend focally to such a belief, we must first leave that framework for another, existentially committing ourselves to another set of assumptions and intentions.⁶⁵ The particular assumption in question, even if distantiated in consciousness (or, understood as part of the noematic structures of the field of consciousness rather than the noetic [see Figure I, supra, p. 53] -

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conceptually exteriorized, defined, and articulated - would have lost the meaning that it had previously had for us. As we have indicated, meaning is constituted only when something is assimilated and directed towards some interest in use. Alienated from its semantic function within the framework ("form of life") wherein it had been instrumentalized, it can no longer have the same significance that it had had for us.⁶⁶

Aside from reflecting upon that knowledge which we do hold at any particular time, we also achieve an act of comprehension which is acritical when we extend our knowledge by means of the assimilation of appropriate tacit coefficients. This represents a reshaping of the current framework from which we attend. We cannot have a prior fixed framework which could be applied to the critical evaluation of our new achievement. . It is only this latter framework itself that may be applied critically, and it is one we must have faith in, in use, if we are to believe it possible that we are attending to and attempting to understand something real.⁶⁷

Charles Taylor, for example, has said that man is self-interpreting.

He is necessarily so, for there is no such thing as the structure of meanings for him independently of his interpretation of them [as both rationalism and logical empiricism must assume]; for one is woven into the other [What] is interpreted

is itself an interpretation; a self-interpretation which is imbedded in a stream of action. It is an interpretation of experiential meaning which contributes to the constitution of this meaning.⁶⁸

The meaning of our conceptual knowledge and the language that articulates it lies in its tacit component when in use. Furthermore, according to Polanyi's ideas, our knowledge is always in use, since it is essentially an on-going activity led by our interest in the world.

All understanding is based on our dwelling in the particulars of that which we comprehend. Such indwelling is a participation of ours in the existence of that which we comprehend; it is Heidegger's being-in-the-world.⁶⁹

We have already claimed that there can be no consciousness without consciousness of something. We may explicitly argue as well that we are always aware of things from something. This "something" includes our body as such. Personal knowledge is fundamentally rooted in the human body. Both our intellectual and our practical knowledge finds its origins in our tacit reliance upon our body as an instrument from which we attend to, or make contact with, "external" things. Our subsidiary awareness of our body merges with our focal awareness of external objects.

Our own body is the only thing in the world which we normally never experience as an object, but experience always in terms of the world to which we are attending from our body. It is by making this intelligent use of our body that we feel it to be our body, and not a thing outside.⁷⁰

In the simplest instance, when we observe a datum of experience, for example, we achieve a skilful performance which involves in part a tacit awareness of countless muscular contractions and adjustments that govern and coordinate our sense organs. Again, when we "point" to this datum either physically or verbally, we are conscious not of the finger or of the world, as such, but of the significance of the datum (being only subsidiarily aware of the skills and intentions which give it meaning).⁷¹ Polanyi suggests that we may generalize this relationship involved in the awareness of our body to include the use of tools, probes, concepts, and language as part of our body.

When we use a tool or probe to extend our bodily capacities to explore or define our world, we in effect assimilate it in use to our body, and are aware of it in the same way we are aware of the finger we use to point with. We do not, he says, handle the particulars of our tacit knowing as if they were external objects. Instrumentally, we assimilate them as an extension of ourselves. Our awareness moves out into the tacit coefficients of our knowledge and dwells in them. Things "external" to us are given meaning for us by being integrated as part of us; we accept this existentially, and rely upon it in the same way we confidently use our body.⁷² Our concepts and the words we use to express them can only have meaning when we, through our

intending, rely on them in use - in the pursuit of some interest we have in the world.

When we perform this act of assimilation, or of meaning integration, we make a commitment of ourselves. Our extension in the world is "a manner of disposing of ourselves," requiring implicit trust and commitment. This largely acritical and irreversible process of integration is the basic and most important human capacity. It is the process by which man acquires and maintains his knowledge: he actively dwells within his presuppositional sources while attending to, or intending towards, his objects of cognition.

VI. Indwelling and Culture, the "I" and the "We"

In the preceding sections, we saw that we must retrieve the "I" - the knowing subject - which had been lost in objectivist thought. Only then might our goal of "understanding" be potentially achieved. Now, the development of Polanyi's notion of inevitable and committed indwelling in the tacit coefficients of our knowledge will indicate that the "I" is in a very real sense a "we."⁷³

Although the first presuppositional source of all knowledge lies within our body, it becomes apparent that our knowing has other presuppositional sources as well. Obviously, the individual is first of all a biological creature. There is given to individuals a fund of genetically trans-

mitted information and skills, as well as limits upon their capacity to engage the world. This, of course, is accepted passively and acritically, and is presumably shared by virtually all members of the species. Later, the infant learns to instrumentalize his own body and elements of his environment. He acquires skills and awareness of himself and his world in a relatively uncritical, trial-and-error fashion. However, with language acquisition, there is a further and much more comprehensive constitution of meaning for the individual, although this is also assimilated in a largely passive and acritical manner. Polanyi has said that most of our beliefs about the world are established, in fact, with the learning of a language.⁷⁴ Both the learning of a language and subsequent educational experiences instill in us standards, again, of a rightful performance. We are provided with the criteria by which we may recognize the satisfaction of a genuinely meaningful discovery - whether in learning from others, or by pursuing pure science.

The normative criteria of language use - its "rules" - are transmitted from adult to child, from one generation to another, largely by a process of mimesis, according to Polanyi. The skills and knowledge which condition the correct use of language cannot be explicitly conveyed, being of a tacit nature. The child learns by imitation. The example of his teachers provides him with a framework which

he must accept on faith, having no other framework which he could use to criticize their authority.

As the individual acquires more and more skill in language use, and concomitantly assimilates more and more of the cultural artifacts of his particular tradition, his participation in the on-going reshaping of the cultural heritage of meaning integration will increase, and he will be able to evaluate critically the authority of a given reality (at least to some extent). However, he will still apprentice himself to others, trusting in the fact that what they teach him by example does bear upon a so-far hidden (to him) reality which will prove satisfying in its discovery. Polanyi draws a parallel between the process of problem-solving in scientific discovery and the learning achievement. In both cases, the individual has intimations of an order which will continue to manifest itself in more and more of its aspects, while relying on a given framework to pursue the truth. The learner must believe that the thing which he is trying to understand is actually meaningful.

The learner, like the discoverer, must believe before he can know. But while the problem-solver's foreknowledge expresses confidence in himself, the intimations followed by the learner are based predominantly on his confidence in others; and this is an acceptance of authority.⁷⁵

The very existence of a tradition crossing the cultural generations requires the individual, to a great extent, to submit to an authoritative view of the world. The

adult, in respecting the authority of his cultural and political leaders, is still accepting a faith in many things "at second hand," in trust, just as is the child in learning a language. In essence, all of our articulate knowledge of the world, acquired after the learning of a language, is tacitly rooted in an intersubjective process of activity among many individuals over time. There is a fundamental sharing of beliefs and values underlying every act of communication within a community.

These beliefs, while the source of all human knowledge, are not indubitable. They do not provide demonstrable contact with a self-evident realm of things prior to reason and empirical observation. They are simply personal acceptances that are "true" only because we believe them to be true. They are logically prior to what we do observe and hold to be demonstrable. This is what Polanyi terms the "fiduciary" grounding of man's beliefs and knowledge:

We must now recognize belief once more as the source of all knowledge. Tacit assent and intellectual passions, the sharing of an idiom and of a cultural heritage, affiliation to a like-minded community: such are the impulses which shape our vision of the nature of things on which we rely for our mastery of things. No intelligence, however critical or original, can operate outside such a fiduciary framework.⁷⁶

If we accept the arguments so far presented, we can conclude that any particular conceptual knowledge we have of the world is not ultimately grounded in the individual as

such. The acquisition and maintenance of knowledge always presupposes an understanding rooted in the tacit awareness of a framework of assumptions about the world. This framework is in large part one which has evolved within a history of activity among many individuals. This prior understanding of the world and the phenomenon of intersubjective knowledge and communication is made possible by the appearance of symbolic forms and language use.

The problem of "other minds" and of solipsism does not even arise within the logic of indwelling. We do not infer the workings or existence of the mind of another by observing its manifestations in external behaviour. We dwell within that person as the very means to recognize and understand these "external" workings. This prior understanding by indwelling is intrinsic to what it essentially a skilful performance; it is a prior achievement.⁷⁷

Polanyi's discussion of the body-rootedness of all thought also implies a resolution to the "mind/body" problem. Within the theory of personal knowledge, the problem is again actually dissolved. The mind is not a substantial thing, located in the cranium; it is not the "ghost in the machine"; nor is it merely the mechanical operation of material systems.⁷⁸ Thinking is an activity - it is simply "where the body is." Meaning is not an activity, but an achievement, or the result of intentional activity. Mind,

itself, is the meaning of the operation of particular bodily mechanisms.⁷⁹ Finally, conceptual thought is a novel comprehensive feature conditioned by the convivial use of a language. Thinking is where the "body" is, and we have argued that the intentional activity of men has the effect of extending, through "indwelling", their bodies into the world - assimilating those tacit coefficients of their knowing which include, most importantly, a common cultural heritage as the very basis of articulate knowing.

Thus, the knowing subject is incarnate in the natural world and he is social - one subject among many others. However, he does not fundamentally understand himself to be among other people just as he is among objects in the material world:

... I am not among others as I am among things; this is not so only because my relation to things is mediated by my body - whereas society, even though related to me through my body, is my body in a certain sense. My relation with the human environment is more immediate than my relation with the natural environment, and is experienced as such: things usually reach me only through man, and man always concerns me more passionately than things.⁸⁰

We can compare our social milieu with our body more than we can compare it with our physical environment. We may "speak of man, and in speaking of him say "I" or "we" with equal ease."⁸¹

Rather than leading to a solipsistic subjectivity,

then, the logic of indwelling argues for an inherent intersubjectivity of our conceptual knowledge of the world.

We shall now look at the scientific community itself. A provisional answer will be offered to the argument that personal knowledge must be entirely relative to a particular cultural and historical context. As well, we shall develop, in a preliminary way, the possibility of deriving, from the theory of personal knowledge, a real basis for authority and political obligation to the community - one which is consistent with a satisfactory ideal of "freedom."

Notes to Chapter 3

¹Easton, himself, has admitted that even if the social scientist could achieve a disinterested, ethically "neutral" standpoint, he would still, by acquiescing "in prevailing policies [however passively] ..., in fact adapt a political position." (Easton, "New Revolution," p.1061).

²Karl Marx, "11th Thesis on Feuerbach," in Marx and Frederick Engels, The German Ideology (N.Y.: International Publishers, 1970), p.123.

³W. J. Stankiewicz, "The Future of Political Theory," Contemporary Review 229 (Sept., 1976):146.

⁴Polanyi, Personal Knowledge, p.ix.

⁵Jorgen Rasmussen, "Once You've Made a Revolution, Everything's the Same: Comparative Politics," in Graham and Carey eds., Post-Behavioral Era, pp.71ff.

⁶Dante Germino argues that all the "great paradigmatic thinkers - the true theorists" (e.g., Plato, Aristotle, Hobbes, Hegel) have in fact shared common characteristics. In the first instance, they seek knowledge for its own sake. However, realizing that theory "inhabits the realms of both theory and practice at once," they have investigated the totality of human experience, with the objective of "enunciating certain perennially valid principles" which are held to be in some way justifiable. (Germino, "The Revival of Theory," pp.439-445).

⁷Michael Polanyi, The Study of Man (Chicago: Univ. of Chicago Press, 1959), p.21.

⁸Ibid.

⁹Polanyi, Science, Faith and Society, p.13

¹⁰Gouldner, For Sociology, p.110 (italics mine). As Alfred Schutz has pointed out, objectivist science assumes "that the social scientist has already solved his funda-

mental problem before scientific inquiry starts." (Schutz, "Concept and Theory Formation in the Social Sciences," in Jung ed., Existential Phenomenology, p.92). Edmund Husserl has elaborated upon this: "merely subjective relativity is supposedly overcome by objective-logical theory, yet the latter belongs, as the theoretical praxis of human beings, to the merely subjective and relative and at the same time must have its premises, its sources of self-evidence, in the subjective and relative." (Husserl, "The Life-World and Theoretical Praxis," in Jung ed., Existential Phenomenology, p.17).

¹¹See, e.g., Jürgen Habermas, Knowledge and Human Interests (Boston: Beacon Press, 1971) pp.vii, 7-10. Since objectivism has idealized the knowing subject and consciousness - formally extinguishing them - the very concept of "self" reflecting upon its own knowing activity is meaningless. In a lecture given at Sir George Williams University in Montreal (Mar. 13, 1975), entitled "A Meta-Critique of Pan-Critical Rationalism," Karl-Otto Apel suggested that self-reflection is currently "tabooed" as not being a move within the orthodox philosophical "language-game" of founding our knowledge. This, in effect, represents a reification of the process of argumentation, or reasoned discourse. It is an alienation of the activity of knowing from the knower. If this "abstractive fallacy" is avoided, then the way may be seen towards an ultimate founding, or justification, of knowledge. This would be, says Apel, a "sense-critical" type of grounding - an ongoing reflection on the conditions of the meaning of what it is that the knower or investigator is doing.

¹²This goal of "self-knowledge" is prior both to the Kantian categories which provide us with a priori synthetic knowledge of the phenomenal world (see pp.128,129, infra), and to the notion that some set of presuppositions must be held uncritically and considered to be unproblematic as the framework for any particular investigation (e.g., Popperian "fallibilism". See p.100, n.58, infra). Within Popper's system, our knowledge cannot be self-grounding. The methodological principle of perpetual doubt leaves us with no really rational ground to assert anything. We are led into an infinite regress, first of all, where knowledge, in principle, can never become truth. As well, the arbitrary and pragmatic decision to accredit a framework initially so that an investigation can be conducted means that we are still always closed within an ungrounded logical circle, where our conclusions are always present in our premisses. John Gunnell has also criticized the fallibilist standpoint.

He suggests that one might agree with Popper "that 'we are not students of some subject matter but students of problems', [but] such a position may be ultimately unsatisfactory because it tends to beg the question of specifying the criteria by which we distinguish problems and evaluate the relevance of explanations." (Gunnell, "Social Science and Political Reality: The Problem of Explanation," Social Research [Spring, 1968], p.160. The quote is from Popper, Conjectures and Refutations [N.Y.: Basic Books, 1962], p.67).

¹³Polanyi, Personal Knowledge, p.214.

¹⁴Ibid., p.381.

¹⁵See, e.g., *ibid.*, pp.251-253. As we shall see later, there is still a prior (and concurrent) active and passive constitution of the meanings we express in language use. Again, in consequence, the meaning of words and concepts will never be precise, even to the one who uses them. "This prospect may sound deplorable, but a programme that accepts it may at least claim to be self-consistent, while any philosophy that sets up strictness of meaning as its ideal is self-contradictory." (*Ibid.*, pp.252-253). In the same spirit as K.-O. Apel (p. 88, *supra*), Husserl and Schutz (p. 87, n. 10, *supra*), e.g., and parallel to our general arguments of the last two chapters, Polanyi says that "deductive reasoning may be altogether ineffable and that even the most completely formalized logical operations must include an unformalized tacit coefficient." (Personal Knowledge, p.257). Furthermore, "any formal system in which we could assert a sentence and also reflect on the truth of its assertion must be self-contradictory. Thus, in particular, the assertion that any theorem of a given formal language is true, can be made only be a sentence that is meaningless within that language. Such an assertion forms part of a richer language than that which comprises the sentences whose truth it asserts." (*Ibid.*, p.260).

¹⁶Jürgen Habermas, e.g., refers to Charles Peirce, who analytically differentiated between three types of inference: (1) deduction, which "proves that something must behave in a certain manner"; (2) induction, which indicates "that something does in fact behave in a certain manner"; and (3) abduction, which suggests "that something probably will behave in a certain manner." It is this latter type

of inference which provides the only "form of argument that extends our knowledge. It is the rule according to which we introduce new hypotheses. Thus only abductive thinking impels the process of inquiry onward." (Habermas, Knowledge and Human Interests, p.113). Induction and abduction, maintains Habermas, are those processes important for the logic of discovery. "It is through them that the information input from experience enters our interpretations. The content of our theories about reality is extended abductively through the discovery of new hypotheses, whereas we inductively check the agreement of our hypotheses with the facts." (Ibid., p.114). Furthermore, according to Polanyi, probability statements rely for their meaning on a personal element of judgment to a greater extent, possibly, than do deductive or inductive assertions. The rules by which an appraisal of probability is made can never be entirely explicit. If one were to refer only to formal rules of method, then the process of discovery, as led by "abductive" inference, would be paralysed. (Personal Knowledge, pp.21ff.)

¹⁷In his Science, Faith and Society, Polanyi has described this transcendental standpoint as that of a "scientific conscience ... [which] ... indicates the presence of a moral element in the foundations of science" (p.41). This perspective is suggestive of Edmund Husserl's idea of the "transcendental ego" - the standpoint from which one reflects upon the "cogito", the thinking subject in the here-and-now of its relations with the world (see n. 23, infra).

¹⁸Polanyi, Personal Knowledge, p.267. This notion shall be developed more fully as we go along, particularly in our discussion of "hermeneutics" as an "understanding" method.

¹⁹Ibid., p.264. This is admittedly circular, where reflection should ideally be undertaken from a presuppositionless standpoint. As we shall argue later, in our discussion of "hermeneutics", this is an unavoidable and necessary circularity.

²⁰Marjorie Grene would describe it as an "ontology of life and mind." (Grene, "Introduction," in Grene ed., Knowing and Being: Essays by Michael Polanyi [Chicago: Univ. of Chicago Press, 1969], p.xvi).

²¹This idea of intentionality "has nothing to do with

relations between 'real' objects, but is essentially an act that gives meaning." (Joseph Kockelmans, "Some Fundamental Themes of Husserl's Phenomenology," in Kockelmans ed., Phenomenology [N.Y.: Anchor Books, 1967], p.35). It could be argued that the central problem with objectivist science is that it has ignored intentionality - the active and ongoing participation of the subject in his knowledge. "Attending from tacit assumptions to something which is desired to be known is an act of human intentionality - a teleological feat that has an irreducible temporal component." (Spragens, Dilemma, p.144, my italics). This is not a psychologism - it leads beyond what has been traditionally understood as the knowing subject, as we shall see later. Our empirical observations, or evidential experiences, include and are shaped by the active participation and the pre-formal judgments of the knowing subject. These informal aspects are inextricably interwoven with our everyday activities. They both ground and confirm (enter into our premisses and accredit verification in evidential experience) our formal theories and world views. Necessarily, it is argued, the process of intersubjective communication and concept and theory formation is supported by these elements - which include an ontological relationship of intentionality. (See also n. 33, infra).

²²"Phenomenology" can be described, very generally, as the investigation of meaning and its constitution. Rather than assume, with objectivism, that "meaning" is an object, a process, or an aspect of behaviour, we view meaning as an act, or achievement. This achievement, furthermore, shapes our subsequent acts in relation to the world. (See also pp.84,85, infra, for the distinction between "thinking," "meaning," and "mind"). Phenomenology is a method of self-reflection which attempts to go back "to the things themselves" - to the Lebenswelt of immediate and presuppositionless experience - prior to all undisclosed descriptive or connotative content, and unmediated by preconceived ideas of what is "real". Analysis and explanation are ideally set aside in the attempt to perform a purely descriptive investigation of what is presented within consciousness. It is meant to be a project which, "as a disclosure of the world, rests on itself, or rather provides its own foundation." (Maurice Merleau-Ponty, "What is Phenomenology?", in Kockelmans ed., Phenomenology, p.374). Science, e.g., is a second-order expression of the Lebenswelt. An entirely formal method or system cannot justify its own premisses; it can only transfer the truth-value of its premisses to its conclusions, as we have seen. Ultimately, there can be no purely logical justification of an assertion. It will always rest in some set of prior

beliefs. Within phenomenological method, truth or existence claims for any sort of "objective" reality are suspended, or "bracketed." Any theory, scientific, pre-scientific, or meta-scientific is systematically put out of operation (ideally). The investigator pursues his purely descriptive disclosures from the perspective of the "transcendental ego." This standpoint, in principle, is "disinterested" in the world - free from unexamined and/or coercive intentions and conventions. (It is the subject of dispute between Husserlian phenomenologists and other, "existentialist phenomenologists" such as Merleau-Ponty or, in a sense, Polanyi, as to the extent to which one may actually transcend particular cultural-historical determinations). This attitude aspires to be more radically empiricist than even logical atomism. However, "rather than presuppose either an 'objective' realm of fixed, independent 'simple particulars,' or static, eternal 'essences,' we are given a dynamic, evolutionary view of the universe, with the active participation of the knower an integral aspect of his knowledge. The relation of the knower to his knowledge of the world is of the nature of a "dialogue or infinite meditation, and, insofar as [phenomenology] remains faithful to its intention, never knowing where it is going." (Merleau Ponty, *ibid.*). Rather than representing a philosophical system, it may be characterized "as a manner or style of thinking ..., it existed as a movement before arriving at complete awareness of itself as a philosophy." (*Ibid.*, pp.357, 358). In this spirit, Polanyi ostensibly is not offering a philosophically constructed system which purports to describe and explain the operation of man and world. He is suggesting an attitude that should inform any investigation. Rather than saying the world works in such-and-such a way in order to arrive at such-and-such a particular end, he is saying that in a self-reflexive investigation of our knowledge - one which does attempt to explicate and remain cognizant of its own grounds - we see (descriptively) that the operation and growth of our knowledge does work in a certain manner. However, as far as our conceptions of particulars or of final ends are concerned, we can never have any strictly indubitable knowledge (however much, in practice, we must hold certain beliefs to be true).

²³The "proximal" and "distal" poles are terms which Polanyi developed in order to suggest that in reflection upon the act of knowing, it seems appropriate to describe that which we attend to as being somehow distantiated from the knowing subject (distal), while that which we attend from seems nearer to him (proximal). (Polanyi, The Tacit

Dimension [N.Y.: Anchor Books, 1967], p.10). The terms "noetic" and "noematic" have been borrowed from Edmund Husserl, who similarly used them to describe aspects of a phenomenal field which, in phenomenological reflection (see p.91, n. 22, supra), is understood to involve irreducibly the subject and the objects of consciousness in a dynamic and changing interrelationship. Either metaphysical realism or metaphysical idealism is ideally precluded, where consciousness involves these two aspects as essentially connected by intentionality. Objects and meaning structures are not somehow outside consciousness nor are they in consciousness in some given and mysterious way. They are actively and synthetically constituted in consciousness. The correlative poles of noesis - noema include the noetic structures as activity and process (the open-ended, dynamic aspect) and the noematic meaning structures as product, or achievement. (See, e.g., Husserl, Cartesian Meditations [The Hague: Martinus Nijhoff, 1973], pp.31-41 and Husserl, Ideas [N.Y.: Collier, 1962], pp.260-349). The "transcendental ego" is disclosed in self-reflection as the "I" who must hold or give validity to the truth-claims of objects and, in general, an "external" and "internal" world. For a general explication of the notion of the transcendental ego, see Richard Schmitt, "Husserl's Transcendental - Phenomenological Reduction," in Kocklemans ed., Phenomenology, pp.48-57). Schmitt generally describes the results of phenomenological reflection and its disclosure of the transcendental ego: "(1) The object of thinking is revealed as object-for-a-subject, as object whose validity and significance flows from this subject. (2) The subject is seen as being subject-of-this-object, the subject which ... 'constitutes' the object. (3) At the same time the ego which reflects but eludes all descriptive grasp makes itself felt." (Ibid., p.68).

²⁴See, e.g., Polanyi, "The Logic of Tacit Inference," in Knowing and Being, p.144, and Polanyi, Tacit Dimension, pp.20, 21.

²⁵Polanyi, "The Logic of Tacit Inference," in Knowing and Being, p.156.

²⁶See, e.g., Polanyi, Personal Knowledge, pp.49-65, and Tacit Dimension, pp.4-6.

²⁷Polanyi points out that his notion of subsidiary awareness is not the same as the idea of the "subconscious mind." There is only a logical relationship between our

tacit clues and that which they point towards. It is possible to focus one's attention upon these clues. This logical relation is similar to that of premisses to conclusions within a deductive system. The difference is that inferences drawn from tacit clues are informal and not entirely specifiable. E.g., the clues which constitute a stereoscopic image lose their essential meaning (that meaning which emerges when they are taken together) when we are aware of them individually, there is a "logical disintegration" of their joint meaning. Their fusion, however, is not the result of a logical process or argument. It represents "not a deduction but an integration." Even if one were to argue that their meaning in the three-dimensional image was illusory, this type of critical argument will not change that meaning it has for us. (See Polanyi, "The Structure of Consciousness," in Knowing and Being, pp.212, 213). Again, in his "Logic of Tacit Inference" (ibid, p.146), Polanyi says that such a shift in focal attention destroys the meaning of a comprehensive entity (e.g., the achievement of a skill such as swimming or the stereoscopic perception of three-dimensionality). There is a "logical unspecifiability" about such an entity. Referring to Figure I (p. 53, supra), we may say that when we attend from something, we "interiorize" it. In shifting our focal attention to it, we "exteriorize" it - it is distantiated in consciousness to form part of its explicit, noematic structures. In a sense, it is then alienated from us: "We shall say then that we endow a thing with meaning by interiorizing it and destroy its meaning by alienating it." (Ibid.). This idea will be elaborated upon in our discussion of "indwelling", later in this chapter.

²⁸ Mikel Dufrenne says that empiricism can accredit this type of description of a whole such as a physiognomy as being more meaningful than the mere aggregation of its parts "only if it is gestaltist and if it recognizes certain Gestalten as constitutive meanings: in brief, if it is a transcendental empiricism." (Dufrenne, "The Subject as Social," in Jung ed., Existential Phenomenology, p.145).

²⁹ Polanyi, Personal Knowledge, p.xiii.

³⁰ Polanyi, Study of Man, p.28. They have, for example, "assumed that perception of a physiognomy takes place through the spontaneous equilibration of its particulars impressed on the retina or the brain." (Polanyi, Tacit Dimension, p.6).

³¹Ibid., p.7. In "The Logic of Tacit Inference" (in Knowing and Being), Polanyi says that: "Scientific knowing consists in discerning gestalten that indicate a true coherence in nature" (p.138). While "the integration of clues to perceptions may be virtually effortless, the integration of clues to discoveries may require sustained efforts guided by exceptional gifts. But the difference is only one of range and degree: the transition from perception to discovery is unbroken. The logic of perceptual integration may serve therefore as a model for the logic of discovery." (Ibid., p.139). Again, paralleling the activity of perception: "We may say that a scientific discovery reduces our focal awareness of observations into a subsidiary awareness of them, by shifting our attention from them to their theoretical coherence." (Ibid., p.140). This, we could argue, might describe the apparent sudden shift in focal attention and interest when we have the "aha!" experience of understanding or discovery. We could be said to suddenly instrumentalize the particulars of the problem as part of the noetic structures of consciousness (see Figure I, p.53, supra), while attending to that meaning which appears upon their integration as part of the noematic structures of our awareness (in a rough and schematic sense, of course).

³²Polanyi, Tacit Dimension, pp.11-13. See also Knowing and Being, pp.141, 145, 149, 212, 218.

³³Polanyi adds that "Since this functional relation is set up between two kinds of awareness, its directedness is necessarily conscious. Such directedness coincides then with the kind of intentionality which Franz Brentano has claimed to be a characteristic of all manner of consciousness." (Ibid., "The Logic of Tacit Inference," p.141).

³⁴Ibid., p.145.

³⁵Polanyi, Tacit Dimension, p.13.

³⁶Polanyi, Knowing and Being, p.149.

³⁷As Polanyi says: "Major discoveries change our interpretive framework. Hence it is logically impossible to arrive at these [formalized premisses] by the continued application of our previous interpretive framework." (Personal Knowledge, p.143). On an individual level, this

might be analogously compared to the notion of a Kuhnian conceptual, or "paradigmatic," revolution.

³⁸Polanyi, Personal Knowledge, p.328. The ideal of impersonal objectivity has prevented any systematic development of this process, although, he says, there have been "scattered hints" of this aspect of our knowledge in approaches such as operationalism, cybernetics, and pragmatism.

³⁹Polanyi, Personal Knowledge, p.161.

⁴⁰Ibid., p.162. Polanyi suggests that the same structure of achievement describes the learning of a skill such as swimming or bicycling. The particular combination of operational principles and physiological adjustments required to make these skills possible can have meaning for us only once we know what it is to perform the achievement itself. Similarly, he maintains, the belief that mathematics is 'true' precedes the establishment of particular axioms and concepts as being logically anterior (in the formal sense) to any mathematical proof or theory. "our acceptance of what is logically anterior is based on our prior acceptance of what is logically derivative, as being implied in our acceptance of the latter." (Ibid., p.191). This indicates that the endeavour of a philosophy of science to systematize the rules and assumptions of scientific practice entirely within a formal system is misguided. In fact, these premisses are part of a changing, dynamic framework, where formally they are only "what current discoveries prove them to be. Strictly speaking, the premisses of science are today what the discoveries of tomorrow will reveal them to be." (Polanyi, "The Unaccountable Element in Science," in Knowing and Being, p.119). See also Personal Knowledge, p.165.

⁴¹Polanyi, Personal Knowledge, p.63.

⁴²Ibid., p.104.

⁴³Polanyi and Prosch, Meaning, p.60. Tacit intuition of a yet to be explicitly realized, or articulated, order or "rightness" is a skill which underlies all purposive activity - from scientific discovery to ordinary language use to such rudimentary acts of tacit knowing as those of perception. This capacity, claims Polanyi, is "intrinsic to the dynamics of all from - to knowledge."

(Ibid., p.59). Polanyi has discussed certain psychological experiments which were conducted wherein subjects were presented with a series of nonsense syllables. With the appearance of certain syllables, the subject was administered an electric shock. After conditioning, the characteristic physiological response was elicited by exposure to the appropriate syllables, even when no shock was given. The subjects, however, could not specify what it was in the situation that prompted their reaction. The experimenters termed this phenomenon "subception," which might be rendered as "learning without awareness."

(R. S. Lazarus and R. A. McCleary, "Autonomic Discrimination without Awareness: A Study of Subception," Psychological Review 58 [1951]:113-22). According to Polanyi, then, "if there is learning without awareness, there must be also discovery without awareness, since discovery is but learning from nature." (Polanyi, "The Logic of Tacit Inference," in Knowing and Being, p.143). Furthermore, the student learning the identification of a given comprehensive entity is essentially repeating the process by which that phenomenon was first discovered. In essence, Polanyi is arguing that although we attend to things by dwelling within a set of particulars which we attend from, this tacit knowledge may also be "discovered, without our being able to identify what it is that we have come to know." (Ibid., p.142). From these assertions, he offers an elaboration of the notion of scientific intuition: "Thus, in the structure of tacit knowing, we have found a mechanism which can produce discoveries by steps we cannot specify Such intuition is not the supreme immediate knowledge, called intuition by Leibniz or Spinoza or Husserl, but a work-a-day skill for scientific guessing with a chance of guessing right." (Ibid., pp.143, 144).

⁴⁴Polanyi, Personal Knowledge, p.96.

⁴⁵Polanyi, Tacit Dimension, p.x.

⁴⁶Polanyi, Personal Knowledge, p.363. Even at the level of plant life, Polanyi suggests, the operation of this principle "may be acknowledged .., since it is of the essence of a living organism that each part relies for its function, and for its very meaning as part of the organism, on the presence and proper functioning of a number of other parts." (Ibid.)

⁴⁷Ibid., pp.100, 101. Thus, it is the sense of problems that moves all purposive behaviour, including that of intellectual effort. "The knowledge of a true problem is indeed a paradigm of all knowing. For knowing is always a tension alerted by largely unspecifiable clues and directed by them towards a focus at which we sense the presence of a thing - a thing that, like a problem, embodies the clues on which we rely for attending to it. This is the lesson derived from perception, which we have now to apply generally to the pursuit of knowledge by scientific inquiry." (Polany, "The Unaccountable Element in Science," in Knowing and Being, p.117).

⁴⁸See, e.g., Polanyi, Personal Knowledge, pp.62, 63. This idea shall be developed further when we adopt the concept of a "leading interest" (p.109 ff., infra).

⁴⁹Ibid., p.195.

⁵⁰This methodological position was first systematically outlined by Karl Popper, in his The Logic of Scientific Discovery (N.Y.: Harper and Row, 2nd ed., 1968). Now, the "demarcation line" between scientifically meaningful and meaningless propositions and theories was to be the criterion of "falsifiability." An assertion is considered falsifiable if one may derive empirical tests from it which could in principle show that assertion to be false. Popper recognized that meta-scientific elements inevitably enter into our theoretical and observational statements. Consequently, he wished to disassociate himself from positivists who would try strictly to distinguish "phenomenal language" from "theoretical language." (Ibid., p.59, n.1). Nevertheless, he believed that the goals of science were only to describe, explain, predict, and control nature: "Theories are nets cast to catch what we call 'the world': to rationalize [to describe and compile], to explain, and to master it [to predict and prescribe]." In addition, it is evident that he presupposes a dualistic nature of man/world, subject/object, and fact/value. Through systematic experiment and attempts to falsify our knowledge, "we endeavour to make the mesh [of our theories] ever finer and finer." [Ibid., p.59]. Although he admits that "ordinary language is full of theories..; [and] observation is always observation in the light of theories" [Ibid., p.59, n.1], he does appear to posit a static, given universe, independent of the knower. Moreover, through systematic experimental methods, he assumes we may ideally eliminate the personal element of knowing, and be presented with "the

facts just as they are."

⁵¹See Gunnell, "The Problem of Explanation," p.164.

⁵²Polanyi, "The Growth of Science in Society," in Knowing and Being, p.73.

⁵³Thomas A. Spragens, Jr., The Dilemma of Contemporary Political Theory (N.Y.: Dunellen, 1973), p.63.

⁵⁴Polanyi, Personal Knowledge, p.251.

⁵⁵Ibid., p.303.

⁵⁶It appears that we must be self-contradictory when we attempt to remain neutral with regard to the personal element of belief in the factuality of something. The knower, whether objectivist or otherwise, in practice finds himself reflecting upon the act of holding something to be true. Within objectivism, this immediately becomes problematic. The three elements of the commitment situation (described above) are understood strictly to be disconnected and somehow independent of each other. The "facts" remain unaccredited, yet cannot refer to the "subjective belief" in them for justification. Similarly, the "assertion of fact," involving this belief, cannot be accounted for in terms of the "facts." Nevertheless, the objectivist will still find that he must suppose some consistent relation between the phenomenal "evidences" as presented and his belief in their factuality. Hume, e.g., avoided this problem only by actually refusing to address it, ultimately. He concluded by regarding this sense of continuity and the relationship of our beliefs to our factual knowledge as the result of "habit." Polanyi says that "Hume has described most candidly the ensuing oscillation between a scepticism which admittedly lacks conviction, and a conviction which dare not consciously acknowledge its own acts and can be upheld only by neglecting the result of philosophic reflection. I shall call this the objectivist dilemma." [Ibid., p.304]. In positivist "correspondence" theories of truth, such as that of Bertrand Russell, one is reduced to positing a mysterious coincidence between one's subjective beliefs and objective facts in an external world - our immediate acquaintanceship with the referents of our analytically "pure" words: the "simple particulars" given to us in "sense impressions." Russell never successfully resolved the problem of why we should expect them to coincide.

Polanyi suggests that the only way of avoiding these logical dilemmas is to acknowledge the "facts" as "accredited facts, as seen within the commitment situation . . . , [and] subjective beliefs [as] the convictions accrediting these facts as seen non-committally, by someone not sharing them. But if we regard the beliefs in question non-committally, as a mere state of mind, we cannot speak confidently, without self-contradiction, of the facts to which these beliefs refer. It is nonsense to imply that we simultaneously both hold and do not hold the same belief, and to define truth as the coincidence between our actual belief (as implied in our confident reference to the facts) and our denial of the same belief (as implied in our reference to it as a mere state of mind concerning these facts)." (Ibid., p.304).

⁵⁷ Ibid., p.130. The emotions of intellectual passion "express a belief: to be tormented by a problem is to believe that it has a solution and to rejoice at discovery is to accept it as true." (Ibid., p.300). Polanyi expresses this notion again in a manner which shall be clarified, later, in our discussion of "indwelling"; we can be said to dwell within the tacit components of our knowledge, including the subsidiarily known elements of a problem. In discovery, "we continue to spill ourselves into further clues as we advance further, so that we arrive at discovery fully committed to it as an aspect of reality. These choices create in us a new existence, which challenges others to transform themselves in its image. To this extent, then, "existence precedes essence," that is, it comes before the truth that we establish and make our own." (Polanyi, Tacit Dimension, p.80).

⁵⁸ This formulation appears to be somewhat similar to a pragmatist conception of truth. Charles Peirce has said: "Upon this first, and in one sense this sole, rule of reason, that in order to learn you must first desire to learn, and in so desiring not be satisfied with what you already incline to think, 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." (Peirce, "The Scientific Attitude and Fallibilism," in Justus Buchler (ed.), Philosophical Writings of Peirce [N.Y.: Dover Publications, 1955], p.54. Quoted in Thomas Landon Thorson, The Logic of Democracy [N.Y.: Holt, Rinehart and Winston, 1962], p.120). With his principle of "falsification," Karl Popper also ostensibly adopts as the only axiom of science: Do not ever, in theory or in practice, block the way to further inquiry. However, whether or not

he follows this maxim in methodological practice, it can be argued that it is formally denied in theory because of his ontological presuppositions, which effectively bar one from meaningfully discussing a whole range of phenomena. (It matters little that he claims to be concerned only with methodological questions, and that it is not necessary to deal with ontological problems. It merely begs the question to dismiss these as "metaphysical" and therefore on the non-sense side of the demarcation line of scientific knowledge. Ontological assumptions must underlie any meaningful statement).

⁵⁹See, e.g., Polanyi, Tacit Dimension, p.23.

⁶⁰Polanyi, Personal Knowledge, p.403.

⁶¹Polanyi, Tacit Dimension, p.78.

⁶²See, e.g., Knowing and Being, p.133.

⁶³Polanyi, Personal Knowledge, p.335.

⁶⁴Polanyi, Tacit Dimension, p.4.

⁶⁵What objectivism ideally tries to do is step out of the commitment situation altogether - out of that framework which gives meaning in its active, ongoing use. This idealized Archimedian point - outside time and space, and severed from any intentionality or purpose - effectively extinguishes any real idea of the conscious "self," as we have seen.

⁶⁶See Polanyi, Personal Knowledge, pp.60, 61. This framework of presuppositions bears considerable resemblance to Ludwig Wittgenstein's notion of a "language-game" or "form of life," within which the meaning of a particular word or concept is determined according to criteria (the "rules" of the relevant language-game) which are defined, in essence, by the purpose or intention of that form of life. An inherent failing of any hypothetico-deductive system is that it must cut itself off from those factors in our understanding which actually give meaning to its formal premisses (which necessarily contain its conclusions). The dilemma is not resolved by a Popperian fallibilism. One then finds oneself in an infinite regress. The starting point for any particular investigation is basically a

matter of arbitrary decision, and again cannot be self-grounding, so long as it continues to reject the prior rootedness of our knowledge in a system of personal beliefs and intentions. Rationalist or logical empiricist thinking, which attempts by means of a radically sceptical method "to step completely outside all organizing patterns of conceptual coherence to arrive at some virgin, unstructured landscape of pure data [must fail]. One would then not see particulars unencumbered by their trappings; one would simply see nothing at all." (Spragens, Dilemma, p.121). A particular datum, or a referential term used to point to that datum, can have no meaning whatsoever outside the activity of a relevant language-game; it would get its sense from its use according to the appropriate application of the "rules" of that game. Of course, formal deductive systems, including logic itself, are themselves language-games. As "comprehensive entities," they themselves have their own operational principles and rules of "rightness." The actual extension of our knowledge proceeds largely according to unspecifiable rules, involving an irreversible process of comprehension. Within a formal logical system, however, we operate correctly when we follow the appropriate rules in deriving valid conclusions from explicitly given premisses (see, e.g., Polanyi, Personal Knowledge, p.333). The idea of a language-game as a "form of life" will be developed further in the next chapter.

⁶⁷This would seem to contradict Popper's description of scientific method, where it is seen to involve systematic attempts at "falsification." Rather than critically examine newly acquired beliefs (however tentative) with the real intention of refuting them, we in practice rely upon them implicitly to interpret the phenomena at hand. Our prior commitment to a set of beliefs is a necessarily prior condition of the attribution of meaning to anything - including that of the activity of doubting itself (it is easily demonstrated that we must indeed already believe in order to doubt. See, e.g., Polanyi, Personal Knowledge, pp.64, 272-74 and Spragens, Dilemma, pp.142-43). Polanyi's analysis is supportive more of Thomas Kuhn's idea that scientists tend to work uncritically within a certain conceptual paradigm, at least during those routine periods of "normal science" between major paradigmatic conversions, or "scientific revolutions." Here, it is not so much a matter of critically refuting or restating particular assumptions within the old framework. It is rather a general cognitive conversion to another framework which is confidently applied to a reinterpretation of all empirical data and assumptions. (See Kuhn, The Structure of Scientific

Revolutions [Chicago: Univ. of Chicago Press, 1970]). There are, however, essential differences between the ideas of Kuhn and Polanyi. This will be discussed later.

⁶⁸ Charles Taylor, "Interpretation and the Sciences of Man," Review of Metaphysics XXV (Sept., 1971), p.16. Similarly, Polanyi says that we cannot have indubitable self-evidence of our beliefs: "Our mind lives in ... action, and any attempt to specify its presuppositions produces a set of axioms which cannot tell us why we should accept them." (Personal Knowledge, p.267).

⁶⁹ Polanyi, Personal Knowledge, p.x.

⁷⁰ Polanyi, Tacit Dimension, p.16. See also Polanyi, "The Logic of Tacit Inference," in Knowing and Being, pp.147-48. Polanyi says that his general epistemological conclusions are here similar to those outlined in Maurice Merleau-Ponty's Phenomenology of Perception, which he read only after having developed his theory of personal knowledge. (Merleau-Ponty, The Phenomenology of Perception [N.Y.: Humanities Press, 1962], trans. Colin Smith).

⁷¹ These tacit clues are of two types, according to Polanyi. "Subliminal" clues, such as muscular movements in the eye or organs of balance, probably cannot be attended to focally. They are rooted deeply within the body. "Marginal" clues, although tacitly held in use, can be observed directly in themselves. These latter coefficients include such things as peripheral perceptions in the visual background of an observed comprehensive entity, memories of past experiences such as those which make up a learned skilful performance. The finger we use to point with, etc. In any case, both types of clues are involved in constituting the assumed "reality" of whatever it is one is focally attending to. (See Knowing and Being, pp.139-50).

⁷² See, e.g., Polanyi, Personal Knowledge, p.59.

⁷³ This idea is necessarily impalatable to objectivist thought. "What the ontology of mainstream social science lacks is the notion of meaning as not simply for an individual subject; of a subject who can be a "we" as well as an "I." The exclusion of this possibility, of the communal, comes once again from the baleful influence of the epistemological tradition for which all knowledge has

to be reconstructed from the impressions printed on the individual subject." (Taylor, Interpretation, pp.31, 32).

⁷⁴Polanyi, Personal Knowledge, p.59.

⁷⁵Ibid., p.208.

⁷⁶Ibid., p.266.

⁷⁷See Polanyi, Meaning, pp.46-48, and Tacit Dimension, pp.30-33.

⁷⁸In the attempt to reduce all scientifically meaningful knowledge to the language of physics and chemistry, the difficulty of accounting for phenomena such as "consciousness" has been handled by assertions of the following type: "The existence of something called consciousness is a venerable hypothesis: not a datum, not directly observable' (Hebb). 'Although we cannot get along without the concept of consciousness actually there is no such thing' (Kubie). 'The knower as an entity is an unnecessary postulate' (Lashley)." (Polanyi, "The Two Cultures", in Knowing and Being, p.42. The quotations are taken from Sir Russell Brain's review of Brain Mechanism and Consciousness: A Symposium, edited by J. F. Delafresnaye [Oxford: Blackwell Scientific Publications, 1954] in Brain 78 (1955): 669, 670). A scientific, unreflective submission to an authoritative view of rigorous scientific method has led the above scientists to deny the reality of something they must deal with (and believe in) in practice but which defies explanation in terms of the formal tenets of science. The pragmatic solution - to describe "consciousness" as a "useful fiction", which is legitimate to use because it "works," is not only inadequate but self-contradictory. (See, e.g., Spragens, Dilemma, pp.47, 63, 138). The ideal knowledge of the logical empiricist results in a situation where the knower himself has "no place in time, space, history, or tradition. He is essentially partaking in the knowledge proper to a God." (James L. Wiser, "Political Theory, Personal Knowledge, and Public Truth," Journal of Politics [Aug. 1974]:671). In other words, for the strict reductivist, the sciences of man become, rather than life reflecting upon itself, merely "physics and chemistry reflecting upon physics and chemistry with an incongruous 'it' or a 'we' inserted in the proposition to make this viewpoint less obviously incredible than it is." (Sir Francis Walshel, "Personal Knowledge and Concepts in the

Biological Sciences," in Langford and Poteat [eds.], Intellect and Hope, p.304).

⁷⁹ See Polanyi, The Study of Man (Chicago: Univ. of Chicago Press, 1959), p.25. Objectivist attempts to explain consciousness or reason in terms of the particulars of physics and chemistry destroys the meaning of "mind." Again, it is an instance of focally attending to the particulars of a comprehensive entity and losing sight of that entity, itself; and it has led objectivists into manifestly absurd assertions (see n. 78, supra). Wittgenstein has said that "nothing is more wrong-headed than calling meaning a mental activity!" He asks us to consider, by way of analogy, whether it is not problematic to speak of the rise in the price of butter as attributable to the activity of butter. (Wittgenstein, Philosophical Investigations [Oxford: Basil Blackwell, 1972], sect. 693, p.172. See also p.218 and C. B. Daly, "Polanyi and Wittgenstein," in Thomas A. Langford and William H. Poteat (eds.), Intellect and Hope: Essays in the Thought of Michael Polanyi [Durham, N.C.: Duke Univ. Press, 1968], p.156). Daly suggests that: "'Meaning' is not a single mental thing but many things, all of them embodied things." (Ibid.). In sect. 568, p.151 of his Philosophical Investigations, Wittgenstein presents us with an interesting aside. He says "(Meaning is a physiognomy)." This metaphorical representation of meaning seems to refer to the same appearance of a novel comprehensive feature which Polanyi attributes to an actual physiognomy - where it transcends the significance of the parts that constitute it. Polanyi would suggest that our concepts are comprehensive integrations achieved by the subsidiary use of language. We are focally aware of concepts in all articulate knowing, while subsidiarily aware of the language use which constitutes them. Our conceptual knowledge displays features which we could not explicitly infer from attending to words directly. Yet, this knowledge is dependent upon the skilful use of words (see Personal Knowledge, pp.101, 102). Wittgenstein has also remarked upon the logical disintegration of conceptual knowledge which occurs when we focally attend to words (e.g., Philosophical Investigations, sect. 332, p.107). He says that furthermore, if thinking is not simply an incorporeal activity that accompanies language use, we may say that "the language is itself the vehicle of thought." (Ibid.). Again, he hints at the transcendent features of words in use when he refers to the "physiognomy of a word" (Ibid., p.218).

⁸⁰Mikel Dufrenne, "The Subject as Social," in Jung (ed.), Existential Phenomenology, pp.138, 139. This difference in the intensity of the knower's interest in different subject matters will be more fully developed later, in our discussion of Polanyi's evolutionary paradigm of emergence.

⁸¹Ibid., p.142. Ernst Cassirer suggests a similar notion: as a cultural animal man participates in "a new dimension of reality ... the symbolic system." He is not concerned merely with a material universe; "man lives in a symbolic universe." (Cassirer, An Essay on Man [New Haven: Yale Univ. Press, 1944], pp.24, 25).

CHAPTER 4

THE SCIENTIFIC COMMUNITY

For reasons which shall be clarified later, Polanyi attaches central importance to the pursuit of "pure" science within modern societies. Furthermore, he uses his conception of the scientific community as a model for his investigations of political community.

At this point in the present discussion, we shall suspend our direct analysis of Polanyi's ontology and epistemology in order to elaborate his notion of the structure and operation of the "Republic of Science." Having shown how he understands scientific knowledge to be grounded, and having suggested the interests which define the scientific form of life, we can then resume our attempt to systematically present his cosmology. This will later lead us into an investigation of the political community. We will suggest that there are not only parallels and differences, but also an intrinsic complementarity between science and political life.

We have said that men dwell within their culture as they do their own bodies. Polanyi would describe this as the emergence of a comprehensive feature that may not be explicitly inferred from the observation of individuals

abstracted from a community. An entire culture is a "superior form of knowledge" which transcends the individual and individual intelligence, as such. This is the "nösphere."¹ (These propositions, however, are ambiguous. It will appear, in fact, that in some respects the individual can be said to be of prior significance, while in others the larger culture is more important).

If man cannot have direct, self-evidential knowledge of the world in the rationalist sense, and if he is dependent upon the authority of a cultural tradition even in his interpretation of empirical observations, then how can we hope to not only have a universalizable, "objective" knowledge, but also account for originality - the change and advance of the common body of knowledge? Does this not suggest that all knowledge is arbitrary and entirely relativistic, or that traditional dogma and contingent civil interests will decide what is true and what is not? In addressing these questions, we shall look at the structure and function of the scientific community and develop the notion of "mutual authority" as a form of "General Will."

In our opinion, this discussion may be clarified by adopting certain terms which are foreign to Polanyi's writings, but which have been used by contemporary thinkers who have addressed essentially similar problems.

I. Scientific Community as a "Form of Life"

According to Ludwig Wittgenstein, the "language-game" includes the language in use as well as the life activities which give rise to it and are inextricably interwoven with it. We are not given concrete facts which are the referents of our words: "What has to be accepted, the given, is - so one could say - forms of life."²

Now Wittgenstein did not explicitly stipulate that language-games must have an external goal. He apparently felt that particular language-games could be autonomous activities, just as could certain recreational games.³

(One could suggest that no game, however, is played as an end in itself. It seems correct to say that any such game is played with some sort of reference to other interests - such as the need to relax or the desire to excel in competition). In any case, the primary purpose of his "game" analogy was to show that non-linguistic activities and the speaking of language are intimately connected.

Indeed the speaking of language is part of a communal activity, a way of living in society It is through sharing in the playing of language-games that language is connected with life.⁴

It is argued in the present paper that what we shall call "forms of life" are directed towards, and in a sense defined by, certain "leading interests" of group activity.

In the case of the scientific community considered as

a form of life, that basic leading interest is in discovering and maintaining that knowledge of an independent reality. Here, the leading interest may be considered equivalent to Polanyi's conception of the "universal intent" of our "intellectual passions." It may be understood to involve the ontological relationship of intentionality as well as the external pole of our activities of knowing, constituting, contriving, and discovering. It is that to which we attend from the subsidiary particulars of our knowing. Generally, it refers to a teleological alternative to causal explanation. Effectively, we are asked to consider goals and intentions as motives - or, as "causes" which draw their force from a state of affairs not yet existent in an immanent sense. Obviously, action directed towards goals may not necessarily be accessible to empirical observation and testing. Not only may these intentions be only tacitly held, but goal-oriented behaviour may be unsuccessful or disguised. An objectivist perspective, however, does not formally conceive of a leading interest of "cognition" other than that of causal explanation.⁵

We have seen that Polanyi believes that the intellectual passions, interested in learning and discovery, are drawn on by a sense of a hidden but accessible order in the world. At this stage of our argument, we shall examine this metaphysical claim in view of the actual practice of

the scientific method and the pursuit of discovery.

It will appear that metaphysics should not be considered as a special pursuit or area of study. It is instead something which must underlie the meaning we give to all human activities. Any knowledge we can have of the world must rest on metaphysical grounds:

Every interpretation of nature whether scientific, non-scientific or anti-scientific, is based on some intuitive conception of the general nature of things.⁶

A scientific rationalism based in radical doubt, however, rebelled against traditional religious dogma. Later positivist formulations effectively "threw the baby out with the bath water." As well as rejecting an oppressive body of dogma, this school of thought indiscriminately (and only formally) repudiated all notions of a meaningful metaphysics. The idea of modern science is one where our knowledge consists of a body of statements which are "objective": where the content is determined by empirical observation and the presentation of this knowledge is conventional - organized according to a formal method based in rules of deductive logic. This notion, Polanyi would suggest, is deeply rooted in the contemporary world view. Nevertheless, it

... would be shattered if the intuition of rationality in nature had to be acknowledged as a justifiable and indeed essential part of scientific theory.⁷

In fact it seems as if it is actually impossible to eliminate a metaphysics. The idea of chaos is untenable; for man, the universe is cosmos. The appreciation of randomness itself presupposes a conception of order.⁸ One line of argument Polanyi takes is to suggest that it would make no sense to tackle a problem if there were not the hope and trust that it could be solved. He refers to John Dewey, who has claimed that there must be a "religious" attitude innate in the activity of research and discovery which presupposes a "natural piety":

... nature produces [not only] what occasions discord and confusion [but also] whatever gives reinforcement and direction.⁹

The beauty apparent in a good theory, for example, is present as an inarticulate component; but its presence is essential if we are to believe that theory true.¹⁰ Again, scientists are accustomed to describing a remarkable and original discovery or theory as being "fruitful." What this characteristic actually attests to, says Polanyi, is a belief that all scientists must share:

... that science offers us an aspect of reality, and may therefore manifest its truth inexhaustibly and often surprisingly in the future.¹¹

Thus, our world view not only presents us with our problems, but includes the means to their solution. We must believe that the universe is benign - that there is in some sense an order which is accessible to our knowing.

This conviction is a faith - a non-demonstrable belief. Objectivist assumptions lead us to refuse to articulate goals or purposes which must be held tacitly, at least, if scientific endeavour on any level is to make sense.

The scientific community, then, is a teleological enterprise, resting "on a belief in the ever continuing possibility of revealing still hidden truths."¹² Polanyi claims that what underlies the description of theories as "fruitful" or "beautiful" is something less than, and at the same time more than, "knowledge." It is a foreknowledge of things that are implied by discovery - a non-deductive, intuitive participation in a teleological structure of being.

At the level of organic or perceptual self-set standards, skilful knowing and doing is directed towards private satisfactions. However, the intellectual passion for excellence, for "rightness," is inspired by the belief that it seeks to fulfill universal obligations.¹³ As we saw in our analysis of indwelling, the beliefs and knowledge of man in community are conditioned by a committed participation in a fiduciary framework. We trust in this general standpoint and the skills transmitted by a cultural heritage to make further contacts with reality. In the confident exercise of these skills, we also trust that we use them correctly, as measured by self-set standards. Fur-

thermore, we believe that others within that form of life will understand what we assert to be true, and accredit it by similar standards.

This, in fact, represents the basic thesis of Polanyi's Science, Faith and Society: the intimate connection between society, faith, and science (or any of the other "great domains of the mind," such as the administration of law) lies in the fact that validity is accorded to scientific knowledge largely on the basis of a tacit faith which cannot be a purely private, or subjective, matter. It must be upheld within a community - the larger society.¹⁴

So, if we take the scientific community as a form of life within the "superior form of knowledge" represented by the larger culture as the most general form of life, we may say that it intends towards a metaphysical, independent reality as its leading interest.

Our intellectual passions, or leading interests, play a "decisive role" in all those forms of life ("domains") such as the natural sciences, engineering, or mathematics. It is the relevant leading interest which affirms

... the distinctive intellectual values by which any particular performance may qualify for admittance to the domain.¹⁵

The enterprise of science gets its structure and function from the skilful activities of scientists at work. These activities are what shapes scientific knowledge. The

scientist is led on by his interest in achieving a specific kind of skilful performance. This interest conditions a framework of fiduciary criteria, or rules, which govern his activity, although he is no more focally aware of them than is the bicyclist or swimmer aware of the tacit skills and operational principles which permit the pursuit of their interests.

II. The "Rules" of the Scientific Form of Life

The scientist dwells within science as a form of life and utilizes

... a framework for unfolding [his] understanding in accordance with the indications [interests, intentions] and standards ["rules"] imposed by the framework.¹⁶

The conditions and criteria of scientific value that exist arise in use from the taking of a purely scientific interest in the subject matter at hand.¹⁷ In other words, the rules of the relevant language-game (scientific discovery) are conditioned by the leading interest of science. The operational principles of the community, then, and the rules its members apply in the pursuit of science, may analogously be described as being part of the noetic side of that community as a superior form of knowledge. They are instrumentalized subsidiarily in order to bear upon what is of intrinsic interest within that form of life.

Objectivist social science, as well as natural

science,

... has made us regard human beliefs as arbitrary personal manifestations, which must be discarded if we are to achieve a proper scientific detachment; belief must be rehabilitated from this discredit if it is to form henceforth a recognized part of our scientific convictions.¹⁸

In fact, scientific convictions are of an inherently normative character. Science, itself, is a normative belief, at basis. This is implicit in the committed claim to universal validity which characterizes a scientific assertion. Assertions of scientific fact

... do not refer definitely to any observable facts but are like statements about the presence of a burglar next door [which have not yet been empirically verified, but which have been tacitly inferred from an integration of clues] - describing something real which may manifest itself in many indefinite ways [in the future].¹⁹

As we have maintained in our examination of scientific discovery, we do not apply a framework of explicit rules to a body of empirical data in order to arrive at discovery. Similarly, Polanyi would argue, we do not apply only explicit criteria to establish the value¹ of any theory or proposition within the scientific community proper. We actually verify contributions to knowledge by accrediting the belief, in any particular instance, that there has been an apprehension of reality - one which has been achieved by instrumentalizing observational data as clues to that reality; "that is the process underlying scientific dis-

covery."²⁰

Verification within the community does rely more explicitly upon rules than does the process of discovery, but it nevertheless is also fundamentally dependent upon inarticulate appraisals.

One such fundamentally personal and unspecifiable standard is that of plausibility. In an earlier section, we suggested that opposing impulses to critical caution and spontaneous creativity in the process of discovery were mediated by a "third party" - a normative principle of "scientific conscience (p. 49 and p. 90, n. 17, supra). Polanyi would now say that all acts of knowing - from perception to creative discovery - are "impelled by the imagination and controlled by plausibility," and that personal judgments of plausibility derive from "our general view about the nature of things."²¹

The professional standards which accredit the plausibility of a contribution are enforced partly by the extension of funding and the editorial evaluation of professional publishers. There is, in fact, an authoritative notion of "a general view about the nature of things" at any particular time which recommends

... the kinds of [problems], conceptions and empirical relations that are intrinsically plausible and which should therefore be upheld, even when some evidence seems to contradict them, and tell us also, on the other hand, what empirical connections to reject

as specious, even though there is evidence for them - evidence that we may as yet be unable to account for on any other assumptions.²²

Polanyi remarks that an orthodoxy which tends to reject or ignore evidence which runs counter to current perspectives can be, and sometimes is, dangerous. Nevertheless, he claims that such an authoritative check on theory is essential if triviality is to be avoided in the problems approached and in the opinions put up for professional discussion. He says that "discipline must remain severe and is in fact severe."²³

The dangers of a stagnant and narrow science are opposed, however, by a certain tolerance for originality which is intrinsic to the pursuit of knowledge within the scientific form of life. The appreciation of originality is itself another essential standard for the accreditation of any particular discovery or theory. The degree of originality is measured, generally, by the extent to which the contribution to knowledge is unexpected among those who are skilled and accredited members of the relevant form of life. However there are skills of inarticulate appraisal required to differentiate between a mere delusion or error, and a genuinely original formulation or discovery. This may involve, partly, an estimation of "systematic importance" (infra) or, on the other hand, it may simply invoke an intuitive appreciation that it does somehow offer intima-

tions of hitherto unexpected manifestations of a hidden reality.²⁴ There operate intellectual passions, directed by the leading interest of science, which differentiate

... between demonstrable facts which are of scientific interest, and those which are not

... Scientific discovery reveals new knowledge, but the new vision which accompanies it is not knowledge. It is less than knowledge, for it is a guess; but it is more than knowledge, for it is a foreknowledge of things yet unknown and at present perhaps inconceivable. Our vision of the general nature of things is our guide for the interpretation of all future experience. Such guidance is indispensable. Theories of the scientific method which try to explain the establishment of scientific truth by any purely objective formal procedure are doomed to failure. Any process of inquiry unguided by intellectual passions would inevitably spread out into a desert of trivialities.²⁵

In practice, claims Polanyi, this guidance is provided by three criteria of scientific value which are applied to the accreditation or rejection of particular facts, theories and discoveries. These are:

- (1) certainty (accuracy)
- (2) systematic relevance (profundity)
- (3) intrinsic interest.²⁶

All of these criteria together are applied to any particular of scientific knowledge. Where the precise measurement or observation of supportive data for one proposition or theory is found wanting, for example, it may

still be accredited because of its explanatory power or intelligibility in relation to other "facts" which themselves have been accepted in light of these three criteria of value. (The converse might also be true).

The first two criteria may be seen as applied according to "rules" inherent in the scientific form of life. The criterion of "intrinsic interest," however, is fundamentally extra-scientific. Its rules of use can arise within other forms of life and, consequently, may be determined by other leading interests. (The significance of this will be developed in our analysis of political community).

On a personal level, the individual scientist may attribute a measure of intrinsic interest to a particular discovery or theory such that it outweighs the criteria of certainty and systematic relevance. Nevertheless, the profession as a whole may refuse to accredit it because of its implausibility in terms of the current general view of the nature of things. Likewise, the scientific community may itself decide to extend scientific value to particular knowledge because there is a general appreciation of its intrinsic interest which is more important than its deficiencies in regard to other criteria of value.

In general terms, then,

... the criteria of plausibility and of scientific value tend to enforce conformity, while the value attached to originality encourages dissent. This internal tension is essential in guiding and

motivating scientific work. The professional standards of science must impose a framework of discipline and at the same time encourage rebellion against it Thus, the authority of scientific opinion enforces the teachings of science in general, for the very purpose of fostering their subversion in particular points.²⁷

In the next section, we shall examine Polanyi's notion of how the scientific community nonetheless maintains an integral coherence and continuity.

III. Mutual Authority

The structure of the scientific community is that of a mediated consensus. It operates in pursuit of scientific discovery as well as of the articulation and dissemination of knowledge. A form of life such as that of science represents a type of superior knowledge; it is a complex social matrix within which there takes place an exchange among equals. In this exchange, we refer to a common fiduciary framework, but

... we are not laying down standards for judging the persons to whom we attribute this knowledge; we are submitting, on the contrary, to the standards laid down by them for our own guidance.²⁸

Problems and opinions are discussed by scientists as equals who refer to a common traditional framework for their authority. This authority involves standards of value and of truth which are understood to be binding equally upon all participants in a dialogue. Thus, there

is in any particular instance a fiduciary bond - a mutual reliance and trust in the other. This "bond of mutual trust"

... is but one link in the vast network of confidence between thousands of scientists of different specialities, through which - and through which alone - a consensus of science is established which may be said to accept certain facts and values as scientifically valid.²⁹

The body of modern scientific knowledge has become so great that no one individual could hope to encompass the whole of even one discipline. Nevertheless, the scientist accepts assertions made in areas that range far outside his own field of expertise. Scientific statements made in disciplines completely out of his range of competence are accepted largely on faith. This faith refers to the confidence that there are essentially the same criteria of scientific value being skilfully applied there that he himself uses in his own investigations. This also implies that the foreign discipline could become intelligible to him if he chose to exercise his learned skills in appropriating it. There is a confidence that any accredited member of the scientific form of life could repeat and verify any particular scientific observation. In practice, of course, the scientist only confirms a very small proportion of these facts personally, even within his own field. It is upon the authority of the scientific community that he

relies for his accreditation, at second hand, of contributions to knowledge that he is not personally competent to judge:

... this accrediting depends in its turn on a complex organization. For each member of the community can judge at first hand only a small number of his fellow members, and yet eventually each is accredited by all. What happens is that each recognizes as scientists a number of others by whom he is recognized as such in return, and these relations form chains which transmit these mutual recognitions at second hand throughout the whole community. This is how each member becomes directly or indirectly accredited by all. This system extends into the past. Its members recognize the same set of persons as their masters and derive from this allegiance a common tradition, of which each carries on a particular strand.³⁰

This consensus does not simply attest to the assumption that any individual scientist may personally experience the same empirical observations. It rather reflects an indwelling within and commitment to the whole form of life which is science, even though each member can make professional judgments within only a small area of the whole enterprise. The criterion of "reliability," or accuracy of observation and measurement, is ~~only~~ one of the means by which scientific knowledge is accredited. Its value is also appraised in terms of its "systematic relevance" and its "intrinsic interest." These latter considerations involve the scientist far beyond his own immediate knowledge of particular facts.

The fiduciary framework is established and maintained by a complex system of mutual adjustments. Polanyi describes the scientific community as consisting of "a chain of overlapping neighborhoods," wherein each scientist may critically endorse virtually the whole of the communally accredited body of knowledge, and whereby the community constitutes that authority which evaluates the work of the individual.³¹ We have suggested, however, that there is a constant mediation between both those authoritative constraints of accepted opinion and an individual impulse to spontaneous originality. What role, we may then ask, does freedom play in the functioning of the scientific community as a relatively stable and ongoing structure?

Academic Freedom, says Polanyi, should include the freedom to choose one's own problems, to pursue pure research independently of particular interests, and the right to teach according to one's own opinions. This does not imply, however, that the individual scientist should be free to do just as he pleases in order to satisfy his subjective desires. It is not merely a "negative liberty." Neither should it mean, on the other hand, that he is free only to fulfil certain obligations; it is not a "positive liberty" in the sense that one is entirely "constrained to be free."³² Polanyi maintains that both the freedom to pursue individual happiness and the freedom to fulfil broader obligations are functions proper to academic liberty, but that it has a

third function. This is the role of coordinating individual activities within the scientific community. In a manner reminiscent of classical liberalism's defense of the "free market" (although differently conceived, as we shall argue later), Polanyi claims that the academic freedoms mentioned above contribute to a spontaneous order which is the most efficient form of organization for scientific activity.³³

As we argued in our second chapter, the goal of precise prediction is probably fundamentally misguided in our concern with human phenomena, and the possibility of anticipating, in an explicit form, future conceptual innovations or scientific discoveries is self-contradictory. Thus, a project whose leading interest lies in discovery and the advance of knowledge cannot be satisfactorily directed toward specific ends. (A technical interest, of course, can be. In fact, particular activities and specific means are in this case characteristically chosen with the achievement of a precise goal in mind). The scientific enterprise is, we have argued, directed towards and indeed partly defined by an external leading interest. This interest provides the coherence of the activity as a form of life. Nevertheless, the external pole of intellectual passion is the belief in a pre-existent and accessible order which is real but indeterminate. Our ontologi-

cal claims make reference to it, and ideally may approach it in successive stages, but that is all that can be claimed. Since the object of pure research cannot be specified beforehand, the intervention of a central authority in the programming of its activities could not take full advantage of those manifold possibilities of imaginative contact with, or intimations of, reality which is the unique capacity of skilled and committed individual minds. A central authority could not direct these minds in an explicit manner to these experiences, nor could it hope to evaluate efficiently the scientific value and plausibility of every individual contribution or every step in the progress of a particular research project, and then furthermore to coordinate them. We may use the analogy of a group of people cooperating to assemble a jig-saw puzzle. In a system of mutual authority and mutual adjustments - where each individual checks the results of his contributions and then adjusts them accordingly, step by step, against those of his colleagues - a spontaneous order is achieved (the completed puzzle). If a central authority attempted to plan all of these activities in advance, it seems reasonable to assume that the subsequent order would be far more difficult to accomplish. Polanyi says that the logic of spontaneous order

... consists simply in the extension of an unknown pattern by individual steps, under

the twofold condition that each suggested new step can be readily judged as to its correctness or otherwise, and that each new step is rapidly brought to the notice of all participants and taken into account by them when they make their own next move.³⁴

As Polanyi indicates, however, the jig-saw puzzle analogy is actually inadequate. In the pursuit of new knowledge, the step by step problems and answers, as well as the final objectives, are all far more indeterminate and dubitable.

Finally, it is suggested that Polanyi has a conception of the function of freedom which is neither that of negative liberty nor that of men being constrained to adhere to higher normative claims. Instead, these two aspects of freedom are combined; their apparent incompatibility is submerged in their function as a mechanism of spontaneous order directed to the achievement of an interest which transcends that order itself.

At the beginning of this section, we said that one function of the scientific community was that of articulating and disseminating knowledge. Applying that conception of the structure of the scientific community which has so far emerged, we may now attempt to clarify the manner in which the public body of knowledge is constituted in human activity.

The theory of personal knowledge is superficially Kantian in its idea of the inevitable contribution of man

to the shape of conceptual knowledge. Again, it is Kantian inasmuch as it seems to imply a noumenal world - that indeterminate external pole of our knowledge - and a phenomenal world that is given to men as men. (Polanyi's conception of this latter statement is distinct from Kant's, as we shall see in the next chapter). However, we shall argue that Kant's idea of the "a priori synthetic" (where the manifold of phenomenal experience is ordered conceptually by essential categories of Reason) still suffers from the problems inherent in objectivist thought in a way that Polanyi's theories do not. A Cartesian dualism (noumenon - phenomenon) and the idea of a static ontology (the categories of Reason) do not allow us to account for the origins of what we hold to be true - it cannot be self-grounding. The perspective of personal knowledge and the project of a genuinely critical theory demand that we ask: From where do these a priori categories and structures come? Objectivist thought consistently begs this question. Gestalt psychologists, for example, would consider them genetic. Neopragmatists might consider them merely "conventional". Kantian philosophy would grant these categories a mysterious givenness in individual Reason, where there is some transcendent contact through them with a pre-conceptual, noumenal nature.³⁵ The objective of "understanding" and self-reflection is a realm of experience prior to all of these latter constructions.³⁶

With Polanyi, in a sense, all of these above sources of our conceptual knowledge are incorporated within the structure of tacit knowing. As we have seen, we dwell within capacities, skills and knowledge which have been biologically, experientially, educationally, and traditionally provided. What we know and how we know it is conditioned by all of these factors. However, the ordering rules, or "categories of reason," are not fixed and given - accessible to or part of individual reason, essentially. Rather, they are dynamic. They are more accurately described as functions which obtain only in activity among men in a language-using community. In other words, we may agree with Kant that there are prior conditions of our knowledge of phenomena, but these are not essential and static attributes of individual men. Instead, they represent an active, changing set of conditions; they are functions of a constitutive social activity which transcends the limitations and capacities of individual intelligence somehow ideally abstracted from a culture.³⁷ Within the scientific community, these "categories" are not merely conventional, on the other hand. They are conditioned by the leading interest in discovering a reality, which provides an external and universal pole of what is upheld as the truth. The intellectually impassioned pursuit of knowledge with universal intent involves a responsible contribution of the

individual knower to the public knowledge. This again refers us to the complementarity of the individual freedom to do as one will and the obligation to authority within the scientific form of life:

The revolutionary in science does not claim to be heard on the grounds of any right to assert his personality against outside compulsion, but because he believes he has grounds for establishing a new universally compelling opinion. He breaks the law as it is, in the name of the law as he believes it ought to be. He has an intensively personal vision of something which in his view henceforth everyone must recognize.³⁸

Thus, even while the scientist submits to authority, he ideally instrumentalizes it in order to rebel against it in the search for further contact with an independent reality. If his discovery or innovation is accredited by his fellow scientists, then they have submitted to his claim to knowledge with reference to the common authority. This engages all members of the form of life in a process of continual legislation - the emergence, articulation, and dissemination of public knowledge. This activity generates and sustains a culture and tradition which transcends the particular culturally and historically bound nature of our individual capacities to integrate meaningfully more and more of reality. Polanyi states that:

Discovery is an act in which satisfaction, submission and universal legislation are indissolubly combined.³⁹

According to Polanyi:

The Republic of Science realises the ideal of Rousseau, of a community in which each is an equal partner in a General Will.⁴⁰

However, this system of mutual authority does not constitute a "will" which is free to choose its own purpose. The scientific form of life is shaped by and pursues a "joint task" (or, leading interest). If this task were no longer accredited, then the community as such would disappear. It would dissolve, having no reason for being. If another task were to be adopted, even by those same individual members of the previous form of life, then a new organization would arise, applying different "rules" which would be appropriate to the new leading interest. We have suggested that the external pole of scientific endeavour is independent of particular men and interests. It is the committed pursuit of what is believed to be a preexistent reality which defines the Republic of Science. Consequently, Polanyi would argue, the authority of science cannot include among its legitimate functions the initiation of particular programmes of research. This can only be a matter for the intellectual passions and skills of individual men. There is, nevertheless, authoritative control over teaching, funding, and publications. This cannot be a centrally directed authority, however, if the proper task of science, and the scientific community itself, are to continue.

As we have already argued, there would be no adequate criteria of a genuine contribution to science without their grounding in an authoritative fiduciary framework:

"Science would become practically extinct."⁴¹ The authoritative framework of skills and values transmitted by tradition provides the grounds for intellectual freedom, mediating between this creative urge and the need for critical rules of method. Polanyi has said that

... science is constantly revolutionized and perfected by its pioneers, while remaining firmly rooted in its tradition
.... [As a form of life, it is] a spiritual reality embodied in tradition and transcending it.⁴²

Thus, the purpose of scientific endeavour is independent of the particular wills of men. The rules of the language-game can be used properly only by those who have assimilated the relevant traditional skills, values, and knowledge which permit the appreciation of true scientific value. The skill of professional "connaissanceurship" cannot be deliberately called up "for purposes alien to its inherent passion."⁴³ In other words, the "rules" may only be meaningfully applied within the relevant language-game, and that game is dependent for its success upon the common acknowledgement by its participants of its appropriate leading interest. If, in principle, we choose to deny the truth or validity of this teleological interest, then we are

either misled or we cannot even talk about science.

Science cannot be considered, by its practioners, to be simply a means to some other end.

Science is a system of beliefs to which we are committed. Such a system cannot be accounted for either from experience as seen within a different system, or by reason without any experience. This does not signify that we are free to take it or leave it, but simply reflects the fact that it is a system of beliefs to which we are committed and which therefore cannot be represented in non-committed terms

... No important discovery can be made in science by anyone who does not believe that science is important - indeed supremely important - in itself.⁴⁴

It matters little whether a scientist or a judge, for example, enters his chosen profession because of subjective and self-centred motives of greed or the desire for respect. Once accredited by his fellow practitioners, he will find himself acting, at least in his capacity as a professional, according to the rules of that form of life and according to those appropriate leading interests. If he does not, then he ceases to be a recognized member of that community. If all members of such a "domain" were to deny the principles and purposes intrinsic to the endeavour, then it would cease to exist except as a term with no meaningful referent.

In summary, then, the scientific community is structured by a general authority, or "General Will," which pro-

vides common traditional grounds for the interpretation, accreditation, and communication of scientific knowledge. The institutions of mutual authority within this community function partly to encourage its persistence and stability as a definite structural, or comprehensive, entity. It also seems clear that this is not the sole function of these structures, however. They also operate to condition the individual's capacity to strive towards an ideal, transcendent leading interest - that of scientific discovery. This latter interest may actually act to upset the stability of the community, at least on one level. The substance of what is generally held to be factual or of explanatory value may even be revolutionized. However, the coherence of the traditional framework of tacit beliefs and skills which supports this form of life remains intact, and is itself that authority which accredits the value of the new perspective. The same criteria of scientific value are still applied according to tacit rules which have been subsidiarily revised in the light of new understanding - the criterion of "plausibility" will have changed. From the new perspective of understanding achieved by discovery or radical conceptual innovation, the scientist may still find previous "paradigmatic" world views and scientific theories perfectly intelligible, although he will reinterpret them from a new and more comprehensive standpoint. We have ar-

gued that the logic of tacit inference and indwelling results in irreversible achievements of comprehension, while the process by which conclusions are attained by formal rules of deductive logic is reversible. In the same way, Einsteinian physics may look at Newtonian science and understand its traditional forebear's application of the criteria of scientific value, even though the modern physicist has not arrived at his conception of things by way solely of the logical development of older theories, and does not understand the older laws of notion, for example, to relate to the same reality that Newton would have.⁴⁵

Thus, in the ideal scientific community, there is authority without dogmatism. Dissent and spontaneity are encouraged. The orthodox scientific view of things is taught not for its substantive content as much as it is meant to provide a guide - the body of tacit skills and knowledge that enables the individual scientist to apply successfully the criteria which recognize and accredit genuine contributions to knowledge. Authority maintains the rules of the relevant language-game which themselves serve to provide the intersubjective intelligibility of appropriate activities and the order which provides an other than arbitrary ground upon which to exercise free and creative thought. This complementary relationship between freedom and authority is supported by (1) the common belief in an independent, metaphysical reality which can be

approached and articulated, and (2) the understanding that the individual makes a claim to contact this reality in a committed, responsible manner that attests to his universal intent.⁴⁶ We shall see, in our later investigations of the political community, that objectivist social science has tended only to grant the existence of an "objective" reality. It has been unable to grant the responsibility of the individual a central role in the constitution of what is held to be fact.

The idea of the scientific form of life as a structural-functional entity which does not operate entirely in a self-centred manner, only interested in stability, but whose development is partly determined by a teleological sense of purpose, can clarify Polanyi's notion of "the autonomous growth of knowledge" in history. He would describe the advance of scientific knowledge as ideally a single, continuous task - one which is essentially independent of particular interests and authorities, and which is systematically guided by universal principles. It represents "a persistent unfolding of thought by logical stages."⁴⁷ This assumption expresses "a belief in the reality of emergent meaning and truth."⁴⁸

In the following chapters, we shall attempt an analysis of this metaphysical claim as a means to a subsequent reexamination of the relationship between science and the humanities, as well as our thinking about politics and ethics.

Notes to Chapter 4

¹See Polanyi, Personal Knowledge, pp.374-79. Polanyi borrows the term "Nöosphere" from Teilhard de Chardin (Le Phénomène Humain [Paris, 1955]). Nöogenesis marks what is understood to be the highest stage so far in an evolutionary process, which "was achieved by men who, forming societies, invented language and created by it a lasting articulate framework of thought." (Personal Knowledge, p.388).

²Wittgenstein, Philosophical Investigations, sect. 7, p.5. See also Ibid., p.226.

³Anthony Kenny, Wittgenstein (Cambridge: Harvard Univ. Press, 1973), p.163, referring to Wittgenstein, Philosophische Grammatik (Oxford: Basil Blackwell, 1969), p.184, and Wittgenstein, Zettel (Oxford: Basil Blackwell, 1967), para, 320.

⁴Kenny, Wittgenstein, p.65. See also Wittgenstein, Philosophical Investigations, sect. 23, pp.11-12. Polanyi has only infrequently referred to the notion of language-games. In Personal Knowledge (pp.113, 114), for example, he says that the use of this concept (in Wittgenstein as well as in later "ordinary language analysts") is a means of talking about reality while ostensibly refraining from doing so. This, he says, is often a consequence of essentially "nominalist" (see p.xvii, n. 1) attempts to avoid reference to any notion of a metaphysics. He accuses those who use the term "language-game" of refusing to acknowledge the dialectical operation of our use of words - where we instrumentalize them, yet are ourselves conditioned by them. The ordinary language analyst, then, considers words to be merely conventional symbols which we have agreed to use in certain ways as a matter of convenience. This eliminates any idea of an "external pole" or "leading interest" that enters into the constituted meaning of a word in use. Polanyi seems to believe that Wittgenstein, himself, rather than assume (with the strict nominalists) that words refer to a collection of objects in an external world, instead tries to avoid speaking about the actual nature of things, dealing only with the conventional use of words. If this were indeed all that we could know, we could never disagree about matters of real substance, we would only dis-

agree about the meanings of words. This perspective, of course, leaves us with no real critical capacity and is inherently conservative of any political orthodoxy, e.g., that it is applied to. (This is precisely the criticism that has been frequently brought against thinkers such as Peter Winch [The Idea of a Social Science and its Relation to Philosophy (London, 1958)], who himself has been strongly influenced by Wittgensteinian language analysis. See, e.g., Karl-Otto Apel, Analytic Philosophy and the Geisteswissenschaften [Dordrecht-Holland: D. Reidel, 1967], pp.38-57. Since the writing of The Idea of a Social Science, however, Winch's thinking appears to be converging with the perspectives assumed by people such as Apel and Polanyi. For a discussion of this, see Fred R. Dallmayr, "Hermeneutics and Historicism: Reflections on Winch, Apel and Vico," Review of Politics 39 [Jan., 1977]:60-81). Polanyi asserts that: "Grammar" is precisely the total of linguistic rules which can be observed by using a language without attending to the things referred to." (Personal Knowledge, p.114). He says, e.g., that questions such as whether law is "the will of the stronger" or "the command of the sovereign" or "an expression of morality" cannot be settled or even adequately investigated by studies of linguistic conventions. Our study of how words are used should be always with reference to the actual subject matter and not vice versa. However, these criticisms do not justly apply to Wittgenstein, in fact. However much later language analysts reified the terms they dealt with within particular language-games, Wittgenstein, himself, actually declared (contra Polanyi) that: "Philosophy, as we use the word, is a fight against the fascination which forms of expressions exert upon us." (quoted in C.B. Daly, "Polanyi and Wittgenstein, in Langford and Poteat (eds.), Intellect and Hope, p.137, n.6. From Wittgenstein, Blue and Brown Books [Oxford: Basil Blackwell, 1960], p.27). His preoccupation with words in use represents no more than a heuristic device. He wished to delve beneath the "surface grammar" of our linguistic conventions to the "depth grammar" which is an integral part of our activities within "forms of life." In the turn from his earlier metaphysical assumptions in the Tractatus Logico-Philosophicus (See p.43, n.31, supra), Wittgenstein believed that the first task of a modern philosophy must be insofar as possible a purely descriptive one, free from presuppositions about a "real" nature of things. This prior task was necessitated by that very "fascination which forms of expression exert upon us." Wittgenstein wished to avoid the excesses of both anti-metaphysical positivism and a dogmatic metaphysical rationalism. This project is quite compatible with that of phenomenological reflection (see pp.91,92, n. 22, supra) and with

Polanyi's approach to personal knowledge. For a systematic treatment of certain parallels in the thinking of Polanyi and Wittgenstein, see Daly, "Polanyi and Wittgenstein," in Langford and Poteat (eds.), Intellect and Hope, pp.136-168.

⁵See Karl-Otto Apel, "The A Priori of Communication and the Foundation of the Humanities," Man and World 5 (Fall, 1972), pp.23, 27. The term "leading interest" has been borrowed from Apel. Jürgen Habermas expresses the same idea in his use of the term "cognitive interest." (See, e.g., Habermas, Knowledge and Human Interests [Boston: Beacon Press, 1972], pp.176-78 et passim). As does Polanyi, both of these latter thinkers wish to emphasize the irreducibility of man's knowledge and his interests in his life activity. The term "cognition," within a self-reflexive standpoint, refers always to understanding and interpretation - an exchange between men in a communication - community.

⁶Polanyi, Science, Faith and Society, p.10.

⁷Polanyi, Personal Knowledge, p.16.

⁸See Ibid., pp.33-5, 37-40, 79. See also in Spragens. Dilemma, pp.123, 124.

⁹John Dewey, A Common Faith (New Haven: Yale Univ. Press, 1934), pp.52-54. (Quoted in Polanyi and Prosch, Meaning, p.223, n. 1). Polanyi adds that "no one can know that a problem not yet solved can in fact be solved. But it is ... an essential faith if one is ever to find solutions to problems." (Ibid., p.223). This argument parallels our earlier discussion of "commitment," where it was claimed that all purposive behaviour is directed towards a sense of potential rightness or order. Polanyi says that there is a purposive tension in all sentient organisms; a potential for action, and an innate tendency "to make sense of its own situation, both practically and intellectually." (Personal Knowledge, p.120). Furthermore, the sense of a problem is a part of, or an addition to our knowledge. "To recognize a problem which can be solved and is worth solving is in fact a discovery in its own right." (Ibid.). Elsewhere, he has argued that the objectivist standpoint leaves us logically in the position where "humanity has progressed through the efforts of people solving difficult problems, while all the time it could be shown that to do this was either meaningless or impossible." (Tacit Dimension, p.22). He refers us to Plato's Meno, and the claim that there could

be no recognition of a problem and concomitant expectation of an original discovery unless one already knows in some sense what one is looking for. In this case, there really is no problem. However, if one does not know what one is looking for, then there cannot be a reasonable expectation of finding a solution. Plato suggested that we have fore-knowledge of the solutions to problems from past existencies. Within personal knowledge, on the other hand, we have a tacit fore-knowledge of possible future states of affairs which are rooted in the present situation. This shall become more clear when we later develop the idea of an "horizon of actualities and potentialities."

¹⁰Polanyi partly supports his claims for the recognition of a metaphysics in scientific practice by reflecting upon how certain terms are actually used by scientists - a technique quite similar to that used by Wittgenstein in his Philosophical Investigations. Words such as "simplicity," "elegance," "economy," and "symmetry" are commonly used to suggest that a theory is "good," or better than an alternative construction. However, each of these terms has no articulable referent. They are in fact the result of a personal "connaissance" or skill of "appraisal" which is only tacitly learned and subsidiarily used. Furthermore, in the case of a term like "simplicity," e.g., Polanyi claims that in many cases the theory that it is used to describe is by no means "simple." Rather, it is used to express something very like "beauty" - it signifies the being that a real contact with reality has been made. Again, when scientists speak of principles such as "the conservation of energy" or "every action has an equal and opposite reaction," they are expressing a belief which has no demonstrable proof. Polanyi suggests that this belief involves something very like a principle of "fitness," requiring the notion of a teleological "final cause" (see Meaning, pp.174, 175).

¹¹Polanyi, Tacit Dimension, p.69. Cf. p. , n. 31, supra.

¹²Polanyi, Science, Faith and Society, p.17.

¹³Polanyi, Personal Knowledge, p.135.

¹⁴See, e.g., Polanyi, Science, Faith and Society, p. 73.

¹⁵Polanyi, Personal Knowledge, p.194.

¹⁶Polanyi, "Knowing and Being," in Knowing and Being, p.134.

¹⁷Polanyi, Personal Knowledge, p.183.

¹⁸Michael Polanyi, The Logic of Liberty: Reflections and Rejoinders (London: Routledge and Kegan Paul, 1951), p.22. "Post-behaviouralists" such as Easton and Meehan, although they admit of a role of values in the practice of theory and research, still are vulnerable to this objection. They consider these values merely to be relativistic conditioned responses. In addition, as we have seen, Easton explicitly still believes in a scientific endeavour which can in principle be ultimately value neutral. Our previous discussion of a necessary belief in the significance and value of a metaphysical reality underlying scientific practice suggests that this latter opinion is necessarily a wrong one.

¹⁹Ibid., p.29.

²⁰Ibid.

²¹Polanyi and Prosch, Meaning, p.144.

²²Polanyi, Personal Knowledge, p.135. Drawing upon personal experience, Polanyi relates the events surrounding the rejection of his "potential theory of adsorption" by his colleagues in experimental chemistry in the early part of this century (although his personal belief in the value of his idea remained unshaken). His professional reputation itself narrowly survived the attack, he says. Nevertheless, in view of new evidence, and many years later, the theory was finally accredited. In retrospect, he argues, the scientific community was quite correct in rejecting his contribution at the time they did. They were, however, equally correct in accepting it later, according to revised professional standards of plausibility. (Polanyi, "The Potential Theory of Adsorption," in Knowing and Being, pp.87-96). As we argued earlier, theories may be legitimately accepted as plausible, on the other hand, in spite of particular evidences that contradict them - this, despite the supposed scientific criterion of "falsifiability" described by Popperian philosophy of science (p.98, n.50, supra).

²³Ibid., p.93.

²⁴Polanyi says that there is a vital importance in distinguishing true originality and intellectual beauty "from merely formal attractiveness; and the delicacy of the test between them [is] so difficult that it may baffle the most penetrating scientific minds." (Personal Knowledge, p.149).

²⁵Ibid., p.135.

²⁶Ibid., pp.135, 136.

²⁷Polanyi, "The Republic of Science," in Knowing and Being, pp.54, 55. Elsewhere, Polanyi has suggested that the "intellectual passions" (the innate intentionality towards a leading interest in recognizing and articulating a reality which transcends immediate givenness in immanence) have, first, a "cognitive" element of affirmation. Our interest in, and attribution of value to, particular facts and propositions depends upon the inarticulate, emotional satisfaction of this passion. Secondly, there is a "conative" function of intellectual passion. This is the heuristic impulse which relates "our appreciation of scientific value to a vision of reality, which serves as a guide to reality." In other words, it motivates independence of thought and originality: "Heuristic passion is also the mainspring of originality - the force which impels us to abandon an accepted framework of interpretation and commit ourselves, by the crossing of a logical gap, to the use of a new framework. Finally, heuristic passion will often turn (and have to turn) into persuasive passion, the mainspring of all fundamental controversy. (Polanyi, Personal Knowledge, p.159).

²⁸Ibid., p.376. This assertion is contrary to the widespread opinion that science rejects all traditional authorities. For example, Polanyi refers to a statement of Bertrand Russell's, where he maintains that: "The triumphs of science are due to the substitution of observation and inference for authority. Every attempt to revive authority in intellectual matters is a retrograde step. And it is part of the scientific attitude that the pronouncements of science do not claim to be certain, but only the most probable on the basis of present evidence. One of the great benefits that science confers upon those who understand its spirit is that it enables them to live without the delusive

support of subjective authority." (Russell, The Impact of Science on Society [London: Allen and Unwin, 1952], pp.110, 111. Quoted in Polanyi, "The Potential Theory of Adsorption," in Knowing and Being, p.94. See also ibid., pp.65, 66).

²⁹Polanyi, Personal Knowledge, p.375.

³⁰Ibid., p.163.

³¹Polanyi describes the "chain of overlapping neighborhoods" in the following way: "Each scientist watches over an area comprising his own field and some adjoining strips of territory, over which neighboring specialists can also form reliable first-hand judgments. Suppose now that work done on the specialty of B can be reliably judged by A and C; that of C by B and D; that of D by C and E; and so on. If then each of these groups of neighbors agrees in respect to their standards, then the standards on which A, B and C agree will be the same on which B, C and D agree, and on which also C, D and E agree, and so on, throughout the whole realm of science By this consensus scientists form a continuous line - or rather a continuous network - of critics, whose scrutiny upholds the same minimum level of scientific value in all publications accredited by scientists." (Ibid., p.217). In a way, this resembles Wittgenstein's proffered resolution to the problem of accounting for general classes of things philosophically - the idea of "family resemblances." Here, again, it is not the substantive content of particular members of the class which is important; it is the skilful use of the revelant rules within the appropriate language-game which enables us to recognize something as belonging to that class. Polanyi seems to support this latter contention when he says that "the functions of scientific authority go far beyond a mere confirmation of facts asserted by science. For one thing, there are no mere facts in science. A scientific fact is one that has been accepted as such by scientific opinion, both on the grounds of the evidence in favour of it and because it appears sufficiently plausible in view of the current scientific conception of the nature of things. Besides, science is not a mere collection of facts, but a system of facts based on their scientific interpretation. It is this system that is endorsed by a scientific authority Science is what it is, in virtue of the way in which scientific authority constantly eliminates, or else recognizes at various levels of merit, contributions offered to science." (Polanyi, "The Republic of Science," in Knowing and Being, pp.65, 66).

³²Isaiah Berlin, e.g., has objected to any idea of freedom other than that of "negative liberty." He believes that any political programme directed to the cultivation of some developmental, "positive" conception of liberty will inevitably become totalitarian. A central authority will attempt to "force men to be free" in accordance with some preconceived idea of the proper ends of political activity. (Berlin, Two Concepts of Liberty [Oxford, 1958]).

³³Polanyi, Logic of Liberty, p.33.

³⁴Ibid., p.36.

³⁵Cartesian thinking has left us with a dilemma. We may speak only in terms of nature or spirit, body or mind. As Marjorie Grene has suggested, Kant attempted their synthesis, but "his analysis depends, in the last analysis, on the pietist faith which held, for him, nature and freedom unquestionably together. That faith gone, we are left with the "as-if" of positivist science on the one hand and on the other the subjective gesturings of the alienated self, whether in arrogance of despair." (Grene, "Tacit Knowing and the Pre-Reflective Cogito," in Langford and Poteat eds., Intellect and Hope, p.19).

³⁶According to Polanyi, despite his intention of determining the strict rules of pure reason, Kant found that he had to admit of an unaccountable personal element of judgement in all acts of knowing, and he allowed that "no system of rules can prescribe the procedure by which the rules themselves are to be applied." (Polanyi, "The Unaccountable Element in Science," in Knowing and Being, p.105. He refers us to Kant's Critique of Pure Reason, A.133 and A.141).

³⁷Polanyi alludes to this when he suggests that "while Kant's categories, by which experience of external objects is possible, reappear with me in the active knower participating in all live knowledge, in this case such a knower, responsibly legislating for himself with universal intent, is more like the moral person of the Second Critique and the Metaphysics of Morals." (Polanyi, "The Logic of Tacit Inference," in Knowing and Being, p.156).

³⁸Polanyi, Logic of Liberty, p.40.

³⁹Polanyi, Personal Knowledge, p.301.

⁴⁰Polanyi, Science, Faith and Society, p.16. Polanyi distinguishes between two types of authority: a "general" and a "specific" authority. The first provides a ground of general presuppositions which are transmitted by convivial experience and which are tacitly instrumentalized by the individual. It does not lend itself to an all-inclusive codification. It could not contain the rules for its own interpretation, as we have seen. The administration of law, for example, is embodied and carried on by a tradition. It demands individual freedom to the extent that it is only by those creative - and occasionally revolutionary - interpretations by original thinkers that it gets its dynamic functioning towards an ideal achievement of its own proper leading interest. The idea of a "specific authority," on the other hand, is quite different. Rather than providing presuppositions as available instruments to pursue meaningfully individual creativity, it provides conclusions. It is centrally administered, and does not permit of myriad centres of interpretation within a community. Such an authority assumes that only the central administration (e.g., a government or a church) has "authentic contacts with the fundamental sources from which the existing tradition springs and can be renewed." (Ibid., p.59). It demands blind obedience and acknowledgement of given articulated ideal ends of community. Polanyi recognizes that there is a hierarchy of authority even in the scientific community. For various reasons, including that of the preeminent prestige of individual men, some scientists will be more influential than others. However, "this feature does not alter the fact that the authority of scientific opinion is exercised by the mutual control of independent scientists, far beyond the scope of any one of them." (Polanyi and Prosch, Meaning, p.192).

⁴¹Polanyi, Science, Faith and Society, p.53.

⁴²Ibid., pp.56, 57. The relationship between freedom and authority, freedom and determinism, will be clarified in a later chapter.

⁴³Polanyi, Personal Knowledge, p.183.

⁴⁴Ibid., pp.171, 183. Polanyi asks us to consider, by way of analogy, the efficacy of a civil authority deciding that religious faith or the respect for a hereditary

monarchy is good for a society because it would contribute to stability. One could not expect the citizens of that society suddenly to experience a religious conversion, or discover a love and respect for a monarch, simply because they were told that, reasonably, they should do so in order to live more successfully.

⁴⁵ Perhaps this indicates an essential difference between a Kuhnian view of the advance of man's knowledge (see p.102, n.67, supra) and that of the theory of personal knowledge. Polanyi's ideas may enable us to account for a continuity between successive "scientific revolutions" in a way that Kuhn has not. We have described the scientific community as a form of life which is shaped by a leading interest external to itself. If we also accept the fact that what is of primary importance is not the particular substance of our factual knowledge, but is rather the fiduciary framework as it is instrumentalized to apply common criteria of scientific value, then we may avoid dilemmas which are apparent in some interpretations of Kuhn's theory. First of all, we are not left theoretically with the utter relativism of a sociology of knowledge where what we know is entirely determined by its cultural and historical context. Instead, we have attributed a belief - which is taken to be universal to the pursuit of science - to scientists which posits a universal, independent pole of our knowing. Secondly, our leading interest in approaching this pole conditions the rules of this form of life. The criteria whose use these rules govern are continuous across generations and across cultures. They are only applied differently in specific contexts. Nevertheless, this would suggest that particular factual knowledge should be intelligible to scientists universally. It does not matter that traditional authority establishes the grounds for the endeavours of the scientific neophyte. Innovation and revolution are not denied. Whether particular opinions and theories within science come to be rejected in favour of radically different conceptions or not, scientists will still hold certain fundamental beliefs to be true. Even the radical rejection of important orthodox views will leave one's "beliefs about the nature of external scientific truth unaffected." (Polanyi, Tacit Dimension, p.69).

⁴⁶ See, e.g., Polanyi, "The Republic of Science," in Knowing and Being, p.49 and Science, Faith and Society, p.63.

⁴⁷Polanyi, Logic of Liberty, p.75.

⁴⁸Polanyi, Science, Faith and Society, p.17.

PART THREE

Personal Knowledge and Politics

CHAPTER 5

THE THEORY OF PERSONAL KNOWLEDGE II

In light of the preceding arguments, it would seem that rigorous attempts to eliminate the human perspective from our view of reality must lead to absurdity. Polanyi suggests that, ever since the Copernican revolution, a scientific orthodoxy has attempted to remove man from his formerly central position in the universe - to put him in his "true" perspective. This endeavour does not take adequate account, however, of the interests and intentions of men. If successful, it would leave no criteria of relative importance in any humanly meaningful sense. Measured on a cosmic scale of time, man's existence is only momentary; on a scale of relative mass, he is left equally insignificant. No one views the universe in this way, not even those whom ostensibly embrace objectivist ideals. Inevitably, asserts Polanyi, we view existence from

... a centre lying within ourselves and speak about it in terms of a human language shaped by the exigencies of human intercourse.₁

To this point, we have argued that men are necessarily

committed to personal knowledge, and that they are consequently rooted in intersubjective forms of life including that of the larger culture. Furthermore, we have suggested that we not only can but must, in practice, grant "real" status to the belief in a metaphysical reality which underlies all acts of tacit knowing - from perception, to learning, to scientific discovery. Similarly, we discovered that we do in fact attribute holistic meanings to entities which are not susceptible to reductive analysis and purely empirical verification. The actual verification, or truth claim, will always involve personal judgmental elements. This, moreover, does not establish the absolute truth of the assertion as thereafter given and unchanging, but requires the active, "upholding" intention of the knower (and here the "knower" may be understood both as individual knowing subject and as the relevant intersubjective form of life).

If it is agreed that the theory of personal knowledge does allow us in theory to retrieve legitimately the personal contribution of men to what is known to be "fact," then important advantages can be demonstrated. To begin with, it permits us to grant much more extensive "cognitive powers" to man than does objectivism.² Many problems and phenomena which must be dismissed within the latter approach as "metaphysical," as illusory, or as pseudo-problems raised

by a lack of data or adequate analytical tools, may now be reconceptualized and examined from a new standpoint. (We have already offered, for example, revised conceptions of "truth," of the individual as opposed to a larger community, of the nature and location of consciousness). At the same time, we must come to see that human reason is not as free or independent of its context within an historical community as certain traditional views have claimed. What we know and how we know it is shaped and conditioned by the fact of our essential historicity. Our physical environment, the language we acquire and the culture we assimilate, our personal values, inclinations, experiences and education - all of these provide the clues within which we dwell while attending to objects of our cognition. These meaning integrations may be of many types, including those of illusion or misconception. (These latter phenomena can also exhibit regularity, or constant characteristic. The deterministic aspects of reified conceptions shall be discussed in a later chapter). How we perceive our objects of cognition will always involve personal judgments, and our personal judgment

... is what it is because of the clues we dwell in, including of course, the general views to which we are committed about the nature of things and the nature of knowledge.³

It can be argued that objectivist thinking has only arbitrarily chosen to accredit the reality of certain things as opposed to others. Polanyi would suggest that this is

because of a general reluctance to attribute ontological status to coherences (meaning integrations) which are understood to be man-created and hence artificial, as opposed to those which are natural.⁴ As we have already said, however, when we discussed the "ontological aspect" of tacit inference (p.58f., supra), objectivism commonly uses universal terms as though they referred to something "natural," even though they cannot be accredited by formal objectivist criteria. This, says Polanyi,

... creates an ambivalence in scientific minds: they may try to reduce [certain coherences] to causes and lower states of being than that which appears to them, and they may think that causal determinations have given these phenomena the appearance of higher meaning; and choose to grant these (human) meanings respect; even though reasonably, they must admit that they are only illusions.⁵

If our arguments are correct, then it is fundamentally misleading to differentiate strictly between humanly created meanings and natural facts. From the perspective of a philosophical anthropology, there are no facts independent of our knowing them.⁶

Nevertheless, as we have remarked, our knowledge of coherences may be illusory or mistaken. It also does appear that some coherences seem intrinsically more important or meaningful than do others. What remains to be done within a philosophical anthropology is to determine criteria by which men might distinguish between degrees of

relative significance - to develop an alternative to the one-levelled ontology of objectivism, which merely separates phenomena into either "natural" things or "artificial" constructions.

However difficult or imprecise the application of such alternative criteria, it would at least be consistent in its acknowledgement of our personal participation in factual knowledge and of the irreducibility of man's knowing and his interests. Although the objectivist distinction of man/world, subject/object, and fact/value offers a certain formal simplicity and appeal, it is a priori incorrect and prohibits any formally justifiable critical capacity. Within this dualistic conception of the world, "artificial" phenomena are not scientifically meaningful, first of all, except inasmuch as they are understood as epiphenomenal manifestations of cause and effect relations among natural objects. On the other hand, there is no justifiable basis upon which to distinguish the relative value of different natural objects. In terms of significance they are simply "objects" - empirical phenomena - whose only distinction is that they are "real", whereas values, authority, obligation, and transcendent ideals are not (except insofar as their manifestations can be reduced to the one ontological level of physical things and causality).

In the next section, we shall examine Polanyi's

attempt to provide an alternative set of criteria by which men might distinguish between degrees of meaningfulness and human value. First, we will see how he derives, from his logic of indwelling, the conception of a stratified universe and an "evolutionary panorama" of emergent meaning. Then, in the following section, we shall clarify the arguments by which he means "to forge the final link between science and the humanities."⁷

I. Emergence

In the earlier discussion of the structure of tacit knowing, it was seen that the theory of personal knowledge is an epistemology of achievement. The integration of meaning and extension of human knowledge requires the committed intention of the knower, both in the constitution and in the maintenance of what he holds to be reality. This proposition is intimately connected with Polanyi's ontological assumption of an emergent complexitization of being and a concomitantly growing value of meaning. Man's cultural forms of life - the noosphere - are simply the leading edge of a primordial teleological potentiality.

Polanyi speaks of a "logic of achievement" which is evident in the structure of tacit knowing. We have said that the integration of any comprehensive entity, even that of an object of perception, involves the recognition of a

novel whole. There is a meaning or quality manifested that we may not explicitly infer from its particular parts, and which is destroyed by an analytic reduction. This may be taken as a value which identifies the entity.

Now, when comprehensive entities embody the complexity of a machine (or, more, a living organism) we recognize an additional value which characterizes our understanding of the phenomenon. This value can be described as that of the operation of rules of rightness. A machine, a physiological organ, or an organism is always understood in terms of its operational principles. A simple observational statement, although an achievement on the part of the observer, merely says that such and such is the case. (It makes two assertions, in fact: One about the knower himself, and one asserting to the externality of an object). In the understanding of a phenomenon such as an automobile, however, part of the meaning of the act is an appreciation of the purposes of the entity. It can succeed or fail; it is not an ontologically static given - it involves action. The rules of rightness, the operational principles of the automobile set an ideal standard that provides a criterion of the "successful automobile." If we were to attempt to derive these principles from the analytical investigation of its parts, or by plotting the physics and chemistry of its parts, we would experience the same type of logical disintegration we encounter when we try to calcu-

late the appropriate forces and vectors while riding a bicycle (or when we focally attend to the particular features of a physiognomy). Without prior awareness of the operational principles of such an entity, we cannot explain its success. However, these criteria do not enable us, in themselves, to understand why the entity would fail. This indicates that realm which is appropriate to reductive analysis. If a cog breaks, a mechanic can understand why the automobile is unsuccessful. If metal fatigue has set in, or if there are impurities in the alloy, then physics and chemistry can explain the failure. The success of the "higher" entity is dependent upon the success of the parts which constitute it. Just as with the structure of tacit inference in perception, however, the whole is not entirely specifiable in terms of its parts.

Objectivist thought, formally bound by its ontological premisses, ostensibly rejects this teleological conception. It attempts to explain both the success and the failure in terms of a comprehensive description and explanation of its parts, and cannot recognize that logic of emergence which is fundamental to a general understanding of the notion of multiple levels of reality.⁸ However, Polanyi would ask us to consider, for example, a team of scientists who either possess no previous knowledge of the operational principles of a clock, or who could entirely

refrain during their investigation from referring to such principles. If confronted with a clock, they could specify all of its parts, and all possible configurations of these parts, and still not understand the meaning of the clock as a whole. He says:

The complete knowledge of a machine as an object tells us nothing about it as a machine We identify a machine by understanding it technically; that is, by a participation in its purpose and an endorsement of its operational principles.⁹

This participation of the understanding subject is not characteristic of our investigations of simple observational data. In fact, Polanyi suggests, it is not essential that the two types of knowing - the scientific and the technical - be always complementary.¹⁰ One could know all about driving a car and yet know little or nothing about formal physics or mechanics. Conversely, a scientist could be capable of discovering the physico-chemical structure of the car and not know how to drive it. However, the two types of knowledge are not related to each other in a symmetrical fashion. Technical knowledge of the comprehensive entity allows us to understand the whole as a distinctive thing. Purely reductivist knowledge will leave us blind to a potential meaning integration that can have importance, or value, for us.

Participation in, and endorsement of, an operational principle of a complex entity is actually the recognition of

a reason for something, rather than a cause.¹¹ We have already said that successful achievements could be judged in terms of operational principles but that failures could not be. Now, Polanyi suggests that it is reasonable to say that successes may be explained in terms of reasons, but that failures are caused:

It would be wrong to speak of establishing the physical and chemical "causes" of success, for the success of a machine is defined by its operational principles, which are not specifiable in physico-chemical terms. If a strategem succeeds, it does so in accordance with its own premeditated internal reasons; if it fails this is due to unforeseen external causes.¹²

Thus, if we understand both the "rules of rightness" in a particular instance, and have the relevant knowledge of the various parts of the whole, then we can specify the causes of failure of the complex and the conditions of its success.

With the appearance of living organisms, Polanyi asks us to find another emergent feature. This may be described as a further value, or as the operation of an additional leading interest. Whereas our knowledge of a machine-like structure and operation involves our setting of standards of achievement for its success, living organisms strive to fulfil, in addition, their own self-set standards. Given his arguments so far, Polanyi cannot logically demonstrate or assume the existence of this feature. He rather offers empirical evidence to support his claim.¹³

For example, single cells taken from embryos and from certain species of organism have the capacity to generate complete members of the same species. Under other conditions, they may only regenerate limbs or organs that have been mutilated or amputated. Furthermore, the regenerative cells may be taken from any portion of the organism. These processes of ontogenesis and functional regeneration seem to involve setting into effect alternative operational principles in order to achieve some particular purpose, or different purposes at different times. Polanyi claims that this morphogenetic principle can be taken to represent

... the primordial member of an ascending series of homologous processes, which cannot be understood except at the resourceful achievement of a comprehensive rightness, and every one of which dissolves altogether in the light of any more impersonal examination.¹⁴

He finds a logical continuity between morphogenesis and an "unspecifiable inventive urge," or capacity for "contriving," which is evident in higher organisms. For example, a white rat conditioned to run a maze and then mutilated by amputation will exert itself to contrive adaptive inventions in the achievement of its intention. If two legs are amputated, it will re-coordinate its neural and muscular operations in order to drag itself to its goal on the remaining two. If four are removed, it will roll to its destination. This appears to contradict opinion which

would explain maze-running capacities simply as causally conditioned stimulus-response behaviour. In contriving, as in morphogenesis, there is apparently a sense of rightness - an intimation of potential order and the possibility of heuristically integrating or instrumentalizing whatever is at hand in order to achieve it. The various experimental rats, for example, relying upon their memory and upon a sense of purpose, perform reintegrations of a requisite number of mechanical operations - involving alternative structures, functions, and operational principles - in order to achieve the same interest.

Given the same purpose, different problems are overcome by solutions which are equipotential. It is difficult to see that this sense of equipotentiality could be causally conditioned in an organism. The effort to contrive inventive solutions can only be understood as an intentional striving to fulfill some sense of rightness. This is only potential, and transcends the givenness of material objects and material causality. Structured action is here conditioned from the sense of a possible state of affairs that has yet to be achieved.

Polanyi argues that biological evolution and the appearance of intelligence and culture must also be understood in these teleological terms. Objectivist science refuses to recognize this formally, while it must tacitly

assume a principle of emergence if its theories are to make sense. The view of reality which can accredit only causal relations between objects in motion can find no real justification to speak of developmental processes. Alfred North Whitehead has said that:

Evolution is reduced to the role of being another word for the description of the changes of the external relations between portions of matter. There is nothing to evolve, because one set of external relations is as good as any other set of external relations. There can merely be change, purposeless and unprogressive.¹⁵

Polanyi would argue that evolution has instead followed a teleological process whereby contingent cause and effect events in the world of objects have acted to "release," or to provide the conditions for, the emergence of higher levels of being. All that objectivism can do is describe the events which release and sustain these phenomena; it cannot explain the action which generates new comprehensive features.¹⁶

To this point, our discussion of Polanyi's ideas has indicated that there is not only a hierarchy of levels in human comprehension, but that our understanding also makes an ontological reference to a reality which is hierarchically stratified. He maintains that we do not simply understand the world in terms of comprehensive entities that are un-specifiable in terms of the lower levels which condition them, but that the structure of our knowing and being

parallel each other. The recognition of a comprehensive entity depends upon our attending from its particulars subsidiarily, and to focally attend to the particulars themselves causes us to lose sight of that which they together had functioned to constitute semantically. On the other hand, the principles which control the operation of a comprehensive entity depend upon the successful functioning of the laws which govern its particular parts. We can never, however, deduce or explicitly infer the higher principles from those which control the lower level of being.¹⁷

But how, it may be asked, can we justifiably talk about a spontaneous emergence of new features and higher levels of reality, if they cannot be explained in terms of the particulars which exist at a lower level? Are the rise of life, sentience, anthropogenesis, and nöogenesis all chance improvisations of a pragmatic evolutionary process; has this whole sequence of developments, alternatively, been predetermined; or, instead, has there been a "new divine intervention" at each stage of evolution and at each step of human discovery? In fact, Polanyi would suggest:

The first thing to observe here is that, strictly speaking, it is not the emerged higher form of being, but our knowledge of it, that is unspecifiable in terms of its lower level particulars. We cannot speak of emergence, therefore, except in conjunction with a corresponding progression from a lower to a higher conceptual level.¹⁸

Our previous arguments would imply that it cannot make sense to attempt the specification of the principles which teleologically condition emergence. For one thing, our knowing and our being are inseparable; we are part of the emergent process, both as living creatures and as participants in the nōosphere. We have no ideal conceptual standpoint outside the process that would enable us to understand it as a comprehensive entity.¹⁹ In the final analysis, Polanyi must use a circuitous argument in order to make his point. Nōogenesis and our manner of knowing are to be understood as continuous with biological evolution. Some comprehensive entities are peculiar to the nōosphere; their nature is conceptual - conditioned by language use and activity among men (they are what objectivism would term "artificial" phenomena). Nevertheless, as we saw when we discussed the "ontological aspect" of tacit inference, our understanding of all comprehensive entities make an ontological reference. Now since, in reflection, these human achievements demonstrably exhibit a stratified, hierarchical structure, and since these coherences are part of a continuous evolutionary development, he suggests that we may reasonably assume that coherences at all lower levels of evolution are also structured in a similar way. In fact, says Polanyi, the kind of coherences which are achieved by men in their skilful performances are more real than tangi-

ble, material objects, "in view of their far greater independence and power."²⁰

Thus, we are presented with an emergent hierarchy of progressively higher levels of being, each more real than the lower. We have seen that each level of evolution brings forth a new value, or a new feature which characterizes that comprehensive level. At the same time, there is a greater complexity manifested, requiring a greater personal participation of the knower in what he comprehends. As a consequence, we may say that, compared to inanimate objects, people and problems have a richer ontological aspect; they offer more promising intimations of a pre-existent reality:

Persons and problems are felt to be more profound, because we expect them yet to reveal themselves in unexpected ways in the future while [inanimate objects] evoke no such expectation. This capacity of a thing to reveal itself in unexpected ways in the future I attribute to the fact that the thing observed is an aspect of a reality, possessing a significance that is not exhausted by our conception of any single aspect of it I shall say, accordingly, that minds and problems possess a deeper reality than cobblestones, although cobblestones are admittedly more real in the sense of being tangible. And since I regard the significance of a thing as more important than its tangibility, I shall say that minds and problems are more real than cobblestones.²¹

In the next section, we shall argue that Polanyi's conception of an emergent reality can inform the contemporary debate concerning the relationship of science and the humanities.

II. Science and the Humanities

There are problems inherent in objectivist views of the nature of science. The decision of the logical empiricists to grant the status of reality only to observable "facts" has led to the nonaccreditation of much in human experience and to the denial of that vital participation of the knower in what is known. This is at the root of many of the difficulties. It has been suggested that these

... weaknesses and confusions ... will be overcome only by transcending the limitations of these presuppositions and that this process will involve a reintegration of empirical and normative theory into a spectrum.²²

A general characteristic of objectivist thinking has been that it assumes a single science of all phenomena is possible - one which would be expressed ideally in a universal mathematical language of physical science. Where there has been a notable lack of success in the social sciences, this has been attributed to a current and temporary lack of data or sufficiently refined explanatory theory and other techniques of investigation. In principle, the sciences are believed to be unified within a one-levelled ontology and method.²³ A common alternative standpoint has been the argument that the subject matters of the social and natural sciences are intrinsically different, and that they require different methods of investigation. This perspective,

however, seems once again to fall into a Cartesian trap. Human experience is understood in dichotomous categories of man/world, fact/value, subject/object, where each realm has its own logic and its own methods.²⁴

From the perspective of a multi-levelled ontological and epistemological view of reality, however, we can argue that both of these latter positions are misleading.

Polanyi has referred, for example, to those thinkers who have claimed that the humanities require a certain "empathetic" approach that is peculiar only to them. He says that the

... analysis of tacit knowing shows that they were mistaken in asserting that this sharply distinguished the humanities from the social sciences [or from natural science]. Indwelling, as derived from the structure of tacit knowing, is a far more precisely defined act than is empathy, and it underlies all observations²⁵

How we know things, then, is in principle the same whether we are dealing with atoms, inanimate objects, individual men, or entire cultures. As we said in Chapter Four, there are three general criteria of scientific value: certainty, systematic relevance, and intrinsic interest (and, the latter is not formally recognized by objectivist science). Furthermore, they are applied jointly to any particular knowledge. Deficiencies in any one or two of them may be compensated for by the relative force of another. It will be our argument that there is a continuity

between science and the humanities, but that the relation between the investigations of various phenomena on this continuous spectrum is asymmetrical, at least in the following respect. As we move from the supposedly nomothetic disciplines, such as physics, to those which are comparatively idiographic, such as history, it will appear that the criterion of "intrinsic interest" becomes progressively more important in establishing the value of our knowledge of things - at the expense, in many instances, of accuracy of measurement and observation and of systematic relevance (in the sense that particular observations and events are understood within an explicit, formal explanatory theory). The complexity and committedness of our own dwelling in our subject matter becomes greater and greater. This implies, according to our arguments in the last section, that we are dealing with a hierarchy of progressively richer levels of meaning and, hence, of reality. In order to clarify this contention, we shall first review and further develop our discussions of indwelling and emergence.

Earlier in this chapter, we described the apparent successive emergence of three different values, or features, which seem to transcend the immediately given particulars of a comprehensive entity within our cognition. Before going on, we shall summarize these findings. First, an object such as a stone is recognized as such by a skilful

performance on the part of the observer. If one were to attend directly to the tacit coefficients of what one were observing, one would lose sight of the meaning achievement embodied in the appropriate use of the concept or term "stone." There is a value that identifies that novel comprehensive entity we understand as "stone" which is missing from the particulars of our knowledge that constitute it. Secondly, machine-like structures and operations are defined and understood by the rules of rightness that condition the successful achievement of a purpose. The parts of a machine are dependent upon the success of particulars at the levels described by physics and chemistry, but their functions may not be deduced from the atoms that constitute them. At the same time, the machine, understood as a whole, may not be explained only in terms of its parts. The knower, in relation to the machine, must not only perform the meaning integration that constitutes "machine" from its subsidiarily instrumentalized particulars, but he must also cognitively participate in the purpose of the machine. Our comprehensive understanding of it sets standards which it must achieve. It can succeed or fail. Thirdly, living organisms exhibit the operation of two essentially teleological principles. They do rely upon the operational principles of machine-like structures such as the structural-functional organs of the body. Failure at

this level, or at the prior level of physico-chemical structures, can mean that the organism as a whole will not succeed. In order to understand the organism as a whole, the observer will again participate in the purposes of his subject matter - the organism as a machine-like structure - and judge the operation of his subject by the standards of success or failure (e.g., in terms of whether it persists or whether it dies). However, there is another standard of rightness that the organism strives to fulfil, and that standard is self-set. At a lower level of evolution, this is evidenced by the phenomenon of morphogenetic equipotentiality. At a higher level, there appears the analogous heuristic impulse to contrive solutions, or inventiveness. Here, the observer must not only judge the organism by the standards of strictly homeostatic, structural-functional criteria, but he must participate in ("dwell within") other standards of achievement which are understood to centre within the organism itself. In other words, they would seem to strive towards purposes independently of our understanding of them.

Polanyi now would describe a further stage in this evolutionary process of emergence. At this level we encounter the first major "rebellion against meaningless inanimate matter." This is the appearance of sentience. This phenomenon introduces a new and particularly important

feature, one which enables us to differentiate analytically, for example, between morphogenetic action and inventiveness. At a non-sentient level, the conditions for the success or the failure of the organism are dependent only upon contingent, deterministic factors in the environment. The sentient being, however, is presumed capable of error in a new sense. It has the capacity for choice; and one choice will be deemed right, and another one wrong. Furthermore, this judgment will involve both the organism and any observer who can participate empathetically in the interests of the organism. This development describes the emergence of "subjective centres of self-interest." We have the first notion, here, of the idea of "responsibility." These organic centres of complexity can be understood to be responsible to self-set standards of rightness. At this level, we can assume that choice is motivated primarily by appetitive drives and the need for the survival of the subjective "wholes" represented by these beings.

As we direct our focal attention to each higher level in our investigations, the criterion of intrinsic interest becomes more important. In a sense, the process of investigation is different at each higher level, although there is always a continuity between adjoining levels. For example, Polanyi describes our appreciation of music or abstract mathematics as a one-levelled logic, where we

experience the phenomenon directly by dwelling within it. The observational statements of science, however, are made within a two-levelled logic. The observer bears upon an object which is understood as being "outside" of himself.²⁶ A stone, for example, is seen to be somehow inferior to the knower in an asymmetrical, or one-directional, from-to relationship of intentionality. The same logical structure would obtain when the biologist, for example, attends to a living organism such as a man, when that being is perceived simply as a configuration of matter. However, an investigation which deals with active living creatures displays a three-storied logic. When we are confronted with the operations of subjective centres of self-interest, the investigator comes to dwell within his subject matter in a novel way. The subject is itself understood to be related purposefully to external things - independently of the activity of the observer. It has an active centre. We not only tacitly (1) judge the rightness of our own meaningful integration of the organism as a comprehensive entity, and (2) its success as a structural-functional entity; we also evaluate (3) the intentionality of our subject in its relation to the world and in its choice of modes of operation.²⁷

To this point, we have indicated that a science of physical objects, dealing primarily with observational

statements, applies the same criteria of scientific value to its particular subject matter as does those disciplines which are concerned with living beings. The manner of establishing the validity of facts across these various levels of investigation is continuous, and is mutually intelligible to scientists whether they are physicists, chemists, biologists, physiologists, or ethnologists, for example. However, the logic of indwelling suggests that the different criteria of scientific value change in relative importance as one ascends the hierarchy of more meaningful subjects of research. The participation of the knower in what he comprehends becomes more complex and intense. However, Póányi's vision of the "evolutionary panorama" of emergent meaning does not stop at the realm of phenomena investigated within a three-levelled logic. Beyond the appearance of sentience and individual human practical intelligence, we find a second major "rebellion against meaningless, inanimate being."²⁸ With the emergence of language use and conceptual thought in human community, the evolutionary unfolding of the universe gives rise to a phenomenon superior to all previous levels of being. This is what we have already referred to as the noosphere. As a "superior form of knowledge," it is unspecifiable in terms of its particulars - it is more meaningful a phenomenon than is individual man, yet relies upon individual men as a

condition of its existence. The commitment to "a common firmament of beliefs," the exchange between equals within a fiduciary form of life such as the scientific community, can now be seen to be continuous with and emerge from an "ascending survey of living beings." We can

... regard the entire culture of a modern, articulate community as a form of superior knowledge. This progression made me realize that biology can be extended by continuous stages into epistemology, and more generally, into the justification of my own fundamental commitments. 29

As an achievement, the néosphere and any particular form of life within it can succeed or fail. It is not an ontologically static given. It involves action and commitment to those standards, or principles of rightness, which condition the appearance of its unique features. At those levels of investigation, which are concerned with men as constituents of a superior form of knowledge (and not as object, machine-like structures, or subjective centres of self-interest), the investigator finds himself related to his subject matter again within a two-levelled logic. In this case, however, the object of our study is not understood to be in an asymmetrical relation with the investigator, such that the subject matter is distantiated in consciousness to represent the inferior side of the activity. At this level, man the knower encounters himself in a relationship of mutuality:

3

Another person can judge us as we can judge him, and his judgment may affect our judgment of ourselves. Our relation to him may, indeed, be predominantly passive, as when we acknowledge the person's authority. For to the extent to which we accept a statement on trust, we forgo enquiring into its justification and cannot be said to be examining it from our own superior logical level Mutuality prevails to such an extent here that the logical category of an observer facing an object placed on a lower logical level becomes altogether inapplicable. The I-it situation has been gradually transformed into an I-Thou relation.³⁰

When we are dealing with another individual or group within a cultural community, he is understood to possess knowledge that is also part of our subject matter. Through our dwelling within this subject matter, and our sharing of a common fiduciary framework, our study becomes

... self-modifying and thus eventually loses altogether its observational character, to become a condition of pure indwelling.³¹

This refers us back to our initial discussion of indwelling, and our conclusion that the individual comes to live within his culture as he does his own body - where it becomes appropriate in different circumstances to speak of the subject of our knowing as either an "I" or "we." Within the scientific community, we saw that individual scientists judge their own self-set standards by referring to a "scientific conscience" - a "General Will" which is constituted within the complex structure of mutual authority. Similarly, in our study of men as equals there is a common

pole of authority which mediates between the knowing of the investigator and the knowing of that which he studies. The cognitive participation in, and understanding of, the beliefs and intentions of other human beings - always with reference to a fiduciary framework which in principle makes differing or opposing attitudes mutually intelligible - involves the researcher in his pursuit of knowledge in a way that is not characteristic of endeavours carried out within the asymmetrical two-levelled logic of the study of objects, or within the three-levelled logic of the investigation of living beings.

With the study of history or the study of ideas and the history of their constitution, we no longer deal with events, in the way that the physical sciences do; our subject matter consists, more accurately, of actions.³² These actions are conditioned by reasons, or leading interests, unlike the events described by physics, which are caused. Inevitably, then, we come to include in our study questions of intention and the responsibility to achieve certain standards (both those we set, and those which are self-set by the object of study). The most intrinsically interesting actions we can examine, says Polanyi, are those which have been performed by the "great men" of a tradition. Our indwelling becomes most intense and intimate when we enter into an appreciation of these contributions to a cul-

ture. (Our emotional interest is kindled in much the same way that radical innovations or revolutionary discoveries in science gain our respect and intellectual satisfaction).

Finally, we may come to the situation where we find that:

To contemplate a person as an ideal is to submit to his authority. The admirer of Napoleon does not judge him by independent previously established standards, but accepts, on the contrary, the figure of Napoleon as a standard for judging himself

... At this point the study of man is definitively transformed into a process of self-education.³³

We do not observe him as an object, nor do we merely encounter him as an equal. We have instead accepted an authoritative view of ideal standards which we respect and may feel responsible to strive toward, contributing to their legislation as part of the common body of public knowledge. Our object of study is itself a means to our own intellectual and spiritual development. We do not describe and explain in a neutral, non-committed fashion. Rather, we ourselves are changed through our understanding. Polanyi summarizes the foregoing arguments by saying that

... as our study, ascending to higher levels, reaches that of man, criticism becomes mutual; the subject of our study now criticizes us, just as we criticize it. Nor is this the end of the progression: our subject may ascend still further and become our master. We then become apprenticed to our subject and learn to accept its criticism of ourselves.³⁴

Finally, the theory of personal knowledge accommo-

dates

... within a single continuously variable conception of knowing, both the process of acquiring such knowledge as is comprised by natural sciences and the knowledge of man himself as the seat of all knowledge.³⁵

In later chapters, we shall examine the means by which Polanyi purports further to derive a moral sense of responsibility and obligation to authority from his idea of the continuity between his evolutionary theory of biological emergence and an epistemology. We shall also suggest that political theory can be reconceived of as a fundamentally moral endeavour - one which is nevertheless continuous with all other forms of investigation and knowledge. In the section which immediately follows, however, we shall indicate that at the levels where man studies man we must use more specifically "understanding" methods of the humanities, as opposed to "explaining" methods of the natural sciences. These latter methods, so long as they work within formal logical frameworks, must involve objectifications as presupposed. As we have seen, they begin with premisses that are granted truth-status (even within "fallibilist" formulations) and which determine the conclusions within a hypothetico-deductive system. In effect, they grant ontological status to a static realm of things that lie outside any meaning activity - outside any epistemology that can be self-grounding.

III. Hermeneutics as an "Understanding" Method

The ideal of an entirely precise knowledge of the world, embodied in explicit explanatory theory based in empirical observation and tested deductively, is misleading. We have argued that this endeavour, if dogmatically adhered to, results in our being cognitively closed to potentially meaningful - and hence real - entities. Whereas clarity of thought and communication is a valid goal, "an unbridled lucidity can destroy our understandings of complex matters."³⁶ This is not to suggest, of course, that we are never to perform reductive analyses in the course of our investigations at any level. It is simply a warning that, having shifted our focal attention to lower levels of being, we should not then let unnecessary presuppositions result in the hypostatization of the significance of phenomena at this particular level of awareness.

Polanyi asks us to consider, for example, a single word, or one note from a piano movement, attended to directly and in itself, repeated over and over out of its context within a larger coherence. It is common experience that these particulars become devoid of the meaning which they had had for us previously. However, this is not an irreversible process. We may subsidiarily interiorize these particulars again and reintegrate the comprehensive entity whose constitution they can contribute to in their

use. Similarly, if we attend focally to the various mechanical aspects of playing a piano piece, analytically examining particular parts of our performance, we can still go back to play that piece with expression, as a coherent whole. Or, if we investigate the various uses, the history, and the structure of a particular word, we may nevertheless once more instrumentalize that word within a form of life, being only subsidiarily aware of it as a particular word. In these instances, however, it is argued that the original meaning will not be regained: we

... may improve on it. Motion studies, which tend to paralyse a skill, will improve it when followed by practice. The meticulous dismem-bering of a text, which can kill its appreciation, can also supply material for a much deeper understanding of it. In these cases, the de-tailing of particulars, which by itself would destroy meaning serves as a guide to their sub-sequent integration and thus establishes a more secure and more accurate meaning of them.³⁷

Although Polanyi, himself, never uses the term "hermeneutics" in his writings, we shall suggest that this is essentially that conception to which he refers in the above passage. This term describes part of a general approach to understanding which appears at all levels of scientific investigation. Nevertheless, Polanyi has expressed his belief that the humanities "must exercise a special kind of understanding."³⁸ The notion of man encountering himself in his investigations of human activity, in a relationship of mutual criticism, can clarify the concept of hermeneutics

as a methodical approach in the human sciences. In Chapter Three, we indicated that "understanding" must be a fundamental objective in our efforts to gain knowledge of our world. It was suggested that "reflection," as an experience and an activity, might point the way to "understanding methods" of investigation. Brief reference was made to one such method - that of phenomenological reflection upon the act of consciousness (p.91 , n.22). However, in our encounter with another, whether in direct discourse, by means of communications artifacts such as art, literature, history texts, or even in the mere use of culturally constituted concepts, we enter into a dialectical process which involves personal judgments conditioned by the authority of essentially public criteria of meaning.

We have argued that a physical fact and an historical fact are both known according to the same logic of tacit knowing. Similarly, they are both understood to make an ontological reference to a single reality. More than the physicist, however, the historian

... finds at the very beginning of his research ... not a world of physical objects, but a symbolic universe - a world of symbols. He must, first of all, learn to read these symbols. Any historical fact, however simple it may appear, can only be determined and understood by such a previous analysis of symbols. Not things or events but documents or monuments are the first and immediate objects of our historical knowledge. Only through the mediation and intervention of these symbolic data can we grasp the real historical data - the events and the men of the past.³⁹

This involves the investigator in an ongoing process of interpretation - where he judges even as he himself is judged in light of his subject matter. As our understanding deepens and broadens, our own interpretive framework changes, and the interpretive process can thus never reach a precise and final conclusion. Our adoption of a new or of a modified conceptual standpoint is, as we have argued, a manner of disposing of ourselves on the level of an existential conversion:

We have to cross the logical gap between a problem and its solution by relying on the unspecifiable impulse of our heuristic passion, and must undergo as we do so a change of our intellectual personality
 [and] such an intentional change of our personality requires a passionate motive to accomplish it.⁴⁰

Thus, the kind of knowledge achieved by "understanding" methods such as hermeneutics is not entirely demonstrable knowledge. It is not amenable to direct, linear transmission from individual to individual by argumentation. The one who would understand must feel the sort of intellectual passion which impells him to its satisfaction. The recognition of a problem, such as that of an epistemological foundation which is fundamentally self-contradictory, may move him to forego the security and stability of an accepted, hitherto "commonsensical" standpoint in order to commit himself to different modes of interpretation. Polanyi says that

... I know my reasons cannot compel assent. Neither the Marxist's nor the Fascist's theory of man and society admits of a common ground for argument between their adherents and the believer in transcendent reality. Yet where the metaphysical believer cannot hope to convince, he may still strive to convert. Though powerless to argue with the nihilist, he may yet succeed in conveying to him the intimations of a mental satisfaction which he is lacking; and this intimation may start in him a process of conversion.⁴¹

We have seen that our ontological and epistemological assumptions are inseparable. Of course, the same assertion might be made in relation to a formal deductive system. In the latter case, there must always be, at least implicitly, truth-claims for the prior existence of something in order for there to be a theory of how we mean or know anything. However, those claims are simply made in axiomatic fashion and are not examined again within the deductive system itself. It is necessarily and a priori limiting, so far as reality claims and subsequent questions derived within that framework are concerned. Within the theory of personal knowledge, on the other hand, ontological claims are derived from epistemological arguments. Naturally, these are already themselves rooted in anterior ontological claims; and this does present us with a circular form of exposition and argument. However, this cannot be taken as a decisive criticism of the endeavour. Circularity is not a flaw that must be eliminated in an adequate theory of knowledge; it is rather "the proper and inevitable form of self-

reflection,"⁴² determined by the irreducible structure of knowing and being.

It is argued that a hermeneutical method does not leave us within a closed circle, as do formal deductive systems. Rather, from this perspective,

... we must have always understood in order to understand and ... we nevertheless can correct this 'pre-understanding' by methodical attempts to understand This also presupposes for this kind of understanding that ..., in understanding one of Goethe's sentences [for example] we understand ourselves, i.e. especially: the language which we have in common with Goethe and the possibilities of understanding the world which are imbedded in that language.⁴³

In fact, this "hermeneutic circle" might better be described as a "spiral," in order to express its continuing openness to new understanding. Furthermore, with the assumption that there are genuine ontological references made within the functioning of tacit inference, and that both our comprehension and the comprehensive entities we achieve in cognition are hierarchically stratified, Polanyi is suggesting, as we have seen, that although we can have no self-evident and entirely demonstrable knowledge of reality, we may yet approach a reality by successive stages. In part, the possibilities of appreciating man's cognitive openness to a transcendent reality are embodied in a language and cultural heritage. One objective of a hermeneutics, then, would be to seek an understanding of those experiences in human activity which give rise to specific conceptual

forms:

Hopefully, by participating within symbols born of an exposure to transcendence, man may be led to a personal encounter with the engendering experience itself.⁴⁴

In terms of the criterion of "accuracy," or certainty, as well as in terms of the relative ease of intersubjective communication, this approach may seem inherently ambiguous and uncertain - at least when contrasted with those ideals of precision espoused by objectivist science. Nevertheless, we have argued that these latter ideals are fundamentally misleading. Precise prediction is impossible, since man the user of language is largely a self-defining and self-interpreting animal. Given the stratified nature of an anthropomorphic reality, where there is a teleologically conditioned emergence of novel comprehensive features and principles, we find that we cannot explain or predict an "ought" from an "is." The operational principles of higher comprehensive entities are standards of what "should be," and are inexplicable in terms of the particulars of their lower levels. Even the content of our observational statements appears to be conditioned by human intentions and interests, where this content is manifested differently at different levels of comprehension. If these propositions can be accepted, then we can no longer hope to "prove" what we know by argument (in the objectivist sense of empirical ostentation or logical deduction). We can

only try to convince, and this presupposes the committed intention to understand on the part of whoever is being convinced. In terms of ease of communication, empirical demonstration and deductive logic are superior only when all parties to the discourse already share an acceptance of a set of premisses. For those who bring fundamentally different presuppositions to the discussion, there can be no real communication.

Finally, Polanyi says that the notion of understanding can be expanded to include: (1) that which is intended, which has an ontological aspect; (2) that which is meant, which has a semantic, epistemological function; and (3) that which we do, which is the existential commitment of ourselves and which involves both of the latter aspects in a process of meaning legislation with universal intent.⁴⁵ Ernst Cassirer also appears to express this legislative function of our knowing and understanding when he says:

Material objects maintain their existence independently of the scientist, but historical objects have true being only so long as they are remembered - and the act of remembrance must be unbroken and continuous But recollection does not mean merely the act of reproduction. It is a new intellectual synthesis - a constructive act Behind these fixed and static shapes, these petrified works of human culture, history detects the original dynamic impulses. It is the gift of the great historians to reduce all mere facts to their fieri, all products to processes, all static things or institu-

tions to their creative energies.⁴⁶

In the next chapter, we shall discuss some apparent totalitarian implications in the objectivist denial of the relatedness of political reality to our systematic thinking about politics - where social science constitutes in part this reality even where it pretends only to describe and explain it. We shall then suggest that the theory of personal knowledge allows us to understand the "political" in a different light, reconciling our conceptions of freedom and authority, while pointing towards an idea of political theory and philosophy as an ideally unified endeavour directed towards universal interests. It is here that the scientific community, understood as an ideal form of life, provides us with a model of political community.

Notes to Chapter 5

¹Polanyi, Personal Knowledge, p.3.

²Ibid., p.249.

³Polanyi and Prosch, Meaning, p.67.

⁴The former phenomena are "non-real" because "(1) they seem to be creations of our own, not subject to the external checks of nature - and therefore ... wholly creatures of our own subjective whims and desires - and (2) [because] only tangible things are supposed to be real." (Ibid.).

⁵Ibid., p.68. J. O. Urmson has discussed the apparently insuperable difficulties that logical positivist philosophical analysis has had with general concepts such as "nation." (Urmson, Philosophical Analysis: Its Development Between the Two World Wars [Oxford: Oxford-University Press, 1967]). The very fact of the vital concern shown this type of dilemma would indicate that the logical positivist does feel that the coherence in question is in some way "real," however unjustified this may remain in terms of his own strict criteria. Objectivists, we might suggest, are prevented from satisfactorily extending real status to human constructs because they insist upon presupposing a static ontology - a natural realm of given objects of our possible perception. Polanyi's ontology, on the other hand, is a functional, dynamic one. Effectively, the status of ultimate reality is extended only to the (non-substantive) operation of "intentionality," which manifests itself partly in tacit "rules" - the beliefs, knowledge, and skills which allow men to integrate perceptually, articulate conceptually, and legislate in community a particular substantive reality.

⁶The question: "Would there be a world if there were no minds to know it?" should not even arise. In effect, we can only suspend this whole issue, since man can only know the world through his consciousness of it. The question is irrelevant, as is any ideal "knowledge" which would be divorced from human interest in it.

⁷Polanyi and Prosch, Meaning, p.29.

⁸Polanyi, Personal Knowledge, p.330.

⁹Ibid.

¹⁰Ibid., p.331.

¹¹In just this sense, we can call a form of life such as the scientific community a "comprehensive entity" which can be recognized and understood only by a participation in and endorsement of its proper leading interest. This will appear particularly significant when we examine the political community and the question of what does, in fact, constitute the "political" in human activity.

¹²Ibid., p.332. In this essay, we have chosen to use the term "leading interest" rather than "reason" when speaking of the operation of a "form of life." "Interest" is more evocative of our being-in-the-world, "led on" by intentions that are part of the activity of knowing and, as such, involve the individual outside of his own subjectivity.

¹³Ibid., pp.335-343.

¹⁴Ibid., p.340 (originally in italics).

¹⁵Whitehead, Science and the Modern World (N.Y.: Mentor Books, 1948), p.101. Quoted in Spragens, Dilemma, pp.34, 35. This refers us back to our discussion of "plausibility" as a criterion of scientific accreditation, where we said that its authoritative application within the scientific community can be dangerous. Polanyi points to the "impatience with which most biologists set aside today all the difficulties of the current selectionist theory of evolution, because no other explanation that can be accepted as scientific appears conceivable. This kind of argument, based on the absence of any alternative that is accepted as scientific, may often be valid, but it seems to me the most dangerous application of scientific authority." (Polanyi, "Potential Theory of Adsorption," in Knowing and Being, p.95). Polanyi says that there is a "decisive self-contradiction" involved in objectivist theories of evolution. The "selectionist must assume, and does in fact usually assume, that consciousness is useful since otherwise it would have been suppressed by natural selection; but since all bodily processes must be explained by physics and

chemistry, he cannot admit that consciousness can set a living body in motion, which means that he assumes it to be strictly ineffectual." ("Two Cultures," in *ibid.*, pp.42, 43).

¹⁶See Polanyi, Personal Knowledge, pp.383 ff.

¹⁷Polanyi, Tacit Dimension, p.34. Elsewhere, Polanyi has said that any two adjacent levels of personal knowledge, "that of a comprehensive entity and that of its particulars represent two distinct levels of reality; and ... that there obtains between two such levels a peculiar logical relationship, derived from the distinction between subsidiary and focal awareness." (Study of Man, p.46).

¹⁸Polanyi, Personal Knowledge, p.393.

¹⁹Our committed indwelling, our being-in-the-world by the instrumentalization of our tacit knowledge is a manner of disposing of ourselves. As Edward Pels has said, this relation between our knowing and being is not "a case of basing a metaphysics on an epistemological theory, for the theory is not only about, but involves a personal commitment. The metaphysical claim is ... also applied to the knower who makes the commitment; he too is a comprehensive entity and his cognitive act can therefore be understood as a level of reality making use of subordinate levels." (Pels, "Polanyi and the Problem of Metaphysical Knowledge," in Langford and Poteat eds., Intellect and Hope, p.73). This conception clarifies Polanyi's notion of the study of man as a generalized biology reflecting upon itself. (See, e.g., Personal Knowledge, p.380).

²⁰Polanyi, Tacit Dimension, p.33.

²¹*Ibid.*, pp.32, 33. Contrary to Kant, Polanyi would claim that we can know more than the merely "phenomenal." (see p.xvii, n. I). The very notion of a stratified reality implies that man may progressively approach something more than the merely phenomenal. Objectivism would attribute just one level to all phenomena, and these are all equally removed from Being (see Pels, "Polanyi and the Problem of Metaphysics," in Langford and Poteat eds., Intellect and Hope, p.74). Karl Popper, e.g., admits that, practically, facts are never just facts, but are interpreted in terms of pre-scientific theory. Consequently, he believes that the inductivism of positivist thought is fun-

damentally misguided. Yet, he nevertheless believes that systematic testing and deductive reason can progressively eliminate the personal element until one would ideally be presented with "reality." Despite his disclaimers, we might argue that he remains a positivist, inasmuch as he still posits a static, one-levelled ontological realm of essential objects, which stand over against our knowing of them. The theory of personal knowledge, on the other hand, implies that reality is dynamically interrelated with our knowing of it, and that it becomes more real the more man actively contributes his personal participation. Formalization, rather than being aimed at ideally eliminating the personal coefficient, is designed to clarify what is known/believed about matters only as a means to providing increased and richer opportunities for imaginative intimation and the intuitive integration of meaning. More and more of reality becomes humanly appropriated.

²²Spragens, Dilemma, p.21.

²³In an earlier chapter, e.g., we saw how David Easton felt that contemporary social problems only required the scientist to suspend his ideals of pure objectivity in science. He, and many other so-called post-behavioralists, still believe that in principle the predictive-generalization model is appropriate to the human sciences. John Gunnell has remarked that much of modern social science accepts the idea of a "symmetry" between the natural and the social sciences. It is argued that the same assumptions and methods apply in both cases; it is only that the nature of particular subject matters may limit the efficacy of the logical rules of investigation - the logic of inquiry is nevertheless the same. (Gunnell, "The Problem of Explanation," pp.168, 169). Karl Popper has suggested that, in some respects, the subject matter of the social sciences is different. People do act according to "motives" in a way that objects do not. However, he then argues that this may mean that the study of social phenomena can be less complicated than physics. The operation of "rationality" means that "it is possible to construct comparatively simple models of [men's] actions and interactions, and to use these models as approximations." (Popper, Poverty of Historicism, pp.140, 141). He goes on to suggest the "zero method," which constructs an ideal model that assumes full rationality on the part of its subjects and then measures deviations from this model in the observed data. Popper has apparently not troubled to reflect very profoundly upon what "rationality" or "motivation" should be taken to repre-

sent. It is apparent, nevertheless, that he assumes men to be essentially Hobbesian creatures, motivated by cost-benefit analyses directed to the maximization of personal gain and security or, alternatively, by the rational calculation of how best to maximize one's "happiness," within a utilitarian calculus). Effectively, he is finally dealing only with objects in motion, again. "Rational man," in the final analysis, is essentially no different from other objects in a "natural" world.

²⁴James Wiser has remarked upon this difficulty: "Efforts by contemporary political theorists to acknowledge [a distinction between the sciences and the humanities] and then argue for a particular science of values supported by a unique cognitive process only succeed in showing the extent to which the fundamental Cartesian bias has penetrated." (Wiser, "Personal Knowledge and Public Knowledge," p.672).

²⁵Polanyi, Tacit Dimension, p.17. Again, he has said that "all meaningful integrations ... exhibit a triadic structure [see Figure I, p.53] ... and all are thus inescapably personal ...; meanings created in the sciences stand in no more favoured relation [in this sense] to reality than do meanings created in the arts, in moral judgments, and in religion." (Polanyi and Prosch, Meaning, pp.64, 65). In other words, "all knowledge rests on understanding, and ... in this sense knowledge is of the same kind at all levels of existence." (Polanyi, Study of Man, pp.72, 73).

²⁶An object of perception is distantiated, in consciousness, to constitute part of the noematic structures of an integral and dynamic field of phenomena which includes the noetic side of consciousness (see Figure I, p.53 , supra). We have described the appreciation of music as having a one-levelled logical structure, where one experiences the phenomenon directly, through indwelling. If, however, one were to focally attend to the particulars of a piece of music - thereby distantiating it - one would then become involved in a two-levelled logic wherein the significance of the music as a whole would be lost.

²⁷See Polanyi, Personal Knowledge, pp.344, 345 and Study of Man, pp.75, 76, 93-95.

²⁸Polanyi, Personal Knowledge, p.389.

²⁹Ibid., p.375 (*italics mine*).

³⁰Ibid., p.346.

³¹Ibid., p.378. In other words, "our knowledge of [our subject matter] has definitely lost the character of an observation and has become an encounter instead." (Polanyi, Study of Man, p.95).

³²Ibid., p.78.

³³Ibid., pp.96, 98.

³⁴Polanyi, "Knowing and Being," in Knowing and Being, p.136.

³⁵Polanyi, Study of Man, p.28. Thus, rather than going back "to the things themselves," where this goal is understood as an independent and fixed essential reality, the goal of understanding within the theory of personal knowledge is approached in such a way that "man is in a sense constantly conversing with himself." (Cassirer, Essay on Man, p.25). "Historical and scientific thought are distinguishable not by their logical form but by their logical form but by their objectives and subject matter." (Ibid., p.176). However, in a sense our subject matter remains the same, it only manifests itself differently according to our "objectives" - or, how we are interested in it.

³⁶Polanyi, Tacit Dimension, p.18.

³⁷Ibid., p.19 (*italics mine*). Thus, there is a role for analytic reduction, definition, formal conceptual frameworks, explicit explanatory theories, and all the techniques of objectivist science. Ideally, however, they would be used with the constant awareness of their limitations and an appreciation of leading interests beyond those of description, explanation, prediction, and prescription, and prescription in the service of "stability." Always, there is a tacit, undefined understanding which underlies the practical interpretation of any descriptive term, including those observational statements which claim to ostensibly define, or attribute meaning to a phenomenon: "Definitions only shift the tacit coefficient of meaning; they reduce it but cannot eliminate it." (Polanyi, Personal Knowledge,

p.250). Polanyi would maintain that: "Formalization of tacit knowing immensely expands the powers of the mind, by creating a machinery of precise thought, but it also opens up new paths of intuition; any attempt to gain complete control of thought by explicit rules is self-contradictory, systematically misleading and culturally destructive. The pursuit of formalization will find its true place in a tacit framework." (Polanyi, "Logic of Tacit Inference," in Knowing and Being, p.156).

³⁸Polanyi, Study of Man, p.73.

³⁹Cassirer, Essay on Man, p.175.

⁴⁰Polanyi, Personal Knowledge, p.143.

⁴¹Polanyi, Science, Faith and Society, p.81.

⁴²Jürgen Habermas, Knowledge and Human Interests, pp.8, 9. The structure of self-knowledge is such that "one must have known in order to know explicitly. Only something already known can be remembered as a result and comprehended in its genesis. This movement is the experience of reflection. Its goal is that knowledge which the critical philosophy asserted as an immediate possession." (Ibid., p.9). Thomas Spragens has said, in a similar vein: "Epistemology, as an account of the structure of knowledge ... is itself an ontological enterprise in a sense ... it is at least in part an account of the capacities of a living being to be conscious of, and to participate in, the world of which he is a part." (Spragens, Dilemma, p.139).

⁴³Karl-Otto Apel, Analytic Philosophy and the Geisteswissenschaften, p.10. This is similar to the Wittgensteinian notion that, in order to understand a word, we must understand the language and the life activities in which that language is rooted. Instead of the attitude of certain ordinary language analysts, "with their conception of a one-sided dependency of the understanding of content on the knowledge of a certain form of life, we find here the idea of the 'hermeneutic circle': the understanding of forms (rules) and of content both presuppose each other, so that the formation of human forms of life in the course of history is effected through acts of understanding." (Apel, "A Priori of Communication," p.52).

⁴⁴James L. Wiser, "Philosophy and Human Order," Political Science Reviewer 2 (Fall, 1972): 140.

⁴⁵See, e.g., Polanyi, Study of Man, p.22.

⁴⁶Cassirer, Essay on Man, p.185. Here, Cassirer appears substantially to agree with K-O. Apel, who would maintain that the "understanding" methods of the humanities must be taken to stand in a complementary relation to those "explaining" methods of the sciences (Apel, "A Priori of Communication"). This formulation, however, runs the risk of falling into that dualistic assumption of two separate realms of subject matter and method that we mentioned in the last section. The theory of personal knowledge enables us to express this complementarity, while at the same time establishing an unbroken continuity between these approaches.

CHAPTER 6

THE POLITICAL COMMUNITY

As we have seen, the formal rejection of the idea of a meaningful metaphysics and the concomitant denial of any teleological process in nature left an "explanatory lacunae," and led to the usurption of the role of authoritative guide to truth and action by a scientistic myth. This development has been referred to as one major contemporary objectivist dilemma in political thought. The first dilemma is that social science has been left to construct theory "in the context of a humanly empty conceptual framework."¹ A related problem is one which we have also already examined when we suggested that modern philosophy of science does not have a genuine basis upon which to assert the truth of anything. This dilemma has had serious consequences:

... the groundlessness of definitions, names, and concepts in a relentlessly nominalistic world [has been] taken as an opportunity to make important contentions on fraudulently innocuous grounds.²

One result of this may have been that Western political thought has actually lost the sense of what "the political" should in fact represent. Leo Strauss indicates this problem when he says:

Political science presupposes a distinction between political things and things which are not political; it presupposes therefore some answer to the question "what is political?" In order to be truly scientific, political science would have to raise this question and to answer it explicitly and adequately. But it is impossible to define the political, i.e., that which is related in a relevant way to the polis, the "country" or the "state", without answering the question of what constitutes this kind of society ..., a society cannot be defined without reference to its purpose.³

In terms of the theory of personal knowledge: the operational principles of a comprehensive entity such as the "nation" or the "state" cannot be deduced from its particular parts. The failure of these principles are caused by the failure of its parts, and can be analytically explained. The success of their operation, however, is conditioned by a purpose, and must be understood in terms of its reasons.

Man has ceased to be understood as the "political animal." By the standards of Polanyi's evolutionary conception of emergent meaning, the "units" of contemporary social science merely represent "subjective centres of self-interest" - they are no more significant than any other animal, in terms of uniquely novel features. Here, men simply pursue "life"; there is no real justification to speak alternatively of the "good life." All that is acknowledged is a causally determined urge to survive and to

satisfy other appetitive, biological desires. By focally attending to the particulars (individual men as biological creatures) modern social science has lost sight of that comprehensive entity which they together, in a communication-community, constitute (the nōosphere). In effect, social science has tried to reductively isolate a subject matter which cannot be satisfactorily isolated. It has refused to acknowledge as its own proper subject matter a whole dimension or level of meaning - one which has been formally declared metaphysical and, hence, unreal. Objectivist assumptions can explain the failure of a political system (e.g., if the units of study were to die, or "fail to persist"), but is incapable of explaining its success. Nor can it make judgments as to the relative success of opposing systems.

Not only is this situation theoretically misleading, but it can be argued that it may have very real consequences for the general practice of life. The reductive programme of scientism

... applied to politics, entails the idea that political action is necessarily shaped by force, motivated by greed and fear, with morality used as a screen to delude the victims

... Applied to human affairs, the Laplacean universal mechanics induces the teaching that material welfare and the establishment of an unlimited power for imposing the conditions of material welfare are the supreme good.⁴

I. Freedom and Technology

Polanyi would maintain that the emancipation of reason from unnecessary determinations was in fact the primary intention behind the rise of scientific rationalism. He theorizes, however, that the Enlightenment reaction against what were felt to be oppressive traditional authorities has resulted in concepts of man and human knowledge that themselves are dogmatic. Positivism (see p.xvii, n. 1), says Polanyi, was conceived of as the "philosophy-to-end-all-philosophy":

... it set out not only to liberate reason from enslavement by authority, but also to dispose of all traditionally guiding ideas, so far as they were not demonstrable by science.⁵

What has happened subsequently is that "truth" has become "scientific truth." As the outcome of a rebellion against all authority, science itself has appropriated the function of an authoritative ground, within an objectivist framework, for the assertion of anything. Usurping a role which has, since Plato and Aristotle, traditionally fallen to political thought, it brought order to the chaos which might have been left by the "loss of horizons" - the loss of the guide of the past to choice of action as a means of bringing meaning to the present and future. However, the understanding of scientific truth as merely a dispassionate ordering of "objective" experience - free

from metaphysical assumptions - not only falsely characterizes the actual practice of science, but leaves man still horizonless, so far as they are left irresponsible for their own actions and unable to justify a particular value or choice of action. Effectively, it not only denies us the capacity to ground truth, but extinguishes the meaningful existence of "self" as agent of its own actions and meaning. Where science tended to become the mentor of all post-Enlightenment intellectual thought in the West, there arose the general belief that man, freed from the artificial constraints of dogma, would move naturally towards a state of perfection. A concomitant tendency was to view science as simply a means to the achievement of technical goals in the interest of the material public welfare. The idea of a development towards a qualitatively different human world was left, in effect, to the good graces of an inherently benign (but formally unrecognized) Providence.

As indicated by our arguments thus far, the project of "understanding" is directed at the meaning integrations of a culture, free from the artificial categories imposed by objectivist science, and cognizant, insofar as it is possible, of the intentions and interests of the forms of life which constitute this culture.⁵ The tendency of objectivism to operate within a static and one-levelled

ontology continually acts to reify concepts that are properly understood rather as dynamic processes inseparable from communal activity and its interests. Things are not simply "there," or given, for man. They are always becoming, and this becoming is anthropomorphic. Its operation only becomes humanly significant with nōogenesis.⁶ The decision to refuse truth-status to certain phenomena of cognition and not to others runs the danger of reinforcing and hypostatizing conceptions in practice. What may begin as, or be still valuable as, a heuristic device (e.g., Eastonian systems theory) can become objectified and determinant of human behaviour.⁷ Levels of reality and their accompanying standards of operation and leading interests which are at least potentially operative in man's activities become systematically closed off by the ideas of men themselves, and features uniquely characteristic of political man are diminished.

The formal renunciation of metaphysics has tended to leave no justification for transcendent ideals in terms of truth, while in practice it has nevertheless espoused essentially metaphysical world-views which become justified only in terms of "utility." In Chapter Two, we suggested that there are inherent theoretical limitations upon what objectivist science can accomplish. It can now be suggested that there are other forces within the social environ-

ment which also act to restrict what is granted meaningful status and what questions are asked of reality. Where truth cannot be justifiably grounded, where "understanding" is not accredited as a valid objective, and where the leading interest and value of science and the advance of knowledge becomes conceived of in technological terms, there we shall indicate lie the conditions for totalitarianism.

We have suggested that there has been a tendency to direct pure science away from its own proper interest in discovering a reality as an end in itself. In the social scientific community, even more, pure theory or simply "rational discourse" may have ceased to be, to some extent, the primary value - being superceded by the drive to produce, to manufacture "products" that can be

... sold or promised for funding, prestige and power [These are] rewards bestowed by the state and the larger society that is most bent upon subverting rational discourse about itself. It is in a utilitarian culture, where science is viewed primarily as a source of utilities to revolutionaries and reactionaries alike - particularly, of power and control - that it comes to assume a character as a technology whose value is its usable product.⁸

The effects of funding on the areas chosen for investigation, on the questions asked and the answers provided, are reinforced by other factors one can expect to find within the professional environment. Methods, problems, and con-

clusions are transmitted "via accounts of 'good' experiments or research projects."⁹ The dominant conception of appropriate and rigorously scientific research is constituted within the discipline, and deviation from this norm may result in loss of prestige and the respect of one's peers. It has been argued that, concurrent with new developments in technique, the behavioral revolution has led to an

... effort to imbue political scientists with what is understood to be the ethic of science: objectivity, detachment, fidelity to fact, and deference to intersubjective verification by a community of practitioners.¹⁰

Past investment in time and training, as well as habit, can further reinforce one's conception of "political reality" and meaningful theory and method. Finally, the political scientist may find himself operating within a structured context - or language-game - of professionally sanctioned assumptions, habits, and objectives, sheltered from the more fundamental values and beliefs, or "reality", which should in fact provide the justification for meaningful scientific endeavour. The scientific community in the natural sciences also, of course, relies for its authority upon a similar ethics. However, it ideally operates always with reference to its leading interest in scientific discovery as the independent, external pole of what it holds to be truth. Actual originality may be accredited authoritatively despite its conceivably radical break with

accepted views of reality. In modern social science, on the other hand, we can suggest that there is a dangerous tendency towards dogmatism.¹¹

What has happened, it may be argued, is that to some considerable extent the needs of government, justified only by a utilitarian ethic, have led to the technocratization of the social sciences. This process has directed these disciplines towards a simple problem-solving and policy-oriented relationship to the larger society. It can be further suggested that social engineering is

... inherently conservative ..., it means that the intellectual agenda of the discipline is set by the needs of the clientele, not by the inner logic of political science [This, in turn, leads] either to ideological parallelisms or to differences of opinion that are basically incremental.¹²

The "inner logic" of political science can be interpreted as that structure of tacit skills and knowledge which is conditioned by, and functions to achieve, its appropriate leading interest. When the interests which determine the enterprise are only contingent or arbitrary, then there is no basis upon which an integral form of life, such as the scientific community, can arise. As we have seen in our first chapter, theory becomes fragmented and to some extent at least, monadic. The common criteria of scientific value which should obtain across the overlapping neighborhoods of the discipline (and across the disciplines,

as we have argued) are no longer sufficiently operative. Whereas the form of life in pursuit of natural science is relatively monolithic - crossing cultural and temporal boundaries - social science loses any convincing standards of genuine scientific value, where this knowledge would be generally understood to contact an independent and universal reality. Lacking a common sense of leading interest, the cohesion for particular research projects is provided by civil authorities or other, manipulative interests.

Both behavioral science and much of post-behavioral science (where it presupposes a static, one-levelled ontology) have come arbitrarily to limit themselves to the study of "what is" virtually to the exclusion of "what might be" or, even more, of "what should be." This perspective leads to a one-dimensional notion of politics "as oriented toward the maximization of personal interests within the constraints imposed by organized society."¹³ Politics becomes a matter of personal or special group interests. One interest, in principle, is equal to any other within this realm of give and take, bargaining and compromise. There can be no idea of the "public interest" against which particular interests could be judged. One obvious consequence of this is that political theory finds itself dealing with individual, isolated parts of the community when it attempts to discuss anything other than the

"persistence" of the ongoing "system" as a whole. The pluralistic politics which this theory can justify offers no unifying purpose for political action and change.

Where individualistic, interest-group politics is all that can be described, theory becomes an apologia for whatever interests are currently dominant.

Historically, it has been argued, the "progressive" theory of politics (emphasizing class conflicts) has given way in American political science, first, to the pluralist model (stressing competition among groups) and, more recently, the consensual model.¹⁴ The latter approach has tended to posit the "end of ideology" in the United States (and eventually in all Western-style democracies). There is presupposed an end to class or ideological conflict and a fundamental agreement on basic values. In effect, Western democracy becomes defined in terms of this model, where "the authoritative allocation of values" takes place within a sphere of peaceful give and take. It can be argued, however, that this school of thought engages in

... the apotheosis of a non-committed scientism, or what amounts to pragmatism leached of all its passion for meaningful social reform.¹⁵

This perspective presumes that the Western industrial democracies represent

... the good society itself in operation; [where] the fundamental problems have been solved This very triumph of the demo-

cratic social revolution in the West ends domestic politics for those intellectuals who must have ideologies or utopias to motivate them to political action.¹⁶

The end-of-ideologists proclaim that a characteristic of modern society is the separation of ethics and politics. In Daniel Bell's opinion, for example, ethics as a goal or end (the "facade of general interest and universal values") represents ideology, and "transforms politics into an all-or-none battle. Rather, he says, ethics should be formulated as a limit - as "the rules of the game." This is a pragmatic view, he continues, whose only goal is reconciliation and compromise. The separation of ethics from politics, and the limiting of ethics to the function of arbitrary formal rules, he considers to be the very foundation of a pluralist society.¹⁷ Here we find an extreme value relativism glorified at the same time that we find a genuinely critical role for social science and political theory explicitly denied.¹⁸ Science and criticism become considered as separate and mutually exclusive categories, and the persistence and stability of the "system" in the interests of a utilitarian public welfare is the only value of political life which is acknowledged. On the other hand, a look at the facts of intellectual dissension and social crisis may suggest that

... the American political order presently faces a crisis of legitimacy precisely because there is a paucity of common goals

which command respect from persons with conflicting individual interests or 'ways of life.'¹⁹

Somehow, within the systematized theory of consensus politics, a whole range of at least potentially falsifying data are dismissed as irrelevant to the theorist's model. These thinkers have recognized the extent of American intellectual alienation to some extent, but they manage to conclude that it is not of a political nature. However,

... it is only by narrowly defining politics as concerned with 'voting behavior' or with 'welfare measures', that they can come to such a conclusion.²⁰

It has been said that political activity is dangerous. Although it is an essential pursuit, and can provide satisfaction of vital needs, it may also be destructive of human values. Political theory is at present a collection of individual theories, rather than an integrated endeavour which has the tacit and coordinated accreditation of a community of practitioners. We can suggest that this is because political theories are not meant to perform the same function as do those of the physical sciences - they are more specifically normative doctrines. However, with no underlying normative proscriptions (or, with no generally recognized leading interests which are independent of contingent purposes and interests), "political science is free to operate in the mode 'I can'; to become more

efficient. This is dangerous."²¹

A utilitarian idea of politics as the adjustment of differences, or the orderly processing of demands, represents what Charles Taylor calls the ideological notion of a "civilization of work." The various and disparate functions of society are politically integrated and applied to production, ostensibly in the common material welfare. This has become understood as the fundamental source of cohesion in industrial democratic societies. Economic relations are considered to be primary (both within materialist Marxist analyses and within the tradition of utilitarianism). These ideas are very real, of course; they are broadly held in some sense. (As Taylor suggests, individuals would not be able to live within this type of society unless they somehow believed in the "reality" of these values and purposes). However, we might say that they are imbedded in the institutional matrix - reified in that which they themselves have constituted. The epistemological and ontological presuppositions of contemporary political science have resulted in an "inability to recognize the historical specificity of this civilization's intersubjective meanings."²² Now that the signs of civil dissolution and profound alienation are everywhere, this objectivist science does not possess the categories within which it could explain the crisis. In other words,

... some of the more extreme protests and acts of rebellion in our society cannot be interpreted as bargaining gambits in the name of any demands, old or new. These can only be interpreted within the accepted framework of our social science as a return to ideology, and hence as irrational [Within] the accepted categories this irrationality can only be understood in terms of individual psychology; it is the public eruption of private pathology; it cannot be understood as a malady of society itself, a malaise which affects its constitutive meanings.²³

Systems of thought based upon a one-dimensional concept of man where he is seen as motivated by fear, greed, and the need for survival - interpreted and legitimized by an unself-reflexive behavioral science; will tend to hypostatize these ideas. Where people are viewed fundamentally as objects and research provides information products to be applied in causal relations with people, we are led to the question of

... whether there must not be a complementary method of critical-humanistic education to prevent splitting society into the manipulated and the manipulators

... [This latter situation would be] the ideal presupposition of an objectifying social science and social technology. It could perform repeatable experiments without being disturbed by a feedback that turns controllable predictions into self-fulfilling or self-destroying prophecies.²⁴

Hannah Arendt has claimed that:

Statistical uniformity is by no means a harmless ideal; it is the no longer secret

political ideal of a society which, entirely submerged in the routine of everyday living, is at peace with the scientific outlook inherent in its very existence.²⁵

As we suggested in the last chapter, a science of objects deals with "events," while a science of man must deal more with "actions" - involving human interest and intentions in a public constitution of meaning. In contemporary objectivist social science, however,

... the capacity for action, at least in the sense of the releasing of processes, is still with us, although it has become the exclusive prerogative of the scientists.²⁶

Without universal guiding ideals, the authority of science can justify actions only as a "releasing of processes" - "change for changes' sake" - or it can justify them in terms of "efficiency" in relation to contingent technical goals. We are left with either those "nihilists" or the "last men" which Nietzsche foresaw as the logical alternative conclusions of Western culture. Finally,

A society refusing to be dedicated to transcendent ideals chooses to be subjected to servitude. Intolerance comes back full cycle. For sceptical empiricism which had once broken the fetters of medieval priestly authority, goes on now to destroy the authority of conscience.²⁷

Polanyi would argue that the Enlightenment was moved by profoundly moral passions.²⁸ A new sense of the radical freedom of reason was accompanied by a vision of the possibility of an unlimited perfectibility of man,

where he could come to control his environment and be left free to realize his true potential. However, without traditional guides to choice of action, all moral doctrines, whatever authoritative source they referred to, became suspect. It was felt that they merely provided rationales for the furtherance of particular interests. In many objectivist formulations, morality became indefensible, formally, while implicitly these approaches themselves came to make unattainable moral demands of human community. Given the imperfections of civil societies and the violence of civil authorities, they demanded perfection:

... modern nihilism is not a form of moral laxity, ..it can be understood, on the contrary, only as part of a comprehensive moral protest that is without precedent in history.²⁹

Polanyi says that there was an inherent tension in traditional Christian societies, where moral ideals were promulgated which no society could live up to. The secularization of Western thought released this tension and, combined with a sceptical rationalism, it became a fervent drive to achieve an absolute good, rejecting all less than perfect answers as power-serving pretensions. Here, he would suggest, are the roots of "positive liberties" which would force men to be free.³⁰ This represents a process of "moral inversion," where a "high moral purpose operates only as the hidden force of an openly declared inhumani-

ty."³¹ Any means whatsoever come to be justified in terms of a future state of human perfection. Nowhere, on the other hand, are there evident universal values which would legitimately oppose totalitarian violence, or which could choose between opposing conceptions of ideal ends and justifiable means to their achievement. Nihilism is a modern manifestation of moral excess, and it remains for political thought to find some responsible basis beyond it for human action. The major problem now, says Polanyi, is that

Ethics must catch up with the pathological forms of morals due to the modern intensification of morality. We must learn to recognize moral excesses.³²

A primary moral need of our time is justifiably to curb somehow our inordinate moral demands.

The "nihilist" or the "last man" becomes, in fact, unfree - subject, in Kantian terms, only to "hypothetical imperatives," or contingent and arbitrary determinations. However, without recourse to the "pietist faith" underlying Kantian thought (see p.145 , n.35, supra), carried over from a Christian natural law tradition, where are we to find a source of transcendent guiding ideals? It will become clear that Polanyi believes that an adequate concept of "freedom" requires a prior reconceptualization of "truth" (which has been developed in earlier chapters). Furthermore, in a quite Kantian sense, the operation of a

moral sense is dependent upon man's capacity, not only to make contact with a universal truth or reality, in some sense, but upon his freedom to choose between alternative actions on the basis of some knowledge of truth.

II. Freedom and Morality

We have argued that the decision to pursue scientific goals of description, explanation, and prediction - going on to apply the results to policy-making - leaves both political research and public policy directed by largely unexamined factors. Inasmuch as these factors may be described as purely arbitrary or contingent, they can be considered coercive, and deterministic of man's behaviour. In the use of pre-scientific concepts and terms; in the choice of an interpretive framework that does not recognize a whole realm of phenomena; in the misguided pursuit of unrealistic goals; and in the espousal of relativistic presuppositions which have led the results of theory and research into arbitrary applications in the interests of whomsoever happens to hold political and economic power: objectivist social science denies any responsibility for the improvement of the human condition. Man, consciousness, values, ideas are in effect objectified - reduced to the level of biological responses, subject only to cause and effect relations with a world of objects.

A central question for modern political thought must be: How may political philosophy once again talk of purposes and universal ideals by which men may responsibly guide their choice of action? Is it possible to transcend justifiably the here-and-now of whatever particular interests hold civil power and whatever wants and desires are sanctioned by them? Polanyi believes that his rejection of the objectivist ideal of exact and demonstrable knowledge may point the way "toward a theory re-establishing the justification of moral standards."³³ As we shall see, this justification is grounded in a certain view of the unique capacities of man, where these features are continuous with capacities common to all animals and are at the forefront of an evolutionary process emerging out of levels described by physics and chemistry. Nevertheless, it is argued that these lower levels provide the conditions for a meaningful moral choice - the exercise of a responsible judgment.

As we indicated in the introduction to the present essay,

... the task is not primarily an epistemological one; for the root of the problem involves man's very self-definition.³⁴

It is currently unfashionable within the discipline of political science to speak of such intangible and difficult matters as "the nature of man". However, part of

the necessary meta-critique of the enterprise must be directed against a more or less implicit presupposition of the nature of man which is itself peculiar only to Western culture and relatively recent history. It is this orthodoxy which has created formal barriers against forms of cognition that are in fact definitive of and essential to our thinking about politics. From our earlier discussions of tacit knowing and indwelling, we may infer Polanyi's concept of man. In its general outlines, it is very similar to Cassirer's, who has said that a definition of man

... can only be understood as a functional one, not a substantial one. We cannot define man by any inherent principle which constitutes his metaphysical essence - nor can we define him by any inborn faculty or instinct that may be ascertained by empirical observation. Man's outstanding characteristic ... is not his metaphysical or physical nature - but his work. It is this work, it is the system of human activities, which defines and determines the circle of "humanity". Language, myth, religion, art, science, history are the constituents, the various sectors of this circle. A "philosophy of man" would therefore be a philosophy which would give us insight into the fundamental structure of each of these activities, and which at the same time would enable us to understand them as an organic whole.³⁵

Man has no essential physical or metaphysical nature, he has instead a history. He is not a given; he is an achievement and an ongoing task.³⁶ The rise of self-centred integrations of individuality represents that point in evolution where animal life appears. The higher animals

are characterized particularly by an intelligence which is interested in the world. Man's power to calculate and contrive solutions to problems in the pursuit of self-centred interests is continuous with, and essential no different from, that animal intelligence. The human infant, for example, is also characterized in terms of self-centred individuality, prior to the understanding in use of a language. It is only with maturity and acceptance of a cultural heritage that man becomes distinctively human. As conscious beings within a community we are created by the acceptance of a particular cultural idiom of thought.³⁷ These idioms of thought are human artifacts. Man constitutes his own knowledge of the world. At the same time, however, ideas become reified and in turn provide determinations of his subsequent activities.³⁸ That "firmament of values" - the fundamental cultural values that are irreducibly part of what it is we know because of our active interest in our knowledge - has been humanly contrived and largely uncritically assimilated. It consists, says Polanyi, of "works of the imagination," and is man's highest achievement. Our highest achievements and most precious values - man's "tremendous burst of glory" - are all dependent upon (although not determined by) the successful operation of the levels of animal physiology and appetitive drives and, still more fundamentally, upon the physical and

chemical levels of inanimate matter. Polanyi would maintain that:

Our intellectual superiority over the animals is almost entirely due to our powers of symbolic operations; it is only by relying on these that we are able to carry out any process of consecutive reasoning.³⁹

Polanyi claims that animals possess a native capacity - one which may even be greater than man's - to establish regularities inductively, for example. As well, they appear to possess imagination, since they are known to dream. Language, however, "makes thinking possible; i.e., we are enabled by language to "look before and after."⁴⁰ In other words, we can distantiate ourselves in consciousness from the immediately given experience of the world. We can, in the phenomenological sense, reflect upon the cogito - the "I am" - and its intentioning. We can transcend the here-and-now in openness to what is possible. If our interpretation of Polanyi is correct, he means to say that we can reflect upon the grounds of our experience, and we can imaginatively become aware of the potentialities conditioned by our immanence in a physical world and a cultural heritage.

We have argued that the "mind" is actually the meaning of certain mechanisms of the body. Objectivist science has tended to reduce man to nothing but a bundle of appetitive drives. However, although the human mind

depends upon these mechanical activities, it transcends them; it is not determined by them,

... the mind itself includes an ascending sequence of principles. Its appetitive and intellectual workings are transcended by principles of responsibility.⁴¹

Polanyi declares himself committed to the belief in an external reality, one which men may approach in stages through his knowledge. True understanding, he says, will always involve intimations of this reality, and deeper understanding will involve further anticipations leading to the discovery of ever more unexpected manifestations of this reality. Although our knowledge can never be entirely demonstrable or articulated, the intellectual passion which interests us in these intimations carries with it an inherent obligation to the truth. In claiming to have made contact with a genuine reality the knower - the assertor of "fact" - "necessarily legislates both for [himself] and others with universal intent."⁴²

By attending from the biologically, culturally, and contingently determined particulars of our knowledge to the leading interest in an indeterminate reality, we are left open to utilize these particulars in freely constitutive activity. Unlike individual men abstracted from a culture and unlike lower organisms, political man is not entirely limited by the actualities of his existence. With nöogenesis, the range of potentialities defined by man's immanence in being - becomes virtually infinite, in princi-

ple.⁴³ Biological evolution becomes cultural evolution.

The human project of self-definition and self-interpretation itself becomes an infinite task. As we have indicated (e.g., in our discussion of emergent levels of reality and in our analysis of hermeneutics), the study of man results in a change of our own intellectual personalities. Thus, at the level of investigation where man encounters himself, our subject matter itself continually changes; it becomes richer and more comprehensive, offering ever new possibilities of unexpected manifestations in the future. The horizon of possible futures, or orders that transcend the immediately given material actualities, is infinitely extended (potentially) by men creating the conditions of their own "actuality."⁴⁴ As we extend ourselves, constituting and maintaining knowledge, dwelling within this knowledge in order to discover and understand, as individuals, more and more, the horizon of potentialities - the realm of freedom - recedes, growing richer and richer towards an unknown end.

To an extent, then, it appears that man is determined by his nature as a material system, as a centre of biological appetites, and as subject to the coercive force of special interests in society. The tacit knowledge constituted by our innate faculties and by our socialization within a culture is accepted, for the most part, passively

and uncritically. Nevertheless, although Polanyi recognizes these limitations which are imposed upon men, he maintains that the accidental factors present in any particular historical and social context simply define the "calling" (the assignment of particular problems) of an individual or of a form of life. The individual is provided the opportunity to exercise his personal powers to satisfy those responsibilities defined by his situation, and to make choices that both transcend and change that situation. The subjective and contingent is part of our calling; the personal is that aspect which subsidiarily instrumentalizes the particulars of this calling in its free activity.⁴⁵ We are immanent in a particular world, and this calling limits the opportunity for advancing human knowledge and understanding. However, even though we cannot transcend this given milieu very far, as individuals, and must rely on tradition and authority for the rest of our knowing, we are nonetheless responsible for our assertions within these limits:

... our progress will always remain restricted to a limited set of conclusions which is accessible from our original premisses. To this extent, I think, we are finally committed from the start; and I believe that this should make us feel responsible for cultivating to the best of our ability the particular strain of tradition to which we happen to be born.⁴⁶

Thus, we are not responsible for our calling; we are only responsible within that range of potentialities

which is conditioned by our immanence. Free activity, says Polanyi, lies in the evaluation of the "hidden possibilities of the mind."⁴⁷ This is the realm of action, then, where moral choice becomes possible - where the individual has freedom to choose with reference to a "truth" which is not indubitable or absolute, and which is shaped by the conditions of one's calling, yet makes a responsible commitment in its universal intent. Furthermore, says Polanyi,

... it is political actions profoundly affecting the framework of existing power, that form the most striking human choices.⁴⁸

III. Dimensions of Community

As we indicated in the first section of this chapter, contemporary social science has tended to deal with men only in their "objectness." Economic relations have come to be primary in political activity. Within that one-dimensional perspective, the theoretical separation of politics and ethics becomes readily understandable. At that level of human existence, if it is taken in itself, there is no real basis for moral choice, according to our arguments. In the last chapter, however, we contended that it can be fruitful to view our knowing and being as a hierarchical structure of progressively more meaningful (and, more real) levels of comprehensive existence. In

our description of the continuity between physical science and the humanities, we saw how our interest in, and relation to, our subject matter changes as we ascend to higher levels of comprehensive meaning.

Applying this conception to the activities of men within political community, then, we shall suggest that we can profitably choose to view politics as a multi-dimensional activity. Rather than giving rise to structural-functional entities which operate to achieve one interest (stability), we may envisage institutional structures which pursue different leading interests. One leading interest will condition forms of life which transcend and include, in its greater comprehensiveness, forms of life devoted to lower levels of meaning and existence. In any specific historical and social context, these dimensions of activity will ideally function concurrently, conditioning each other in a complementary way. Nevertheless, one will be superior to the other in terms of human meaning. In other words, if an inferior leading interest is given priority to the extent that it interferes with the operation of a superior dimension, then one may say that the society as a whole is not functioning adequately. A potential level of human meaning is being systematically denied. (Of course, excessive devotion to a superior interest, at the expense of lower interests, could also be

conceivably destructive of meaning, since the lower levels also condition the higher).

This notion could ultimately point the way to a standpoint from which we could judge the relative success of different political systems (in other than mere terms of "persistence") and adequately account for and evaluate developmental change. Instead of being primarily concerned with the substantive structure of a given organization, the critical theorist would examine the operation of that system as it functions to achieve its proper interest and as it acts to condition superior interests. Eastonian systems theory, for example, also cannot critically concern itself with particular substantive politics. However, within the theory of personal knowledge, we will argue that there is a sense of an external goal in terms of which both structures and functions may be assessed.

Men do, of course, have certain basic needs of survival, and the success of the *nöosphere* is obviously dependent upon the survival of its constituent units. The features peculiar to life, sentience, intelligence, and culture respectively all emerge in sequential fashion; each is dependent upon the success of lower levels. It seems reasonable to assume, then, that one function of any society will be to insure conditions which will guarantee the survival of individuals. This we could call the technical

interest. One proper function of objectivist social engineering would be the analysis and adjustment of the structures related to the allocation of values. However, characterizations of politics such as "the authoritative allocation of scarce values" are not adequate descriptions of the political. As Thomas Spragens has pointed out, Hobbes was probably more correct than Easton

... in designating the creation of order as the fundamental feature and task of politics, for it is only within some kind of order that a process of allocation could be instituted or could be considered authoritative.⁴⁹

Another technical function which might be proper to objectivist science (where again men could be considered sometimes as objects, or as biological creatures) would be in contributing to the stability of a social order which provides the conditions for the satisfaction of material needs. Yet this would not necessarily be entirely a technical interest, in a rationalistic sense. Polanyi uses the analogy of the scientific community to suggest that a system of mutual adjustments - giving rise to a spontaneous order (see Chapter 4, Section III) - is the most efficient form of economic organization in which to achieve this goal currently. A centrally planned economy, in his opinion, is an impossibility in contemporary, advanced industrial states (for reasons similar to those presented against central planning in the process of scientific discovery).

Freedom of competition is necessary to rationalize their economic interests.⁵⁰

Although the free market system does ideally represent a system of mutual adjustments, or a "polycentric task," it operates on a different basis than do the scientific or legal forms of life, for example. The economic order is brought about by its leading interest in public welfare, but the businessman himself is guided by the pursuit of individual advantage in competition with his fellows. If individual, or "private," freedom were allowed unrestricted licence, then the system would become unstable, resulting either in a Hobbesian state of nature or a situation where some individuals gain such wealth and power that competition and private freedom would no longer exist. The negative liberty to assert oneself does not carry with it any inherent obligation to value the system as a whole. The maximization of subjective self-interest will tend, on the contrary, to destroy this order wherever it is seen to be in one's own interest.

Thus, the system of rules and limits which protect a competitive system and which provide the predictability that can make freedom of choice meaningful arises in a body of law and a form of life which administers the law.⁵¹ This form of life represents another order, arising from the necessity to mediate between private freedom and the

public interest in general material welfare. Again, it is a spontaneous order - it has essentially not been technically contrived by human design. However, whereas the economic sphere's method of mutual adjustment is competition, the administration of law involves mutual criticism and adjustment according to consultative methods similar to those of the scientific community. The development and administration of law .

... constitutes a sequence of adjustments among successive judges, guided by a parallel interaction between judges and the general public. What results is an orderly growth of the law through the application and reinterpretation of the same fundamental rules and their expansion into a system of increasing scope and consistency

... [When] a scientist wrestles with a problem and accepts as his premise a great mass of previously established knowledge and submits to the guidance of scientific standards, while also taking into account the whole trend of current scientific opinion, he resembles a judge referring to precedent and statute and interpreting them in the light of contemporary thought.⁵²

Intellectual systems of spontaneous order, says Polanyi, are governed by professional opinion and mutual authority. Just as in the scientific form of life, the community of practising legalists are not free to alter the purposes of the administration of law. Individual judges submit, as equals, to a "General Will." In the economic sphere, there is no basis, on a broad scale, for the

operation of such a consensual professional opinion. Mutual responsibility and accountability are enforced by "superior" institutions of private law. Within the administration of law, however, responsibility is inherent to the form of life. Practitioners must share an implicit belief in the leading interest of law and share the tacit skills, values, and knowledge which permit its development, interpretation, and administration. There is a practical interest in mutual intelligibility and communication:

A dialogue can be sustained only if both participants belong to a community accepting on the whole the same teaching and tradition for judging their own affirmations. A responsible encounter presupposes a common firmament of superior knowledge.⁵³

The system of law, in creating an impersonal order which is not subject to arbitrary applications by individual men (ideally), also creates a realm of "public freedom" within which men may rationally choose their actions with some reasonable expectation of being able to predict the consequences of those actions, and adjusting them accordingly. Now, the private liberty to assert one's subjectivity is politically important, Polanyi claims, only as a means to economic efficiency. But what of public liberty, he asks, what are its ends? Or is it an end in itself? It cannot be the latter, where it is understood only as "a method for the social management of a given

economic task." If this were the case, and if social or technological circumstance were to establish another method of economic organization more efficient or more desirable than that of a spontaneous order, then public freedom would have no justification.⁵⁴ Within utilitarian formulations, where freedom is supported only as a means to technical goals and where there is no fundamental criteria for what is "useful," freedom is always theoretically vulnerable. Particular interests may espouse objectives which do not require political liberty for their efficient achievement.

In addition, even within supposedly free market systems, economic means and objectives are regularly weighed against other social implications. Polanyi says that

We are not ... inescapably bound to any particular economic task and may conceivably prefer a state of relative poverty in which we can maintain a freer economic order⁵⁵

... The logic of public liberty is to coordinate independent individual actions spontaneously in the service of certain tasks⁵⁶

... [However] public liberty can be fully upheld as an aim in itself, [only] insofar as it is the method for the social management of purposes that are aims in themselves.⁵⁷

So far, we have indicated that a second dimension of political community is concerned with the practical interest in improving communication within its own sphere and in providing the order necessary to pursue successfully

the technical interest in providing for the general material welfare. In one sense, this latter goal is prior to the first, inasmuch as biological survival is a requisite of any order of men. On the other hand, the second interest is superior, inasmuch as it is a condition of public liberty and the achievement of a public welfare. At this point, we can suggest that there is a third dimension of political community - dependent upon the success of both the technical and practical interests, yet superior to them in terms of human significance. In Thomas Spragen's words, this is its role in the "attribution of meaning and significance to the order which has been constituted."⁵⁸ It is at this level that the philosophical activity of thinking about politics becomes particularly vital.

We have seen that man is characteristically a self-defining and self-interpreting being. In our discussion of hermeneutics, for example, we saw how in the study of man our understanding effects a change and enrichment of ourselves and, hence, of our subject matter. Rather than being presented with a physical or metaphysical essence of man, we find an activity and a task. Without an ideal guide to this task, however, we have argued that man's opportunity for free and spontaneous constitutive action becomes diminished in his political activity, and runs the

ultimate danger of being extinguished in a totalitarian state which would enforce an arbitrary, static reality.

Ernst Cassirer is one contemporary thinker who has indicated the need for a philosophical anthropology which would provide insight into all levels and sectors of human activity while still allowing us to understand these values, interests, and forms of life as an organic whole. What is required is a new perspective - one which includes the phenomena and methods of investigation within the various levels of existence, yet refers them to "a new intellectual centre," a superordinate standpoint which would bring meaning to the whole of human knowing and being. We shall argue that the theory of personal knowledge may provide us with the beginnings of a "structural view of culture" which is more comprehensive than "the merely historical view"⁵⁹ of approaches such as historical materialism and the sociology of knowledge - a perspective which systematically includes that openness to transcendence and the potential for freedom implicit in our "material" givenness. This view acknowledges a dimension of political community which functions as a

... cosmion, illuminated with meaning from within by the human beings who continuously create and bear it as the mode and condition of their self-realization The self-illumination of society through symbols is an integral part of social reality, and one may even say its essential part.⁶⁰

At the levels of meaning appropriate to the technical interest, an investigator is involved in two and three-levelled logics, such that men as subjects of study are in an inferior relation to the observer or manipulator. They are distantiated and viewed in consciousness as either objects or as biological centres of self-interest. (See p.92f., n. 23, supra.) With Kant, we could suggest that in these spheres of activity, men tend to be viewed as means to other ends.

In an exchange among equals within the forms of life directed to a practical interest there is again a two-levelled logical relationship, but one which is symmetrical, where criticism is mutual, and there is a common reference to an authoritative fiduciary framework. This is the realm appropriate to moral activity, with men treated as ends, at least in large part; there is a common interest in improving understanding and communication within the community. The predictability provided by a system of ordered rules, ideally independent of the interests of particular men, provides common conditions for rational and free choice of action.

Within the third dimension of community, the relationship of the knower to the known changes, such that the knower dwells uncritically within his culture (as his "calling") and attends from it to a transcendent realm of

potentialities which is superior to himself:

He may be said to stand on the lower level of this commitment [or, relationship of "intentionality"]. Alternatively, we may describe him as forming the personal pole of a commitment of which the ideals of man form the universal pole.⁶¹

The idea of subject and object of an investigation or understanding disappears. The centre of intrinsic interest, as distal pole of one's knowing (p.53 , Figure I), is external to his immanent existence. It represents his intuitive contact with an "independent reality," understood as an open-ended and immanent teleology. The passionate interest in this type of understanding, responsibly upheld by the individual in the existential commitment of himself as a social being, provides that "truth" which makes freedom of choice - and hence morality - meaningful. More than the practical forms of life such as law and art, which are always culturally and historically specific in some part, this activity makes a claim to universal truth, and ideally would inform the technical and practical interests of all societies.

The leading interest of cognition which motivates this activity we may call the emancipatory interest. At this level, man is treated as an end in himself. (Kant's "Kingdom of ends" or Marx's "species-being"). Unlike the satisfaction of mere technical goals, the satisfaction found in discovery and deepened understanding does not

exhaust its material or passion - it is not a finite value. Contributions to the enrichment of a culture are potential sources of satisfaction to all men, and are valued intrinsically as ends for their promise of increasing enrichment - of an inexhaustible source of new problems - in the future. Like Kant, Polanyi views responsible and moral behaviour as that action which treats other men as ends, and which must be assessed - not on the basis of the particular outcome of any action - but upon its intention and its effect on the nature of the moral actor himself.

As we have implied in the course of this essay, at the highest level of political activity, the "actor" is both individual and collective - it is no longer possible categorically to distinguish between the "I" and the "we". The personal commitment to pursue and constitute knowledge with universal intent contributes to what is fundamentally an autonomous process of emergence standing at the end of a long evolutionary development. The shaping and furtherance of man's knowledge is not merely causally determined and subjective, nor is it teleologically predetermined. It is a responsible activity inasmuch as it is directed by a sense of a pre-existent task. Acts of understanding and discovery make a claim to be universally valid. They are articulated with the expectation of validation by other

members of the communication-community. At the existential level of the nōosphere, then, there is a value, or purpose, that transcends subjective self-interest and private liberty as well as the interest in stable order and public liberty. Knowledge is surrendered to, affirmed, and legislated, all in one mental bearing on a hidden reality. Public liberty, from this standpoint, is only a means to a further interest which is an aim in itself - the responsible contribution to the constitution of meaning within a culture involves the individual ultimately in a social striving towards a human appropriation of the universe:

... we keep expanding our body into the world, by assimilating to it sets of particulars which we integrate into reasonable entities. Thus do we form, intellectually and practically, an interpreted [anthropological] universe populated by entities, the particulars of which we have interiorized for the sake of comprehending their meaning in the shape of coherent entities.⁶²

Without positing transcendent, ideal ends for individual endeavour, entirely beyond our immanence in the limitations and uncertainties of earthly pursuits, the theory of personal knowledge offers a kind of immortality:

... noogenesis created a new fabric of life not centred on individuals and transcending the natural death of individuals.⁶³

Without falling into a millenarianism, and its often accompanying rationalistic dogmatism, man is given a vision

of ideal purposes which transcend the here and now of contingent interests and civil power. We saw, in our discussion of freedom and authority in the scientific community, how the tension and seeming incompatibility between these two aspects of order were "submerged" in freedom's third function (beyond "negative liberty" and the freedom to pursue obligations) of providing the most efficient means of attaining an indeterminate but universal interest independent of that order. In the absence of an "external" leading interest, we have argued that political community on the other hand tends towards either a nihilistic freedom (individually) or a totalitarian enforcement of order (collectively). The theory of personal knowledge intends, then, to articulate and justify an emancipatory interest which would protect the value of public liberty as an objective in itself - inasmuch as it is a necessary condition of the most vital dimension of community. The latter goal cannot be planned for in accordance with some preconception of ideal ends. As we have seen, this sort of foresight is impossible. Both scientific discovery and understanding in the humanities are polycentric tasks which pursue non-specifiable goals. As such, they depend upon individual freedom and creativity, and upon the authority of a common fiduciary framework.

Man is immanent in his world, but objectivism has rejected the idea that he is nevertheless open to transcendence. An emancipatory perspective in social science would aim to

... liberate man's reason from any force, in or out of himself, symbolic or not, in the psyche or in the society, that cripples and confuses reason

... From (one) perspective there is a place for a positivistic study of men as natural objects subject to natural laws. [However], it is the aim of a liberative social science to diminish man's objectness, to liberate his reason and understanding from diminution by it, and thus to limit man's control by natural laws.⁶⁴

This is not to deny a role for analytic, objectifying techniques and approaches in the study of human phenomena. As we saw in our earlier discussion of hermeneutics, they can complement "understanding" methods of the humanities, where

... hermeneutics would serve to widen and deepen the communicative dialogue which we human beings ... "are" ... [while] ...

... attempts to let "objectification" serve "disobjectification", i.e. that condition in which man is freed by knowledge to act responsibly, [will be] judged according to whether the "objects" of the theory can become "subjects" who can incorporate that theory into their own language and self-understanding. The possibility for such incorporation does in fact define the purpose of psychoanalysis and critique of ideologies.⁶⁵

In either historical studies or in studies of aspects of individual lives (or collective forms of life) which are "quasi-determined" (e.g., in "neurotic" behaviour), Karl-Otto Apel would suggest that we must objectify certain aspects of human activity. Regarding these as symptoms of unreflective submission to coercive determinations, we can then apply a quasi-causal explanation of this behaviour to "provoking public self-reflection and to the emancipation of men as subjects."⁶⁶ This would be the basis of a critical social science, continually aware of the irreducibility of man's knowing and his interests and intentions, which would be concerned with the creative practice of life rather than the realm of social engineering and control. Systematic attempts to recognize and evaluate "the hidden possibilities of the mind" - the horizon of potentialities defined by one's calling - results in a clarification of one's calling and responsibility to address the problems assigned by one's context in an immanent teleology.

Finally, we would not suggest that each of these roles of theory and research, within the technical, practical, and emancipatory dimensions of community, need devolve upon a separate academic specialty. Instead, just as those dimensions themselves are pursued simultaneously within a particular historical and social context, the

individual researcher would ideally approach his own problems with an awareness of the significance of each of these spheres of activity. Ultimately, it would be the emancipatory interest which would be critical of those structures and their functions at the various levels - evaluating them, not in terms of specific substantive programmes and particular objectives so much as in terms of how adequately they provide the conditions for man's highest capacities.

The "political", then, is not a clearly defined aspect of human behaviour. It is not precisely the "public" realm of action and meaning constitution as opposed to a "private" realm of self-centred subjectivity. In Polanyi's terms, political activity mediates "between these higher levels of man's culture and his lower physiological level."⁶⁷ The legitimate domain of political thought includes all dimensions of communal activity. However, according to the logic of indwelling and of emergent achievement, the sphere of activity among equals, referring to a common authority and dwelling within a culture as they do their own bodies, open to transcendence and the realm of freedom to appropriate more and more of an anthropomorphic reality, is that dimension which is most meaningful and, hence, most real.

These arguments return us to a view of man as "the

political animal," characterized as such because of the operation of rationality. If reason is in fact a function of language use, which itself is possible only in community, then reason, all of man's unique intellectual powers, is a social phenomenon which emerges only at a higher existential level than that of an autonomous, individual member of the species. This would imply that the activities of meaning constitution are the most important political issues. The rise of symbolic forms is a prerequisite of human reason and meaning; political organization provides the conditions for the development of language and a culture that may be transmitted across the generations by tradition. Political activity, then, "assumes a meaning beyond the mere pursuit of pleasure and power. It is actually involved in making the noetic life possible."⁶⁸ Polanyi would suggest that the fundamental purpose of organization within a community is the provision of adequate grounds for the continuing pursuit of transcendent obligations.⁶⁹

Polanyi has tried to demonstrate that the successful advance of man's knowledge implies personal responsibility. Both pure science and hermeneutics may be considered appropriate aspects of the emancipatory interest. These activities, however, do not generally have immediately obvious technical applications. The intellectual and

moral pursuits of men require an environing society which has a broad traditional dedication to the ideals of the possibility of truth and the intrinsic value of human knowledge and understanding. Only such popular beliefs can leave public liberty secure as an end in itself. Similarly, only such a ground for truth and freedom can provide a basis for moral activity.

IV. The Free Society

Polanyi suggests that one vital role of the scientific community in relation to the larger society can be found in its example as an ideal form of life:

The world needs science to-day above all as an example of the good life. Spread out over the planet scientists form even to-day, although submerged by disaster [rationalistic attempts to control the scientific enterprise, to direct it to technical goals], the body of a great and good society.⁷⁰

The scientific community is ideally universalizable; its fiduciary criteria of value and achievement cross cultural and historical boundaries. The same "code of scientific work" is appreciated and is communicable virtually anywhere in the modern world. Again, even though the "facts" have changed over the past few centuries, modern scientists may still appreciate and understand the criteria of scientific value which were applied to accredit these facts at any given time.

Polanyi also uses the scientific form of life as a model for his discussion of political community partly because he believes that it is easier to understand the operation of mutual authority and the potential compatibility of freedom and authority. This is largely because of the fact that pure science is structured by and follows one leading interest. Political community follows multiple interests simultaneously, and is consequently a far more complex form of life - one which ultimately includes all other forms of life. Academic freedom is preserved only by the authority of a strong and essentially cohesive endeavour, spurred by a leading interest which transcends immediate and contingent interests. Political communities must also have an authority to guide them, providing the skills and values with which men may hope to achieve interests which transcend the daily necessities of physical survival and an orderly social structure. Just as would science, if it were divided by fundamental schisms, leave no valid criteria by which we could allot subsidies and accredit practitioners, in political community we have no basis on which to evaluate and critically compare different choices of action and opposing values. Furthermore, academic

... freedom is ... never an isolated phenomenon. It can exist only in a free society, for the principles underlying it are the same on which the most essential liberties of

society as a whole are founded.⁷¹

Consequently, if public liberty and the advance of knowledge are basic values which must be preserved, then the free society cannot be considered an "open" society. Polanyi says that conceptions of the nature of man or or politics which would

... destroy the constitutive beliefs of a free society must be denied by this orthodoxy.⁷²

... A wholly open society would be a wholly vacuous one - one which could never actually exist, since it could never have a reason for existing.⁷³

The free society is modelled on free associations of mutual authority such as those of science and law. It is not a utopia, but is more accurately described as those highest dimensions of political activity understood as an ideal guide and limit on other, lesser, leading interests of political community. It is an attitude and a way of living in community. Moral passion, says Polanyi, is continuous with intellectual passion in its universal intent, but involves the actor much more comprehensively than do the physical sciences, for example. An objectivist social science which would deny the reality of a moral sphere in human affairs, or a behavioral psychology which would characterize a moral sense as merely delusion or a rationalization of lesser interests must be rejected.

Complete theoretical toleration for all opinions and values as being equally unjustifiable, or as being, all causally conditioned and hence equally arbitrary, logically leaves itself open to its own refutation in practice.⁷⁴ There is no obvious justification then for not tolerating opinion which would decide that respect for originality and diversity of thought in academic freedom is inefficient or presents an obstacle to the material public welfare - ending toleration itself, as a result. The self-determination and spontaneity which is possible within a system of mutual authority becomes denied. A civil authority establishes, instead, specific objectives in the interests of the general "welfare". This latter type of thinking

... would have ... forgotten ... that such ideals as scientific truth, justice under the law, and good art cannot be given concrete definitions. What these really are, in concreto, is simply what all members of each relevant group [form of life] are striving together to delineate

... The progress of [a] system of continued reflexive adjustments cannot, of course, be known before it is known and therefore cannot (logically cannot) be planned for.⁷⁵

As Polanyi has remarked, theoretical apologists for totalitarian regimes have accurately pointed out that the "open" societies of Western democracy are by no means as free as their defenders would have one believe. There are traditional restrictions on individual freedom which are upheld by the power of Western democratic governments. In reac-

tion, he suggests, the proponents

... of our free societies therefore took to apologizing for the existence of the traditional limits on our freedoms, that is, for our values and our morals. It became fashionable to call these values and morals regrettable - but temporarily unavoidable - imperfections marring our open societies and to hold that these societies, while not yet wholly open, would be someday (a gratuitous argument, used, of course, in almost identical terms by the apologists for the Stalin horrors).76

We can only justify freedom of thought and, hence, the institutional values and structures which support it, if we do indeed already believe in the "power of thought." We must in some way have confidence in the "autonomous growth of knowledge" - a teleological potentiality - if it is to have any meaning that men should be free to pursue knowledge as they see fit. If we then recognize the obligation implicit in the latter belief, we shall act to uphold freedom within community as a condition of leading interests which may be pursued only within a dimension superior to the institutions of civil and economic order.

The open society advocates an incremental, social engineering approach to institutional change. Its only guide, however, is a pragmatic idea of utility - with no adequate criterion, as we have seen, of what men should consider as "useful." Here, theory and research tends to deal with a world of static "facts" within a one-levelled ontology. There is no acknowledgement of the

need for a traditional framework other than that of a deductive method designed to expurgate, ideally, the personal aspect of knowing which connects our knowledge and our interests. "Progress" appears to be left to a natural plan or state of perfection which shall emerge as the accidental or artificial aspects of reality are eliminated. The role of personal responsibility is left unaccounted for.

The free society also prescribes an incremental approach to social change. However, with the recognition of a hierarchy in human existence and interests, the inter-relatedness of our interests and our knowing, and of man's potential openness to transcendence, men could conceivably be guided by a passion to broaden and deepen progressively that horizon of potentialities which is the realm of free and responsible action. (This is the significance of Polanyi's alternative characterization of the free society as "a society of explorers"). The need for institutional continuity is less determined by the need for civil order than it is required as the traditional embodiment of the skills, beliefs, and values which give significance and coherence to all of man's activities - including those of day-to-day political life or the application of formal methods in the pursuit of discovery. A given social milieu represents the framework of one's "calling". It is the grounds for responsible action, subsidiarily instrumental-

zed in order to go beyond it.

Given the emancipatory interest of political life and the model of the free society, Polanyi maintains that we can then say that liberal democracy is that form of social organization which is most appropriate in the present period.

Both "reformist" and "revolutionary" societies, argues Polanyi, arose from the loss of legitimacy of the authoritarian belief systems of "static", traditional societies.⁷⁷ These newer communities assume that man is progressively perfectible - that society may be improved indefinitely through the rational exercise of the political will of the people. Revolutionary societies, however, presuppose a Laplacean universe. (Polanyi appears to consider historical materialism to be the paradigmatic philosophical orientation of these societies). They tend to subordinate all thought to public power. All of society, including its thought, is ideally reshaped in the service of the general material welfare. "Reality" becomes that arbitrary reality defined by the state as best serving this interest.

Liberal, reformist, societies, on the other hand, assign an independent and unrestricted range to thought, at least in principle. Unfortunately, as we have already seen (Section I, supra), in practice these societies tend

to set up a "menacing contradiction" within themselves. Objectivist philosophical positions have instilled - while striving to establish the conditions for independent thought - a general feeling that all true knowledge must be absolutely impersonal. In effect, we have argued, this results in the denial of any genuine capacity for independent thought. Just as is the case with revolutionary regimes, liberal societies run the risk of subordinating man's cultural life to the satisfaction of the material interests of individuals and the perpetuation of the public power that is required to serve them. Science, as well as other forms of cultural knowledge, becomes assessed only in terms of its utility to whomsoever holds power.

That traditional liberal-democratic values have been preserved so far, according to Polanyi, is only because of a "suspension of logic" in Anglo-American democracies:

Since the eighteenth century we have ... seen many hardened utilitarians nobly upholding their logically unaccountable moral convictions - but only in the twentieth century has popular thought been permeated by this internal contradiction.⁷⁸

Despite the formal tenets of objectivist thought, Western liberals have honoured traditional beliefs and values and have more or less skillfully administered the traditional institutions which have embodied them. Nevertheless, with the loss of a broadly legitimized natural

law tradition, and the usurption of authority by objectivist science, liberal democracy is endangered. We cannot assume that men will continue to pursue moral ideals within a system that denies their reality. These values and ideals will not simply disappear. Just as they become disguised and misguided in a scientistic Marxist programme, they may seek the "logically stabler" condition of moral inversion - where their force becomes available to any political programme based on nihilistic assumptions (see pp. 210 ff.)

Despite these dangers, Polanyi feels that liberal society is the best option available to men if they are to participate responsibly as "explorers" and legislators of meaning within the immanent teleology which is man's project. In principle, still, it allows for the autonomous emergence of meaning in existence. It permits a diversity of opinion which provides a defense against the deterministic forces of both culturally transmitted belief systems and the public institutions of authority. The tradition assimilated by the appreciation of the thought and actions of great historical figures, for example, is self-correcting inasmuch as liberal thinking honours men of quite different beliefs. This is a further guarantee that reality will not become defined in terms of a particular orthodoxy, or reified at one particular level of meaning.

Just as Polanyi emphasizes the indeterminate nature of particular knowledge and beliefs - the capacity for error that in fact distinguishes the levels of existence characterized by a freedom for responsible choice - he also justifies his allegiance to a "manifestly imperfect society" which pursues goals which could not possibly be entirely satisfied. Our capacity to come into contact with the essential rational order in human being is culturally constituted and made available to us through tradition, which provides a conceptual record of the responsible striving for truth by great thinkers and actors in our past. If this legacy is to be preserved, social change must be of an incremental nature.⁷⁹ Moral behaviour is that which responsibly endeavours within this admittedly imperfect situation to further the establishment of truth and meaning among men.

Notes to Chapter 6

¹Spragens, Dilemma, p.45. As we have seen, not only is the idea of community as inherently intersubjective and normatively bonded lost, but the very idea of the knowing subject becomes theoretically unaccountable.

²Ibid., p.44. In her discussion of the modern day loss of a meaningful authority, Hannah Arendt has remarked upon the following consequence: "distinctions are meaningful only to the extent that each of us has the right 'to define his terms'. Yet does not this curious right, which we have come to grant as soon as we deal with matters of importance - as though it were actually the same as the right to one's own opinion - already indicate that such terms as 'tyranny', 'authority', 'totalitarianism' have simply lost their common meaning, or that we have ceased to live in a common world where the words we have in common possess an unquestionable meaningfulness, so that, short of being condemned to live verbally in an altogether meaningless world, we grant each other the right to retreat into our own worlds of meaning, and demand only that each of us remain consistent within his own private terminology?" (Arendt, Between Past and Future [N.Y.: Viking Press, 1961], pp.95, 96).

³Strauss, "What is Political Philosophy?", Journal of Politics 19 (Aug., 1957):351. As we have seen in David Easton's attempt, e.g., to develop an explanatory theory of politics, his construction is trivial unless one makes a prior value explicit - that of "persistence." However, without a reason for why a political system should persist, the theory remains merely tautologous. As we have indicated, objectivist definitions of politics as "the authoritative allocation of values" or as "any persistent pattern of human relations that involves ... power, rule, or authority" (Robert Dahl, Modern Political Analysis [Englewood Cliffs, N.J.: Prentice-Hall, 1963], p.6), are question-begging and uninformative. These definitions must suppose that one already has a knowledge of what "politics" signifies. They "have no necessary empirical content; they do not contain or depend upon any propositions that are open to refutation." (John Gunnell, "The Problem of Explanation," p.162).

⁴Polanyi, Personal Knowledge, pp.141, 142.
 Polanyi elaborates: "A Laplacean, materialistic reductionism views politics as the mediator or the protector of its citizens against the consequences of their own motivations - which are seen as being fundamentally those of fear and greed. Any non-relativistic notion of morality appears as a 'false ideology'; an instrument of delusion and domination to be employed by those who happen to hold power in a given society." (Ibid., p.141).

⁵Polanyi, Logic of Liberty, p.8.

⁶Similarly, John Gunnell has said that man should be conceived of as homo symbolicus. It is "through symbols and the symbolic forms of communication which mediate both the individual's and society's encounter with the world [that] a virtual reality is created. The modes of action are defined by this symbolic construction for "the habits and rules of my thinking limit the possibilities of action for me" [Stuart Hampshire, Thought and Action (N.Y.: Viking Press, 1960), p.206] Symbols are not epiphenomena; they are the phenomena of social investigation." (Gunnell, "The Problem of Explanation," pp.185, 186). There is needed "a continual interaction between social science constructs and social reality in order to avoid conceptual reification." (Ibid., p.188). In this way, the interests and intentions of men would be ideally taken into account in a continuing and self-reflexive manner.

⁷Karl Marx has also made this argument. He says, e.g., that both Hegel and the classical economists were describing "realities," or how in fact things are. However, how things "are" is descriptive only of a particular social and historical context, may well be only partial, and should not be taken to represent some essential state of affairs. More recently, James Davidson has said that: "Method becomes ritual when the analyst concentrates on an elaborate or rigid "conceptual framework," and limits his interpretive role to the internal structure of the data, as if he believed that only so far as he is able to neutralize his own judgment will his study be scientific and thus, by definition, meaningful." (Davidson, "Political Science and Political Fiction," APSR 55 [Dec., 1961]:851). He goes on to say that whenever positivist methodologists do make significant remarks regarding the policy-making process, "they are repeatedly forced to transcend the limits of

their method, to the profit of their listeners and the confusion of their disciples." (Ibid.).)The only alternative to this "transcendence" is to "serve the data up raw" and let whomsoever will make sense of it). In fact, it may be more accurate to suggest that it is largely to the profit of short-term, special interests and to the confusion of the discipline, especially in the area of theory.

⁸Gouldner, For Sociology, p.111. D. K. Price extends this problem to all the sciences: "The current difficulties in the relationships of science to politics are mainly the result of the traditional tendency of politicians to demand too much too soon in return for the support they give to education and research in the sciences." (Price, "Money and Influence: The Links of Science to Public Policy," Daedalus 103 [Summer, 1974]:111). Again, Somit and Janenhaus find that applied research gets "the truly impressive grants" - at the expense of "pure research." (Development of Political Science, p.208). It is perhaps significant that in those happier - or more complacent - times (1961), Robert Dahl could point with approbation to "those uniquely American institutions, the great philanthropic foundations," whose "enormous financial contributions to scholarly research" exerted a "considerable effect" on the discipline - specifically, contributing to the ascendancy of the behavioral perspective. (Dahl, "Epitaph for a Monument," p.765).

⁹Marc J. Roberts, "On the Nature and Condition of Social Science," Daedalus 103 (Summer, 1974):49.

¹⁰Wolin, "Vocation," p.1064.

¹¹At this point we must ask ourselves how much the behavioral persuasion, and its "obsession with stability and its insensitivity to change," is a result of ideologization and how much it results from methodological assumptions. Bernard Susser believes that it is a consequence of the application of the scientific method - "the uncritical acceptance of the parameters of the legitimate" - and "not merely another case of 'establishment politics.'" He says that the characteristics of liberal democracy (ideological moderation, toleration, and respect for the "rules of the game") follow from the prior relativization of values. (Susser, "The Behavioral Ideology: A Review and a Retrospect," Political Studies 22 [Sept., 1974]: 287). George Carey, on the other hand, attempts to link the liberal ideology with amenability to behavioralism.

He tentatively traces it back to J. S. Mill's On Liberty, where all opinions are held to be equal, and the majority decides upon a group's particular values. He hypothesizes that this has led directly to value relativism. (Carey, "Beyond Parochialism in Political Science," in Graham and Carey eds., Post-Behavioral Era, p.47). We might suggest, however, that methodological assumptions and other ideological factors tend to be mutually reinforcing. Even given a pervasive attitude of value-relativism, there obviously must still be some assumptions or framework which directs the methodologist. In the absence of a general authority, Wolin says that this direction is provided by "the ideological paradigm reflective of the same political community which the normal scientists are investigating." (Wolin, "Vocation", p.1064).

¹²Lowi, "The Politics of Education," in Graham and Carey eds., Post-Behavioral Era, p.33.

¹³A. L. Kalleberg and L. M. Preston, "Normative Political Analysis and the Problem of Justification: The Cognitive Status of Basic Political Norms," Journal of Politics 37 (no.3):652.

¹⁴Samuel P. Huntington, "Paradigms of American Politics: Beyond the One, the Two, and the Many," Political Science Quarterly 89 (Mar., 1974):1-27.

¹⁵S. W. Rousseas and James Farganis, "American Politics and the End of Ideology," British Journal of Sociology 14 (Dec., 1963):347. Jürgen Habermas has described pragmatism in the following manner: "Valid beliefs are universal propositions about reality that, under given initial conditions and on the basis of conditional predictions, can be transformed into technical recommendations. This and this only is the content of pragmatism." (Habermas, Knowledge and Human Interests, p.120).

¹⁶Seymour Martin Lipset, Political Man (N.Y.: Anchor Books, 1963), pp.439, 442, 443 (*italics mine*). Gouldner, in discussing the "constant fragmentation of sociological organizations," rather describes the breaking away of the "young Turks" from the established body of thought as "the continuing clash between the critical intellectual and the value-free professional." (For Sociology, pp.16, 17).

¹⁷Daniel Bell, The End of Ideology (N.Y.: Collier Books, 1962), pp.279, 280.

¹⁸Some scholars, particularly those in political theory and philosophy, were "all but read out of the discipline with the prescriptive formulation devised by the behaviorists." (Carey, "Beyond Parochialism," p.47). Lipset, e.g., would seem to believe that the only remaining critical role for American political theory is that of the propagandization of the "developing nations" - hurrying them on their way to the attainment of the ideal society that is the contemporary American model. (Political Man, p.456).

¹⁹Kalleberg and Preston, "Normative Political Analysis," p.684.

²⁰Rousseas and Farganis, "American Politics and the End of Ideology," p.350. This refers us back once again to Karl Popper's discussion of the demarcation line separating real science and explanatory theory from non-science - the principle of "falsifiability" as it stands opposed to the older positivist criterion of "verifiability." Theory designed in such a way as to permit only of verification, but which seems inherently to resist attempts at falsification is nothing more than dogma. (Popper, Logic of Scientific Discovery, pp.78ff.). In the above instance, we see that, just as we have already argued, scientists do not consistently apply the rule of falsifiability in practice. In this case, it probably could not be said that theory has been deliberately designed to resist falsification for conscious ideological purposes. However, ontological assumptions which do not accredit self-reflection and systematic attempts at "understanding" have effectively resulted in dogma, nevertheless.

²¹de Jouvenal, "Nature of Political Science," p.777.

²²Taylor, "Interpretation," p.40. See also *ibid.*, pp.38-41.

²³*Ibid.*, p.41. Sheldon Wolin seems to allude to the same notion: "The decline of political categories and the ascendancy of social ones are the distinguishing marks

of our contemporary situation where political philosophy has been eclipsed by other forms of knowledge. In the present age we naturally turn to the sociologist or economist to supply prescriptions for society's ills. We assume that they, rather than the political theorist, possess the relevant kind of knowledge." Wolin suggests that this adsorption of the traditional role of political theory by essentially derivative ("cognate") disciplines "is not to be explained by pointing an accusing finger at the encroachments of other disciplines, nor even in terms of some disorder internal to political theory itself, such as a failure to attain a settled methodology." (Wolin, Politics and Vision [Boston: Little, Brown, 1960], p.292). In fact, he suggests, it is part of the larger problem of the impoverishment of philosophy - of the larger enterprise of which theory is a part.

²⁴Apel, "A Priori of Communication," p.4.

Richard M. Merelman, e.g., has recently provided an imaginative apologia for behavioral social science (Merelman, "On Interventionist Behavioralism: An Essay in the Sociology of Knowledge," Politics and Society 6 (Jan., 1976):57-78). He admits that critiques of the philosophical foundations of behavioralism from standpoints such as that of phenomenology may well be justified, at least in terms of logic and consistency (Ibid., pp.59, 60). Nevertheless, these criticisms commonly go unheeded, and rightly so, he suggests. He says that the endeavour to extend man's knowledge is only a secondary characteristic, or objective, of behavioral science. In effect, from the standpoint of a basically materialistic sociology of knowledge, he is arguing that Easton's call for social science to suspend its scientific ideals and deal with imminent crisis has somehow naturally become already instituted. The incompatibility of traditional liberal democratic values of individual autonomy and political participation, and the twentieth-century collectivist incursions of big government into many spheres of American social life, with the concomitant loss of a sense of individual efficacy, has threatened the cohesion of civil community. Given the tenets of the tradition of liberal-democratic political thought, it is far from obvious how this dilemma can be consistently resolved in theory. What has actually happened, maintains Merelman, is that the techniques and authority of "interventionist behavioralism" (public opinion polls, voting behaviour studies, studies of political partisanship, etc.) have supplanted older symbols of community. The modern liberal-democratic dilemma "obviously demanded some reconciliation between the realities

of power and the rhetoric of liberalism." This led, he says, to two tasks for contemporary social science: (1) "the reinstatement of a sense of public control over politics. Somehow, at least the forms of popular control and consultation - if not their substance - had to be observed ... [and (2)] the generation of new collective symbols capable of welding together a political consensus between governors and governed. A new mechanisms would be required in order to reinvent the symbols of the whole that had previously been generated by the small-scale voluntaristic politics of liberalism." (Ibid., p.62). Merelman says that the "latent function" of interventionist techniques of behavioralism partly stem from, and in practice address, this problem. They mediate between the citizen and the polity, providing "a collective political symbol aimed at filling the gap between liberal myth and collectivist reality." (Ibid., p.71). Here, we see explicit evidence of Apel's warning that modern democratic societies risk being divided into the manipulated and the manipulators, as well as having the symbols which maintain this situation become reified - understood as political reality. The tendency to treat all civil instability and fundamental criticism as social pathology, reducible to the level of individual psychosis (cf. Taylor's comments, *supra*), is approvingly cited by Merelman as a proper attitude of contemporary social science (Ibid., pp.69, 70). What Merelman is saying, quite simply, is that behavioral science acts to create the reality it formally purports only to describe, explain, and predict. Control is its real "latent function." We see here an attempt, from a static and one-levelled ontological position, to provide justification for political authority and obligation. However, it again begs the question of why, other than in terms of stability and persistence, these values should have force. Consequently, the manipulative capacity of an institutionalized, orthodox social science may be prostituted to any particular interest or power, including one which does not recognize any of the traditional liberal-democratic values.

²⁵ Arendt, Human Condition, p.43.

²⁶ Ibid., p.323.

²⁷ Polanyi, Science, Faith and Society, pp.79, 80. Where "scientific" rulers claim absolute authority, "once politics has been elevated to the rank of a natural science, liberty of conscience [will] disappear. The infallibility of Rousseau's general will [is] transposed into

the unassailable conclusions of a scientific sociology." (Polanyi, "Beyond Nihilism," in Knowing and Being, p.15).

²⁸ Polanyi believes that to speak of "moral passions" is something new. Most writers on ethics have viewed morals as something dispassionate, connoting a composed and reflective attitude, with "moral man achieving serenity by curbing his passions." (Ibid., p.4). This indicates the difference between the belief that there is an objective quality in the world - the "Good" - and the notion that knowledge and choice involve the active and committed contribution of the knower.

²⁹ Ibid., p.4.

³⁰ Ibid., pp.5-10. The strict objectivist in social science is left either with a basically meaningless chain of cause and effect relationships operating at the whim of chance, or he finds himself (contrary to his explicit scientific presuppositions) constructing a supposedly scientific teleological framework in which normative questions are "submerged" - means become justified in terms of ends. Fred Dallmayr believes that this latter escape from responsibility is characteristic of doctrinaire Marxism, while the former is typical of pluralist liberalism, "with its simultaneous insistence on scientific neutrality and arbitrary individual commitment." (Dallmayr, "Toward a Reconstruction of Ethics and Politics," Journal of Politics 36 (Apr., 1974):948). Rousseas and Farganis, however, find that the "end of ideology" school of consensual democratic theory is itself a fundamentally teleological philosophy of history, where a pragmatic, relativistic "ethic of responsibility" will come to pervade the whole world, as nations are led to the ideal model of American democracy. ("American Politics and the End of Ideology," p.360). Sheldon Wolin refers to a particularly instructive example of the concrete effects of this attitude (in Wolin, "Vocation," p.1065). He quotes I. de Sola Pool as saying: "In the Congo, in Vietnam, in the Dominican Republic, it is clear that order depends on somehow compelling newly mobilized strata to return to a measure of passivity and defeatism from which they have recently been aroused by the process of modernization." (de Sola Pool, Contemporary Political Science [N.Y.: McGraw-Hill, 1967], p.26 [italics mine]). This represents the propagandist function recommended by Lipset (p.18, supra). The way to bring the "underdeveloped" nations to the utopian state of consensual democracy is by in the meantime depriving them, in essence,

of those express individual rights most highly valued in the liberal ideology of writers such as de Sola Pool. Having attained Utopia, of course, there will be no longer any incentive for them to exercise these rights - except where required by the "goal-attainment" and "pattern-maintenance" structures necessary to allow the system to persist.

³¹Polanyi, "Beyond Nihilism," in Knowing and Being, p.16.

³²Ibid., p.3.

³³Polanyi, Tacit Dimension, p.56.

³⁴Wiser, "Public Knowledge and Personal Knowledge," p.674. In another article, Wiser asserts that "what is really being disputed is the definition of man that necessarily accompanies each of the positions. If knowledge is explicit, if the mind is to be cleansed of presuppositions by an application of the critical method, then man is autonomous; he is a "self." If, however, knowledge is possible only because of the existence of traditions maintained by the authority of communities, then man is ultimately social, i.e., he is intended by his very nature to participate in communities and realities larger than the self; he is open." (Wiser, "Personal Knowledge and the Promise of Autonomy," p.84).

³⁵Cassirer, Essay on Man, p.68 (italics mine).

³⁶Hannah Arendt has said that "attempts to define human nature almost invariably end with some construction of a deity, that is, with the god of the philosophers, who, since Plato, has revealed himself upon closer inspection to be a kind of Platonic idea of man." (Arendt, Human Condition, p.11). These essentialist formulations are countered with attempts at naturalistic "explanations" or definitions of man. This latter approach, says Arendt, is like trying to "jump over our own shadows." (Ibid., p.10). What we are and who we are we can never explain, because "the conditions of human existence ... never condition us absolutely." (Ibid., p.11). Carl J. Friedrich develops this latter statement when he says: "The study of man discloses a freely choosing and creative being whose nature can only be gauged in terms of the logic of liberty." (Friedrich, "Man, the Measure: Personal Knowledge and the

Quest for Natural Law," in Langford and Poteat eds., Intellect and Hope, p.110.

³⁷Polanyi, Personal Knowledge, p.376.

³⁸Humanly constituted symbolic forms "have power to control our own thought. They speak to us and convince us, and it is precisely in their power over our own minds that we recognize their justification and their claim to universal acceptance." (Ibid., p.265).

³⁹Ibid., p.257.

⁴⁰Polanyi and Prosch, Meaning, p.121.

⁴¹Polanyi, "Life's Irreducible Structure," in Knowing and Being, p.238.

⁴²Polanyi, "Knowing and Being," in ibid., p.133.

⁴³Polanyi's notion of a man's "calling" may be compared to Edmund Husserl's conception of an "horizon of actualities and potentialities": "To live as a person is to live together in community and have the community as a horizon." (Husserl, Phenomenology and the Crisis of Philosophy, ed. Quentin Lauer [N.Y.:Harper and Row, 1965], p.150). With the rise of the reflective ego and philosophic thought, Western culture has become conditioned by an open-ended, immanent teleology - the "spirit of Western man." (Ibid., p.156). Polanyi seems to express a similar idea when he says that all man's "existential choices are made in response to a potential discovery; they consist in sensing and following a gradient of understanding which will lead to the expansion of his mental existence. Every step is an effort to meet an immediate necessity; his freedom is continuous service." (Polanyi, Tacit Dimension, p.81).

⁴⁴The dangers of objectivism and the reification of ideas once more becomes apparent: "In setting out a given framework, a theorist is also setting out the gamut of possible politics and policies." (Charles Taylor, "Neutrality in Political Science," in Peter Laslett and W. G. Runciman eds., Philosophy, Politics, and Society [Oxford: Basil Blackwell, 1969], p.55). The theorist is setting

out an essentially arbitrarily restricted range, or horizon of actualities and potentialities.

⁴⁵Polanyi terms this "the logic of self-compulsion with universal intent. Action and submission are totally blended in a heuristic communion with reality; determinism and spontaneity require each other when embodied in the universal and the personal poles of commitment." (Personal Knowledge, p.396, *italics mine*). Actions then are conditioned, as we suggested when we spoke of "leading interests," both by causes and by reasons. Even in the realm of physical science, Werner Heisenberg, for example, found that the scientist must now conceive of a fundamentally different ontological basis for his investigations. At the levels described by quantum mechanics, it becomes necessary to describe the behaviour of particles in terms both of a teleological potentiality and of a mechanical causality - in its "weaker" (non-deterministic) form. This situation, he conjectures, may apply on the macro-level as well, but its influence is so far imperceptible, given present knowledge and techniques of observation and measurement. This, in turn, would imply that the entire universe forms one interrelated whole, in some uncertain sense. (Heisenberg, Physics and Philosophy [N.Y.: Harper and Row, 1962], p.15 *et passim*). Polanyi has discussed the fact that even many of the popular and philosophical movements which have arisen in opposition to the authority of objectivist science have rejected the idea of a teleology. Much of existentialist thought, e.g., "is rooted in an antideterminism that asserts a radical freedom ..., and it therefore also tends to abhor teleological views, not on scientific grounds, but simply as another form of determinism." (Polanyi and Prosch, Meaning, p.162). Polanyi goes on to say that the teleological conception which is rejected is one which is in fact a "tighter form of determinism than is provided for by a materialistic, mechanical atomism." (*Ibid.*). He suggests, however, that these latter positions have failed to conceive of a "looser" form of teleological potentiality - one which does not predetermine all things and all processes for all time. The relation of freedom and responsibility to universal ideals within the theory of personal knowledge provides an alternative to "the choice between blind mechanical necessity and total freedom" (*ibid.*, p.163), either of which leaves man with only an absurd basis for existence. Polanyi seems close to the notion which Thomas Thorson has offered, where man is perhaps by nature a political animal in the Aristotelian sense - man as part of an integral teleological Nature. However, Aristotle was limited in his historical perspective. With the modern awareness of a

vast extent of time in the universe, we may conceive of an evolutionary paradigm, wherein "evolution" (however it is to be understood), moves pragmatically in a direction - according to some motive, intentional principle, but not necessarily toward any pre-given end. (Thorson, Bio-politics, p.83). As we have seen, a particular emergence of comprehensive meaning can succeed or fail.

⁴⁶Polanyi, Science, Faith and Society, p.83.

⁴⁷Polanyi, Logic of Liberty, p.45.

⁴⁸Polanyi, Study of Man, p.72.

⁴⁹Spragens, Dilemma, p.79.

⁵⁰See, e.g., Polanyi and Prosch, Meaning, pp.200, 225, n.3. Sometimes, says Polanyi, government interference in competition is justified; either in the interests of the general public welfare, or to preserve the system of mutual adjustments. Still, however, complete control of the market would not work.

⁵¹Polanyi says that "it transpires that the main function of the existing spontaneous order of jurisdiction is to govern the spontaneous order of economic life." (Logic of Liberty, p.188).

⁵²Polanyi and Prosch, Meaning, p.199.

⁵³Polanyi, Personal Knowledge, p.378. In a situation where there is an exchange between equals in a relationship of mutual criticism, we find the rational man of Socrates, who is characterized essentially by his ability to give a rational answer to a rational question - his "response-ability." Within a particular form of life - a language-game immersed in its own life activities - there are certain normative rules which must be adhered to if that form of life is to continue. For example, all parties to an exchange must (1) assume that the assertion is understandable, (2) assume that what it asserts is true, (3) expect that the speaker believes it to be true and that he wishes to communicate it successfully, and (4) believe that the speaker has the authority to make this assertion - that he is a competent, accredited member of

that form of life. These expectations, normally, will be held tacitly by participants in a dialogue. Within an economic system based partly on private freedom, on the other hand, each participant is recognized as being primarily responsible to himself as a subjective centre of self-interest. His predictability, and the trust that other participants may place in his intentions, issues from an impersonal set of superordinate legal rules. It is understood by all businessmen that their fellows will play according to this "game" only in those instances that it does in fact appear to be in their own self-interest. Without the operation of a leading interest external to individual survival and material gain, and a consequent system of mutual authority, one may never be certain of which "game" a person is actually operating within at any particular time.

⁵⁴Polanyi, Logic of Liberty, p.192. Polanyi views an individualistic, spontaneous order as appropriate only in present circumstances within advanced industrial societies. There is no reason to believe, he says, that other forms of economic organization might not become more advantageous. He says that "some of the tasks pursued by modern society may have in future to be abandoned. The economic task of society may be re-set in response to quite novel technical developments, in a manner which would eliminate the market and much of our judicial system." (Ibid., p.198). ✓

⁵⁵Ibid., pp.192, 193.

⁵⁶Ibid., p.198.

⁵⁷Ibid., p.193.

⁵⁸Spragens, Dilemma, p.79.

⁵⁹Cassirer, Essay on Man, p.69. This, in fact, is the primary intention of Polanyi's essays in Meaning (See ibid., p.107).

⁶⁰Eric Voegelin, The New Science of Politics (Chicago: Phoenix Books, 1966), p.27. Quoted in Spragens, Dilemma, p.79.

⁶¹Polanyi, Personal Knowledge, p.379.

⁶²Polanyi, Tacit Dimension, p.29.

⁶³Polanyi, Personal Knowledge, p.389. Elsewhere, Polanyi suggests that: "As men we appear, unlike all other animals, to need a purpose that bears on eternity." (Meaning, p.214).

⁶⁴Gouldner, For Sociology, pp.102, 103.

⁶⁵Apel, Analytic Philosophy and the Geisteswissenschaften, pp.56, 57.

⁶⁶Apel, "A Priori of Communication," p.34.

⁶⁷Polanyi and Prosch, Meaning, pp.214, 215.

⁶⁸James L. Wiser, "Personal Knowledge and the Promise of Autonomy," p.84. Hannah Arendt has expressed a similar conception of the ultimate nature of the political: "Whenever the relevance of speech is at stake, matters become political by definition, for speech is what makes man a political being." (Human Condition, p.3).

⁶⁹Polanyi, Science, Faith and Society, p.83. Polanyi suggests that there is always a conflict between the value of any contribution or program of research in terms of its "accuracy" and "systematic relevance," as opposed to its "intrinsic interest," and that this "sets up a competition between practical and theoretical interests." (Personal Knowledge, p.138).

⁷⁰Polanyi, Logic of Liberty, p.6. Again, he says that "in the free cooperation of individual scientists we shall find a highly simplified model of a free society." ("Republic of Science," in Knowing and Being, p.49). Science, itself, can survive only "as a coherent system of separate knowledge, upheld by people mutually recognizing each other as scientists, and acknowledged by modern society as its guide." (Personal Knowledge, p.375 [originally in italics]).

⁷¹Polanyi, Logic of Liberty, p.45.

⁷²Ibid., p.30. The rejection of a radical "openness" is qualified, however. Major divisions of opinion within a society over these matters could never be resolved successfully by the mere exercise of power. Just as in the scientific form of life, the continuing existence and success of the free society depends upon its constituents upholding their beliefs in the value of its proper leading interest. These beliefs cannot be forced on people as a practical means to other ends, such as the stability of civil society.

⁷³Polanyi and Prosch, Meaning, p.184.

⁷⁴In discussing the difference between Polanyi's position and that of the sceptic's defense of intellectual freedom, James Wiser has said that "John Locke, for example, based his defense of religious toleration on the belief that knowledge concerning such matters cannot be demonstrated. If the truth cannot be definitively established, then all attempts to represent it must be permitted." (Wiser, "Human Reason and the Quest for Meaning," presented at the Canadian Political Science Association convention at Fredericton, New Brunswick [June 9-11, 1977], p.2). Polanyi points to "the inconsistency of a liberalism based on philosophic doubt ...; freedom of thought is destroyed by the extension of doubt to the field of traditional ideals, which include the basis for freedom of thought." (Meaning, p.10).

⁷⁵Ibid., pp.204, 207.

⁷⁶Ibid., p.183. Academic freedom, e.g., is still equivalent to the accreditation of a group of people we call "scientists" by means of granting a degree of support (recognition of competence, financial support) and independence so that they might continue to pursue their appropriate leading interest. "We may demand [on the other hand] a measure of freedom for almost any nonsense in a free country, but that is not what we mean by academic freedom. Those who engage with Marxists in discussion about the freedom of science must face up to this situation. The Marxists are quite near the truth in saying that in demanding freedom we merely seek to establish our own orthodoxy." (Logic of Liberty, p.28).

⁷⁷Polanyi, Personal Knowledge, pp.212 ff.

⁷⁸Ibid., p.234. In reference to Western, objectivist social scientists, Leo Strauss has suggested that he "has never met any social scientist who, apart from being dedicated to truth and integrity, was not also wholeheartedly devoted to democracy. When he says that democracy is a value which is not evidently superior to the opposite value, he does not mean that he is impressed by the alternative which he rejects, or that his heart and mind are torn between alternatives which in themselves are equally attractive. His "ethical neutrality" is so far from being nihilism or a road to nihilism that it is not more than an alibi for thoughtlessness and vulgarity: by saying that democracy and truth are values, he says in effect that one does not have to think about the reasons why these things are good, and that he may bow as well as anyone else to the values that are adopted and respected by his society. Social science positivism fosters not so much nihilism as conformism and philistinism." (Strauss, "What is Political Philosophy?," p.349).

⁷⁹Polanyi is quite Burkean in his concern for the value of tradition. For Polanyi, much of the authority of tradition lies in the tacit skills which are transmitted from generation to generation and which enable men to use meaningfully certain of their explicit doctrines and ideals. Like Burke, again, he fears that radical and wholistic programmes of social change will do far more harm than good, because of their destruction of this tacit knowledge which inheres in traditional cultural and social institutions. Of course, tradition is never to be an absolute and explicit guide to action: "Traditions are transmitted to us from the past, but they are our own interpretations of the past, at which we have arrived within the context of our own immediate problems." (Polanyi, Personal Knowledge, p.160).

CHAPTER 7

CONCLUSION

The Enlightenment ideal of human freedom and perfectibility has turned out to be an inherently unstable one. A Christian morality was retained and disguised in a secularized and sceptical standpoint which is in constant danger of falling into an unrestrained political programme which itself tends to deny what are the ultimate human interests. The morally inverted person substitutes material purposes for moral aims. The idea of an unrestrained individualism,

... demanding absolute freedom and equality far beyond the limits imposed by any existing society ... is conceivable within society only under a popular government, exercising absolute power.¹

The discrediting of authoritarian moralities and the subsequent suspicion of the purposes of any society which justified its actions in terms of morality led to attitudes such as that of Romantic "amoral individualism," which asserted its own creativity - the "will to power" - against any collective obligations. On the level of the nation-state, suggests Polanyi, this was transformed into doctrines such as that of Realpolitik and the scientific sociology of Marxism-Leninism.²

Polanyi has stated the problem for modern thought as being that of stabilizing "knowledge against scepticism, by including its hazardous character in the conditions of knowledge."³ He would recommend that Western man return to the original spirit of the Enlightenment, but from a standpoint which would recognize man's true nature and responsibility. Liberal-democratic formulations, for example, of freedom as being merely a negative liberty are meaningful or

... could be upheld only in the innocence of eighteenth-century rationalism, with its ingenuous self-evidences and unshakeable scientific truths.⁴

In fact, this "Enlightenment" theoretically closed Western man off to the traditional belief in ideals which actually prompted the rejection of older authorities in the first place. If our arguments concerning the traditional basis and inherent intersubjectivity of knowledge are accepted, then an adequate contemporary conception of freedom and progress must take into account a revised notion of the nature of man and consciousness.

It is pointless to suggest that we deliberately return to traditional views of authority. This would probably not be desirable even if it were possible. Nor may we rely upon some sort of pragmatic decision on the part of political communities to adopt a "suspended logic" in their adherence to ideals which have no articulable justification.

The major problem for theory, then, is to formulate a justificatory theory for the value of public freedom as an end in itself, as well as for a moral obligation to the larger community. It is to this question which Polanyi was led by way of his critique of objectivist science. First, we have been offered a reconceptualization of truth as an indeterminate, active manner of upholding one's beliefs, where our commitment to a fiduciary framework received in tradition constitutes the personal pole of knowing, while our universal intent and the belief in a metaphysical reality provides the independent pole. We only make a reference to an independent reality which we must believe in. The substance of our truth-claims may always, in principle, change. What is important is how we know things, not what we know specifically. It was then suggested that the upholding and progressive enrichment of meaning and truth, so understood, must be a polycentric task, given its indeterminate, unpredictable ends, and as such requires for its achievement a spontaneous order based in a system of mutual authority. The concept of man which emerged from our prior reflection upon the act of knowing suggested that rational man cannot avoid the personal responsibility implied by the fact that his claims to knowledge within a cultural community are constituted by, and are at the same time constitutive of, his own and other

men's beliefs.

Any knowledge, says Polanyi, including his own reconsideration of the basis and nature of our knowledge and conception of truth, is grounded in a cultural matrix and a particular historical period. The problems he deals with and the alternative available solutions are conditioned by this particular intellectual idiom. Whatever innovations or modifications he or anyone else may contribute to our knowledge will necessarily remain rooted in this relativistic situation.⁵ Nevertheless, we have argued that our "calling" simply assigns us those problems for which we are responsible. Mannheim's paradox is no longer remarkable, within the theory of personal knowledge. It is the inevitable condition of our knowing as a cultural being. Furthermore, as we have argued in our discussions of hermeneutics (Chapter 5, Section III) and freedom and morality (Chapter 6, Section II), it need not close us off in determinism and complete relativism.⁶

In this light, Polanyi's ideas may be seen as an attempt to deal with objectivist misconceptions on their own terms, in large part, and within this particular historical context. He has used (especially in Personal Knowledge) the techniques and language of logic, empirical evidence, and ordinary language analysis as a complement to insights drawn from existentialist and phenomenological

thinking. He has attempted to bring his reader to the point where he will step out of his old conceptual framework and existentially commit himself to a new one, which he may implicitly rely on to bring a more comprehensive meaning to his various spheres of activity and interest.⁷

One could not reasonably aim to bring Western culture back to a pre-Enlightenment religious orientation, for example. A modern formulation must speak to its audience in terms which are both intelligible and plausible to a mind which is steeped in a critical scepticism and the knowledge and categories of modern science. (Scepticism, of course, is itself a generally healthy attitude. It is only when, through misdirection, it tends to result in the destruction of individual and cultural meaning that it can become unproductive). As Polanyi indicates:

Modern man's critical incisiveness must be reconciled with his unlimited moral demands, first of all, on secular grounds.⁸

Although Polanyi does not himself articulate the following argument, his theory of personal knowledge, taken in its full cosmological sweep, could be interpreted as an attempt to establish a story of the "foundation," or of the beginnings of man and history which would be palatable to the contemporary mind. Mythopoeic traditions found their integral centre in myths of the creation:

Myth narrates a sacred history; it relates an event that took place in primordial

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Time, the fabled time of the "beginnings"
 Myth ... is always an account of a
 "creation"; it relates how something was
 produced, began to be.⁹

Given the concept of man in personal knowledge and the idea of his "infinite task," perhaps then we could describe the notion of nöogenesis as a modern-day myth of creation, one which may be articulated in currently intelligible-terms and accommodates within it a modern conception of time and developmental process. If this idea of man's nature and his unique potential were broadly legitimized, men could conceivably find their transcendent ideals and "natural law"¹⁰ limits within an immanent and open-ended teleology where man himself forms the centre. Perhaps the viewpoint of a philosophical anthropology which was popularly respected within a "free society" would itself give rise to the symbols which could eventually institutionalize in articulated theory, for example, a recognition of man's limits as well as the obligations implicit in his openness to transcendence. Earlier, we saw how "interventionist behavioralism" (p.255, n.24, supra) also claims to provide the latter-day symbols of political obligation and personal efficacy. However, we have argued that it is interested primarily in control, whereas an emancipatory social science would be interested in cultural (and hence individual) spontaneity and development, according to ideals superior to particular societies and inte-

rests. We have suggested that behavioralism has generally acted to reify meaning at an existential level lower than that which is appropriate to truly political action and thought. A philosophical anthropology, however, would aim continually to maximize the potential for openness which is given in any social context. On this level, as we have said, the substantive truth of something like a modern myth of creation is unimportant - we will always hold our beliefs to be true in the light of traditional, fiduciary criteria of which we are only subsidiarily aware. It is rather the way in which we uphold its truth that is vital, and the effect it has upon the upholding subject. Man would be understood as a project, not a given; allowance would be made for a dynamism in his views of what is fact and what is valuable, within those limits described in our discussion of the free society. The excesses of political totalitarianism and individual nihilism would be countered by the knowledge that man is neither entirely determined nor is he radically free.

In this essay, we have discussed the theory of personal knowledge as an alternative to objectivist philosophical standpoints, particularly in the social sciences. It is

not meant to represent a metaphysical system, from which one might derive concrete goals and programmes for public policy. The conception of a static, given ontology and the existence of absolute and determinate ends that can be known by men have been explicitly denied. Instead, Polanyi's recommendations are closely allied, in spirit, to those of phenomenology, where what is offered is more accurately only an attitude - a self-reflexive perspective which must accompany and inform all investigations. This would be ideally a constant process, as critical of its own grounds and intentions as of any other part of its subject matter.

In Chapter One, we suggested that although the behavioral and post-behavioral movements in political science both characteristically believe in the desirability of a science of politics, fundamental differences are apparent in the various conceptions of the nature of man and human knowledge among different thinkers. A general feature of post-behavioralism appears to be the feeling that political theory must establish some rational connection between human values, research, and public policy, but again there is controversy over how we should understand values and their relationship to research and policy. Further confusion and fragmentation is found in the fact that some thinkers believe that normative and speculative theory must

be given precedence, while others emphasize analytic, empirical research. If our arguments can be accepted, then it is possible to assume a standpoint which transcends and includes these various points of view, where they could all be referred to a common centre and be understood as aspects of a single task. Thomas Spragens has concluded that the discord in contemporary political thought.

... the direct source of the strain and distortion seemed to lie in the presumed necessity of maintaining an absolute distinction between empirical and normative theory, allegedly on epistemological grounds.¹¹

In theoretically effecting a reconciliation of man's doing and knowing, acknowledging his interested participation in what he knows, Polanyi has at a minimum indicated the need to take a less restricted view of the nature of man and his capacities, while broadening our potential choice of problems, premisses, and methodological procedures. In Chapter Five (Section III, "Hermeneutics), for example, we suggested that we can justifiably speak of "understanding" methods of the humanities as opposed to "explaining" methods of the natural sciences (even though they are continuous with, and intelligible to, each other in terms of their criteria of scientific value). The realization that any "reality" is at least in large part not a single world of objects in causal interrelationship, but rather a socially constructed one, should caution the

researcher "to consider the methodological problems of science and the humanities in connection with their relations to social praxis."¹² Especially at the levels of study where man encounters himself in a relation of mutual criticism, the investigator must

... join in the historical dialogue by attempting to integrate the results of the Geisteswissenschaften found to be relevant for the creative project of our life.¹³

Polanyi's contribution is a particularly comprehensive attempt to develop a systematic epistemological position which would avoid many of the dilemmas apparent in objectivism. His ideas can address themselves to those

... practical consequences of a restricted, scientific consciousness of the sciences [which] can be countered by a critique that destroys the illusion of objectivism. Contrary to Husserl's expectations, objectivism is eliminated not through the power of renewed theoria but through demonstrating what it conceals: the connection of knowledge and interest.¹⁴

In objectivist social science, we have argued, there has been a tendency to acknowledge only the technical aim of cognition, presupposing a spatio-temporal world of objects where the only leading interest of theory and research is that of providing explanations as a basis for prediction and control. However, this is an unnecessarily restricted view of politics and political research:

The ambiguity of the political goal is due to its comprehensive character. Thus the temptation arises to deny, or to evade,

the comprehensive character of politics and to treat politics as one compartment among many. This temptation must be resisted if we are to face our situation as human beings, i.e., the whole situation.¹⁵

We can say, with Aristotle, that political science is the master science. All that is understood to be human falls within its legitimate domain. Within a modern conception of temporality and an evolutionary paradigm, Polanyi's arguments may be said to represent an attempt to accept this overwhelming view of the subject matter and task of political thought, while leaving grounds upon which phenomena may be treated analytically, in their particularity or at a specific existential level, and meaningfully discussed. If we can justifiably view political life as a multi-dimensional activity, pursued according to a hierarchy of leading interests, then perhaps we can retain the heuristic value of methodological devices such as systems theory and the vocabulary of structural-functionalism while avoiding the difficulties inherent in narrow and arbitrary definitions of the political which tend misleading to reduce, reify, and isolate their subject matter. "General theories of action" have tended to become only theories of "objects" in motion - of "events." A genuine theory of action will have to acknowledge the constitutive nature of leading interests which transcend the empirically given world of objectivist science.

We have attempted to clarify the relevance of the theory of personal knowledge within the context of Western political science today. Having indicated that we must seriously entertain the adoption of epistemological points of view beyond that of a misleading orthodoxy, we have then attempted to develop Polanyi's alternative in as sympathetic and systematic a manner as possible. Irregardless of whether or not this approach offers an entirely consistent or definitive resolution to certain evident dilemmas in modern political thought, that in itself is perhaps not primarily at issue. The main benefit it can offer us currently is that of an exercise in thinking about our experience as men within community - as free as possible from conventional and possibly reified and determining conceptions of what political activity does in fact entail. This, in itself, would contribute to the practical and potentially emancipatory endeavour of

... suggesting world-views and ways of life, that is, ultimate values and possible areas of practice which could provide criteria for discussions about the requirements of a good life, including the very application of science and technology.¹⁶

Notes to Chapter 7

¹Polanyi, "Beyond Nihilism," in Knowing and Being, p.10. This development, says Polanyi, was anticipated by Rousseau before it ever became manifest in Western society.

²Ibid., pp.9-16.

³Polanyi, Personal Knowledge, p.245.

⁴Polanyi, Logic of Liberty, p.vii. As Thomas Spragens has suggested: "If the new understanding of scientific cognition involves forsaking some very appealing, however delusive, dreams, it does offer some significant opportunities and challenges for political science." (Spragens, Dilemma, pp.164, 165).

⁵Polanyi, Personal Knowledge, p.252.

⁶Thomas Spragens has more systematically examined the parallels and differences of Mannheim's central observations and Polanyi's theories. (Spragens, Dilemma, pp.150-157). The ideal of the intellectual as being somehow completely above the contingent factors of his social milieu is as misleading as a materialist sociology of knowledge which would insist that the beliefs and values of men are necessarily and inevitably determined by their social context. "If theory fails to move beyond its origins, then it falls back into being a mere reflection of social interest; while if it claims to have wholly freed itself from its finite grounding, it becomes an epistemological form of idolatry, arrogating unto itself a form of transcendence which no human activity can attain." (Ibid., p.153). Spragens suggests that Polanyi has developed a philosophical systematization of Mannheim's central insights which the latter thinker recognized the need for but never accomplished. The standard criticisms aimed at Mannheim's ideas - that they are circular and that they leave no means to ground truth - are readily accommodated within the theory of personal knowledge. Once out of the objectivist framework, these objections no longer make sense. A reconceived notion of truth, (where there are criteria of its validity which are neither absolute and indubitable nor entirely relativistic) shows us that circu-

larity is not a criticism, but rather a necessary feature of any consistent view of knowledge. (Ibid., p.154 and our discussion of circularity in Chapter 5, Section III, supra).

⁷One contribution Polanyi can make to modern political thought lies in the role his work can play in bringing the insights, intentions, and methods of Anglo-American analytic philosophy and Continental European schools of thought together - showing them that their aims are not dissimilar, and that they may complement one another in the systematic attempt to "understand."

⁸Polanyi, Tacit Dimension, p.62. Polanyi goes on to say that the "enfeebled authority of revealed religion cannot achieve this reconciliation; it may rather hope to be revived by its achievement." (Ibid.). Polanyi's ideas have aroused much interest among some Christian scholars. It would appear that they hope to find therein a means of making Christianity compatible with modern science and critical thought, where the religious attitude would once more be justified as a relevant standpoint in contemporary technological society. However, it is apparent that Polanyi, although he obviously sees this tradition as one potentially viable and valuable means of providing men with a coherent integration of meaning across the various spheres and sectors of life activity, at the same time espouses an idea of religion that is (or at least can be) in a sense quite secular. Polanyi has indicated that the interest in advancing the material public welfare is a secondary task; it is a means to realizing more fundamental interests in "the spiritual field." In Science, Faith and Society, he says that: "Such an interpretation of society would seem to call for an extension in the direction towards God. If the intellectual and moral tasks of society rest in the last resort on the free consciences of every generation, and these are continually making essentially new additions to our spiritual heritage, we may well assume that they are in continuous communication with the same source which first gave men their society - forming knowledge of abiding things. But I would express my belief that modern man will eventually return to God through the clarification of his cultural and social purposes." (Science, Faith and Society, pp.83, 84). However, he goes on to say that the acceptance of the intimate and irreducible relationship between knowing and being as well as the concomitantly implied obligations, will finally show God to be "in man and society." This is an anthropomorphic God, at least in any sense we can speak of it. His meaning -

the only meaning he can have for men - is immanent in mundane existence. Polanyi's discussion of these ideas sometimes seems almost Hegelian - with the history of existence representing "Absolute Spirit" working itself out, expressing itself in immanence only eventually to recognize itself as Absolute Spirit. Polanyi, however, constantly emphasizes that the end, or final cause, of his emergent evolutionary process must probably remain always indeterminate.

⁹ Mircea Eliade, Myth and Reality: World Perspectives, trans. by Willard R. Trask (N.Y.: Harper and Row, 1963), pp.5, 6. Quoted in Polanyi and Prosch, Meaning, p.122.

¹⁰ Carl J. Friedrich, e.g., says that the theory of personal knowledge "makes possible a new discussion of natural law." (Friedrich, "Man, the Measure," in Langford and Poteat eds., Intellect and Hope, p.91).

¹¹ Spragens, Dilemma, p.163.

¹² Apel, "A Priori of Communication," p.4.

¹³ Apel, Analytic Philosophy and the Geisteswissenschaften, p.53.

¹⁴ Habermas, Knowledge and Human Interests, pp.316, 317.

¹⁵ Strauss, "What is Political Philosophy?," p.345.

¹⁶ Apel, "A Priori of Communication," p.33.

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